

**UNIVERSITY OF TARTU
DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE**

**THE USE OF INFORMATION AND COMMUNICATION
TECHNOLOGIES IN TEACHING ENGLISH AS A SECOND
LANGUAGE IN ESTONIAN SCHOOLS**

MA Thesis

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ABSTRACT

This MA thesis discusses the use of information and communication technologies (ICT) in teaching English as a second language (ESL) in Estonian schools and analyses the current situation in the light of the 2011 national curricula for Estonian basic and upper secondary schools, which state that ICT should be applied in teaching approaches.

The importance of ICT in the society has grown substantially in the recent years; therefore it is necessary to efficiently integrate modern technologies into education to avoid disparities between schools, societal expectations and the requirements of computer-literate students.

The theoretical part gives an overview of the challenges and benefits of implementing ICT into formal education with the focus on teaching English as a second language in Estonia. This section also observes the changing nature of education in the 21st century with the concept of lifelong learning and the transformation of a teacher's role.

The empirical study is based on the survey conducted among 117 English language teachers from basic and upper secondary schools in Estonia. The survey examines the scope of ICT use, determines the most common ICT applications in classes and evaluates the teachers' e-competence as well as their general attitude to using ICT in the teaching context.

The conclusion defines the typical factors that influence the use of ICT in Estonian basic and upper secondary schools and makes recommendations for future developments.

Keywords: information and communication technologies (ICT), English as a second language (ESL), lifelong learning, computer-literacy, digital literacy, student motivation, virtual learning environments, computer-assisted language learning (CALL)

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INTRODUCTION

The role of the Internet has changed the way people communicate and learn about the world on the whole. The spread of information technology has fundamentally altered the concept of place and time with virtual services that are now available around the clock regardless of one's physical location. As a result, a modern wired person can have unrestricted access to their preferred content whenever and wherever.

Pippa Norris (2001: 68) discusses the significance of the Internet in the society and human behaviour, shedding light to the concept of digital divide. According to her, digital divide is a situation where the people with access to the Internet and the ability to use it are at the one end of the spectrum, being the so-called *information haves*. On the other hand, those without the Internet are deprived and labelled as *information have-nots*. Norris regards computer-literacy and web access as a major asset in the contemporary world and concludes that the absence of the Internet or inability to use it may lead to information poverty and subsequent marginalization in the society (2001: 68).

It may appear to be an overstatement if the Internet is merely seen as an addition to the conventional print and broadcast media, which are also supposed to inform the public. Yet, it should be noted that the Internet and the other forms of media are fundamentally different in their scope and availability. For example, a standard print version of a newspaper has space restrictions imposed for each section. As a result, longer and more extensive articles have to be edited or cut shorter to accommodate for the limitations, which, in fact, means lost bits of information, too. Another major deficiency of the traditional print or broadcast media is their regional and time-dependent availability and the exclusion of the audiences who are outside the above-mentioned frames. So, it can be agreed that the traditional media is, indeed, fairly bound in terms of its physical and content-related coverage. Whether the latter entails general information poverty is a matter

of debate; however, there is little doubt that those who are connected to the Internet have the privilege to make use of a virtually unlimited amount of information stored on the World Wide Web.

The signs of digital divide are gradually disappearing in the society due to more affordable technology and the upcoming generations of people who are at ease with computers. According the Estonian Government's publication *Overview of the Use of Computers and the Internet in Estonia in 2012*, over 90 per cent of Estonian households with children have a computer and a broadband internet connection as of the 1st quarter of 2012.¹ The same report reveals that over 98 per cent of young people in the age group of 16–24 use the Internet. Hence, it can be concluded that the penetration of personal computers as well as the level of computer-literacy is very high among young people in Estonia.

The improved standards of computer literacy among the youth together with the growing importance of information technology in the society infer that schools should adjust to the recent societal developments and integrate more technology into teaching processes in order to meet the expectations of students and the society on the whole. Zammit *et al* (2011: 10) assume that students who perceive that school is increasingly out of touch with their real life literacies will disengage with formal education and will eventually lose interest and motivation. Indeed, traditional printed textbooks, blackboards and pencil-and-paper tests may appear outdated for young people who are normally surrounded by computers and multimedia. For example, young people nowadays prefer to compose e-mails or send typed text messages for any kind of correspondence, whereas the tradition of handwritten letters seems to have gradually faded the into oblivion. In the

¹ Estonian Government. 2012. Ülevaade arvuti- ja internetikasutusest Eestis 2012 [Overview of the Use of Computers and the Internet in Estonia 2012]. Available at <http://valitsus.ee/et/valitsus/tegevusprogramm/e-riigist-i-riigiks/infoyhiskonna-arengu-hetkeseis>, accessed December 17, 2012.

professional realm, most types of formal correspondence like job applications or invoices are nowadays expected to be typed or submitted electronically. Therefore, a question arises whether schools should make so much effort to train children to compose handwritten text if it is used so rarely. Maybe it would be more pragmatic to lay extra emphasis on typing and layout skills that are essential in the contemporary technology-dependent society. The development of handwriting and fine motor skills in young people is definitely important, but it is time we revised some long-established educational practices in order to keep up with the changes in the society and shift the focus slightly towards other skills like, for instance, word-processing that are by default required at the labour market.

Similar thoughts emerge when reflecting on teaching practices in general. A wider use of modern technology at school might benefit the field of education in numerous ways. For instance, a multimedia simulation can be a very efficient method to illustrate and explain a complicated concept. Likewise, using ready-made slide shows instead of writing long passages of text on the blackboard would save the teacher's time and make the overall process of teaching swifter. Fischer (2009: 69) notes that the use of interactive whiteboards and PowerPoint slide shows in language teaching contributes to better vocabulary acquisition because of improved repetition techniques and visualisation achieved by a variety of multimedia effects.

The Internet can be utilised to diversify course materials and cater for students with mixed abilities. For example, while a printed coursebook may be appropriate for an average student, it does not always stimulate those learners who are advanced or would like to discover more. As the Internet comprises a huge electronic library, it can successfully be employed as a convenient tool for acquiring new information beside traditional coursebooks. Moreover, those motivated to study more can take advantage of the Internet and may eventually become self-sufficient learners who no longer depend on

school programme.

The growing importance of the Internet in the society and the changes in the behaviour of individuals have given rise to the idea of lifelong learning. The UNESCO Delors' Report defines the concept and key objectives of lifelong learning in the 21st century as:

Not only must it [lifelong learning] adapt to changes in the nature of work, but it must also constitute a continuous process of forming whole human beings – their knowledge and aptitudes, as well as the critical faculty and the ability to act. It should enable people to develop awareness of themselves and their environment and encourage them to play their social role at work and in the community. (Delors 1996: 19)

In line with the previous declaration, the role of teaching and teachers is supposed to undergo a transformation in the 21st century. Fischer (2000: 17) mandates the need to reformulate the position of the teacher in the current educational and social setting, because “knowledge is distributed among many stakeholders” and is no longer possessed or controlled by an omniscient teacher. Indeed, the spread of the Internet has considerably improved access to information and knowledge, which can be acquired easily regardless of a person's age or social status. Crow (2004) sees modern teachers as facilitators who contribute to the process of learning by awakening curiosity and encouraging students to make an individual progress. In reality, people can study comfortably on their own, using the Web and do not necessarily have to turn to a teacher for advice these days. Furthermore, it can be agreed that the recent technological progress actually cements the notion of lifelong learning since everyone who can connect to the Internet is also granted access to information and learning.

While the integration of information technology is vital for contemporary and future education, one might wonder whether teachers and educational institutions are ready to implement new tools and approaches into teaching processes. As noted above, young people in general are highly computer-literate and open to technological innovations, but

does the same apply to teachers? Another important question concerns schools' resource bases and overall preparedness to adjust to the technological progress. Above all, the transition to a modern technology-intensive school requires new and improved high-tech infrastructure together with teachers who can take full advantage of it.

This thesis focuses on the use of information and communication technologies (ICT) in teaching English as a second language in Estonian schools. The importance of this topic lies in the fact that the 2011 national curricula for Estonia's basic and upper secondary schools explicitly state that learning environment at both school levels should include the equipment and study materials based on the contemporary information and communication technologies.² In addition, the Estonian Development Fund report *EST_IT@2018* on the use of information technologies in education devises a plan according to which Estonian schools will have switched to ICT-intensive learning by the year 2018 (2010: 34). As for English, it has established itself as the modern *lingua franca*, which is frequently associated with communication and information seeking on the Internet. It can even be claimed that information technology and the Web serve as means to access authentic content that English language teachers can use in their classes.

The theoretical part of the thesis gives an overview of the benefits and usability of information and communication technology (ICT) in teaching English and evaluates its feasibility in the Estonian context. The empirical part of the thesis is based on the survey conducted in May 2012 among English language teachers working at basic and secondary schools in Estonia. The study tries to map the extent of ICT use in teaching English and find out what ICT applications are deployed in classes. The next objective of the research is to evaluate the teachers' general level of computer literacy as well as their ability to create and publish electronic study materials. The thesis also aims to assess the schools'

² The Estonian Ministry of Education and Research. 2011. National Curricula for Basic and Upper Secondary Schools. Available at <http://www.hm.ee/index.php?1511576>, accessed December 18, 2012.

current technological infrastructure from the perspective of the language teachers themselves in order to find out whether the successful integration of information and communication technologies is realistic in near term.

The findings of the research will demonstrate whether the actual learning environment and teacher qualification in Estonian schools meet the requirements set in the national curricula of 2011. In addition, this thesis aims to identify possible weaknesses and strengths that impact on the transition to more ICT-based language teaching in schools.

CHAPTER I

1.1 The Definition of Information and Communication Technologies

Information and Communication Technologies (ICT) is a fairly ambiguous term despite the fact that it is extensively used in the context of education. Blurton (1999: 46) defines it as “a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information”. Another term to describe a similar concept is *Computer-Assisted Language Learning* (CALL), which according to Levy (1997: 1) is “the search for and study of applications in the computer for language teaching and learning”. Although the latter definition is generally appropriate in the contemporary context, it focuses on the word *computer* as the only method of computing. However, due to the rapid technological progress and subsequent convergence in recent years, new solutions like smartphones, tablet computers and smart television sets have emerged. The new enhanced devices are in many ways similar to the computer as they also enable multimedia and the Internet. Hence, the very term *Computer-Assisted Language Learning* seems slightly outdated in the contemporary setting, while *Information and Communication Technologies* appears to be a more generic definition and embraces different solutions according to their functionality.

Modern converged technologies and confusing concepts can cause anxiety in people, especially among older generations who often find it difficult go along with the changes. In contrast, young people tend to take innovation for granted and use modern technologies on a daily basis. Electronic devices like computers or smartphones are virtually inseparable from the lives of young people who these days keep in touch with each other via social networks, use the Internet for schoolwork or play computer games at leisure. It can even be argued that due to the avid use of technology and the Internet, young

people have acquired new literacies and competences like, for instance, advanced computer literacy, which surely has implications on their social behaviour and routines. Consequently, it is important for schools and teachers to reflect on the ways in which technology is changing the profession of teaching to correspond to students' abilities and expectations (Chapelle 2003: 17). Moreover, Chapelle (2003: 17) points out that the link between modern information communication technologies and the use of language emphasises the need to integrate the two in the process of teaching as well. As for teaching English as a second language, the latter is definitely true because English has established itself as a universal means for online communication by being the language of a wide range of publications on the Web.

In the Estonian context, the national curricula for basic schools and upper secondary schools state the formation of a knowledge-based worldview in students to be one of the core values of the 21st century education.³ To achieve this goal, schools have to teach the required linguistic and technical skills that help students find, interpret and share information on the World Wide Web as the Internet has become indispensable in that respect. Hence, it can be assumed that information and communication technologies should be used in school to a greater extent in order to meet the requirements of the national curricula as well as the expectations of contemporary students.

1.2 The Impact of ICT on Student Motivation

In the light of proliferation of information and communication technologies, it is inevitable that schools adopt innovative ways of teaching to go in line with the changes in the society and the behaviour of students.

³ The Estonian Ministry of Education and Research. 2011. National Curricula for Basic and Upper Secondary Schools, Chapter 2, Paragraph 2. Available at <http://www.hm.ee/index.php?1511576>, Accessed December 18, 2012.

Several studies have been carried out to evaluate the effect of ICT on learning outcomes. According Trucano (2005: 6), the existence of a direct causal link between student attainment and the use of ICT is difficult to establish since there is no consensus among educational researches whether ICT explicitly improves learning outcomes. However, Trucano (2005: 6) claims that ICT use contributes to improved student learning motivation due to the use of technology that attracts young people. Pursuant to the report *Benchmarking Access and Use of ICT in European Schools in 2006*, an impressive 86 per cent of European teachers think that students are more motivated and attentive when computers and the Internet are used in classes (Empirica 2006: 40). The surveyed teachers associated the use of ICT with a positive shift in the attitude of pupils and a greater involvement in learning activities. Balanskat *et al* (2006: 55) point out that ICT fosters independent learning by allowing for more differentiation of programmes to cater for learners' individual needs. Indeed, as students work on their personal computers or in small groups, teachers can assign individualised tasks according to each student's aptitude. Moreover, working on their own is also likely to improve students' ability to reflect on their progress and take more responsibility for academic performance. Most electronic drills give instant feedback with help texts or highlight the mistakes, so that students can learn from them and improve their result next time. Electronic study materials can also be accessed outside physical classroom settings, which makes it possible to practise and learn individually at home, if required.

In addition, it has been noted that modern communication technologies improve collaboration and peer tutoring between students (Balanskat *et al* 2006: 31). This trend is further supported by general changes in syllabi which put more emphasis on various group work projects such as webquests and presentations that students are supposed to do together in order to develop teamwork skills. In fact, students' usual activities on the

Internet like using social networks, forums, forming interest groups and blogging also encourage peer-to-peer interaction. Therefore, it is in the interest of schools to take advantage of the information and communication technologies to stimulate co-operation between individuals and so engage students more in the learning process.

The increasing number of smartphones, tablet computers and other portable communication devices together with the improved availability of wireless broadband Internet has further increased the role of information and communication technologies in the society. Therefore, it is necessary for schools to adjust to the changed social setting and utilise the potential of information and communication technologies in the field of education so as to keep students engaged with schoolwork. If ICT is used wisely and effectively in education, it has the power to make schools more motivating for learners, which, in turn, may contribute to better learning outcomes as well.

1.3 Challenges of Implementing ICT

Although information and communication technologies have found their way into everyday life and young people are computer-literate, there is an underlying question of whether schools and teachers are ready to integrate ICT into teaching practices as well. There are many obstacles that make the transition to more ICT-intensive teaching a fairly complicated, costly and a time-consuming process.

First of all, teaching methods and course materials have so far been based on printed textbooks and pencil-and-paper tests. Consequently, a changeover to digital formats requires a substantial capital investment in ICT hardware like computers, projectors, student devices and so on. The second big challenge relates to the availability of appropriate digital study materials, which have to be created in order to successfully realize

the potential of multimedia. A proper compilation of courseware should include animations, audio-visual material as well as interactive exercise banks in addition to static texts and still images found in printed books. Therefore, digitalisation of printed textbooks alone does not realize the potential of ICT as long as the content and format is simply transferred onto an electronic platform and converted into a PDF file. Without doubt, the compilation of courseware for the digital format is both an expensive and a laborious process, but there is no alternative either as the society is becoming more technology-ridden every coming year. The final issue that influences the successful implementation of ICT is teachers' IT competence and willingness to learn and integrate new technologies into their courses. After all, the effective application of modern technologies at school draws heavily on the skills and proficiency of the people who work with them.

As far as teaching English as a second language in Estonian schools is concerned, a great proportion of courseware that teachers use is provided by certain UK publishers. So, if the current trend continues, it is very likely that the digital study materials for the future English language courses will be supplied by the same companies, too. Some publishers have already started to complement their printed textbooks with certain ICT add-ons like CD/DVD-ROMs or online applications that both teachers and students can use to diversify their course materials. For example, *Solutions*⁴ series course package for teenagers, published by Oxford University Press, includes the following digital additions:

- *iTools* with content that can be used with interactive whiteboard or computer and projector combination;
- A DVD/CD with additional content for culture, reading or speaking tasks;
- *Solutions Words* app for smartphones and tablets.

These digital components can be used in conjunction with the paper-based courseware to

⁴ Falla, Tim and Paul A. Davies. 2012. *Solutions 2nd Edition*. Oxford: Oxford University Press.

supplement the material covered in the textbook and enable additional practice on a computer or a smartphone outside the regular classroom environment. Even though these electronic course modules cannot yet replace printed textbooks in terms of the content coverage, the emergence of digital add-ons still marks a shift towards the wider use of information and communication technologies in the processes of teaching and learning. A smooth changeover to digital courseware requires a lengthy adaptation phase for schools and teachers alike to be well prepared; therefore a gradual transition towards more technology-based solutions is probably an optimal course of action for the time being.

The final issue affecting the successful implementation of ICT in teaching is teachers' IT competence and willingness to use modern technology. At present, Estonian schoolteachers are expected to have basic IT-skills to carry out everyday tasks like filling out e-Kool, the Estonian electronic school journal platform. On the other hand, it should be noted that e-Kool is a very moderate step towards bringing more technology into school because it currently serves administration purposes only and is not actually a learning environment. Assuming that future education involves the use of high-tech applications, teachers have to be very computer-literate and able to master digital courseware. Future educators are also supposed to be able to use certain e-learning tools such as *Moodle*, *Hot Potatoes*, *Google Docs/Drive* and the like to compile their own digital learning materials according to the requirements of the students or the syllabi.

The application of information and communication technologies in the process of teaching may not be an insurmountable task for those teachers who are good at computers. Nonetheless, it requires a substantial effort to train and encourage those educators whose IT competence is below the expected standard.

1.4 The Use of ICT in Estonian Schools

Estonia has strived hard to create an image of an innovative country with an advanced IT sector and a functioning e-Society. For example, there are e-Elections, e-Government, e-Tax Board, e-Banking, digital drug prescriptions among many other e-solutions that Estonia may pride itself on. Each of these innovations has constituted a leap towards building an efficient e-Society where its members can communicate with the state and public institutions via digital channels in addition to the traditional good old ways. E-Banking and the national e-Tax Board, for instance, have become a norm in Estonia with the vast majority of Estonians using them. For example, in 2011 over 94 per cent of the Estonian tax payers declared their income electronically.⁵

When it comes to educational institutions, namely basic and upper secondary schools, the only national e-solution is e-Kool (e-School). It is essentially an electronic school journal with separate user interfaces for students, parents, teachers and schools. Although e-Kool is an effective instrument to organise schools' everyday administrative tasks, it does not serve as an e-learning platform due to the absence of course modules and content material. Nonetheless, teachers can attach links and files to students' home assignments on e-Kool, which can be regarded as a moderate step towards the integration of ICT into teaching processes.

In Estonia, the implementation of ICT in schools is co-ordinated by the Tiger Leap Foundation which was established in 1997 with the aims to provide ICT know-how for teachers and to develop technological infrastructure and digital learning materials for

⁵ Estonia.eu. Economy & IT. Available at <http://estonia.eu/about-estonia/economy-a-it/e-estonia.html>. accessed December 24, 2012.

educational institutions.⁶ The foundation's vision for the year 2018 includes reaching the following objectives:

- working out interactive information systems for schools;
- developing e-Schoolbag;
- setting up ICT infrastructure solutions, including software and server services;
- providing ICT training and technical support.⁷

More detailed information about the envisaged developments is given in the Estonian Development Fund report *EST_IT@2018* on the use of information technology in education. For example, this report proposes the introduction of e-Schoolbag, a device similar to a laptop or tablet computer, in Estonian schools by the year 2018 (2010: 34). E-Schoolbag is projected to be a student's computer that contains the required courseware in the digital format. In other words, it can be concluded that Estonian schools should make the digital transition and become ICT ready by 2018.

The actual data of funding for years 2012 and 2013 provided to schools to upgrade and develop their ICT standards is available on the Tiger Leap Foundation's web page. According to the terms and conditions for the acquisition of new ICT hard and software, schools can apply for annual co-funding in total of 5 euros per student if the number of learners in an educational institution exceeds 200. For schools with under 200 learners, the investment maximum is 1000 euros per institution.⁸ In reality, such funding may be sufficient to cover depreciation costs or replace a few old computers. However, it is certainly not enough to enhance ICT infrastructure in Estonian schools, let alone make the technological tiger leap by the year 2018. To illustrate the idea, in 2011 the Tiger Leap

⁶ Tiger Leap Foundation. Organisation's web page. Available at <http://www.tiigrihype.ee/en/tiger-leap-foundation>, accessed December 25, 2012.

⁷ Tiger Leap Foundation. Organisation's web page. Available at <http://www.tiigrihype.ee/et/tiigrihuppe-sihtasutus>, accessed December 25, 2012.

⁸ Tiger Leap Foundation. *Tehnoloogia Kaasfinantseerimine* [Co-Funding of Technology]. Available at <http://www.tiigrihype.ee/et/tehnoloogia-kaasfinantseerimine>, accessed December 25, 2012.

Foundation co-funded the acquisition of 330 laptop computers and 364 data projectors for 556 general education schools in total.⁹ Hence, it can be concluded the current level of funding is inadequate, especially on the premise that general education institutions are supposed to be ICT ready by 2018.

Some schools in Estonia have shown initiative to convert to ICT-intensive teaching on their own despite the poor national funding. For instance, Gustav Adolf Gymnasium in Tallinn made an attempt to switch over to teaching certain groups using Apple computers platform in 2012. That project did not materialise, however, due to the high cost of hardware and the opposition of the parents who were supposed to pay 320 euros for their child's personal iPad tablet computer. In addition, the school should have spent an extra 100,000 euros for improved technological infrastructure and support.¹⁰

It is obvious that the implementation of information and communication technologies in schools is an expensive undertaking, especially at the time when new hardware and software is to be acquired. Thus, it is of critical importance to allocate sufficient funds from the state or the municipal budget to upgrade ICT infrastructure at Estonian schools. The Ministry of Education and Science has to work out a realistic roadmap with a thorough cost analysis to project the transition to ICT ready schools in Estonia. As of now, a personal computer or e-Schoolbag for each student by the year 2018 seems to be an unrealistic agenda for Estonian schools due to the high cost factor and deficient financial support. The vision of students with their own school computers or e-Schoolbags in 2018 cannot materialise unless funding increases substantially.

⁹ Tiger Leap Foundation. 2011. Majandusaasta Aruanne [Annual Report]. Available at <http://www.tigrihype.ee/sites/default/files/tekstifailid/Tigrih%C3%BCppe%20Sihtasutuse%20tegevused%20aastal%202011.pdf>, accessed December 25, 2012.

¹⁰ Eesti Ekspress. 2012. Gustav Adolfi Gümnaasiumi iPadi-projekt kukkus läbi [Gustav Adolf Gymnasium's iPad Project Fails]. Available at <http://www.ekspress.ee/news/paevauudised/eestiudised/gustav-adolfi-gumnaasiumi-ipadi-projekt-kukkus-labi.d?id=64535048>, accessed December 26, 2012.

1.5 Digital Teaching Materials

The availability of suitable electronic course material is one of the key factors that influences the effective use information and communication technologies in teaching. Even though the Internet is rich in different educational applications and information on any given topic, online materials often have to be adapted to meet the requirements of the national and school curricula as well as individual students.

As both teachers and students are accustomed to printed courseware, it may not be advisable to automatically discard certain structural strengths of paper-based coursebooks like logical organisation and the principles of unity in terms of topic coverage. The components to add when compiling new digital alternatives are certain interactive features like multimedia and electronic self-check quizzes, etc. Currently, the number of electronic teaching resources for Estonian basic and upper secondary schools is fairly limited. One of the first pioneers in that field was Koolibri Publishers, which released two digital coursebooks intended for Estonian learners in 2012.¹¹ As far as teaching English as a second language is concerned, many Estonian schools use course materials provided by foreign publishers, e.g. Cambridge University Press, Oxford University Press, Macmillan Publishers, etc. These companies have already started the process of developing digital study materials alongside print editions. For example, Oxford University Press has launched a special division called *Oxford Makes Digital Sense* to offer “easy-to-use digital content for a variety of teaching situations, from classes that only use digital books, to those that make the most of their printed materials using interactive whiteboards or digital homework”.¹² Macmillan Publishers is also experimenting with a wide range of e-learning

¹¹ Koolibri Publishers Ltd. Company’s web page. Available at <http://www.koolibri.ee/content.php?id=90&lang=ee>, accessed December 26, 2012.

¹² Oxford University Press. Company’s web page. Available at <http://digital.oupe.es/elt/index.htm>, accessed December 26, 2012.

applications like digital books and tools for interactive whiteboards or virtual learning environments to name a few. For instance, Macmillan has worked out an online testing toolkit *Test Maker*, which according to their website, is an online testing tool which enables ESL teachers to build custom-made tests for students, using a database of more than 1,500 exercises and over 10,000 questions. Students are supposed to log in to sit the tests they have been set, which are then automatically marked with the results sent to the teacher.¹³ Indeed, *Test Maker* or any other similar e-testing solution would be an ideal tool for Estonian schools except for the annual cost of the service, which in case of *Test Maker* can be around 25 euros per student, if fifty licences are purchased.¹⁴

Even though the creation of e-books or other forms of digital courseware is in its infancy and commercial solutions are costly, there are some web-based solutions for teachers in Estonia. *Miksike.ee*, for example, is a vibrant online portal for teachers and learners in basic school level, providing a variety of online tests, quizzes, printable worksheets and other school-related information. Moreover, *Miksike.ee* offers to download set of e-workbooks and interactive worksheets, which allegedly correspond to the Estonian national curricula.¹⁵ *Miksike.ee* is managed by a private company but receives a fair share of its funding from different European Union funds or projects.¹⁶ On the other hand, it should be mentioned that a big proportion of the downloadable content like e-workbooks and worksheets are not free of charge and are behind a paywall, which may discourage some teachers and schools from using them altogether. *Miksike.ee* website claims that most of the electronic study materials have been contributed and edited by working teachers, which should make the content relevant and up-to-date. Another definite plus of the portal

¹³ Macmillan Education. Macmillan Test Maker. Available at <http://digicat.macmillaneducation.com/Online-Reading/Testmaker>, accessed December 26, 2012.

¹⁴ Macmillan Education. How Do I Buy Test Maker? Available at <http://www.macmillantestmaker.com/section.asp?catid=371>, accessed December 26, 2012.

¹⁵ Miksike.ee. Teated [Announcements]. Available at <http://www.miksike.ee/en/gnews.html?displaynews=4307>, accessed December 26, 2012.

¹⁶ Miksike.ee. Miksikese õpikeskkond [Miksike's Learning Environment]. Available at http://miksike.ee/docs/contact/kirjeldus2007_2008.htm, accessed December 26, 2012.

is the fact that the topics and files are systematised by grades and subjects, so that navigation on the site is quick and easy. Despite the cost factor, the majority of Estonian schools have already subscribed to *Miksike.ee* services, and their website boasts around 200 thousand visits on an average school day.¹⁷ In the Estonian context, these figures are impressive and indicate that *Miksike.ee* is appreciated by the target groups of learners and teachers alike.

As mentioned before, the Estonian Development Fund report *EST_IT@2018* on the use of information technology in schools proposes that Estonia will have successfully implemented ICT solutions into teaching by the year 2018 (2010: 34). Consequently, e-books are projected to take over the role of their paper-based counterparts in just five years. Although some work regarding the creation of digital courseware has already been done by some private companies and working teachers, the Ministry of Education and Science has to devise a detailed plan in order to streamline the compilation processes and make sure that students can indeed use e-Schoolbags that contain all the required software and digital course materials as of 2018.

1.6 Reasons for Using ICT in English Language Teaching

Relying on information and communication technologies has become a norm for carrying out simple everyday actions like looking for information, sending messages or learning about interesting phenomena. Young people in particular carry out such task with ease on a computer or other web-compatible devices, which is why it is important for educational institutions to meet the expectations of technologically advanced students and utilise the same technology for teaching and learning purposes.

¹⁷ Miksike.ee. Miksikese õpikeskkond [Miksike's Learning Environment]. Available at http://miksike.ee/docs/contact/kirjeldus2007_2008.htm, accessed December 26, 2012.

According to the Estonian Development Fund report *EST_IT@2018* (2010: 9), the average students-to-computer ratio in Estonian schools is 5:1, which leaves much to be desired before the full potential of information and communication technologies can be realised in the school context. However, many language teachers can use a variety of ICT equipment like teachers' computers, audio playback devices, projectors or an interactive whiteboards in their classrooms. The existence of video and audio presentation equipment makes it possible to blend ICT with book-centred teaching if the teacher decides to do so. For instance, teachers can show video clips or some thematic animations that relate to the topic discussed in the study unit. Despite the fact that schools cannot yet provide a personal computer for every student, there are computer laboratories where, if booked in advance, language classes can be held in order to familiarise students with online language tools and drills, which they can later use at home computer.

It should also be acknowledged that due to the increasing importance of information and communication technologies and the Internet, teachers inevitably assume a different role. Ideally, a modern teacher has to instruct students how to take advantage of technology and the Internet along with explaining the subject matter. Such guidance will raise student autonomy outside the regular classroom setting and may promote independent learning. For example, if a word needs to be looked up, students should be encouraged to consult a proper online dictionary where they can listen to the pronunciation of the entry, see its word forms and the use in a sentence. Although an educated person is supposed to be able to use a printed dictionary, it is unreasonable to deny the benefits of online alternatives which are easy to access, versatile and free of charge. Therefore, despite the current shortage of computers at schools, instruction on the use of technology should be given, because students can use computers at home and are very likely to need these skills in their future jobs.

When discussing language teaching approaches specifically, ICT can benefit learners and teachers in several ways. Houchine (2011: 2) points out six main advantages of using ICT in foreign language instruction:

- adaptation of teaching materials to circumstances and learners' needs;
- ability to react to and use recent news by authentic materials on the web;
- quick feedback; use of multimedia to combine text, images, audio and video clips;
- more interesting and engaging classes;
- ability to focus on a specific aspect of language like grammar, vocabulary, etc.

As some of the above-mentioned advantages combine with each-other, it is worthwhile to modify these benefits to some extent and discuss the following three in detail: adaption teaching materials to learners' needs, authentic language from online sources, and automated testing and quick feedback.

1.6.1 Adaptation of Teaching Materials to Learners' Needs

Printed courseware mostly corresponds to the needs of an average learner, which often poses problems for those teachers who work with students of mixed abilities. It is common knowledge that more talented students tend to finish faster or suffer from boredom, whereas some learners may require additional teaching effort and time. Virtual learning environments (VLE) such as special websites and computer programs can certainly alleviate some of these problems by adjusting pace and difficulty according to a learner's aptitude. Another definite plus of online content lies in its diversity, which makes it possible to provide a more wide-ranging pool of exercises and drills than can ever be included in one physical textbook. To illustrate it, *Agendaweb.org*, a collection of free online exercises, offers 194 interactive exercises on the use of the articles from lower

intermediate up to upper intermediate levels.¹⁸ Undeniably, some of these online drills have deficiencies and not all of them have been revised by a board of language specialist, but the sheer quantity gives teachers considerable freedom of choice.

One of the biggest concerns with the use of online drills is the fact that language classrooms do not have enough computers for all students to work simultaneously. Nonetheless, teachers can occasionally use the school's computer laboratory or post links to relevant tasks via e-Kool for students to do at home. If students learn to find and use online study materials, they can empower themselves to become more self-sufficient as learners and eventually take more responsibility for their results.

1.6.2 Authentic Language from Online Sources

It tends to be easier to relate to the information about recent world events that are extensively covered by the media. Hence, it may be wise to use current affairs and news headlines in language classes, so that students can reflect on the real world events and acquire relevant language skills at the same time. The integration of authentic news could also make students more knowledgeable about the world on the whole. Mitchell notes that real news stories from the Internet foster the development of cultural awareness and understanding of the settings and the societies where the language is used (2009: 45). Consequently, in addition to language learning, which should be the primary objective of the course, using authentic up-to-date resources can raise students' overall knowledge base. Due to the widespread understanding that English is a universal broadcasting language to the international audiences, it is possible to find authentic information on virtually any topic or country of interest. Major global news corporations like the BBC, Al-Jazeera, the

¹⁸ Agendaweb.org. Available at <http://agendaweb.org/grammar/articles-exercises.html>, accessed December 26, 2012.

CNN, the Voice of America, Russia Today, Deutsche Welle and France24 have English services to offer a continuous flow of world or regional news together with documentaries. In addition, these channels have websites that allow users to stream or download multimedia content that can be presented to a class at a suitable time.

Some international news channels like the BBC and the Voice of America have set up websites specifically for non-native speakers of English. Such designated services might appeal to teachers seeking additional course materials and students who are eager to improve their language skills and study the culture of the country.

The Voice of America's special English (Learningenglish.voanews.com) is a United States government-funded web page intended for both learners and teachers of English. It is especially attractive because of its huge database of news items from around the world and special reports on health, technology, the environment, and the history of the United States. Many articles are in both audio and text formats, which is an advantage for those who prefer to follow the transcript while listening. Such audio and written text combinations can efficiently be used in language classes when presenting difficult topics or new vocabulary, especially with weaker students. The newsreaders for the Voice of America special English programmes employ a slower than normal pace of speech to accommodate for the needs of non-native listeners, which makes this website particularly suitable for language learning and teaching purposes.

The BBC Learning English website is another excellent environment for both language learners and teachers. This educational web page deals with the typical language components like vocabulary, pronunciation and grammar, which makes it easy for a language learner to get more practice if needed. The topical reading texts are timely and especially relevant to younger people who are eager to learn more about culture and traditions. *The Words in the News* section aims to inform about the current world events

and teach vocabulary at the same time. In general, it can be agreed that both the BBC and the VOA designated websites for language learners are excellent venues for those ESL teachers who would like to bring authentic language into their classes.



Figure 1. BBC Learning English website, November 3, 2012.

It is obvious that certain ICT applications like individual computer drills require personal workstations and are therefore unrealistic in most language schools as of now; nevertheless, a fair proportion of audio, video and textual content can be delivered in most language classrooms today provided that they are equipped with a computer and a video presentation device. Hence, it can be presumed that it is possible to diversify language learning environment by adding real news stories and authentic materials to standard courseware at the cost of a relatively small investment in ICT hardware like a projector and the teachers' computer. Assuming that the use of ICT raises students' learning motivation and overall awareness, it is definitely worth the effort.

1.6.3 Automated Testing and Quick Feedback

Although test-taking and drills are necessary for both language learning and teaching, correcting students' papers is often a dull and a time-consuming task. From a student's perspective, getting test results may take days, so delaying and minimizing the effect of feedback. Roediger *et al* (2011: 20) claim that tests serve as a mechanism that informs students as to what they know and what they do not. Therefore, feedback on test outcome and mistakes is essential for students since it improves their metacognitive monitoring and self-assessment levels. Roediger *et al* (2011: 26) also note that regular and frequent testing motivates students to study harder because they are encouraged to make more effort prior to a forthcoming test. So, it can be assumed that regular tests with quick feedback will have a positive effect on overall learning outcomes. Kuo and Simon (2009: 158) point out that "even though students organise their study time around the testing schedule, not all of them will achieve the same target level of content mastery with each test. For the low performers to benefit from frequent testing, it would then be crucial to provide feedback or remedial instruction after every test".

Standard paper-based tests can take long to mark, especially if groups are big and tests extensive. As a result, such tests can only be arranged rarely because of teachers' workload. Likewise, it is unrealistic that a teacher can provide individual feedback to every student in a quick manner. Nonetheless, these problems can be alleviated by introducing electronic alternatives with integrated check and assessment functions. Common test formats like multiple choice, open cloze, matching, and short-answer quizzes can all be automatically checked by a computer program, which saves teachers' time.

The other major benefit of electronic tests is the possibility to get instant feedback on the screen in a neutral manner. Computer-based drills and exercises can prove particularly suitable when students are only supposed to provide close-ended answers that

are checked against the key by the software program, which then informs the learner about the result, the mistakes and can provide explanation. Additionally, software-based tests enable a higher degree of flexibility required by individual learners. For example, it is possible assign a more challenging task to advanced students and give extra time for those who need it.

Although the Internet offers an impressive range of ready-made exercises, teachers are sometimes supposed to create their own electronic tests or drills for a particular situation. In such cases, teachers use some software that allows them to compile online exercises and tests free of charge. For example, the *Hot Potatoes* suite can be used to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises.¹⁹ One of the definite advantages of the *Hot Potatoes* platform is its user-friendly interface that only requires basic IT skills, which most teachers are expected to have. As *Hot Potatoes* exercises have to be uploaded onto the Internet for students to access them, teachers are also supposed to be able to publish online or even own a personal website. In reality, setting up a simple personal website does not require any specific expertise if done with specially designed web hosting platforms like *Weebly.com*, *Edicy.com*, *Google Sites*, etc.

Another way to organise e-learning is the use of full-scale electronic course management solutions that are often defined as Virtual Learning Environments (VLE). One popular example of such solutions is *Moodle*, which is widely used in Estonia as well. VLEs can be used to complement regular classes by providing a set of additional materials and tests that students can access at home. Virtual Learning Environments typically facilitate automatic grading with some types of tests, which will speed up and ease the assessment process and may subsequently save teacher's time. Although being a freeware

¹⁹ Hot Potatoes Home Page. What is Hot Potatoes? Available at <http://hotpot.uvic.ca/>, accessed January 3, 2013.

application, *Moodle* is a sophisticated solution allowing teachers to import tests created on a variety of other platforms such as *WebCT*, *Blackboard*, *Hot Potatoes* and so on. The latter makes *Moodle* especially attractive for those teachers who work with multiple solutions simultaneously and wish to bring everything under one umbrella. Like most online testing software, *Moodle* also provides instant feedback on test performance, but it has additional features such as discussion forums and instant messages that contribute to communication between students and teachers.

Overall, the share of electronic testing should increase in the near future because it can benefit teachers and students alike. However, it should be noted that the shortage of computers that students can use for their curricular activities in schools seems to be the biggest obstacle that slows down the transition to electronic testing and other ICT intensive approaches.

CHAPTER II

2.1 Methodology of the Empirical Study

The survey was conducted in March 2012 and yielded the total sample of 117 responses from the teachers of English in Estonia. An electronic questionnaire was sent to those basic (213) and upper secondary schools (245) in Estonia whose contacts could be found in *Neti.ee* online directory. Some of the e-mails were returned due to a technical error, and certain schools refused to participate in the study on the grounds of the teachers' workload or the schools' internal policies. The respondents remained anonymous and no sensitive personal data were collected.

The *Google Drive* powered electronic form consisted of 29 individual questions on the use of information and communication technologies in teaching English as a second language. 23 of the total 29 questions were quantitative with the aim to deliver comparable statistical data for the research. Six questions of the survey were open-ended paragraphs in order to allow the respondents to comment or reflect on the use of ICT in language instruction, thereby adding a qualitative dimension to the analysis.

The data of the survey were processed with *IBM SPSS* analytics software and *Microsoft Office* suite.

2.2 Data Analysis

2.2.1 Overview of Respondents

109 of the total 117 respondents were female, who made up 93 per cent of the sample. As for the age of the English teachers, the distribution across the age groups of 21–30, 31–40, 41–50 and 51–60 is fairly equal, oscillating between 19 to 26 per cent respectively. Over half of the teachers (58%) were older than 40 years of age. In general, the ratio of younger teachers to older ones in the sample is approximately two to three.

Regarding the length of professional career, four in ten respondents have worked in the field of teaching English up to ten years. The other two significant groups were teachers with 11–20 and 21–30 years of experience, who made up nearly half of the total sample. Roughly 10 per cent of the teachers in the survey have held the position for more than thirty years.

The calculated mean values of the three core variables: the teacher's age, the length of professional career and gender reveal that an average English language teacher in the sample is a 43-year-old woman who has been in the job for about 16 years.

	Variable	Count
What is your sex?	Female	109
	Male	8
How old are you?	21–30	27
	31–40	22
	41–50	31
	51–60	27
	61–70	9
	70+	1
How long have you worked as a teacher of English?	0–10 years	45
	11–20 years	33
	21–30 years	26
	31+ years	13
Which school level do you teach?	Basic school	78
	Secondary school	39

Table 1. The profile of respondents.

2.2.2 Types of ICT Applications Used in Language Classes

As ICT can be utilised in a number of ways which are often embedded in the form of multimedia or converged platforms, a clear differentiation is slightly problematic. However, different applications of ICT were itemised in the questionnaire according to certain distinct features such as video and audio presentations, computer-based tests and browsing designated websites. The respondents could choose all relevant check boxes to determine the forms of ICT that they have used in language instruction. Therefore, percentages add up to more than one hundred in total.

Pursuant to the statistics displayed in Figure 2 below, more than three quarters of the surveyed teachers have shown videos, organised electronic drills or tests and browsed designated websites as part of their teaching. The presentation of additional audio materials for learners ranks slightly lower with 54 per cent of teachers who have done that. The latter tendency can be explained by the fact that coursebooks are usually accompanied by audio CDs, so that many teachers do not need to look for extra audio materials to diversify their classes. Besides, it should be noted that a huge proportion of online content is audio-visual by default, especially when downloaded from *YouTube* or a similar online library.

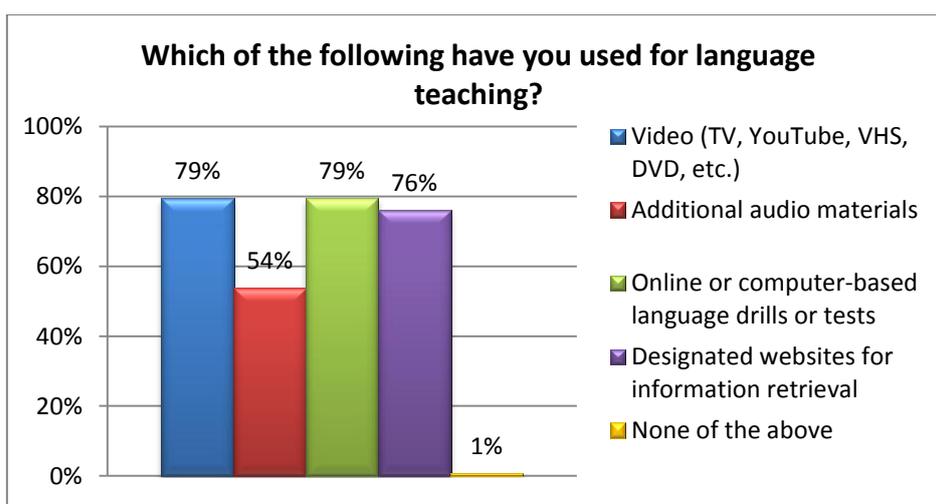


Figure 2. The use of different ICT solutions in classes.

According to the findings of the study, 116 teachers of the 117 surveyed have used at least one instance of ICT in their classes, which is a positive marker. Moreover, equally high percentages for separate types of applications indicate that the teachers employ various technological add-ons at comparable rates beside traditional paper-based courseware.

2.2.3 Rate of ICT Use

As far as the frequency of use for various ICT applications is concerned, the study reveals that over a third of the teachers employ electronic tests, additional audio or video content at least once a week. Roughly half of the respondents bring in additional electronic materials at least once a month, whereas only 16 per cent of the language instructors indicated that they use ICT once a term or even less often. In general, it can be concluded that over half of the teachers in the sample deploy information and communication technologies at least twice a month, which indicates that a significant share of the teachers are familiar with modern technology and regularly use it in teaching. It is a positive sign assuming that the role of ICT in education is projected to increase considerably in the near future.

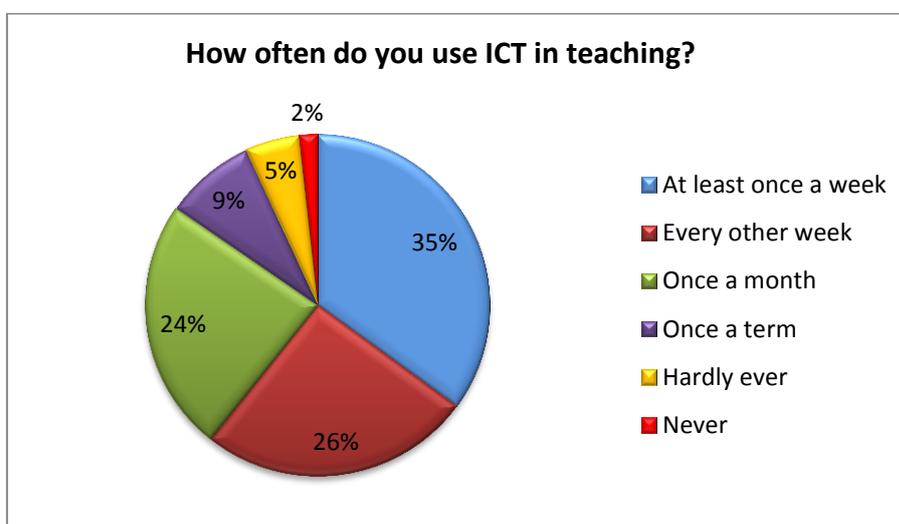


Figure 3. The frequency of ICT application.

Contrary to a popular belief that younger people are generally more computer-literate and willing to experiment with innovative solutions, the teachers' age does not seem to correlate much with how often technology is deployed in language instruction. According to the findings of the survey displayed in Figure 4, the teachers' ICT activity and frequency of application is fairly evenly distributed across all the listed age groups. The most avid users of new technology are the teachers between 31–40 years of age, with nearly half of them indicating a weekly application ICT in classes. Surprisingly, the teachers up to the age of 30 do not differ substantially from their senior colleagues aged 51–60 in terms of how often modern technology is used. Thus, it can be inferred that the teacher's age is an irrelevant factor that does not influence the use of ICT.

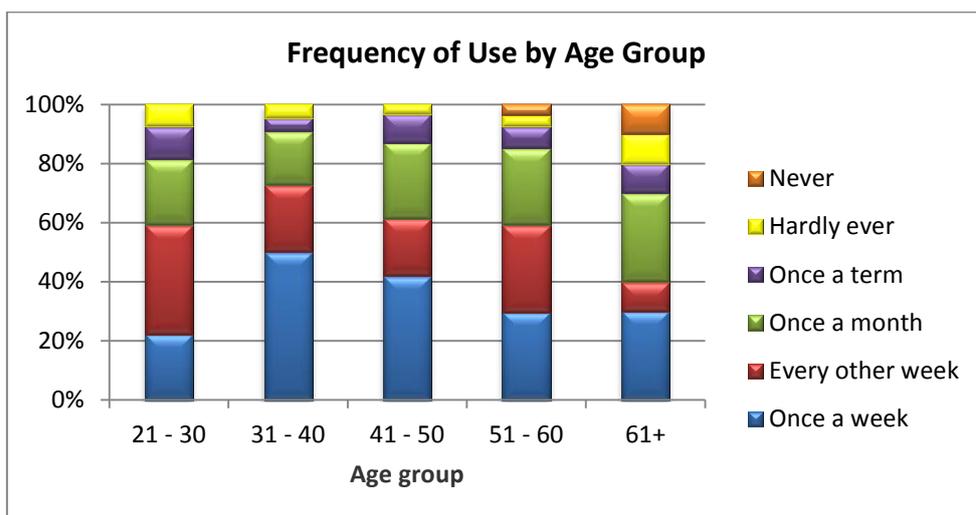


Figure 4. The frequency of ICT use by age group.

In general, it can be observed that over half of the teachers use some form of ICT in the process of teaching at least twice a month irrespective of the age group, except for those older than 60 years of age, whose ICT activity is lower. On the other hand, the difference can be attributed to the small size of the sample, which consisted of only 10 respondents aged 61 or older.

The teachers between the ages of 31 and 50 tend to be slightly more active in integrating modern technology into teaching processes than other subgroups. The latter

trend can be associated with a long teaching career combined with a good technical expertise characteristic of the middle-aged teachers who tend to opt for wider use of ICT in instruction in order to diversify their teaching methods and make classes more motivating for language learners.

2.2.4 Standard of the Schools' ICT Infrastructure

The integration of information and communication technologies draws foremost on the existence of the required technological infrastructure consisting of computers, video projectors, internet access and the like. The level of ICT standards in Estonian schools varies because no underlying national norms concerning the minimum requirements for ICT equipment have been established.²⁰ As a result, the institution's technological level and the acquisition of IT hardware and software depend primarily on the school owner's financial and administrative capacity to apply for external funding from different projects.

In order to observe the technological standards in Estonian basic and secondary schools, the questionnaire asked the teachers of English to evaluate their institutions' overall technological state to implement computer-based learning and teaching. The respondents were asked to choose from the scale range of 1 to 5, where 1 stood for very poor and 5 for very good.

The analysis of the data shows that the most frequent rating was *satisfactory* with 39 per cent of the total votes. Roughly the same proportion of teachers, 28% and 13% respectively, ranked their schools' ICT level to be good or very good. Yet, 19 per cent of the teachers of the survey considered their schools' technological infrastructure to be poor or very poor. Statistically, the mean value of all the 117 analysed responses is 3.30 on the

²⁰ Tiger Leap Foundation. 2012. IT juhtimise head tavad koolis [Good IT Management at Schools]. Available at http://www.tiigrihype.ee/sites/default/files/file_attach/tekstifailid/ITkogumik.pdf, accessed December 26, 2012

five-point scale, which indicates that the schools' overall ICT readiness in terms of the infrastructure can be considered to be above satisfactory or fairly good.²¹

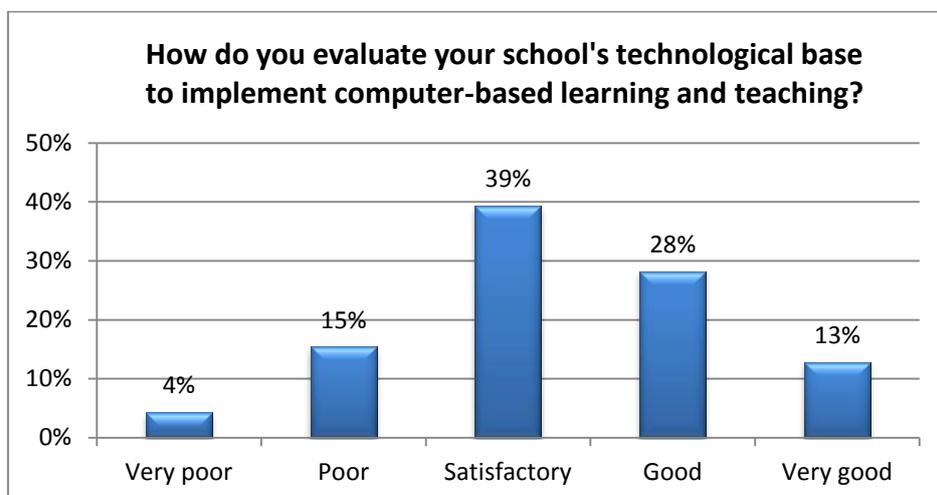


Figure 5. The teachers' assessment of their schools' ICT infrastructure

2.2.5 ICT Devices in Language Classrooms

The surveyed 117 language teachers were also asked to specify the types of the ICT equipment such as teachers' computers, interactive whiteboards, video projectors, TVs or monitors, students' computers and other devices that they can use in their main classrooms. As some language instructors may be able to use several of the above-mentioned appliances at work, they could check all relevant boxes and enter textual information in a field to add extra equipment or a comment. Therefore, the combined percentages of all the listed selections add up to more than one hundred in the sample.

The study reveals that over 90 per cent of the teachers can use a computer in their main working environment. Such high prevalence may be explained by the fact that the teachers need to register their classes electronically in the e-Kool or a similar system. However, the latter does not necessarily mean a more extensive ICT usage in the teaching context as long as a teacher's computer is merely used for formal administration purposes.

The combined ratio of different electronic presentation devices such as projectors

²¹ The IBM SPSS calculated mean of the total 117 answers was 3.30 with the standard deviation of 1.07.

(49%), TV/monitors (21%), interactive whiteboards (8%) is quite impressive, amounting to 78 per cent in the sample. Some teachers can obviously deploy several presentation solutions in their classrooms, which somewhat distorts the general distribution of different types of the ICT equipment in the sample. Nonetheless, the statistical data show that certainly over half of the teachers who participated in the survey can technically deliver digital multimedia content in their stationary classrooms.

The option “Other” was selected by 8 per cent of the respondents, of which three teachers indicated that they do not have any of the listed ICT tools in their classrooms. Some teachers had added CD players and other audio playback devices, which are by default indispensable for language teaching and were, therefore, excluded as ICT devices. Laptop computers, which are a type of the personal computer, were also mentioned but were disregarded as separate ICT equipment. Consequently, only the three teachers (2.6% of the sample) without any ICT tools in their classrooms have a statistical relevance in the subgroup of “Other”.

The most common combination of different ICT devices was that of a computer and a video projector, which appeared together in 49% of the responses. Computers were also paired with interactive whiteboards or TVs and monitors, but these cases were less common with only 8% and 16% of the total sample. One in six teachers reported having students' computers or workstations in their main classrooms. Unfortunately, the survey failed to ascertain the learners-to-computer ratio in those language classes specifically. Even so, the availability of students' computers in the language learning settings is clearly a major leap towards a more extensive use of information and communications technology in education.

In summary, it can be concluded that approximately three quarters of the English language classrooms where the questioned teachers work allow the use of less demanding

ICT applications like showing a video or making a slide show presentation.

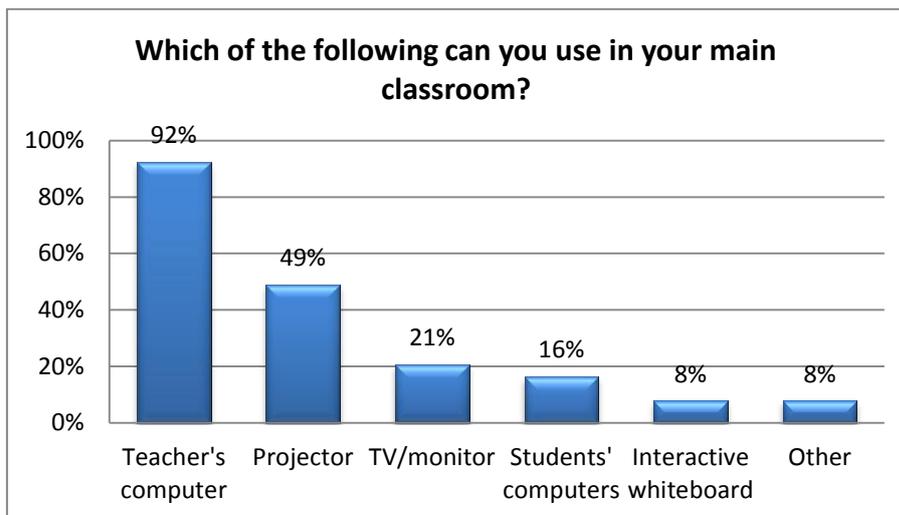


Figure 6. The availability of ICT devices in teachers' main classrooms.

2.2.6 Provision of Self-Made Digital Teaching Materials

With technology-based solutions becoming more available to teachers and students alike, it is important to efficiently utilise them in the process of teaching and learning. Many schools have already set up virtual learning environments (VLE) like *Moodle* or websites where students can easily access course materials, take tests or learn independently regardless of their physical location. As virtual learning environments are merely technical platforms to disseminate course-related content, it is essential for the teachers to be able to create and publish digital courseware in the first place.

Of the 117 English language teachers surveyed, slightly over half (53%) claim to have created some electronic materials for teaching. Due to the fact that basic school teachers comprised two thirds of the total sample, it is worthwhile to analyse if such prevalence brings out differences according to the school levels.

The analysis of the data outlined in Figure 7 shows that there are moderate differences between the basic and the secondary school language teachers represented in the sample. The secondary school teachers appear to be slightly more innovative as 56 per

cent of them have created electronic course materials, in contrast to 51 per cent of the basic school educators who have composed digital content for teaching. On the other hand, the five-percent margin can be accounted for a statistical deviation resulting from the small sample of 39 teachers working with the secondary school level students.

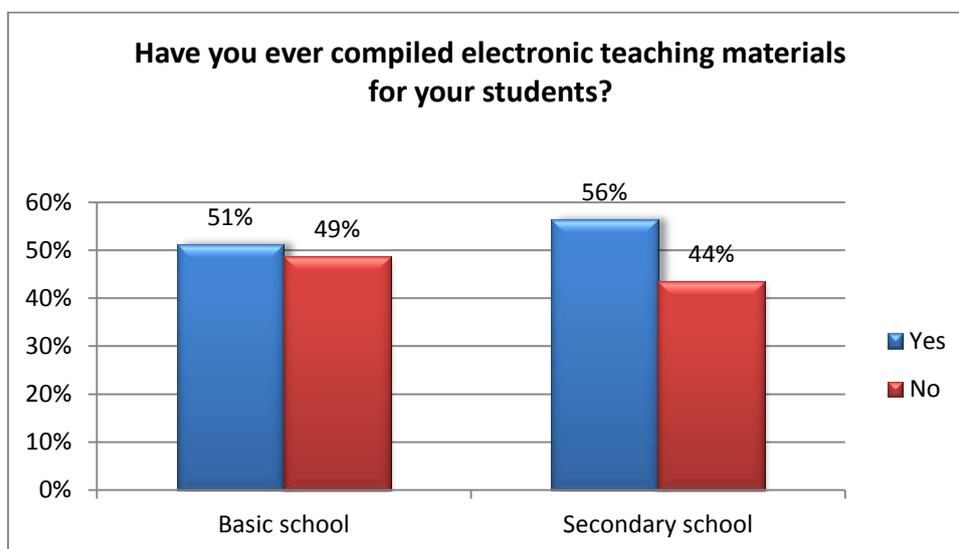


Figure 7. The compilation of electronic teaching materials by school level.

In general, the proportion of teachers who have created digital materials could have been bigger in the light of the facts that contemporary students can use computers and teachers occasionally need to conduct routine drills for relatively mechanical topics such as the use of prepositions, word forms, articles and the like. An effective use of computerised drills would be a very viable substitute to paper-based alternatives, especially when students need extra practice and work at home. On the other hand, it should be acknowledged that a substantial amount of similar tasks has already been created by other teachers of English around the world who have uploaded their work on the Internet for others to use. Hence, the compilation of new teaching materials in order to practise a typical grammar topic may be unnecessary, if the teacher can take advantage of the existing bank of the corresponding e-learning content online.

2.2.7 Preferred Environments for Creation of Digital Study Materials

The study also aimed to find out what the preferred environments for the creation of electronic course materials are. Only 62 teachers (53% of the sample) were to answer the question for having previously confirmed that they had compiled electronic learning materials for their students.

Due to a plethora of different platforms where electronic content can be compiled, the questionnaire only suggested the two most common suites: *Moodle* and *Hot Potatoes* together with the option “Other”, where the respondents were supposed to enter the alternatives they use. It was possible to tick all three options; therefore, the combined percentages add up to more than one hundred.

Statistically, the most popular choice was *Hot Potatoes* with more than three quarters of teachers using it. A quarter of teachers use *Moodle* virtual learning environment. A significant share of the respondents (40%) chose the option “Other” to add a tool not listed, of which the most typical solutions were *Google Drive*, *Quizlet*, *Miksike* and *VIKO*.

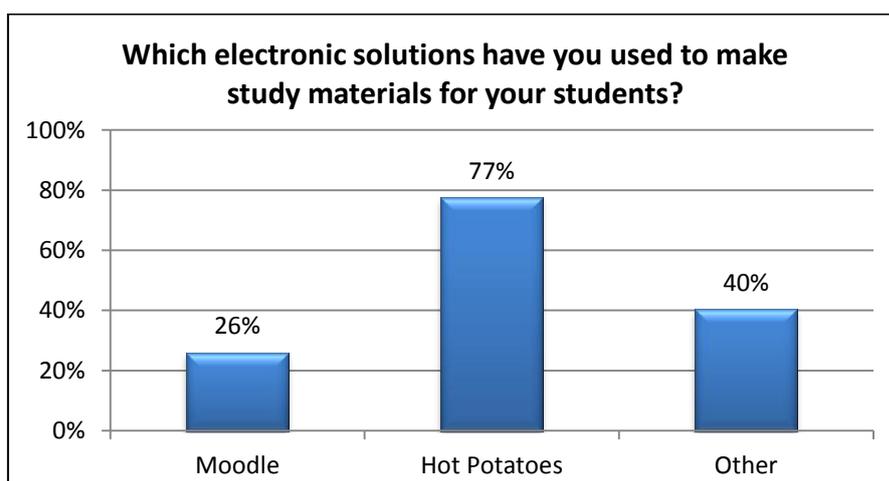


Figure 8. The most common platforms for creating electronic teaching materials.

In general, *Hot Potatoes* appears to be clearly the most preferred choice for the teachers. At the same time, a fair percentage of the educators seem to be experimenting

with different platforms in search of the one that best caters for their requirements.

2.2.8 Publication of Self-Made Digital Study Materials

The teachers who compile digital learning materials were also asked to specify where they publish their electronic content. The choice was restricted to three check box selections: “Teacher's own website”, “School's website” or “Other”. In case of the last option, the teachers were supposed to fill in a text field and provide the name of the platform.

According to analysis depicted in Figure 9, both the teacher's own websites and the school's web pages were mentioned by nearly a third of the respondents. 28 teachers (45%) of the sub-sample opted for alternative choices. In the section “Other”, seven teachers use different wikis, blogs and lists to circulate their electronic materials and three teachers upload their content to certain teacher-oriented web portals like *Miksike.ee*, *Koolielu.ee*, *Lemill.net*, etc. Seven of the 62 educators surveyed (11%) noted that they do not publish their electronic materials at all.

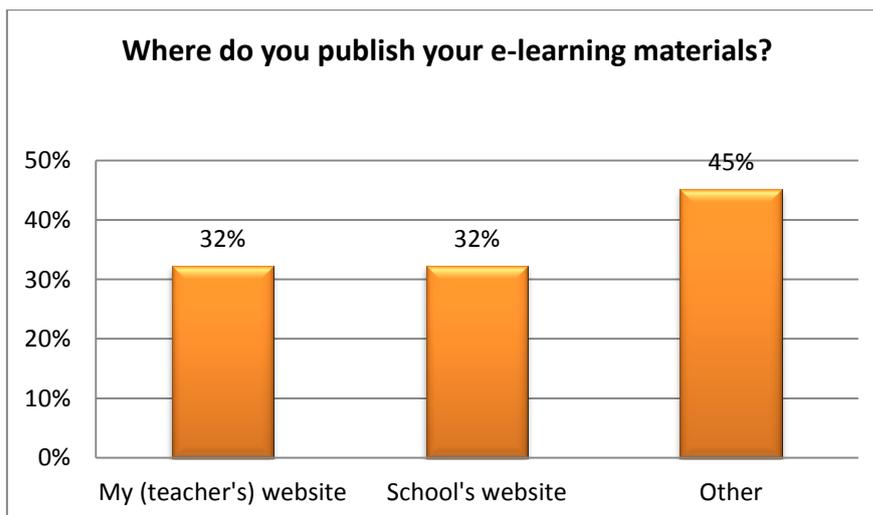


Figure 9. Where teachers publish their e-learning materials.

The options of sharing and distributing teacher's materials may vary considerably according to the target group and the type of content, so there cannot be a single correct

method how digital learning materials should be parcelled out. However, the fact that only a third of teachers use their school's website implies that most of the surveyed language instructors either do not have the user privileges to publish on their institution's homepage or prefer alternative venues for some other reasons. The findings of study also reveal that 11% of the teachers who can in fact create content do not publish it at all, which renders them effectively void in terms of creating digital learning materials. After all, it should be recognized that digital courseware requires to be uploaded on the Internet in the first place in order to make it accessible to students.

2.2.9 How Often Are Digital Study Materials Created

The survey also aimed to determine how often the computer-literate and digitally prolific teachers compile new study material for their students. The sub-sample consisted of 62 teachers from both secondary and the basic school levels who indicated that they had created electronic materials for teaching.

The analysis of the data shows that almost half of these e-competent teachers are actually fairly inactive, compiling new electronic study materials either once a term (35%) or hardly ever (13%). On the other hand, approximately a third of the respondents are more active, creating electronic courseware once a week (13%) or every other week (23%).

The relative inactivity of some of the teachers in terms of making digital course materials can be attributed to several factors like lack of time, availability of ready-made language exercises and drills online, as well as impracticality of e-materials provided that the schools' overall technical infrastructure is poor. Likewise, the teachers' general IT competence, which will be discussed in detail in the next section of the study, is definitely another key factor to impact on digital productivity.

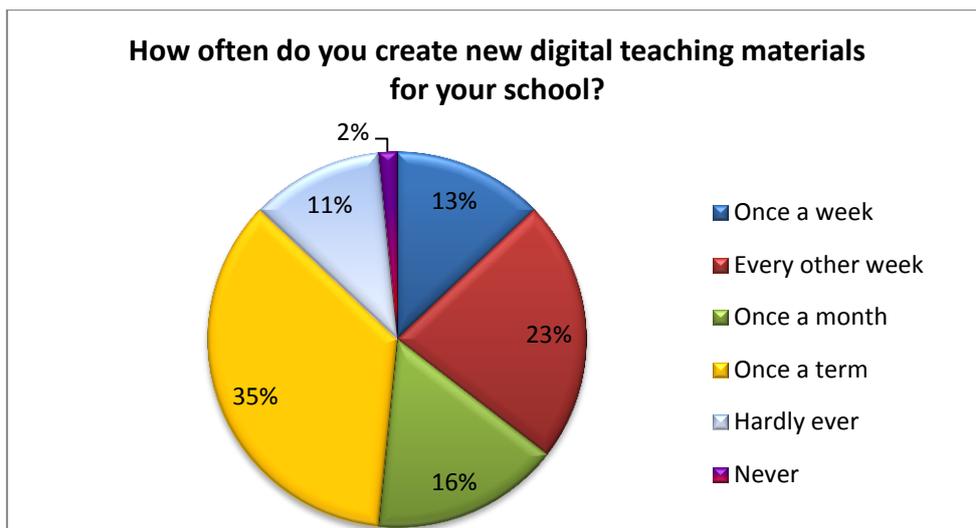


Figure 10. The frequency of composing digital course materials.

2.2.10 Teachers' ICT Competence and Training

For the purpose of this study, relative IT competence of the participating teachers was measured according to their own self-assessment criteria. More specifically, the educators were asked to evaluate their skill levels on the five point scale ranging from very easy to very difficult to describe effort of creating and publishing electronic content for their students. 62 teachers from the total sample of 117 were directed to answer this question since they indicated having created some digital courseware. According to the subsequent data analysis, slightly over a quarter (28%) of the respondents find the task of compiling and uploading digital materials to be either very easy (5%) or easy (23%). On the other hand, roughly three quarters of the teachers in the sample (72%) regard it as a moderate or a difficult challenge with the respective shares of 48% and 24%.

The study reveals that even in the sub-sample of the teachers who compile digital content, the general level of expertise ranks fairly low according to the educators' self-assessment. Hence, the teachers appear to require additional training if not even longer courses to enhance their ICT competence so as to make the process of creating and publishing electronic materials a less demanding task.

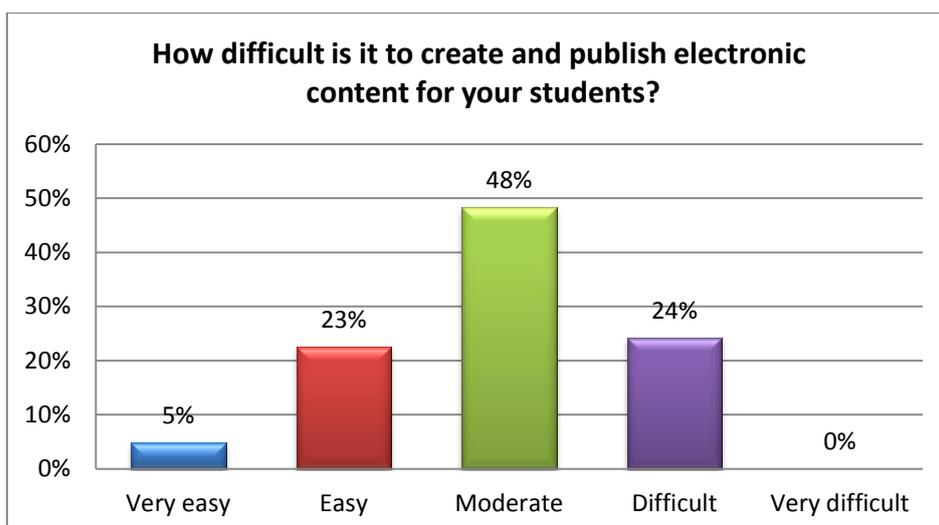


Figure 11. Teachers' self-evaluation of difficulty when creating and publishing electronic content for their students.

2.2.11 Methods of ICT Instruction

Teachers need proper training to ensure that they can effectively create and use electronic materials for their students. This study tried to determine the sources of instruction for those 62 teachers who have composed digital materials for teaching. Due to the fact that the instructors may have acquired different ICT skills through a wide variety of ways, the respondents could select several suitable options to answer the question.

According to the survey, in approximately half of the cases teachers either learnt to use different e-tools during courses organised by their schools (52%) or as part of their teacher training programme (45%). A third of the teachers (32%) claim to be self-taught, implying that they acquired the expertise by experimenting or reading the relevant literature on their own. 18 per cent of teachers were instructed by their colleagues. Two teachers (3%) noted that they used different online tutorials, which evinces that they are also essentially self-taught.

The survey findings show that teacher training and special courses organised by the schools are the most common methods of ICT instruction. However, in line with the findings displayed in Figure 11, the current level of ICT education does not appear to be

systematic enough. As a result, a significant number of teachers adhere to self-instruction or indicate that the creation of digital course materials requires a considerable effort on their behalf.

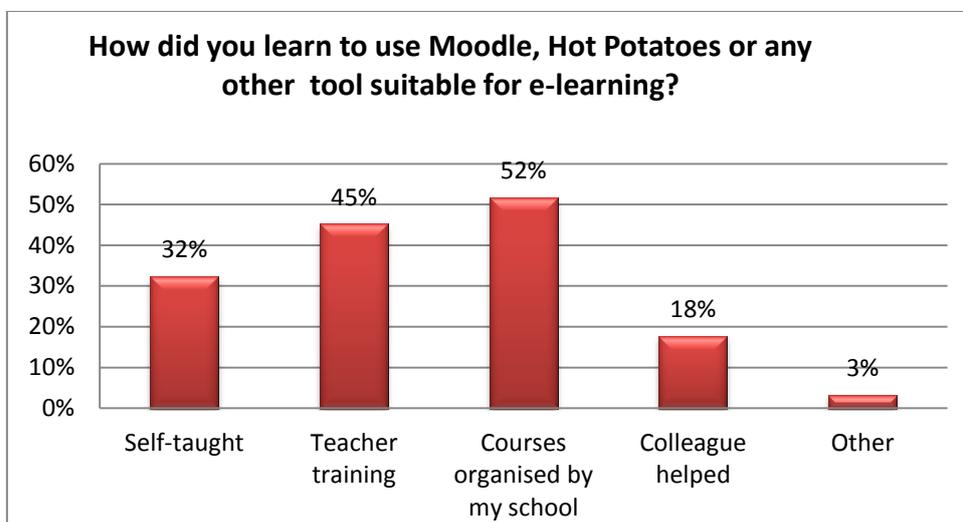


Figure 12. Methods of ICT instruction for content creation e-tools.

2.2.11 Reasons for not Creating Digital Course Materials

Almost half (55) of the 117 surveyed teachers reported not having created any electronic courseware as part of their teaching practice. Therefore, the questionnaire tried to establish the most typical reasons for digital inactivity among those teachers.

The respondents could simultaneously choose several answers from the following four alternatives:

- I am short of time;
- I cannot create nor publish materials online, but I would like to learn it;
- my school's technological infrastructure is not good;
- they are unnecessary, I use paper-based materials.

According to the analysis of the data, the most frequent explanation for not making any electronic course materials was lack of time, as six in ten teachers mentioned it. Slightly under a third of the teachers (29%) indicate that they are currently unable to make digital course materials, but would like to learn it. A quarter of the educators (24%) in this

subgroup consider their schools to be too poorly equipped with ICT hardware for e-teaching. Nine teachers in the sub-sample of 55 find electronic materials unnecessary because they prefer paper-based alternatives.

In summary, it appears that most teachers mention lack of time as the factor that influences their ability to create digital course content. Even though the schools' technical base can be enhanced to make them ICT ready in near term, the language teachers' current workload seems to be too big and does not contribute to innovation and experimentation.

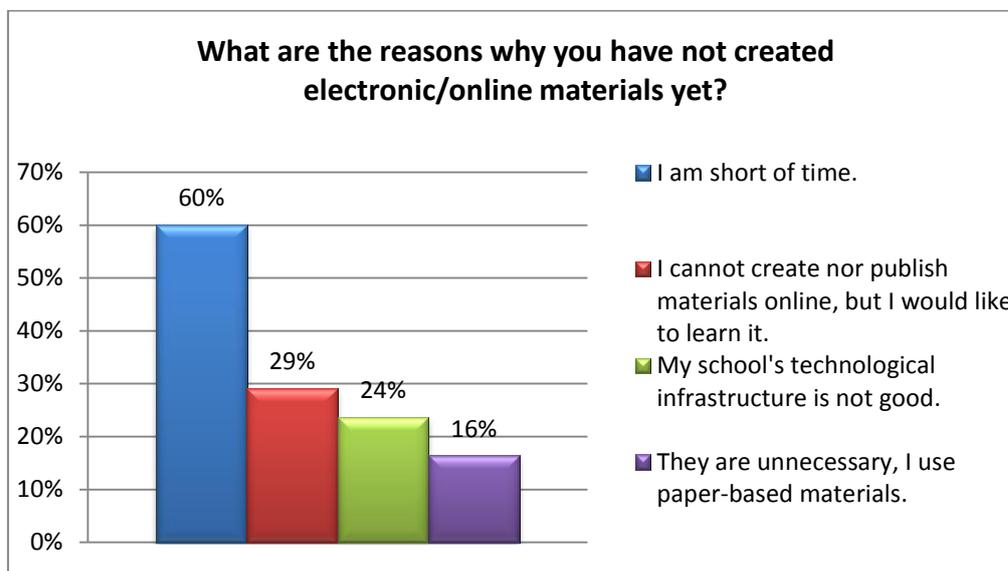


Figure 13. The reasons why teachers have not created digital study materials.

2.2.12 Teachers' General Attitude to the Use of ICT in Language Teaching

The last question of the survey aimed to investigate what the teachers' general attitude to the wider use of information and communication in language instruction is. The whole sample of the 117 language instructors were entitled to answer this question.

The study established that the overwhelming majority (77%) of the respondents think that the use of computers and multimedia should be encouraged in language teaching. Slightly more than a fifth (21%) of the teachers believe that computers and technology should be used sparingly. Three teachers out of the 117 in the sample find that ICT should not be deployed for the purpose of language teaching at all.

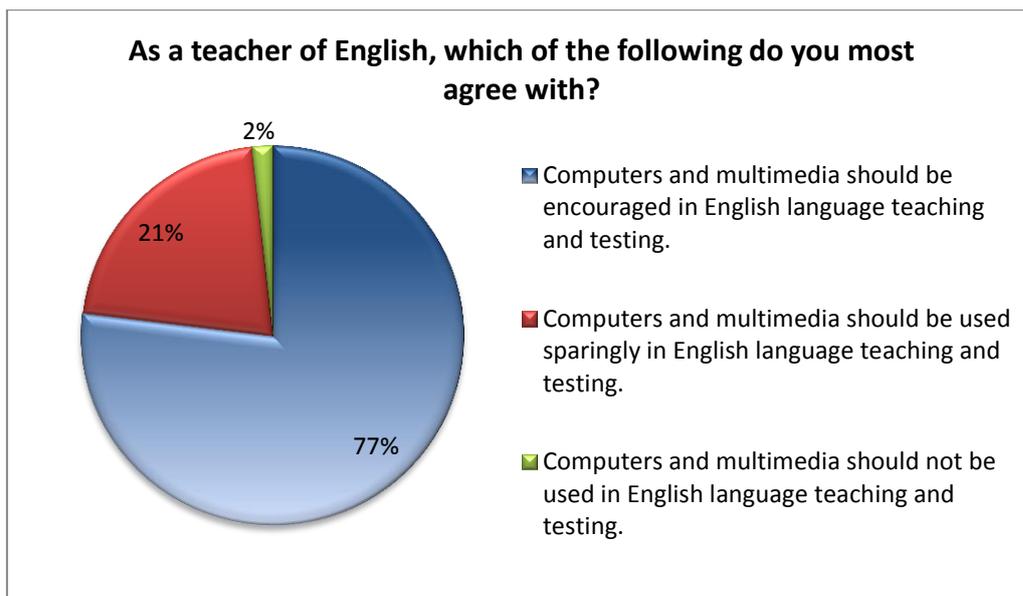


Figure 13. The teachers' attitude to the use of ICT in English language teaching.

The survey also invited the language instructors to comment and provide their expert opinion in an open text paragraph. The vast majority of the teachers welcomed the wider use of computers in teaching English as a second language, pointing out that ICT would make it easier to illustrate course materials and would offer more diversity for the students with mixed abilities. The benefit of an authentic language environment via presenting real news stories or other multimedia content in classes was also mentioned by a number of teachers who thought that it would raise interest and motivation in students. Several teachers admitted that students are fascinated by technology in general so that doing exercises and learning the language on the computer would engage them more than using the conventional paper-based course materials. On the other hand, some teachers were less enthusiastic about the use of computers and multimedia in English language teaching and learning, stating that computers will reduce face-to-face communication and interaction in classes, which are of paramount importance when learning a language. One teacher also noted that students themselves complain about technology-related fatigue and would rather not use computers more frequently in the learning context.

In general, the study revealed that over three quarters of the 117 teachers who

participated in survey are in favour of using more computers and multimedia in language teaching, which indicates that the majority English language teachers are willing to go along with the transition to ICT intensive school.

CONCLUSION

As the Internet and the information and communication technologies (ICT) have become the central means of communication and information retrieval in the 21st century, schools should adjust to the situation by revising the teaching methods and trying to integrate more ICT into the process of teaching. Modern students are computer-literate and use the Internet for everyday tasks, while schoolwork is still largely based on printed courseware and methods that do not take into account the potential of ICT and the Internet. As a result, disparities between old-fashioned school literacies and the realities of contemporary students and the society on the whole increase. This tendency may, in turn, affect students' learning motivation and marginalise the school's institutional role in the society.

One of the cornerstones of the 21st century education is the notion of lifelong learning and the formation of knowledge-based society, which presupposes that people continue acquiring new knowledge throughout their lives. Much of this learning is supposed to occur independently after the end of formal education on condition that people can successfully access and process the data contained in the information sphere, much of which is online. Therefore, it is important for schools to lay foundations for the development of self-sufficient individuals who can utilise the potential of ICT in the interest of learning and encourage the use of modern technology in the educational setting.

This thesis focused on the situation of the use of ICT in Estonian basic and secondary schools with the emphasis on teaching English as a second language. The general provisions (§2) of the 2011 National Curricula for Basic and Upper Secondary Schools in Estonia establish the shaping of knowledge-based worldview as one of the core objectives of education. As for teaching foreign languages, Appendix 2 section 1.6 in both

national curricula dictate the need to use modern information and communication technologies in the processes of planning and organising studies in basic and upper secondary school levels.²² Moreover, according to the visions outlined in the Estonian Development Fund's report (2010: 34) *EST_IT@2018*, schools in Estonia will be ready to switch over to electronic study materials and e-Schoolbags (students' personal portable tablet computers) by 2018. This projection implies that Estonian schools will be fully ICT ready by the year 2018.

The purpose of this thesis was to assess the schools' current use of information and communication technologies in teaching English as a foreign language. The sample of the survey consisted of 117 basic and upper secondary level teachers who responded to the electronic questionnaire sent to basic (213) and upper secondary (245) schools in Estonia in March 2012. The study analysed the schools' technological infrastructure as well as the teachers' competence as far as creating digital courseware is concerned. The final objective of the study was to evaluate the language teachers' general attitude to using information and communication technologies in instruction.

The thesis revealed that the teachers' overall assessment of their schools' ICT infrastructure was satisfactory. As for ICT devices in the language classrooms, over 90 per cent of teachers have a teacher's computer. Over three quarters of the teachers can use a presentation device (video projector, TV/monitor, interactive whiteboard). In general, it can be assumed that it possible to use electronic visualisation devices in the majority of language classrooms as of 2012. On the other hand, it is important to note that all language classrooms should be equipped with at least a computer and a projector to meet the requirements of the national curricula in effect as of 2011. Thus, it can be concluded that there is room for improvement before the requirements of the 2011 national curricula are

²² The Estonian Ministry of Education and Research. 2011. National Curricula for Basic and Upper Secondary Schools. Available at <http://www.hm.ee/index.php?1511576>, accessed December 18, 2012.

met. In the light of the 2018 objective when the schools should be ICT ready, the current co-funding of 5 euros annually per student provided by Tiger Leap Foundation²³ is clearly not enough and barely covers annual depreciation of the existing hard and software.

In terms of the language teachers e-competence to create electronic courseware that can be used in virtual learning environments and on the Internet, approximately half (53%) of the total 117 teachers have compiled some digital exercises or tasks for their students. The teachers' assessed the making of electronic study materials to be a moderately difficult task. The most common platform for creating electronic exercises is *Hot Potatoes* software, which was chosen by 77 per cent of the teachers. Those teachers who have made digital study materials acquired the necessary IT skills in courses organised by their schools (52%), in teacher training (45%) or are self-taught (32%). The most frequent reasons for not creating electronic study materials among those teachers who are digitally passive (47% of the total sample of 117) were lack of time (60%), lack of skill (29%) or their school's poor technological infrastructure (24%).

In general, it can be concluded that only half of the questioned English language teachers have compiled any digital study materials, which is a poor figure in the light of the promise that Estonian schools and teachers are supposed to be ICT ready by 2018, which is in foreseeable future. Undoubtedly, it is necessary to launch national teacher retraining schemes in the near term and lower teachers' workload so that they can prepare for the forthcoming challenge and enhance their digital literacy.

The availability of ready-made electronic courseware is another critical component affecting teaching English as a second language in Estonian schools on the digital platform. The thesis found out that the major UK publishers who mostly provide Estonian

²³ The Tiger Leap Foundation. *Tehnoloogia Kaasfinantseerimine* [Co-Funding of Technology]. Available at <http://www.tiigrihype.ee/et/tehnoloogia-kaasfinantseerimine>, accessed December 25, 2012.

schools with ESL materials are currently working with digital platforms. Therefore, it is likely that the same companies can supply digital study materials as of 2018 when Estonian schools should have adopted ICT-intensive teaching methods and e-Schoolbags. However, it is necessary to create a national online environment where teachers can share files for their schoolwork. *Miksike.ee* learning environment currently functions as an online exercise bank, but they are a private company and charge money for their services. Ideally, schools as public institutions should not depend on commercial enterprises in their daily operations. Thus, it is important to set up a national database containing course materials for all school subjects and keep it strictly educational and non-profit.

As far as the English language teachers' overall attitude to the use information and communication technologies is concerned, three quarters (77%) of the teachers who participated in the survey approve of the idea. Like Houchine (2011: 2) Estonian teachers believe that using the Internet and computers can diversify classes by bringing in more authentic language content that would make lessons more interesting and motivating for students. Similarly, the teachers who participated in the survey find electronic testing and drilling beneficial since they enable improved task differentiation for individual students. Another advantage that the teachers mentioned in relation to electronic exercises was instant feedback that software-based learning applications can give to students.

All things considered, the current situation regarding the use of information and communication technologies in teaching English as a second language in Estonian schools is satisfactory as more than half (51%) of the questioned 117 teachers use it at least every other week. Hopefully, the number of teachers who can deliver video clips or slide shows to their students will gradually increase as technology becomes cheaper and schools get extra funding. However, the projected transition to fully ICT-ready teaching in 2018, as proposed in the Estonian Development Fund's report (2010: 34) *EST_IT@2018*, seems to

be unfeasible. In order to raise ICT standards in schools, the government should first substantially increase investment in ICT infrastructure for schools. Secondly, it is important to organise ICT training programmes for teachers so that they are able to work with digital platforms. Thirdly, it is about time to start working out digital courseware for the student tablet computers that are supposed to be introduced for Estonian basic and upper secondary schools in 2018.

Lastly, the projected ICT reform in basic and upper secondary schools should be laid out in the form of an agenda and action plan that is supervised and carried out by the Ministry of Education and Science with the clear division of responsibility for each stage of the process. Currently the development of ICT infrastructure for basic and upper secondary school on the national level is delegated to the Tiger Leap Foundation, which uses ambiguous terms like *mission* and *vision*²⁴ to describe future developments in the field of ICT implementation. Apparently, it rather takes proper financing together with a definite action plan to reach the objective of making Estonian schools ICT ready by the year 2018.

²⁴ Tiger Leap Foundation. Organisation's web page. Available at <http://www.tiigrihype.ee/et/tiigrihuppe-sihtasutus>, accessed December 27, 2012.

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APPENDIX

Online Questionnaire Form

Dear respondent, I am conducting a survey on the use of information and communication technologies (ICT) in teaching English at schools across Estonia. I would be grateful if you'd spare a minute filling out the following form. This questionnaire is anonymous; no sensitive personal information is collected.

Thank you in advance, Tõnis Ohu

* Required

SECTION 1

What is your sex? *

- female
- male

How old are you? *

- 21 - 30
- 31 - 40
- 41 - 50
- 51 - 60
- 61 - 70
- 70+

How long have you worked as a teacher of English? *

- 0 - 10 years
- 11 - 20 years
- 21 - 30 years
- 31+ years

Which of the following have you used in language instruction? * Choose all the applicable.

- Video (TV, YouTube, VHS, DVD, etc.)
- Additional audio materials (mp3, podcast, streaming audio, live broadcast radio, etc.)
- Online or computer-based language drills/tests (any language drill done using a computer)
- Designated websites for information retrieval (online dictionaries, webquests, online newspapers, BBC website, etc.)
- None of the above

Have you ever compiled electronic/online study materials for your students? (Moodle, Hot Potatoes, etc.) * Tests, drills or other study materials compiled with the help of Hot Potatoes, Moodle or any other software.

- Yes, I have
- No, not yet

SECTION 2

Haves

You were directed here as you answered YES to the question "Have you ever compiled electronic/online study materials for your students?"

Which electronic solutions have you used to make study materials for your students? * If you ticked "Other", please write the name of the solution in the text box.

- Moodle
- Hot Potatoes
- Other:

How difficult is it to create and publish electronic content for your students? *

1 2 3 4 5

Very easy Very difficult

How did you learn to use Moodle, Hot Potatoes or any other tool suitable for e-learning? * Several answers possible, please select the applicable.

- Self-taught
- Acquired skills during teacher training
- Courses/training organised or paid by my school
- Colleague helped
- Other:

Where do you publish your electronic materials? * Several answers possible, please select the applicable.

- My (teacher's) website
- School's website
- Other:

Do you have your personal (teacher's) website that you use to communicate with your students? *

- Yes
 No

How often do you create YOUR OWN NEW study materials for your students? *

- Once a week
 Every other week
 Once a month
 Once a term
 Hardly ever
 Never

What are the reasons why you use online drills/tests or multimedia content in your English language instruction? This is an optional question and can be left unanswered. However, I would really appreciate your feedback.

SECTION 3

Have-nots

You were directed here as you answered NO to the question "Have you ever compiled electronic/online study materials for your students?"

What are the reasons why you have not created electronic/online materials yet? (Eg Moodle or Hot Potatoes exercises and tests) * Several answers possible, please select the applicable.

- I think they are unnecessary as I resort to a sufficient bank of paper-based materials
 I am short of time
 Our school is not so well equipped with the required technological base (not enough computers per student, etc.)
 I cannot create nor publish materials online, but I would like to learn the trick

Do you have your personal (teacher's) website to communicate with your students? *

- Yes
 No
 No, but I would like to set up one

How often do you use electronic/online content such as electronic tests, video/audio materials and online texts in your English language classes? *

- Once a week
 Every other week
 Once a month
 Once a term
 Hardly ever
 Never

How do you evaluate your school's current technological base to implement computer-based learning and teaching? *

1 2 3 4 5

Very poor Very good

Which of the following appliances can you use in your main classroom? *

- Teacher's computer
 Interactive whiteboard
 Projector
 TV/monitor
 Student's computers/workplaces
 Other:

What are the reasons why you use online drills/tests or multimedia content in your English language instruction? This is an optional question and can be left unanswered. However, I would really appreciate your comments.

What are the shortcomings when it comes using online drills/tests or multimedia content in your English language instruction? This is an optional question and can be left unanswered. However, I would really appreciate your comments.

As a teacher of English, which of the following statements do you most agree with? *

- Computers and multimedia should be encouraged in English language instruction and testing
- Computers and multimedia should be used sparingly in English language instruction and testing
- Computers and multimedia should not be used in English language instruction and testing

If you wish to comment on the above question and/or your answer, feel free to write in the box. This is an optional question. However, I would appreciate your feedback.

Which school level do you mostly teach? *

- Basic (grades 1 - 9)
- Secondary (grades 10 - 12)

What are the shortcomings of using online drills/tests or multimedia in your English language instruction? This is an optional question and can be left unanswered. However, I would really appreciate your feedback.

How often do you use electronic/online content such as electronic tests, video/audio materials and online texts in your English language classes? *

- Once a week
- Every other week

- Once a month
- Once a term
- Hardly ever
- Never

How do you evaluate your school's current technological base to implement computer-based learning and teaching? *

1 2 3 4 5

Very poor Very good

Which of the following appliances can you use in your primary classroom? *

- Teacher's computer
- Interactive whiteboard
- Projector
- TV/monitor
- Student's computers/workplaces
- Other:

As a teacher of English, which of the following statements do you most agree with? *

- Computers and multimedia should be encouraged in English language instruction and testing
- Computers and multimedia should be used sparingly in English language instruction and testing
- Computers and multimedia should not be used in foreign language instruction and testing

If you wish to comment on the above question, please write in the box. This is an optional question. However, I would appreciate your comments.

Which school level do you mostly teach? *

- Basic (grades 1 - 9)
- Secondary (grades 10 - 12)

RESÜMEE

TARTU ÜLIKOOL
INGLISE FILOLOOGIA OSAKOND

Tõnis Ohu

The Use of Information and Communication Technologies in Teaching English as a Second Language in Estonian Schools

Info- ja kommunikatsioonitehnoloogia kasutus inglise keele kui teise keele õpetamisel Eesti koolides

Magistritöö

2013

Lehekülgede arv: 63

Annotatsioon:

Käesoleva magistritöö eesmärgiks on vaadelda info- ja kommunikatsioonitehnoloogia (IKT) kasutust üldhariduskoolides Eestis inglise keele kui teise keele õpetamisel. Töö on motiveeritud asjaolust, et 2011. aastal jõustunud uued põhikooli ja gümnaasiumi riiklikud õppekavad sätestavad vajaduse kasutada nüüdisaegseid info- ja kommunikatsioonitehnoloogiatel põhinevaid õppematerjale ja -vahendeid kooli füüsilises õppekeskkonnas. Ühtlasi on moodsad infotehnoloogilised lahendused nagu Internet ja arvutid muutunud ühiskonnas üldiselt, kuid eelkõige noorema põlvkonna jaoks igapäevaseks suhtlus- ja teabevahendiks, mistõttu on noorte üldine arvutioskuse tase väga kõrge. Eelpoolmainitud asjaolude tõttu on oluline tagada, et koolide IKT vahenditega varustatus ja õpetajate digitaalne kirjaoskus oleks tasemel, mis võimaldab moodsate tehnoloogiliste lahenduste tõhusat kasutust õppetöös.

Töö teoreetilises osas käsitletakse info- ja kommunikatsioonitehnoloogia kasutuse vajadust, eeldusi ja võimalusi õppetegevuse mitmekesistamisel ning rikastamisel. Näiteks on võimalik inglise keele kui teise keele õpetamisel kasutada Internetis kergesti kättesaadavat autentset ja ajakohast materjali, mis on lisaks keeleõppele täiendab õpilaste kultuuri- ja üldteadmisi. Elektroonsete ja veebipõhiste õppematerjalide kasutus võimaldab õpetajal varieerida õppematerjale vastavalt õpilase võimetele ning loob hea eelduse õpilase iseseisvaks tööks väljaspool kooli, sest õppematerjalid on kergemini ligipääsetavad ja reeglina interaktiivsed. Ühtlasi analüüsib teoreetiline osa arenguid IKT juurutamisel Eesti koolides. Ilmnes, et peamine protsessi koordinaator on Tiigrihüppe Sihtasutus, kes kaasrahastab riist- ja tarkvara soetamist koolidele, korraldab erinevaid koolitusi ja töötab välja tulevikulahendusi nagu e-Koolikott (õpilase tahvelarvuti) ja erinevad infosüsteemid. Näiteks aastatel 2012–2013 kaasrahastab Tiigrihüppe Sihtasutus koolide IKT varustuse täiendamist 5 euro ulatuses õpilase kohta eeldusel, et haridusasutus läbib edukalt taotlusvooru. Eesti Arengufondi 2010. aasta aruandes *EST_IT@2018 raport infotehnoloogia kasutamisest hariduses* esitatud nägemuse kohaselt võetakse e-Koolikott ja digitaalsed õppevahendid üldhariduskoolides kasutusele hiljemalt 2018. aastal.

Magistritöö uurimuslik osa põhineb 2012. aasta märtsis Eesti põhikooli ja gümnaasiumi inglise keele õpetajate seas läbi viidud elektroonilisel küsitlusel, milles osales 117 pedagoogi. Uuringu eesmärgiks oli vaadelda IKT vahendite kasutust inglise

keele kui teise keele õpetamisel, hinnata koolide tehnilist varustatust keeleõpetajate vaatepunktist ning mõõta õpetajate pädevust ja kogemust digitaalse õppevara koostamisel. Viimase aspektina käsitleb empiiriline osa õpetajate üldist meelsust arvutite ja Interneti kasutamise osas õppetöös.

Uuringust selgus, et infotehnoloogiliste lahenduste kasutusaktiivsus õppetöös on mõõdukas, kuna ligikaudu kolmandik (35%) küsitletud inglise keele õpetajatest kasutab IKT vahendeid tundides vähemalt korra nädalas ning neljandik (26%) vastanutest vähemalt kaks korda kuus. Õpetajate hinnang koolide infotehnoloogilisele varustusele osas oli rahuldav. Küsitlustest ilmnes, et valdaval enamusel (92%) õpetajatest on klassiruumis õpetaja arvuti ja umbes kolmveerandil (78%) vastanutest on igapäevaselt võimalik tunnis kasutada videoesituslahendusi nagu projektor (49%), televiisor/monitor (21%) või interaktiivne tahvel (8%). Õpetajate digitaalse õppevara koostamise pädevuse ja kogemuse analüüsimisel tuli välja, et umbes pool (53%) uuringus osalenutest on koostanud digitaalset õppevara, kellest 52% olid õppinud elektroonsete õppematerjalide koostamist täiendkoolituse raames, 45% õpetajakoolituse käigus ja 32% olid iseõppijad. Õpetajad pidasid digitaalsete õppematerjalide koostamist mõõdukalt raskeks. Peamiste põhjustena, miks veidi alla poole koguvalimist (47%) pole elektroonseid õppematerjale koostanud, nimetati ajanappust (60%), oskuste puudumist (29%) või kooli viletsat infotehnoloogilist baasi (24%). Õpetajate üldine meelsus moodsate IKT lahenduste kasutamise osas on valdavalt positiivne. Kolmveerand (77%) küsitletud inglise keele õpetajatest arvasid, et arvuteid ja multimeediat tuleks õppetöös kasutada, 21% vastanutest leidsid, et moodsat tehnoloogiat tuleks kasutada mõõdukalt ning vaid 2% õpetajatest ei soosinud moodsa tehnoloogia kasutust.

Magistritöö lõppjärelendusena võib möönda, et hetkeolukord info- ja kommunikatsioonitehnoloogiate kasutuse osas inglise keele kui teise keele õpetamisel on rahuldav, sest veidi üle poole küsitletud õpetajatest kasutab moodsat tehnoloogiat tundides vähemalt kaks korda kuus. Samuti on ligikaudu kolmveerandil õpetajatest võimalik oma klassiruumis kasutada videoesitlustehnikat. Selleks, et ühtlustada koolide tehnilist varustatust ja tagada üleminek digitaalsetele õppevahenditele alates 2018. aastast on paraku vaja oluliselt suurendada rahastust ja töötada välja konkreetne riiklik tegevuskava, mida koordineerib ja mille eest vastutab Haridus- ja Teadusministeerium, kelle haldusalas koolid on.

Märksõnad: info- ja kommunikatsioonitehnoloogia (IKT), inglise keel teise keelena, elukestev õpe, arvutioskus, digitaalne kirjaoskus, õpimotivatsioon, virtuaalsed õpikeskkonnad, arvutipõhine keeleõpe.

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Tartus, 07.jaanuar 2013