ICT in education

e-school in Estonia
administration of school systems

based on a lecture made by Meeri Sild*, Tallinn Lillekyla Gymnasium and different documents published by the Tiger Leap Foundation**

* in charge of training Estonian teachers to use ICTs and expert for Estonia in the eTwinning project

** responsible for the national strategy of ICT in education
Estonia – facts & figures

- Population: 1.3 million
- Independent since 1991
- Joined the EU in 2004
- Education System: 17,900 teachers working in 654 primary and secondary schools, serving 190,000 students
- Internet penetration: 51.9% (13.5bb)
- Mobile Phone penetration: 108.8%
- Challenges: Increasing the number of teachers who integrate ICT into teaching and learning; encouraging more innovative uses of technology
Political Involvement

Tomorrow’s Information Society needs to be a learning society, a society which invests in knowledge, a society in which each individual will build up his or her own qualification on a basis of life-long learning.

The idea of Tiger Leap Foundation dates back to 1996 when (...) exchanged views regarding new information and communication technology that changes not only way of life but whole educational paradigm. (...) the President of Estonia Lennart Meri agreed to become the Patron of the programme. On February 21, 1996 President Lennart Meri announced in the Estonian State Television broadcast Tiger Leap project officially open. Actual activity began 1997 when the Tiger Leap Foundation started work with the 35.5 MEEK funded from the national budget.

The Tiger Leap programme is a national specific programme launched by the Estonian Government with an aim to increase Estonian school education quality utilizing modern information and communication technology. The programme is funded from the national budget via Ministry of Education
The Tiger Leap Foundation

Three Steps

• Tiger Leap Program (1997-2000)
• Tiger Leap Plus Program (2001-2005)
• Learning Tiger (2006-2009)
  • Training teachers in teaching methodologies using ICT during their lessons

All Estonian schools have

• A broadband connection
• Constant in-service ICT methodology training for teachers at different levels
• VLEs (virtual learning environments) to create electronic study materials.

ICT in Education

Teaching tools
- Language teaching programs
- Special Application Software
- Project work, presentations
- Communication- e-mail, forums
- Internet and Virtual learning environments

Administrative tools
- Web based learning management system
- Central database of students and teachers

Objectives of Tiger Leap Foundation
- provide digital educational materials through the learning objects repository
- exchange platforms
- distribute innovative e-Learning services
- organise web-based educational projects and competitions between schools
- support teachers’ Virtual Practice Communities
- make e-Learning a natural part of daily tutorial work, curricula and teacher development training
Virtual Learning Environments

- eKool
  - central electronic register
    - replaces all paper class register
  - designed for secondary schools
  - in use now for 4 years
  - support system for everyday classroom work
  - not for e-learning
Public/Private Partnership

Private partners
- The Tiger Leap Foundation
- eKool
- Partners in Learning (PiL)
- Intel (2003), Microsoft (2005, 2006), Banks, Mobile Operator

Public entities
- Ministry of Education
- National Examination and Qualification Centre
- Tallinn and Tartu University

E-school information system

connecting parents, students, teachers and school administrators over the Internet

eKool is a commercial package

decreasing the work routine of teachers and school management?

an easy-to-use student information system

making school information accessible at home
Logging into e-school
Different roles for users

- Student
- Parent
- Tutor (Form-master)
- Teacher
- School management
- Administrator

Every user may have several roles in school, determining their activities and rights in eKool. Please select appropriate role in eKool for proceeding:

- Form-master, 12A - Tallinna Lilleküla Gümnaasium
- Form-master, 11A - Tallinna Lilleküla Gümnaasium
- Parent, SVEN SILD
- Teacher, Tallinna Lilleküla Gümnaasium
Parent and students

- See immediately the grades and lesson descriptions
- Homework and tests schedule
- Discussion forum
Tutor

- Follows the progress of students
- Keeps student database
- Can find problem students
- Checks attendance
- Report cards
- Monitor parent activity
Teacher

- Enters grades and lesson description
- Assigns tests and homework
- Communicates with parents
School management

- Access to all school data
- Follows teachers’ work
- Number and topic of lessons delivered
- Checks tests and results
- Identifies problem students
- Checks the attendance
- Follows students’ work and progress
Administrator

- School’s eKool administrator manages the users and assigns roles
  - create, change, erases users’ accounts
  - collects personal information
    - father, mother, grand-father, etc
  - manages courses
    - once in the beginning of september
List of courses assigned to a specific teacher

Select journal:

10. a õpingu keel, õpingu keel, G
10. b õpingu keel, õpingu keel, G
10 a keelte I rühm (Sild, Mih), õping keel -III kursus, G
10 a keelte I rühm (Sild, Mih), õping keel -II kursus, G
10 a keelte I rühm (Sild, Mih), õping keel -II kursus, G
10 b õpingu keeele II rühm (Sild), õping keel -III kursus, G
10 b õpingu keeele II rühm (Sild), õping keel -II kursus, G
10 b õpingu keeele II rühm (Sild), õping keel -I kursus, G
11 a õpingu keel II rühm Sild, õping keel-III kursus, G
11 a õpingu keel II rühm Sild, õping keel-II kursus, G
11 a õpingu keel II rühm Sild, õping keel-I kursus, G
11 b õping keel I rühm (Sild), õping keel -III kursus, G
11 b õping keel I rühm (Sild), õping keel -II kursus, G
11 b õping keel I rühm (Sild), õping keel -I kursus, G
## Register

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</table>

### Marks, Attendance, and Reason for Missing/Test Redone

- Marks indicate individual student performance.
- Attendance records are marked with dates.
- Reasons for missing tests or test redone are noted accordingly.

### Button to Send Personal Messages

A button to send personal messages is visible by parents.
| Date       | Homework | Due Date | Missing Students Help
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Detailed description and list of exercises done at school help missing students to catch up at home.
Test planner

Helps teachers to avoid to make more than one important test per day

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<td>Inglise keel / SM</td>
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Test plan: 21.05.2007 - 27.05.2007
Students personal data (name, address, parents names, contact data) and data accumulated during his stay at school is kept and archived at school.
This forum is only open to parents, teachers and students of that particular school and closed to the others.
Main functionalities

- Class Register
  - for entering the results of session work and missed classes as well as reprimands made to the student, also for monitoring student progress at school.
- Attendance
  - Classes the student missed or was late for over all subjects during the period. The class teacher adds reasons for missed classes entered by the subject teacher into the register and generated simultaneously in the class register.
- Student grade sheet
  - shows the student and parents the up-to-date grades of the student, missed classes, late arrivals in all subjects during the period. Besides, the page includes subject content (class descriptions) and reprimands to students.
Main functionalities continued

- **Study book**
  - here the student and parent can view all the grades of the quarter (term) and year. These give an overview how the study program has been covered student’s progress.

- **Timetable**
  - shows the timetable to the student, parent and teacher. The input can be either the existing electronic timetable, or the timetable can be entered directly into the eKool application.
Main functionalities (continued)

- Homework and tests
  - this part of eKool shows to the students and parents the homework and tests entered into the class register along with the deadlines for home assignments, such as projects, reports, etc.

- Forums
  - are a communication channel between parents, students and the class teacher as well as between parents and school management. In direct communication involving matters that interest just one parent and subject teacher or class teacher e-mail will remain the main channel of communication. Anonymous participation in the forum is excluded, the name of the person who wrote
Benefits of e-school

- One time data entry makes information more accurate and up to date;
- Students' attendance information will appear only a few seconds after the teacher has entered the absences;
- Home, teachers and administrators receive up-to-date information of what happens in school and student participation in schoolwork;
- Simple data collection of parents and students information, because they are able to update the necessary information by themselves;
- Easy test scheduling, information exchange with most popular timetabling software gpUntis, more space for describing lessons;
- School administrators can benefit from real time reporting tools. Number of off-the-shelf reports grows according to school's proposals.
Expérience de Meeri Sild

- « La balance entre les efforts nécessaires à la tenue à jour de la base d’informations et ceux précédemment nécessaires au suivi des élèves est très positive »
- « Les rapports individuels étaient très difficiles à faire auparavant »
- « La grande transparence du système a posé de nombreux problèmes d’acceptation au début – aujourd’hui chacun en demande davantage »
- « La responsabilité personnelle des élèves s’est considérablement accrue, il y a de moins en moins de fausses excuses »
Difficultés du début

- Pannes de matériel et/ou de logiciel, surtout au début
- Enseignants mal à l’aise avec l’informatique
Future

- Connecting e-school with different Virtual Learning Environments and other education databases

References
- Meeri Sild
- [http://www.ekool.ee](http://www.ekool.ee)
Mobile Access

- EMT and eKool (eSchool) have extended the internet-based school information service to mobile phones.
- Real-time access to:
  - class schedules
    - information about time and location of the class as well as a link each class’s homework
  - homework
  - grades
    - up-to-date current grades, report cards and exam results
  - important general information
  - attendance
- Memos and messages from school
  - missed classes, student’s reprimands and honours as well as changes in schedule of classes.