"KOGU TÕDE TIIGRIHÜPPEST"

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Tiger Leap Foundation's 10th Anniversary Conference „All about Tiger Leap"
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SPEAKERS

Enel Mägi graduated from Tartu University in 1980 (English language and literature). Has been working with innovative educational projects since 1991 as project manager of Step by Step, Schools with Distinction, Debate program and Junior Achievement at Open Estonia Foundation. In 1997 she became the CEO of Tiger Leap Foundation. Enel Mägi is a member of EUN Steering Committee and member of Pedagogical Innovation Committee.

Academic **Jaak Aaviksoo** is initiator of Tiger Leap program and Chairman of Tiger Leap Foundation 1997-2002

Mait Laas graduated from Tallinn Pedagogical University with a master's degree in Fine Arts. He also studied art philosophy at the Vienna College of Visual Arts and attended the visual media master class at the Vienna School of Goetheanistic Art. Since 1995 Mait has been a director with Nukufilm (Puppet Film) and produced 8 animated features.
He is the chairman of the management board of the Puppet Film Children's Studio non-profit organisation, a member of the management board of the Estonian Filmmakers Union and the Estonian representative to the Cartoon Council of the European Association of Animated Film.

Andrei Korobeinik was born in Pärnu and lived there until graduating from high school as the best of the more than 100 students in his year, having successfully competed in all-Estonian competitions in mathematics, physics and informatics over the years. He studied informatics at the University of Tartu and worked in a number of software development-related positions before creating Rate.ee in May 2002. He lists his hobbies as travelling and reading.

Raivo Juurak has been the editor of the Estonian Education Forum's Hariduslist discussion list for the last six years and written three articles of an investigative nature about it.
His main job for the last eight years has been editing the popular science magazine Haridus. He previously edited the adult education magazine Maurus and the Estonian and Danish-language magazine Estland og Danmark. Raivo has translated four novels from Danish into Estonian and has been a teacher of Estonian language and literature for three years.

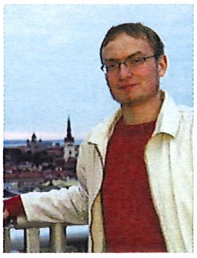
Elo Allemann has a degree in Estonian philology and is currently continuing her studies at the University of Tartu in the management of public relations and information at the Faculty of Social Sciences.
Since October 2005 she has worked as a project manager with Tiger Leap Foundation, coordinating the international School Partnerships in Europe/eTwinning and Springday in Europe projects and editing the Koolielu (Schoollife) educational portal.

Fernand Mesdom studied educational sciences and IT at the university of Leuven (Belgium). He built up a large experience in didactics and working with groups of teachers at the Ehsal Teacher training institute in Brussels. 6 years ago the Flemish Departement of Education attracted him as an external expert to elaborate and support implementation strategies ICT in schools. In that role he is involved in a lot of national and international projects on IT in education.

Signe Piirsalu has been the training project manager with the Tiger Leap Foundation since 2005. She is responsible for all of the larger training projects for school teachers and principals, including Project Kit, AnimaTiger, DigiTiger and DigiDirector. She is also involved in a range of support activities, creating and developing web-based training communities.
Due to her background in social work, Signe has also gained project management experience in a number of social study and development projects in the Ministry of Social Affairs and the Public Welfare Development.

Ingrid Maadvere has been a teacher at the Lasnamäe Kindergarten and Primary School for 11 years, and an information manager for the last two. Since 2003 she has been involved in training school and kindergarten teachers. She began working with the Tiger Leap Foundation in 2006 as a DigiTiger trainer, an expert on elementary education in school life and a member of the international expert group on the School Partnerships in Europe/eTwinning project.

Maidu Varik studied history and psychology at the University of Tartu.
Since 2004 he has been the pedagogical adviser to the European School Network's Springday in Europe project in Estonia. In 2005 he was awarded the title of Teacher of the Year and won the main prize in Microsoft's Virtual Lesson competition.
Maidu has also developed several e-courses and study materials: a workbook for year 8 and 9 social studies students; a publication titled Man and Environment; an e-workbook at www.oesel.ee/yhiskonnaopetus (part of the Learning Awards Top 100); and the Tallinn University Open University e-course "Social studies in multicultural elementary school classes."



Lauri Elevant is 21 years old and currently studying international business management at the Estonian Business School, working to an individual curriculum. He graduated from Tallinn's 21st High School in 2004 with a medal of merit. He has been involved in and himself initiated a number of projects related to education and youth work. Among the latter have been the popular education and career-focussed Your Opportunities youth conferences, as part of which the Book of Young People's Good Ideas was published, and the international youth work conferences Youth Link and Youth and the City. Outside the youth work field Lauri has also been actively involved in software development and the creation of learning software, such as the Stock Market Guru investment game, the Simulator 7 elementary school economics game and Professions Guru, a game designed to teach younger students about different professions.

Guy Lane is a former lecturer and administrator in higher education (Lancaster, Liverpool and Middlesex Universities), in the UK before joining the commercial side of the University of Cambridge, the Cambridge University Press. He has enjoyed a lengthy career in educational publishing, including sales, market research, product development, international business development and in recent times, Electronic learning development and training. Guy is currently leading the Cambridge contribution to the EU's MELT project. He has worked with ministries and departments of education on four continents and visited schools in over thirty different countries.

Aimur Liiva has been working at the Tiger Leap Foundation since 1997, mainly on development issues with e-learning materials. Since 2005 he has also acted as the foundation's coordinator of the European Commission's eMapps.com and Calibrate projects. Trained as a geography teacher, he graduated from the University of Tartu in 1993.
He is also the chairman of the informatics council at the National Examination and Qualification Centre.

Allar Veelmaa graduated from the Tallinn Pedagogical Institute in mathematics and physics in 1986 and has worked as a mathematics teacher ever since. He shared writing duties with Tõnu Tõnso on the mathematics study sets used by high school classes and is the author of the mathematics textbook currently used by year 8 students.
Allar has successfully taken part in a number of contests organised by the Tiger Leap Foundation, including Virtual Lesson and Project Kit. His work with the foundation has led to the production of a web-based collection of mathematics tests designed for elementary school students.

Meeri Sild is an English teacher at Tallinn's Lilleküla High School. Apart from teaching the language she is also involved in the creation of study materials for the subject and in teacher training at the Tiger Leap Foundation. In her work she attempts to make the learning process more modern and interesting by using a range of information and communications technology resources.

Martti Martinson has been involved in student representation for six years, at his own school, managing the public policy of the Estonian Student Council Union and now as the union's chairman. He has also made an enormous contribution to the promotion of cultural life: he is one of the founders of the Cultural Association of Jõelähtme municipality; the chairman of the supervisory council of Neeme Community Centre; and the chief editor of the local Neemekene gazette. The active role he takes in society can also be seen in his membership of the Youth Council of the City of Tallinn, the Union of Cultural Organisers of Harju County, the round table on international youth work, information for youth, counselling and studies of the Estonian Youth Work Centre, the council of the Student Academy of Tallinn University, and the education board of the Foundation for Social Conciliation. Martti's hobbies are biking, law, politics and youth work. He is currently studying choir conducting at the Georg Ots Music School in Tallinn.

Märt Treier studied choir conducting and composition at Tallinn Music High School, composition and school music at the Estonian Academy of Music and journalism at the University of Tartu. He has worked as the editor at Love Radio (1993-1994), the editor of Eesti Raadio's Klassikaraadio (1995-1997) and the editor of the Sõnumileht cultural board (1997-1999). Since 1999 he has been one of the news editors and readers with TV3. In addition to this, he can be heard waking the nation on Vikerraadio on Friday mornings and he has been entrusted with the position of TV3's news anchor man since April 2006. He has also been moderating conferences for five years and continues to gain experience in this area every month.

E-learning development plan for Estonian general education schools 2006–2009

The current development plan provides guidelines for e-learning[1] development activities in 2006–2009. The target groups of this development plan are students who are given education at the level of general and vocational secondary education, teachers and school leaders, teacher training establishments, curriculum developers, creators of educational materials, school headmasters and educational institutions. The objective of the current development plan is to increase learning quality and effectiveness via ICT utilization, making e-learning part of the everyday curriculum and establishing preconditions in the following five priority fields of development:

- production of e-learning content and the offering of services;
- achievement of competencies and skills required for e-learning;
- e-learning management;
- provision of a sustainable development of ICT infrastructure;
- implementation of surveys and analyses to explore learner needs and utilization of results.

1. Background

The current development plan is based on earlier development activities of the Tiger Leap Programme (1997–2000) and the Tiger Leap Plus development plan (2001–2005) and surveys with the following principal results:

- school ICT infrastructure has improved: in the schools there are about 20 students per computer, 7 teachers per teachers' computer and every school leader has a computer; 99% of schools have an online Internet connection, 98% of all school computers are connected to the Internet;
- students use ICT tools in their daily work (to find information on the Internet - about 70% of the students, to write term papers - about 55% of the students, to make presentations - about 30% of the students);
- 75% of Estonian teachers have taken the 40-hour ICT retraining course „Computer at School", which is based on competency standards developed by the Commission for Informatics of the National Examination and Qualification Centre;
- in primary schools, the computer has been used in the subject classroom at least once during the school year – in biology and natural sciences the computer was used by 47% of the students, in Estonian language and geography by 35% of the students, in foreign languages by 30% of the students and in mathematics by 25% of the students; in gymnasiums – in foreign languages the computer was used by 35% of the students, in physics and geography by 30% of the students, in biology and chemistry by 25% of the students;
- the figures of National Experimental Information Technology Standard Determining Tests (in 2002 applied in 45 schools to 740 students and in 2005 in 129 schools to 6,623 students) show that the level of learner knowledge and skills is good and more than 90% of the learners have acquired estimated ICT competencies;
- more than 100 various learning software programmes, multimedia-based handbooks and textbooks (70 of them in Estonian text versions) have reached the schools but the utilization of the learning software is estimably modest (no detailed survey available);
- approximately 50% of all the teachers use the education field portals Koolielu and Miksike to find and download educational materials;
- about 50 schools use the web-based learning environment VIKO which enables teachers to make their educational materials, curriculum information and time-tables available to students via the Internet; also this environment offers an additional channel for communication;
- a base for two new directions has been established – creativity and technology studies development and application in schools - in collaboration with the Puppet Film Children's Studio (Animation Film Project) and Tallinn University (Technology Project).

As a result of the implementation and analyses of the surveys, it can be concluded that:

- the main problems connected to work with computers is lack of time (teachers') and the shortage of computers;
- traditional educational materials (textbooks, exercise books) are poorly connected to the existing e-educational materials;
- the knowledge and skills of school leaders to plan ICT activities are insufficient;
- there is a lack of good samples and methodology regarding the effective use of ICT opportunities in subject classrooms;
- traditional learning methods do not motivate ICT utilization, but new methods (project-based learning, research-based learning, etc.) are seldom used;
- the utilization time of computers has not changed practically at school during 2000–2004, but at the same time the out-of-school use has become longer and more intensive;
- commercially, ICT utilization is at a higher level than in schools.If the main objective of the Tiger Leap Programme (1997–2000) was to update school ICT infrastructure, the next programme, Tiger Leap Plus, highlighted the necessity of ICT competencies for all students and teachers. Both programmes supported the innovative e-learning initiatives of schools, universities and other organizations; some of them have become regular and popular events with massive participation. For example, the nature observation project "Hello, Spring!" (4,000 students), the environmental competition in Estonia (4,000 students), and the economic studies competitions organized by the Junior Achievement Development Fund (4,000 students). Thousands of users have found the web-based learning environment Miksike's virtual competitions (pranglimine, OnKontid) and e-worksheets, to mention other activities that promote utilization of information technology. The first steps towards a paper-free educational bureaucracy have also been taken - 85 schools use the web-based class diaries E-kool (E-school) created by the Vaata Maailma Foundation and HTM has led the implementation of an educational information system EHIS (web-based registers of learners, pedagogues, schools, graduation documents, study programmes and education permits). Compared to the two former development plans, future improvement activities must more than ever consider other developments in the Estonian education system, for example, the development of a national curriculum, ongoing teacher training reform (new curricula and qualification requirements, mentorship and a vocational year), and renewal of the Estonian information policy. As a member state of the EU, Estonia has the task of making the ICT development activities of our schools and pan-European directions compatible with descriptions in the framework documents e-Europe 2005 Action Plan, e-Learning Programme, Education and Training 2010 and others. Essential additional information for activity planning can also be found from the 2001–2004 surveys implemented (Tiger Under a Magnifying Glass, Sloop, etc), supported by the Tiger Leap Foundation.

2. Why an e-learning development plan?

Apart from two former Tiger Leap strategies, the current development plan concentrates mainly on e-learning and the improvement of various content services connected to e-learning. There are several reasons to change the key definition (e-learning instead of ICT). First, it will help to direct the focus away from technology to learning and teaching. Secondly, it is in accordance with the EU framework documents and analogical the development plans of other countries (Finland, the Netherlands, etc.). The former development plan (Tiger Leap Plus 2001–2005) considered the possibility that starting from 2006 the ICT connected development activity would have already become a natural part of school life and there would be no need for the new continuing strategy. But today, it has become obvious that the new development plan is still essential in order to:

- make e-learning a natural part of everyday schoolwork and encourage a positive attitude in teachers;
- arrange a legal and administrative framework;
- increase learning flexibility and its connection to real life in general education schools in order to

satisfy the special educational needs of all learners;

- establish better learning conditions for learners with special needs or distance learning;
- increase professionalism among school leaders and other educational staff in the field of e-learning;
- improve school networking and lighten personnel problems, especially of smaller schools;
- support the generation of new e-learning services and a formation of a market for these services;
- guarantee the sustainable development of school ICT infrastructures, above all from the e-learning needs point of view;
- develop new areas that support the generation of a learning society and innovation (media and technology studies).

The necessity for continuous improvement activities has been verified by national surveys. The survey "Tiger Under a Magnifying Glass, Sloop 2000–2004" concludes that:

- analysis of the utilization of modern technologies and learning methods in schools points to problems in school study arrangements because changes depend on the school management above all (not technologies). The ability of school management to organise information technology and e-learning materials utilization, to evaluate utilization expediency, to integrate it into the school study programme and upon that plan teacher in-service trainings is of determined importance;
- scarce use of ICT in the subject classroom is caused by the contradiction between objectives provided in the national study programme for primary schools and gymnasium and realized subject-based syllabus[2] and external evaluation requirements (state examination). If the objectives provided in the national study programme highlight utilization of modern technologies and learning methods and integration of subjects in forming the independent learner, then the realized subject syllabus and external evaluation requirements do not support acquiring learning and communication skills or the utilization of technology;
- in the curriculum of Estonian universities which provide teacher training, the proportion of ICT subject methodology courses is very small, both in teacher in-service training and retraining. The survey results reveal though, that teachers who have taken longer subject methodology courses, are afterwards the potential computer users who are capable of integrating modern technologies and learning methods into educational work.

3. Development plan compilation process

The development plan compilation was started by the Ministry of Education and Research who formed a work group consisting of representatives from the Ministry, the Tiger Leap Foundation, local governments, universities, schools, non-profit organizations and several companies (See Annex 1).
The development plan compilation was carried out in a work group, seminars and virtual discussions but also in specially formed smaller work groups. The work groups were the following: ICT and teacher in-service training, e-educational materials, ICT and the National Study Programme, ICT infrastructure and PR-activity. The development plan is coordinated with various partners - the Estonian Association of Rural Municipalities, the Association of Estonian Cities, the Estonian Teachers Association, the Estonian School Leaders Association, the Union of Estonian Student Governments and others.
The current development plan follows the main principles of the national curriculum for primary schools and gymnasiums and is based on former Tiger Leap and Tiger Leap Plus development plans and the General Education Development Plan Project for the years 2006–2009.

4. Objectives

The main direction of the current development plan is to establish the necessary preconditions and conditions for a learning society in Estonian general education schools. The specific objectives of e-learning development in Estonian schools for 2006–2009 are the following:

- to develop web-based learning management systems[3] in the Estonian language and make them available to all schools together with other digital educational materials from the learning objects[4]

repository [5] and exchange platforms [6] ;

- to develop and make available innovative e-learning services: e-portfolio[7], educational games, web-based partner school learning projects [8] and competitions to all schools at the same time;
- to provide necessary competencies for e-learning for all students and teachers;
- to create virtual practice communities[9] which support the professional development of the educational staff and provide utilization options;
- to make e-learning a natural part of the everyday school organization of studies, study programmes and teacher in-service training, and a basis for the necessary ICT infrastructure level criteria;
- to find and introduce collaboration and support models necessary for the sustainable development of the school ICT infrastructure.

5. Principles

The current development plan includes the following principles:

- activity and support models successful in the Estonian context will be retained – infrastructure tenders, teacher in-service training and innovative development projects;
- instead of a common model for compulsory utilization, procedure will be based on the needs of schools and learners; development of e-learning is seen as a part of development and changes management at the level of the whole school;
- e-learning will be made an integral part of teacher training and national curriculum development;
- considering the insufficiency of resources, it would be wise to consolidate e-learning services, but at the same time it is necessary to avoid monopolization of the whole e-learning area, to retain opportunities for newcomers;
- among the tools from the public sector, open source based software and contents for e-learning is preferred and supported, and at the same time it is important to retain development opportunities for commercially based services;
- in addition to stereotyped surveys in e-learning development work, it is important to establish operational surveys and systematic collaboration with scientific research centres from Estonia and abroad;
- it is important to increase international collaboration in order to involve additional competency and material resources.

6. Vision

In 2009, Estonia will be integrated with Europe and the global education system. Our educational system will guarantee the most flexible opportunities for development according to the skills and needs of all learners. In addition to traditional learning methods, modern motivating learning methods will be highly valued, project-based learning in the context of virtual learning communities[10] and communication and learning skills development with the help of ICT will be among them. E-learning will have become part of the school study organization thanks to the number and quality of available and useful ICT tools. Skills and knowledge acquired at school will have molded the skills of learner self-expression, collaboration and communication and creativity in a way that the learner can and wants to take an active part in the social world and is open to continuous studies in order to adjust to the changes. The development, observation and quality of the educational process are guaranteed by the education system.

7. Fields of activity

E-learning development activities in the Estonian schools for 2006–2009 are divided into five priority fields:

- e-learning services and content production – production of web-based learning objects, archiving and distribution via the Internet - to provide access to e-learning environments and study based web-

services (i.e. web-based learning projects, competitions, virtual learning societies, e-portfolios).

- e-learning management – to guarantee an administrative framework and regulation at different levels of the education system, in order to enable and motivate teachers to use ICT effectively in the curriculum and encourage students to participate in e-learning.
- e-learning competencies – establishment of new e-Learning methodology oriented courses for teacher in-service training and retraining; improvement of ICT competencies[11] of school leaders and school personnel (bibliographers, information managers, secretaries); creation of innovative courses, learning modules, projects, competitions and evaluation instruments - to develop student skills on e-learning.
- research and development projects – regular monitoring surveys, innovative science and development projects, collaboration with Estonian universities, international scientific research centres and EU programmes in education (Seventh Framework Programme, Socrates II, Life-long Learning Programme 2007–2013, etc.).
- sustainability of the infrastructure – to develop school ICT tools, basic software, Internet connections and information systems in a way that constantly increases the school owner's role and responsibility in a guarantee of sustainability.

8. Implementation

An implementation plan is attached to this current development plan, guided by the above-mentioned objectives, principles and fields of activity, presenting a detailed description of activities, necessary resources, responsible persons and deadlines.

9. Development activity management and performance evaluation

The performance of the current development plan is evaluated upon following indicators:

- quality, diversity and utilization intensity of educational materials available in the virtual learning environment;
- number and availability of teacher and school leader e-learning training study programmes;
- number of teachers and school leaders who have completed the e-training course;
- quality, number and utilization of new study programmes (technology, media, creativity, etc.);
- proportion of teachers who utilize e-learning in their work;
- registered number of courses on the central e-course [12] database and intensity of use;
- number of schools where ICT is used in school management;
- ratio of teachers and students who have access to ICT, and the quality of Internet online connections;
- number of schools where e-learning is integrated into the curriculum and other subject syllabuses;
- proportion of education workers who have joined virtual practice communities.In the development plan realization process, the obligations are divided between different institutions as follows:

The Ministry of Education And Science is responsible for annual budgeting and establishing the necessary legal environment to achieve the objectives of the current development plan.

The Tiger Leap Foundation coordinates implementation of the development plan, collaborates with all parties in order to achieve the objectives of the development plan and to follow and evaluate implementation of the development plan and organizes observation projects.

The task of the school owners is to provide schools with ICT infrastructure and its maintenance; they are also responsible for ICT insurance, security and information technology support.

The task of the schools is to provide the organization of studies in a way which enables, supports and motivates student and teacher participation in e-learning and also school projects across the board.