The new ways to use ICT and Social Media tools to support the learning processes: How to implement the new skills in teachers daily work

Petri Lounaskorpi
University of Jyväskylä
Nuutinpojantie 4
Fin 40270 Palokka
Finland
petri.lounaskorpi@gmail.com

Abstract

Living in the e-society demands specific skill from the citizens. When most of the services, business and communication is moving to Internet the need for in-service training has expand. The demand for the educational institutes, schools and others to do their best in teaching the youth the needed skills is massive. But the weakest segment of the education community is the teachers, mainly those who are already been in work several years. They don't really have any possibility to in-service train themselves to use the didactic skills needed for using information and communication technology (ICT) in education.

The web 2.0 and other new solutions and cultures are chancing the world outside the schools. Young people pupils and students are using social media tools, virtual communication and new ways of collaboration in their free time more and more.

In this project we found out how these new tools and methods are used in Finland schools. We gathered together 9 case studies from different levels of formal education. There are three examples from the primary school, three examples from the secondary school, two examples from the upper secondary school and one example from the vocational education.

The variation of the tools used were from cell phones to web environments. The web 2.0 applications like wikis, blogs and video-clips were used to support the students learning processes.

All these case studies were documented and the teachers did create a teachers manual of their method. Also the pupils and the students gave their evaluations and development ideas, which were then documented.

As a result of this project we started to create a database for teachers to implement this new methods of usage of ICT and social media tools in their teaching and also how they can make the most benefit out of the skills that the students already have.

After analyses of the new work methods, we created new teachers in-service training system, which trains the trainers, disseminates the training to school level and builds pedagogical support networks.

Keywords: Social media, education, learning process, web 2.0, web didactics, teacher training

The background

The development of implementation of ICT in education has been directed through various strategies and development programmes more than twenty years in Finland. The objectives of an information society were defined in the Ministry of Education’s strategies for the first time in 1994 for the years 1995-2000. Its goals included equipping teachers with basic ICT skills. The plan was to train 15% of
teachers in the first wave. Government money was allocated for teacher-in-service training. Also every school was to be connected to the Internet by the year 2000. The government reimbursed municipalities 50% of the costs incurred in creating these connections.

The second strategy was written in 1999 and covered the years 2001-2004. This strategy was based on the assessment of the strategy period 1995-1999. In 1998, an extensive technology assessment project, Information and Communication Technologies (ICT) in Teaching and Learning, was completed in Finland. Initiated by the Finnish Parliament and carried out by the Finnish National Board of education the project assessed all formal education from kindergarten to universities. In addition, it examined some aspects of informal learning taking place in homes, libraries, and at adult education establishments. The study focused on the growing challenges presented by the information society both on individuals and on the Finnish society in general, especially when viewed from the perspective of life-long learning (see Sinko and Lehtinen 1998).

The assessment verified that ICT has enjoyed a high priority in the Finnish society. However, according to the assessment there was still a shortage of high-quality digital learning materials, pedagogic and technical support was still insufficient and teacher training needed to be increased and better-focused. There was a need to improve the dissemination of promising practices, and furthermore, to deal with the paramount and constantly growing issue of equality.

The Ministry of Education addressed these challenges in the second Finnish national strategy (Ministry of Education 2004) and the main goals were:

1. Information society skills for all;
2. The versatile use of networks in studying and teaching;
3. Accumulating digital information capital;
4. Strengthening information society structures in education, training and research.

The need for description of the teachers’ new skills was set. And the Finnish Ministry of Education launched a programme called Ope.fi in order to definite different training and competence levels to improve the ICT skills of in-service teachers and teaching personnel. The Ope.fi programme was in accordance with the European Commission's action plan eEurope - An Information Society for All. The programme was modelled as credits (one credit = 40 hours learning) and was divided into three steps.

The first level, (Ope.fi I) (3 credits of training), was concentrating knowledge and skills regarding the common uses of a computer, mastery of word processing, Internet browsers and e-mail, and an understanding of the principles of the educational use of ICT. These were the skills that every teacher had to master by the year 2004 (100% of teachers). The second step, (Ope.fi II) (5 credits of training), was about content creation and provided skills in using ICT for educational purposes which at least half of all teachers had to master by the year 2004. These skills included the versatile use of e-mail, the web environments and groupware: generic tools, pedagogical applications and digital materials available in the subject taught and the principles of digital learning material production.

The third step, (Ope.fi III) (15 credits of training), was for training the trainers of teachers and included specialised knowledge which about 10% of teachers had to master by the year 2004. The content of the trainings included content-specific and professional applications, the production of digital learning materials, institutional information management, an ability to assist, support and train colleagues and develop the school community and act as a part of an expert network.

2004-2006 the third strategy of the Information Society Programme for Education, Training and Research contained major priorities and actions for boosting information society development in education, training and research.
The strategy’s core objectives were:

- to develop all citizens’ information society knowledge and skills
- to enable educational institutions to use information and communications technology (ICT) in a versatile way in their activities
- to establish ICT-based procedures in education, training and research
- to promote social innovation through the use of ICT

The focus of the strategy was on three areas: knowledge in the information society, contents and operating environment.

The aim was that Finland is an open and secure, networked society with high-level information society knowledge by 2007. All citizens have opportunities and the basic capabilities to use electronic services (eService) and content. The fluent use of ICT in learning and in teaching is a part of everyday school life. ICT should be used widely and appropriately in research. Electronic materials are of high quality, pedagogically justified and serve different user groups and be available openly. In addition, electronic materials are comprehensively available for science and research.

The strategic objectives of the National Information Society Strategy (Prime Minister’s Office 2006) concerning all citizens are in line with the educational objectives. By 2015 all citizens should have the opportunity to acquire basic ICT skills, media literacy skills and be equipped with skills in using electronic and other civic services. It is assumed that all Finns possess skills acquired at home, work and educational institutions, which can be employed to secure economic, social and mental success. The goal of basic education is that the entire youth cohort would be well equipped to utilise and apply the opportunities afforded by ICT. Basic education in Finland should be open and networked, as well as world renowned for its learning outcomes. Teachers’ ICT skills should, by 2015, be high quality and ICT a component of multi-modal teaching at all educational levels.

Method

Ministry of education established the project and the results were supposed to be presented in the Finland’s largest ICT in education conference ITK 22. - 24.4.2009 (Information technology in education) as a workshop.

The method we used was gathering information by questionnaires targeted to other experts, evaluators and teachers training institutes. First we wanted to find out the experiences, which had been created during the whole development time. The amount of information was huge and with the experts of the ministry we selected the most interested examples from every school level from primary school to vocational school.

The information collection

The survey was done and analysed in the autumn 2008. The selected schools and processes were visited by expert and the project and practised were described. In the meeting with the teacher, who had made this innovation, concentrated in the new execution of the method. An agreement for a new execution was made with the teacher. This execution had to base on a written plan, process description and learning diary. The project and the process ought to also be documented with video and photos. After the project the teachers did write a teachers guide for colleagues with all needed information.

For the process 9 teachers/classes were selected and followed. Three primary school projects, three secondary school projects, two from high school and one from vocational school.

Expert visited the target schools and teachers twice during the period. Also the virtual meetings were used frequently.

The materials and other documentation were gathered in Internet portal for the conference. From every project the teacher and 2-4 students/pupils were participating the workshops and the conference. In most of the teams the children made the presentations.
All the projects and materials were published and shared openly in Internet after the project and conference.

Examples of the best practices

Here are some examples of the selected best practices. These examples describe the wide variety of the possibilities, which the new learning environments, new ICT tools and new pedagogical innovations open for teachers.

The examples for primary education

1. Example "The class diary by blog for 4 grade, primary school" (students age 10 years)

Description:
“The class will update daily the days happenings in a Blog diary. Every student does the work in his or her own turn.”

The purpose
- To awake the pupils individual and responsible participation
- To create a classes diary/blog
- To practise writing skills and learn about different diaries
- To give the parent a possibility to follow classes daily life

Pupils role and responsible
- Pupil acts as a learner when he/she learns how to use the computer and the software, and also when he/she learns the Information security skills
- As a writer pupil can use the instructions and also own creativity, he/she learns also what are the differences of diary, log-book and reading diary
- As a TUTOR pupil is responsible that the next diary updater will have valid instructions and guidance how to use the software
- As a reader the pupil shall see other pupils thoughts and feelings
- As a commenter he/she can learn to give feedback and also check the spelling
- The most important task is that pupils take care of the diary by them selves

Teachers' tasks
- The leading is in the main role in the beginning of the project in planning and prepararions
- The teacher follows and guides pupils actions in the classroom and also in the Internet
- Also the weekly follow up lessons are on teachers responsible

The Project flow
- Project planning
- Instructions for the pupils
- Designing the Blog frames
- Creations of the user accounts
- Testing the technology

Timetable
- The start in the beginning of the February
- Diary updated every day
- Every Friday one lesson when the week is remembered by the diary and the happenings are discussed

The project outcomes
- Diary will remain on classes (teachers) web page, which can be readed later
- A short training video about the work process and the method
- Teachers guide for colleagues

2. Example "Cultures of the outside of Europe", primary school 6. grade (pupils 12 years old)

Description
The basic of the project is the curriculum of the 6. grades History subject. The topic is "The broadening of the European world picture". The project will create a modern way for the nowadays students to find out other cultures.
The other starting point is to try out new virtual learning environment.
The project is executed in multi subject framework.

Subject goals:
- History: Learn about the accent cultures and discovery voyages
- Language skills: Communication skills and media skills, critical creation, how to use information sources
- Geography: Cultural co-operation and coheration
- Arts: Media technology skills

Pupils role and responsible
- Choose own topic in work team
- Find information from different sources
- To organize, qualify and present found information
- Create multimedia presentation with ICT
- To co-operate with other students
- Plan and evaluate the learning process

Teachers’ tasks
- Start and present the project
- Teach and guide the usage of the web environment
- Limit the topics, help to find the information sources
- Keep the project diary
- Coordination of the work flow
- The evaluation of the products

The Project flow
- The pupils were dialed in groups. Every group did have their own account in the web environment, where they could create develop and comment their documents.
- The project had a web calendar, where the pupils saw the lesson times and topics and also the time slots, which were reserved for the team work.
- The whole project time was six weeks. The pupils received their instructions from the teacher by RSS feeds in their web environment.
- Teacher also used the short messages and text messages for the information
- Every group created a multimedia presentation of their topic and presented it to the whole class. The presentation was then evaluated.

Conclusion

The implementation of the new web tools and new learning/teaching model is the most important task of teachers’ professional development. The new challenge of developing world outside the school is that the pupils/students are using these new communication, content creation and collaboration models and methods in their free time.

The implementation process should start with small steps. The teacher needs to find one task or process in her own daily learning plan. The guideline for teacher’s trainer is to develop training so that the teacher can use the learned skill next day in his or her own school. This is quite challenging because every school has different infrastructure, staff and habits. That’s why the training always need to have an element of personal project planning for the participants.
Another point of view is that the training has to be continuous to support the individuals’ skills development. For example one small training session in every term in two-year time gives the basic platform for skill development.

One of the important points is that all teachers must be trained and supported individually. In the first phase training should start with the training for the peer-trainers. The peer trainers should also try out the new models and methods with their students. After the training the peer trainers should take a pilot group of teachers for training. The trainer is responsible to plan the whole training plan of two years for the trainees. The trained peer trainers can also work as pedagogical support persons for the staff.

The process is standing on the three pillars and guidelines of the teachers work;

1. Everything ought to be done for real reason or task to full fill the curriculum aims
2. Always work and to support the weakest link (or skills)
3. Proceed with small steps

The challenge of teachers training is big but there aren't any subject or teacher who can't use these new tools on web or the new teaching methods. The key issue is to find individually to every teacher their own personal motivated way to try out the tools and implement them to their own personal work plan in small steps.

References:


Law, N. & Chow, A. 2008b. Teacher characteristics, contextual factors, and how these affect the pedagogical use of ICT. N. Law, W. Pelgrum & T. Plomp (toim.) Pedagogy and ICT use in schools around the world. Findings from the IEA SITES 2006 study. The University of Hong Kong. Comparative Education Research Center, 181–219.


Lounaskorpi Petri. How the information society will devide ?. Ubiquitous ict for sustainable education and cultural literacy, publication of the Finnish national commission for Unesco no. 84, 2009

