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eLEARNING IN FINLAND

# SeOOPPI

The Association of Finnish eLearning Centre  
Promoter and Network-Builder in Finnish eLearning Branch

**THE WORLD IS OPEN**  
to collaborative learning

**SOMETU -**  
social media as a tool for learning

**LEARNING WHERE YOU ARE -**  
mobile pedagogy is a genuine opportunity

**LAND AHOY!**  
Finnish educators conquering virtual alnd in Second Life

The SeOppi Magazine is the only Finnish magazine in the field of eLearning. It is a membership bulletin for the members of, and published by, the Association of Finnish eLearning Centre.

The SeOppi Magazine offers up-to-date information about the latest phenomena, products and solutions of e-learning and their use. The magazine promotes the use, research and development of e-learning and digital education solutions in companies, educational establishments and other organizations with the help of the best experts.

The SeOppi magazine gathers professionals, companies, communities and practitioners in the field together and leads them to the sources offering information about e-learning.

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Leena Vainio, president  
EDITORIAL

# Dear SeOppi journal readers



The autumn has been a very busy and productive time in the area of eLearning. Numerous educational conferences and seminars around this theme have been held. In November, the Association of Finnish eLearning Centre will organise its own DCL Conference in Finland. Hopefully we will meet all the Association's members there, and many others also – physical meetings every now and then in addition to virtual networks are a significant form of contact.

At the beginning of December at Online Educa in Berlin, we will have an opportunity to meet internationally. Online Educa has become a significant meeting place for Finnish and international oper-

ators in e-learning. Many companies and organisations take this opportunity to introduce their products and services, as there are many clients present who use these products and services. The conference is an admirable venue for gaining an overview on e-learning trends around the world. And of course it is important to meet people in e-learning from around the world and exchange experiences and news.

Numerous online seminars have been created alongside the conferences and seminars tied to a physical location. The Association of Finnish eLearning Centre will also organise several online seminars under the AVO project framework during the coming winter. Increasingly the content of seminars is shared through Facebook, Twitter, the Qaiku seminar channel, the SOMETU network, streamed videos, blogs and other similar tools. In addition to knowledge being shared, vigorous discussion may also arise on these forums – and new knowledge, new ideas and new opportunities are created through discussion – the power of the web at its best.

The power of the web is part of work changes. It challenges traditional forms of work. Pioneer enterprises and employees have courageously taken on board dig-

ital tools and employed social media in the marketing of their products, as well as in the development of new products. But many companies are only now considering what should be done in this situation: is the power of the web an opportunity or a threat to operations? Should employees be given an opportunity for open sharing of knowledge and communication using various tools? Should all employees possess web communication skills? What method should be selected for our company or organisation? Do we choose open systems or retail software? How can we develop media skills? There are tens of questions and the answers may only be found in networks and the web, from pioneers, novices, those who have tested various methods and tools. And this is why numerous seminars, conferences and training sessions are necessary, as are blended forms of sharing knowledge and experiences.

The Association of Finnish eLearning Centre is an excellent learning network. Our members come from a wide range of companies, organisations as well as private members, representing a diverse range of e-learning services and product producers and end-users. We invite you to join us and learn with us!



# Curtis J. Bonk: The world is open to collaborative learning

The infinite array of learning possibilities dazzles the listener of American e-learning visionary Professor Curtis J. Bonk's speech on current and especially future upheavals. His we-all-learn acronym crystallises ten features of future forms of learning.

The world with all its possibilities is like a table set as an open learning environment from which can be chosen the best titbits. Bonk's technique is to study trends and build visions and practices around these trends as to how opensourceware will make learning interesting, rewarding for the learner, less expensive and available to increasingly more people. The new style is appropriate to learners of all ages.

Deploying social networking tools is the basic element of Bonk's vision for the future. "In teaching situations now, we already listen to instruction through broadband, download podcasts, produce videos, use wiki sources and forums, complete tasks in virtual spaces, search for source material on the internet and discuss. Learners have the opportunity to reflect on their development as a member of a community. In this way, the classroom can be transferred to the web and we can begin to work in more blended ways," Bonk paints his picture.

New additions on the learning environment tray are microblogs, such as Twitter, mobile learning, e-books and ubiquitous environment, which disseminates information to different network terminals. "Student numbers are rocketing thanks to mobile devices, as they are easy to use in developing countries. Electronic book

screens will become transparent and foldable, which will make their use easier."

## Open source used on many devices

Stated simply, this new form of learning means the combination of technological tools and teaching methods in open source, the application of technology in classrooms. "Social media is very flexible and only a lack of imagination places restrictions on its use. We aren't even aware of all new innovations," Bonk reminds us.

Bonk considers the information and knowledge sharing culture to be a basis for the new style. "When knowledge is freely accessible on the internet, a learner is able to utilise and apply it in more diverse and up-to-date ways than is possible in textbook-based teaching. School children are able to combine information from a variety of sources and archives for specific situations, read Shakespeare on the bus, use email to ask their teacher for further information and so on."

The new methods balance competencies between students and empower them to learn more. Listening is replaced by sharing knowledge and reciprocal learning. The learner develops into a skilled gatherer of knowledge and handler of information. S/he is able to gather data,

demonstrate knowledge and skills, read, solve tasks with the help of technology.

Bonk considers this new method to be democratic, as sources are open and almost everyone has access to the internet.

## Ten educational openers = we-all-learn\*

"At first I didn't have this we-all-learn acronym, but I have written on these topics for about four years now and have gradually collected data together to form this easily remembered sentence. I believe it gives a glimpse into the subject," Bonk says. He has other abbreviations, such as Read, Reflect, Display, and Do (R2D2).

"We-all-learn" begins with web searching for information from e-books. Bonk mentions the Californian governor's, Arnold Schwarzenegger's, initiative to replace some school books with open source electronic versions for cost reasons. The state hopes to save hundreds of millions of dollars annually. There is interest in this venture in other parts of the United States and, among other countries, Korea.

Other parts of the acronym are e-learning and blended learning face-to-face, availability of open source and free software, leveraged resources and open-courseware (such as learning material and lectures organised by universities,



Curtis J. Bonk, as a blogger TravelinEdMan, works at the University of Indiana, frequently travelling around the world and taking advantage of social media and travel communication in diverse ways. From the centre of the worlds, he sends all his friends and acquaintances in Finland his best regards.

school and institutions), access to learning object repositories and portals, learner participation in open information communities, electronic collaboration, alternate reality learning and real-time mobility. The tenth "opener" is networks of personalised learning. The list of deployable tools is long: Wikipedia, YouTube, Skype, podcasts, blogs, microblogs, games, simulations, Second Life, archives, dictionaries and so on.

President Barack Obama's election campaign introduced in one fell swoop the new means of communication to the broad public. Microblogs especially received much attention. It became evident in the campaign that micro channels mobilise people to action. Similar effectiveness and mobilisation was seen in 2001,

when the Filipino president was overthrown with the help of demonstrations called together through text messages.

## Even an open world costs money

In the shadow of a recession, businesses and administrations calculate expenditure more carefully. Social media in teaching and education brings something new to consider and calculate in cost estimations. The old calculation formulae are not particularly applicable. In a business, the more money in the black, the happier the company is with its result.

Social media, however, cannot be measured as an investment in this way, as much more than equipment, tools, etc

are connected to it. The issue is often of the affect, for example, on the development of a company's skill level, employee knowledge and competence, reputation, innovation, number of patents, arousing the interest of partners, line of business, identifying new sources of income, and so on. The list is rather long. The reason is that the object of value creation has changed. "Issues we can't see are now often more valuable than those we can see. This must be remembered when investment decisions and profit calculations are made," Bonk emphasises. A set of criteria for profits made through open learning should be compiled, one which assesses the affect of this method. It is difficult to measure this value in terms of money.

## WE-ALL-LEARN is the acronym formed from the list below:

- Web Searching in the World of e-Books
- E-Learning and Blended Learning face-to-face
- Availability of Open Source and Free Software
- Leveraged Resources and OpenCourseWare
- Learning Object Repositories and Portals
- Learner Participation in Open Information Communities
- Electronic Collaboration
- Alternate Reality Learning,
- Real-Time Mobility and Portability
- Networks of Personalised Learning

Further information  
[www.worldisopen.com](http://www.worldisopen.com)



# Land ahoy!

## Finnish educators conquering virtual land in Second Life

Finnish educators, schools and universities have entered the virtual world of Second Life conquering virtual land for educational purposes. In the EduFinland archipelago there are over 30 Finnish educational institutions and over 100 educators that are interested in the possibilities for education and training. And the archipelago is still growing. In the EduFinland community newcomers get help and advice in taking their first virtual steps and in initiating their own education. Come and join us in the learning environments of tomorrow already today.



**T**he number of different kinds of virtual worlds is enormous and growing rapidly. Virtual worlds can roughly be divided into game-like and social worlds. Games always have a plot or a task that the players are trying to solve. In social virtual worlds, the social connections and interactions between the residents are the most important thing. What the users do in these virtual worlds is up to them, not to the scriptwriters. Currently Second Life is the virtual world that provides the best and most efficient tools for shaping environment and creating the functionalities and milieus for educational use.

Being a social virtual world, Second Life is not a game, unless the residents create a game in it. There will never be a GAME OVER, just like there is no real end of the World Wide Web. In fact, there are a lot of similarities between virtual worlds like Second Life and the Web in its infancy. Virtual worlds are in the beginning of their development. Common practices, conventions, functions, ethics and legislation related to virtual worlds are still very much taking their shape.

### Opportunities and possibilities for education

The appeal of virtual worlds both for entertainment and for educational use lies in the strong sense of presence that is transmitted by the avatars. Avatars are three-dimensional characters that represent us in the virtual world. Its shape can be changed with just a couple of mouse clicks. Most of the residents in virtual worlds want a unique avatar, and they can spend quite a lot of time dressing and editing the looks of their avatar.

We experience virtual worlds and feel the presence of others in the same virtual space through our avatars. We can feel that we are in the same space together with others that are around us, even if the presence is mediated in the virtual space. The strong sense of presence is maybe the most valuable asset of virtual worlds in education. On web-based course we rarely know anything at all about the others taking the same course. We can try to find out some facts on the web or on the course site, but still the others stay in distance. We don't even know if they are

on the course web site at the same time than we are. One of the greatest challenges in distance education is to make sure that the students do not feel alone on the courses. Virtual worlds provide possibilities for efficient learning together apart.

The second strength of Second Life in education is the possibilities to model, simulate and recreate reality. Students in health care can simulate rare diseases and even surgeries without the fear of serious consequences for their mistakes. Future architects can create their visions and invite people to visit their buildings and get feedback from the way people interact with and use the buildings. In learning and teaching foreign languages Second Life has a huge potential, because of its highly international user base. By going, for instance, to French-speaking or Korean-speaking areas, students can exercise their language skills by chatting and by talking in voice.

Health care and language education are just two examples. Many more specific and generic examples of using

Second Life can be conceived. All academic subjects can benefit from having lectures in Second Life or organizing group discussions or assignments. There are plenty of good examples on how Second Life can be used in education. Every teacher should try to find those possibilities that benefit his or her education most.

However, Second Life is not necessarily for everyone or every course. All teachers who consider using Second Life in their courses should ask themselves what added value this virtual world could bring. Second Life and other virtual worlds are inspiring environments, but as with any project, benefits are not gratis. Educators interested in the possibilities of Second Life and other virtual worlds in education should start by finding out what others have done and maybe take part of a lecture that someone more experienced is organizing.

Once the decision about using Second Life has been made it can be recommended that one should start with small investments and rent a small piece of land on which to build the structures

and functions needed. When the activities and the teachers' skills increase also the land can be increased. Educators can rent land directly from Linden Labs, the company behind the virtual world, from a large number of virtual real-estate agents working in Second Life or from the Finnish Association of eLearning Centre. In the latter case educators may join the archipelago of Finnish educators, schools, universities and associations in Second Life, called EduFinland (more information at <http://edufinland.fi>).

### EduFinland - an archipelago of Finnish educators in Second Life

EduFinland is a virtual archipelago, a three-dimensional space, a community and cooperation. The archipelago is a virtual area that is almost one million square meters large. EduFinland is the virtual home and place of work for over 30 Finnish educational institutions. It is a place where Finnish educators and researchers can explore and acquaint themselves with the possibilities that virtual worlds provide

for teaching and training.

Educators who have rented space on EduFinland may build their headquarters or classrooms or whatever they need on their land. Besides the own plot, there are plenty of common areas, such as auditoriums and meeting rooms that are shared and can be used by any of the members. Educators do not necessarily have to build their own classrooms, unless they want to do so. And of course, being a Finnish archipelago, there is also a sauna available for everyone.

The most important mission of EduFinland is, however, to bring educators interested in the possibilities of virtual worlds together. When we are all in the same area we can more easily learn from each other and we do not have to make the same errors over and over again.

Networking is very important on EduFinland, and not just between educators but between students as well. Normally, students from different parts of the country are unlikely to ever meet each other, but when two universities are neighbours on EduFinland, it is unlikely that the students would not meet. Edu-

Finland makes it easier to offer courses and lectures across university borders and it is easier for educators to work together and share resources.

The first year of EduFinland, 2008, could be described as a year of planning and taking first cautious steps. In contrast, the year of 2009 has definitively been a year of action. EduFinland has hosted countless lectures and discussions, meetings and courses. EduFinland even hosted a "euro-election-candidates" virtual election meeting, in which 80 avatars participated simultaneously. With great interest and anticipation we wait to see what new and innovative we will see on EduFinland in the future.

### Visions of the future

Currently it is going strong for Second Life. However, nobody can say for sure how the virtual worlds landscape looks like in five or in ten years. In a rapidly developing network world anything is possible. The "big players" of the Web, like Microsoft and Google, have also taken steps that indicate their interest towards virtual worlds. There is a thrilling number of highly interesting collaborative and open source projects going on that are pursuing towards various kinds of virtual world infrastructures. Second Life is just one of them.

However, it looks certain that virtual worlds have come to stay in one form

or another as separate milieus or as hybrid environments that are connected to the physical reality in far more complex and ubiquitous manners than the present ones. In spite of the actual technologies of the future, everything that we learn about virtual worlds and in virtual worlds today and tomorrow, we can translate into something useful in the contexts of the virtual worlds of the future. But we have to keep in mind that the content of the courses and in the education is the most important thing. Second comes the mindset of using new environments and tools. Third comes the tools and Second Life is just that, a tool that we can use to transmit information and create knowledge with.

See also:  
<http://kimholmberg.fi>, <http://www.istohuvila.eu>, <http://edufinland.fi>



Hanna Nordlund, programme manager, DIGIBUSINESS cluster programme and Pekka Qvist, project planner, DIGIBUSINESS cluster programme

# Business opportunities provided by Second Life introduced on BusinessFinland island

Second Life offers a variety of opportunities for enterprises, for both establishing a new business and for supporting an existing one. Virtual world offers for example new types of possibilities for the marketing and demonstration of 'real world' products, training and lectures, user support, meetings, and sale of virtual products. Finnish enterprises have made little use of these opportunities so far and countries such as the United States, France, Italy, Japan and China and China have utilized opportunities better. (<http://work.secondlife.com/en-US/work-solutions/workingfaq/#faq13>). Linden Lab user statistics). Of globally recognised companies, IBM, Nokia, Cisco, Dell, British Petroleum, Novartis, Accenture and Manpower, for example, make use of Second Life in their business activities (<http://work.secondlife.com/en-US/successstories>).

Currently it is estimated that over one million US dollars are transacted in Second Life daily (<http://secondlife.com/statistics/economy-data.php>). The Gartner Group estimates that by the end of 2011 up to 80% of internet users will have acquired a 'second life' for themselves. Finnish companies now have an opportunity to join virtual business experts and secure their place in the 'other life' of people!

### BusinessFinland provides guidance, services and networks

BusinessFinland is a service, network and island in Second Life for Finnish companies and communities. The island is located adjacent to EduFinland

Island, in which there are currently over 30 educational providers and very lively community. BusinessFinland is administered through the Sombiz project of the Technology Centre Innopark/DIGIBUSINESS cluster programme. BusinessFinland introduces Finnish companies to the business opportunities provided by Second Life and the range of services offered in partnership with Finland's best Second Life experts. BusinessFinland offers companies orientation on operating in Second Life as well as customised training, consultation and coaching. Companies can also rent land on BusinessFinland Island and build premises for their use on this land. Concurrently cooperation between Finnish Second Life entrepreneurs is promoted and an opportunity to find partners for Second Life start-up enterprises is given.

BusinessFinland began operations in the spring of 2009. During the spring, the island's external infrastructure was constructed and the concept developed. The first training sessions for businesses were held in the summer. New training groups start during the autumn and experts have joined BusinessFinland for company-specific training and coaching. A guest lecture series will be held during this autumn, in which interesting visitors will introduce the business opportunities of Second Life and demonstrate and develop various perspectives on Second Life entrepreneurship.

Further information on BusinessFinland can be found at [www.businessfin.fi](http://www.businessfin.fi) and we can be contacted at our address: [businessfinland@www.innopark.fi](mailto:businessfinland@www.innopark.fi)



# Open learning environments at HAMK University of Applied Sciences



Mechanical engineering students  
teamworking.

Open learning environments is a very broad concept. The opposite is closed learning environments, and this refers to traditional educational situations in which a teacher teaches her or his own group in a classroom behind closed doors. Introducing information and communications technology into education does not, however, make teaching open – on the contrary, the learning process may be even more tightly restricted to interaction between teacher and class group. Not even a peep of the dialogue between a teacher and learners in a password protected learning environment may reach the ears of a passer-by.

We would like closed classrooms and learning environments to be more interactive learning situations, in which support is not only provided by one's teacher and classmates, but also by other teachers, labour market representatives, other students and various experts. In universities of applied sciences this type of open learning environment means a shift in education to teaching situations increasingly supported by ICT and in which authentic workplace issues are solved. The HAMK University of Applied Sciences' strategy emphasises education independent of time and place, and the convergence of work and study. Innovative learning envi-

ronments utilising new information tools are needed for this, as are forms of teaching that stress the construction of encouraging learning environments. Research and development invests in collaboration between fields of study and degree programmes, the synthesis of skills and active interaction.

Open learning environments are constructed using blended learning solutions, in which the entire staff, students and partners make use of the possibilities afforded by ICT and mobile devices in learning and development. Figure 1 illustrates the different activities of open learning environments. The system's construction requires sustained and systematic collaboration, in which a new culture of openly constructing knowledge is learned.

HAMK is constructing open learning environments in numerous different ways. We are involved in many ESF, TEKES

(Finnish Funding Agency for Technology and Innovation), OPM (Ministry of Education) and EU funded projects in which open learning environments are being developed. Furthermore, everyday teaching is increasingly conforming to a blended learning model. We also offer entirely web-mediated courses for adult learners in, for example, information technology, eWorking and business administration. It has also been possible to complete vocational teacher training as an online programme since 2006.

We also belong to the regional higher education community (Häme Open Campus), whose core members are regional higher education and research units, but which is open to other practitioners, including private citizens. This virtual community operates on an Open Source / Open Innovation principle, utilising the skills of its core members and other practitioners in the development of new solutions and services in educational, research and innovative activities.

<p><b>Study/Learning</b> A student's own effort (collecting background information)</p> <ul style="list-style-type: none"> <li>- books, articles, instructions</li> <li>- online environment data (podcasts, webcasts, blogs, wikis, websites)</li> <li>- other data</li> </ul>	<p><b>Practice</b> Testing knowledge and collaborative construction of knowledge</p> <ul style="list-style-type: none"> <li>- authentic tasks</li> <li>- projects</li> <li>- role plays</li> <li>- cases, examples</li> <li>- peer discussion</li> </ul> <p>Employing social media tools, games, simulations, meetings</p>
<p><b>Teaching</b></p> <ul style="list-style-type: none"> <li>- contact and distance lectures</li> <li>- lecture material ready for downloading off the internet</li> <li>- demonstration</li> <li>- discussion/interviews with experts</li> <li>- videos, podcasts, video streaming</li> <li>- simulations</li> <li>- learning at one's workplace</li> </ul>	<p><b>Guidance</b> Systematic and sustained expert-like work in a community of experts</p> <ul style="list-style-type: none"> <li>- project work</li> <li>- portfolios</li> <li>- being at work</li> <li>- mentoring/tutoring</li> </ul>

Figure 1: Open learning environment model based on blended learning

Further information  
of the on-going development project can be found at:  
[www.hamk.fi/tutkimus](http://www.hamk.fi/tutkimus)



# How to facilitate open content production and the use of social media?

Social media applications are becoming a standard feature of the everyday life of citizens, even though the applications' real possibilities are still not necessarily utilised. The well-advised use of social media and its effects on increased work productivity and cost reductions are probably not yet fully known. Old familiar methods may especially hinder the use of social media.

In its very essence, we are dealing with a change process aiming for regeneration. The most fundamental change with social media is that everyone can participate in producing and modifying content in the same shared social space. This change is significant compared to traditional activity on the web. The change in activity may not reach users of social media as quickly as the applications. It is almost too easy to just copy old activities in the use of social media applications, but then the benefit we gain is only a small step forward. We should understand that the new tools offer us an opportunity to change the whole operations logic and shift to a more developed level of action.

Fostering and establishing good practices and new ways of action in open content production and use of social media, removing the barriers to its use and developing a networked model of action are the main foci of the AVO project. To support the project to achieve its aims, action development research is also a part of the project. The research method will be applied especially from the activity's theoretical viewpoint, since it gives dynamic and change-oriented tools for analysing the target phenomenon of our research and executing the development process.

Activity has acquired its current form over time and may no longer be appropriate in the changed operating environ-



ment. New inputs to the activity system, like social media tools, may cause contradictions in the activity when old practices collide with new tools. Activity can be developed by analysing the contradictions in the context of the activity, since contradictions act as the main source of change and development. Analysis helps to identify the developmental needs and creates the basis for modifying the action consciously. Producing new models of action is a key factor in developing practices. (Crawford & Hasan 2006, 49-50; Engeström 2001, 134-139; Jonassen & Rohrer-Murphy 1999, 62-66; Meyers 2007.)

While carrying out their own sub-projects, AVO project actors collect problems they have perceived in a project wiki. Problems may be practical or affecting the project at a deeper level. The project researcher will analyse the problems. After the analysis, a solution to overcome the contradictions and develop a new model of activity are planned and carried out together. This will help to understand social media as a phenomenon which brings along new demands for ways of action and concrete implementation of these actions. In this way, the new good practices will not be mere recommendations, but

action will really undergo change.

The research is still in its early phase, so there are no results available as yet. But the model seems promising and the role of project researcher has been seen to be important in transferring tacit knowledge to codified knowledge. The project research is also part of two other research projects in the same project network.

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The University of Tampere is part of the ESF funded Open Networks for Learning (Finnish acronym AVO) venture with its Wikis and Blogs in Teaching and Content Production subproject, in which training and materials are produced and provided to support the use of wikis and blogs. The subproject is also responsible for action development research to support and ensure the attainment of project objectives.

# Sometu - social media as a tool for learning

**SOMETU** is a network and forum for people who are interested in the potential that social media offers. It is an exceptional tool that not only helps expand one's knowledge but promotes business, eDemocracy, citizen activism and leisure activities in the digital age.

**SOMETU** was innovated in November 2007 for a groundbreaking seminar on social media held at Otava Folk High School in eastern Finland. Thanks to such efforts, the Ning network founded for the seminar was spontaneously expanded into a network of people sharing a common interest in social media and curious about its possibilities. Its main aim is to connect people who are involved in learning new matters and using social media as a tool to further their professional, social and personal needs.

The **SOMETU** network has expanded rapidly and has today almost 2,000 members. The working environment consists of a number of theme groups that take part in forums. Distance is never an issue since they regularly hold meetings in the web and organise other activities as well as events. **SOMETU** derives its strength from its users. Since it has expanded rapidly as a network, some of the effort has gone into strengthening its base.



## The Story of Sometu - Attraction Mood

"From an organisational point of view, **SOMETU** is an organism," says Ville Venäläinen, **SOMETU**'s co-founder. **SOMETU**'s attraction comes from the independence it offers its users to interact in a number of levels. **SOMETU** is not an association or organised in any formal way. Venäläinen says that he would even avoid using the word community to describe **SOMETU**. It is like a simple network with multiple interests and ideas. Furthermore, the **SOMETU** co-founder aims to remain faithful to these founding principles in the future.

As mentioned earlier, **SOMETU** was founded thanks to a seminar that focused on social media and learning. Venäläinen was the first one to formulate the initiative, but other important co-founders were: Kari A. Hintikka, Anne Rongas, Timo Vuorensola and Roope Mokka, who contributed different points of views on social media. Participants of the seminar formed required cohesion for the network to start grow. From the onset, all the preparation material was produced on the Internet.

Venäläinen, who is recognised as the founder of [sometu.ning.com](http://sometu.ning.com), finds it difficult to describe his role in **SOMETU** at the moment since the network is based on users. User-driven network is not a cliché when referring to **SOMETU**. Anyone can join and communicate on the network. According to Venäläinen, people were enthusiastic to join **SOMETU** from the day it was born, even though it did not have a proper layout at the time. Growth has been strong even up to now.

## Sometu - a Place to Share and Play with Thoughts

**SOMETU** is all about learning, not about education. "Learning is like breathing, we do it naturally all the time" says Venäläinen.

Shared knowledge is a keyword of social networking and it is one part of **SOMETU**'s success story. Expertise and authority are transformed in **SOMETU**. They depend on the knowledge and experiences that are available and offered by the network. Focus and exploring issues in an enthusiastic, playful and experimental fashion are key. Do not hesitate to ask - the worst that can happen to you is learning from and with your

co-members.

**SOMETU** is a social network where people come from different organisations. However, relationships are built on a personal level. **SOMETU**'s members are free to allocate their time and energies in and for the network. Venäläinen says that even though he is highly committed to **SOMETU** on several levels, his input varies from time to time. On some days you are willing to play with thoughts and on other ones your thoughts are somewhere else.

"The atmosphere on **SOMETU** comes from its users," stresses Venäläinen. "It is easy to commit oneself to a network, which is like a good old restaurant. No one comes to an empty restaurant, but with hard work beforehand, people know where and when the party is."

A commitment is also shown by **SOMETU**'s prompt and informative answers compared with other social networks. Moreover, peer-related information is considered reliable since you know the people you are communicating with. With respect to the information flow of the Internet, members of the network are all eyes and ears for each other. They share their discoveries in order to build new knowledge in an ever-evolving world and web.

## Sometu in Business

Since **SOMETU** was founded two years ago, a myriad of questions have been brought up in social media. In the beginning, **SOMETU** was mainly used for educational purposes in social media. Today, its use has expanded into many areas such as technology in education, citizens' activism, eDemocracy and lately business as well.

**Sometu in Business** is part of the network initiative that looks at social media specifically from a company's perspective. Special topics and discussions related to various aspects of business and social media can be found on **Sometu in Business**. **SOMETU**'s members discuss and explore how companies can benefit from social media. Some of the topics that are discussed include product development, innovations and communication.



Ville Venäläinen

Since the members are professionals in a number of fields (technology, education, research, business as well as others) it offers **SOMETU** greater flexibility and opportunities to access knowledge. All of **SOMETU**'s members are interested in learning and therefore willing to look at issues from a fresh perspective with creative and innovative solutions.

## SOMETU's Future

Who should join **SOMETU**? Venäläinen claims that anyone who operates a social media domain is warmly welcome. So far, satisfied users have been our most effective marketing tool. Curiosity lures people to the network. **SOMETU** has grown on a constant basis. Events such as the ITK-Conference helped our membership to peak in the previous two years.

Is the sky the limit for **SOMETU**? One of our biggest challenges is how to connect people with different interests to one network. Venäläinen believes that despite such challenges, organising activities for thousands of members poses a lot of questions. "Every member of **SOMETU** lives in the digital age," he says. "They are also willing to tolerate a certain amount of uncertainty."

Even so, this raises a key question: Should a network be organised in a formal manner? What is the life span of a network? Where is **SOMETU** heading?

According to Venäläinen, we are at the point of no return in our journey. "We cannot predict the future by looking at the past," he says. "People in SOMETU are trying to find a new way to deal with the future as a group, learning with and from each other."

Different personalities play remarkable roles. "Active persons like to go out and find new places to breathe social media," he continues. "These so-called curious nomads are the mainstay of the network."

Venäläinen believes that the platforms offered by SOMETU enable greater interaction with other people and the outside world. These principles will lead SOMETU in the future instead of rigid structures.

Interest in SOMETU has been growing internationally and language is still a great challenge for a network established in Finnish. Sometu in English is small but

rather active. In addition, Sometu in Business uses English quite extensively. Unfortunately, several discussion topics can only be accessed in the Finnish language. SOMETU-members are working to meet this challenge.

#### AVO-Project and the Development of SOMETU Network

Development of SOMETU is presently supported by the AVO-Project, which is funded by the European Union. One of the aims of the project is to strengthen the network in SOMETU's "engine room." It also offers new opportunities to organise events and meetings both live and via the Internet for its members. The project is organised by the Association of Finnish eLearning Centre and Otava Folk High School is a partial

partner in the project especially related to SOMETU's activities.

In order to attain these goals, Otava Folk High School is developing different web environments as well as instructing people on how to use the full potential of the Internet and the networks. They are always open to new ideas on how to encourage greater participation by citizens of all ages in society as well as bridge the gap between the industrial and information era.

Otava Folk High School is similar to SOMETU since it is constantly seeking novel solutions to adapt to the future, which is today.

Leena Vainio, HAMK University of Applied Sciences, AKTIIVI project manager  
Mika Sihvonen, University of Tampere, senior researcher

# Brokering in open learning environments



**A**KTIIVI is a coordination venture within the Active Citizen of the Open Learning Environment development programme (ESF programme). The task of a coordination venture is to support the networking and cooperation between ventures that have received funding and disseminate best practices and methods created in the ventures to educational institutions, organisations and businesses. The task includes the role of broker. Each project forms a fairly close community and a few larger projects already include several learning communities. Often these learning communities formed by a project cooperate with each other very closely and it can be difficult for an outsider to gain entry. The broker may be seen as an outsider or she or he may be expected to function as a group member – an actual role within the group. The broker's task, however, is to import and export skills and abilities between projects. In a broad operational field different operational cultures meet and the best ideas for activity may be created through these 'boundary encounters'.

Wenger (1998) has described the broker's work as diverse and challenging. We have noticed in the AKTIIVI venture that this description is eminently appropriate to the work of the coordination venture's leader. Cooperation, modification and ap-

plication of best practices, mediating between different perspectives and reaching conclusions are included in the broker's task. The broker needs to have sufficient legitimacy and ability in order to influence emerging activities, kick-start important issues, and, if necessary, point out conflicting interests. A broker is expected to be able to connect the operational activities of various practitioners and identify best practices that promote learning when imported into new contexts. For example, a specific venture may have well-developed and diverse communication practices with which the members of the organisation are very familiar, but the group has not realised these practices could be offered for others to use. Diversity is a challenge in that project practitioners need to be sufficiently involved in individual projects, but also sufficiently distant in order to retain the possibility of operating at interfaces and recognising the best possible issues to export from and import into the project.

Our study aims to identify the requisites for successful brokerage. An ability to work in networks is essential, as is the ability to impact flexibly so that different actions support and help the work of each project, and do not fatigue practitioners. A danger is that externally supported network-like activity will become a burden for practitioners if appropriate methods are not found.

Different idea and concept level models, as well as the sharing and polishing of effective practices can be promoted through the use of social media. For example, blog or wiki services where everyone can comment provide an opportunity for other projects to acquire knowledge on individual ventures, allowing a comparison of outcomes and their application to one's practice. The researcher is also able to see the discussion process through which development and idea implementation has progressed.



Meetings and seminars are important tools for developing network.

#### Sources:

Wenger, E. (1998) *Communities of practice: learning, meaning, and identity*. New York: Cambridge University Press

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<http://www.sometu.fi/>  
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# Learning where you are – mobile pedagogy is a genuine opportunity

Mobile devices such as GSM phones and PDAs bring a new dimension to learning and training. The learning environment expands and integrates into other environments, enabling learning to occur in an authentic context. Communication, collaborative construction of knowledge and innovation are the key descriptors of learning in these new environments.

In addition to eLearning and online pedagogy, there is much discussion on mLearning or mPedagogy. mLearning can be thought of as a form of learning in which learning occurs through mobile devices in authentic environments, such as the workplace or even out in nature. In this regard it is less geographically and time bound than is online learning. mLearning might be simulations guided by mobile devices implemented in authentic environments.

In mobile learning, the learner is mobile. A student's activity in an authentic environment, for example, the workplace, may merely be performing a work task without a great deal of reflection or learning. The purpose of mobile guidance is to ensure that learning in authentic environments is analysed and structured. Then learning at one's workplace, like work experience, becomes an authentic learning environment. Mobile devices are then a tool with which pedagogically meaningful learning processes and pedagogic structures are also transferred to authentic environments and authentic learning situations. Mobile devices are a teacher's pedagogic telescopic hand.

Mobile devices can naturally be used

in education in different types of communication – interaction can occur through speech, texting with another learner or the trainer. Mobile devices, like the newer mobile phone models, can be used to make notes, collect and document knowledge by, e.g. writing, taking photos with the camera, filming video clips, or audio recordings. Content editing, for example small-scale image processing with mobile phone applications, is possible. Mobile devices can be used as so-called push-media in which learning material or the sharing of knowledge or, for example, a learning object is possible through mobile devices. These devices have not as yet been extensively employed as cognitive tools, so-called learning or thinking tools which

are used, e.g. in reflection, collaborative construction of knowledge or even as a 'thinking partner'.

Mobile devices bring assistance independent of time and place to guidance, e.g. advice or necessary knowledge to the spot – on the site. Mobile devices can be employed to activate and sustain activity in guidance, e.g. learning a foreign language in an authentic work environment, such as the workplace or communication situation. In this case language learn-



All of us carry a mobile phone with us, many of us even a communicator or mini-laptop. When these devices are with us, learning can take place in authentic situations – there, where there is time and a need. On the train or when there are still a few minutes before boarding a flight, why don't I use a device to, for example, learn a language? Even one sentence a day is great progress. If the learning comes directly to a mobile phone or PDA, then I am more likely to study daily!

ing can guide the learning of new knowledge or skills, or the application of existing skills in an authentic situation. Mobile technology enables various interactive applications, e.g. completing learning and reflection tasks, guiding the learning process and supporting learning with the help of, for example, mobile simulations. Mobile media may also function as a student's knowledge store and ePortfolio.

Making use of mobile communication (e.g. phones, text messages, multimedia messages, email and internet connections in mobile devices) will become increasingly central also in corporate virtual teamwork, facilitating the work of team members in broader environments, for example client visits or other environments in which video conferencing or internet connections are not available or reliable. In this way, the entire expertise of the team can be harnessed in an "on-the-site" situation. Mobile devices can also be used to commit each team member to very intense teamwork.

The development of educational technology, such as GSM phones and PDA devices or mini-laptop based learning environments, creates a completely new opportunity for learning in a corporate envi-

ronment. New educational technology can make learning part of everyday activities and bring it directly to the workplace, committing the learner to study. The new everybody's pocket PCs, that is communicators, smartphones and smart mobile devices, create a foundation for developing new kinds of applications, learning environments and learning objects for education.

Educational use of mobile devices has been hampered by the need for a seamless combination of technology and pedagogic skills necessary for the development of mobile educational applications and learning material. The starting point cannot be, for example, that a teacher sends text messages to students; rather automated and developed educational technology applications are required. These applications can be located in online servers that communicate with mobile devices, for example, a phone. The other alternative is to produce learning material which can, for example, be downloaded into communicators.

Adaptable and developed applications and learning platforms are needed for mobile learning. These applications take into consideration the features of mobile devices, their strengths as well as limitations

in collective communication and production of knowledge.

Educational technology research and development is a requisite for developing effective mobile learning applications. Even though the advantages of mobile learning are evident, such as independence of time and place, in order to develop applications and tools there is a need for knowledge on what added value mobile applications bring to learning and how learning is promoted in mobile learning environments.

In the HAMK University of Applied Sciences Mobiles in Learning and Interaction Project (AVO venture) we are gathering experiences of the use of mobile devices in learning and collaborative activity as well as the use of social media in mobile environments. The venture will especially provide an impetus for the development of continuing education and concurrently challenges regional enterprises and organisations to collaborative development work.

# LeMill for teachers

LeMill is a teacher community with a twist - it provides learning resources for teachers, not just students.

In last decade a lot of work has been done in order to encourage teachers to share their educational resources. In most of the European countries there are national repositories which provide learning resources that are created by teachers. We however think that teachers need a simple way to customize the learning resources that they use and contribute their work back to the educational community. This is currently not possible in most of the educational repositories.

## Open resources through collaboration

In the Media Lab at the University of Art and Design Helsinki we have designed and developed the LeMill web community (see <http://lemill.net>) that enables teachers to create, share, and reuse educational resources. The work was carried out as part of the European Commission's 6th Framework Programme project CALIBRATE, together with partners from Es-

tonia, Hungary and Norway. In the beginning of the project we organized design sessions with teachers from these four countries in order to find out how teachers use and create educational resources. The results of the design sessions created a basis for the general structure of LeMill. We found that teachers perceive different categories of educational resources such as educational content, pedagogical methods, and tools that can be used in learning. The two latter types

of resources are often missing from the educational repositories that are focused on reusable learning content. LeMill has a simple structure that contains four sections – Content, Methods, Tools and Community.

There are several important differences between LeMill and typical learning object repositories. Firstly, any learning resource in LeMill can be modified and improved by other teachers. This is easy to do in a standard web browser, because all the learning resources that are created in LeMill are web-based. Teachers do not have to worry about breaking the copyright when they modify a resource in LeMill, as all content is published under the Creative Commons Attribution-Share Alike license, which allows to modify and remix the content, as long as the original author is credited and the resulting work is shared under the same conditions. It is possible to use texts from Wikipedia and its sister projects, images from Flickr, and other material that is published under the

same license. This is a powerful source of content that teachers can build upon.

## Content and more

Content creation and editing in LeMill is based on simple templates for different kinds of learning resources. LeMill templates aim for simplicity and ease of use instead of rich features, because in addition to being able to create new resources, we expect teachers to modify and enrich resources created by their colleagues. The current web ecosystem has specialized services for creation, sharing, and storing certain types of content such as presentations, videos, maps, and images. LeMill supports embedding of external content into resources and respectively, LeMill content can be embedded to other services.

In addition to Content, LeMill provides Methods and Tools. Methods are how-to knowledge for teachers; they are instructions and descriptions for all kinds of pedagogical activities, theories, and tasks. Tools are similar how-to knowledge about familiar and new instruments of teaching, including physical objects, software, and services - anything that can be used for pedagogical purposes. We see Methods and Tools as the most valuable and exciting part of LeMill, because there doesn't need to be a comprehensive library of resources before they become useful. Method and Tool descriptions are also naturally shared between teachers.

Collections and Learning Stories are LeMill's way of binding resources together. A Collection is self-explanatory, but Learning Stories are a special type of col-

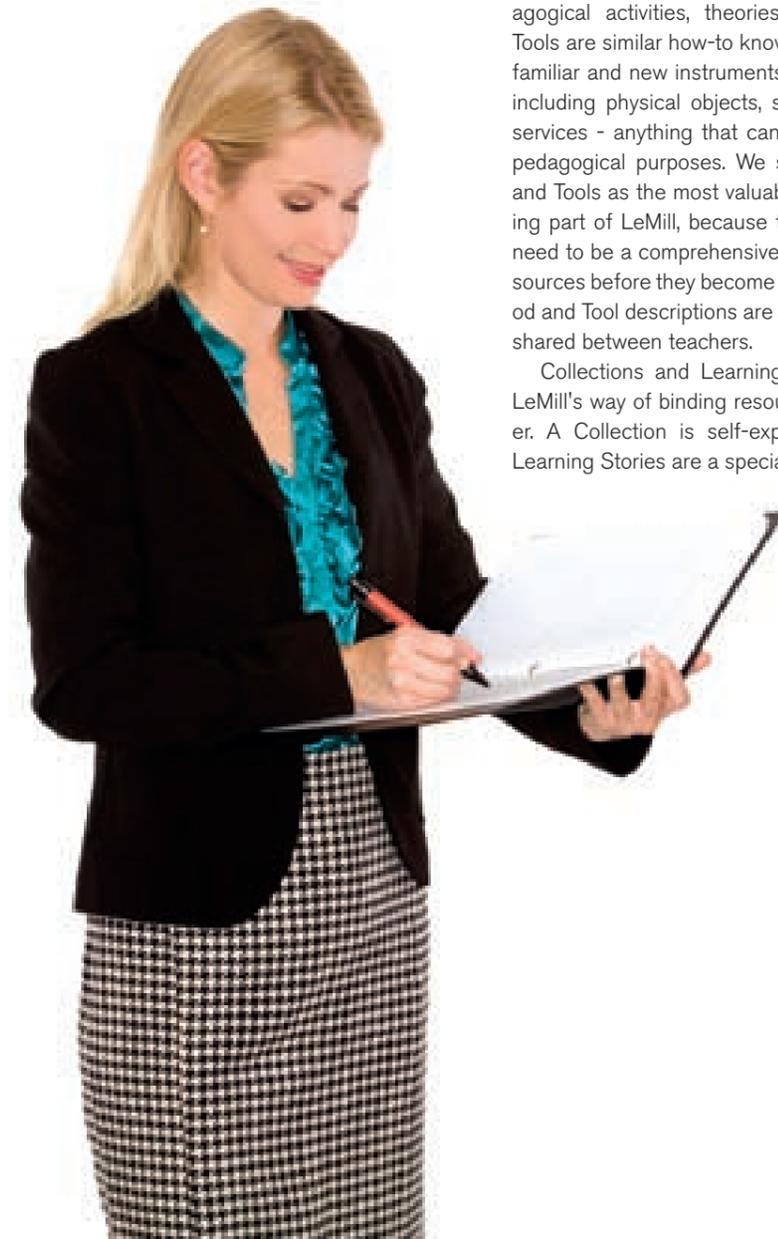
lection that contains Tools, Methods, Content, and an explanation of how they are supposed to be used together or how they were used. Learning Stories are still rare, but they have high visibility in LeMill. Resources that are used in Learning Stories display stories as suggestions of how the resources can be and have been used. Other resources in LeMill are by default shared and collaboratively edited, but Learning Stories and Collections are personal. In addition LeMill tracks all the resources that a teacher has contributed to and builds a dynamic portfolio.

## Numbers and visions

In the fall of 2009 LeMill has over 6700 members, over 400 groups, over 5000 learning resources, over 1900 method descriptions, and over 700 tool descriptions. These resources are written in over 50 different languages. The largest resource languages are Georgian, Estonian, Czech, Spanish, Lithuanian, Hungarian, Russian, and English. In addition to these languages, German, French, Finnish, and Swedish are well represented among the community members.

Because of LeMill's multilingual support and initial testing in Eastern Europe, it seems to have developed several communities around relatively rare languages, like Georgian and Estonian. The future of LeMill is certainly tied to these communities; as long as there is at least one country where LeMill is actively used and where LeMill is beneficial, it is worth the effort and cost to maintain and develop it. Even when most of LeMill resources are created by these two small linguistic groups, it still grows faster than most learning resource publishing services (8.0 new resources per day in LeMill; 4.6 in Merlot, 1.8 in Connexions, 1.1 in Ariadne). These active communities are also good examples of the potential benefit of LeMill to countries that reach critical mass in LeMill.

Resources in LeMill are published with open licenses, so their future is quite safe: they are not tied to LeMill in any way by their license or copyright and wherever LeMill development goes, they can stay with it, be copied into some other repository, or changed into some other form. For most teachers, we see LeMill as the first steps towards the comfortable use of open content and social media.



# Closing the information technology gap - communication skills for communities through voluntary action

## Tietotaitotalkoot -hanke

- The ESF Operational Programme in mainland Finland
- Ends in May 2011
- Executed by The Finnish Information Processing Association, FIPA
- [www.tietotaitotalkoot.fi](http://www.tietotaitotalkoot.fi)
- Eerikinkatu 28, 5th floor, 00180 Helsinki



The gap between information technology experts and the average user continues to be great or is even growing. The more sophisticated and diverse programs and services become, the greater the difficulties average citizens and their communities have in finding adequate, workable and compatible programs and services for their use. What is needed are simple, tested, free services and ways of use, explained in clear understandable language, through which people and communities are able to maintain contact, participate in society, make themselves visible and realise their creativity.

Know-how-talkoot is a method of collaborative doing in which learning occurs indiscernably, in addition to and through doing. This is an EU venture, which, through advice from pilots and doing by one's self, provides existing organisations with skills individuals or organisations feel they need to enhance their activity. The use of freeware in the voluntary action enables organisations to enhance and further develop learned operational models without having to invest money in software. Thus the models learned in the venture are retained by the organisation for continuous use.

Know-how-talkoot method starts with the premise that the participant operates as an independent thinker and actor, able to combine acquired knowledge with previous knowledge and skill structures. There is no teaching or lecturing; rather the group begins to collaboratively do that which they consider important for their organisation. Of course, various issues are explored while doing, such as intellectual property rights and so on. The principle of completed products is also an essential part, that is, participants remain in the venture until a website or publication is finished and ready. This venture aims to create new communicative practices for organisations and improve the organisation members' communication skills in order to increase social capital, trust and openness.

Know-how-talkoot ranging from video or website creation to publications and audio processing have been held during 2008 in various parts of the country. This model is applicable to organisations and associations who work to empower civic activities. The model has been tested as a learning method for schools and an IT professional's custom of taking up new applications and understanding the user's perspective.

Below is a report on the Future Voluntary Action of Mankkaa School, Espoo, in which 9th grade students constructed three different scenarios of the future, producing concrete outcomes from each scenario, that is, scenario appropriate meals, a video or publication suitable for the scenario and a discussion on life according to their scenario as a foundation for everything.

### People, tools and methods of the voluntary action

On Monday at noon there were 18 students, their teachers and three voluntary action pilots gathered in the biology classroom of Mankkaa School. During the next two days, the future was constructed employing a video camera, three projectors, two Mac computers, two mini-laptops (Linux operating system), a multi-functional device, three web sticks, memory sticks, extension cords, a dictating machine, paper, marker pens, tape, and the school's Windows computer. The voluntary action took place in the school's biology and home economics classrooms.

The students began work by writing up small moments of happiness which were analysed from a future perspective. They also considered in what kind of society is paid employment possible, what environmental factors are necessary to preserve nature or how will people study in the future, will schools exist at all?

Reflection was followed by the drawing up of a futures table. Students voted on the alternatives and the most desirable,

least desirable and a possible scenario were selected. These were named the Technology Scenario, the Cold Scenario and Collaborative Scenario.

### Scenario appropriate meals

Once the scenarios were clarified, students began to plan appropriate meals, purchase ingredients and prepare food. Food for the Technology Scenario included saute reindeer, mashed potatoes and lingonberries; the Cold Scenario meal was fish fingers, dehydrated mashed potatoes, white chocolate mousse, Pepsi-Max and gummy bear sweets. Many different salads, grated carrot, smoked salmon, strawberry milkshakes and oat biscuits, made by the group, were enjoyed in the Collaborative Scenario.

In addition to food preparation, each group created a narrative of their scenario, either by filming it on video or making an illustrated publication.

### The method is suitable for schools

There was an exceptionally enthusiastic and creative atmosphere in the Mankkaa School venture. All outcomes can be seen on the Know-how-talkoot website. Feedback received from the teacher afterwards indicates that other classes are interested in the products, and the participating students have been 'absolutely enthusiastic'. The school immediately received something new from the venture, in that the scenarios now form part of the learning material for geography lessons in which stu-

dents design a future city by planning a scenario appropriate town plan.

### A cooperative work method for IT professionals

The voluntary action was also tested in a group of IT professionals, who aimed to create a social media electronic desktop. One goal was to create it on one's own machine for one's use, but some participants sought a new kind of use for social media to motivate students. Collaborative work, reciprocal learning, and increasing understanding through discussion produced many different electronic desktops, new ideas for teaching, new social contacts, and increased trust and social capital. In these voluntary actions, deciding on meals, their preparation and enjoying them together formed an essential part of the venture. Planning, preparing and partaking of meals are, as processes, similar to any other creative process, and food allows those who are uncertain about information technology to participate in the venture. This EU venture began at the end of 2008 and will continue until mid-2011. The objective is to organise 150 know-how voluntary actions ventures. An essential component of the venture is the training of pilots, which has been initiated with the Laurea University of Applied Sciences' Kerava unit. A website will be created during the venture into which will be collected all useable freeware, products and discussion. The aim of the website is to act as peer support, an example and data bank.

Know-how-talkoot website  
can be found at [www.tietotaitotalkoot.fi](http://www.tietotaitotalkoot.fi)



# Teachers on students' heels – social media is taken hold of in AVO training

"What is social media?" asked one teacher, when asked if s/he was interested in participating in continuing education for Hämeenlinna City upper secondary school teachers. The response indicates that there is a need for the course beginning in October. After an introduction to the training course, twenty enthusiastic teachers registered for the four-day workshop in which they will attempt to catch up with students in the area of social media. Teachers currently make extensive use of information technology in planning teaching and producing learning materials, but when they move into learning environments on the web, they often feel ill at ease and outside their comfort zone.

During the workshop, AVO network experts will guide teachers into adopting so-

cial media tools ranging from Second Life to Twitter and Blogs to Ning. The goal is not only to offer teachers time to become familiar with different tools by trying and investigating these, but also to expand learning environments by producing learning material or a teaching moment with their chosen social media tool for content they have already taught. Teachers will also be provided a large helping of knowledge on, for example, netiquette, intellectual property rights and information security.

The training will also encourage teachers to use, for example, wikis in teaching. Students can complete wiki-texts using issues covered in teaching. An excellent example of this kind of opportunity is Häme-Wiki, a collaborative online service opened in August introducing the Kanta-Häme region, people and events. Häme-Wiki is a

service open to everyone, offering a possibility to record knowledge and narratives regarding Häme province. Häme-Wiki was realised as part of the ESR funded Information Society Spaces and Content Project that aims to improve the work-age population's information society content skills and develop the competence and know-how of library staff, employees in advisory positions and teachers.

## Entrepreneurial education benefits from social media

One school involved in the AVO project is the Hämeenlinna Yhteiskoulu Upper Secondary School offering a Creative Entrepreneurship stream for students who pass an entrance exam. The school is part of the national entrepreneurial up-

per secondary school network, Y-love, which gathers together 20 upper secondary schools offering entrepreneurial education. The network was given the National Board of Education's learning environment project, which aims to develop upper secondary school students' use of ePortfolio, examine the possibilities afforded by social media in entrepreneurial education in schools, and develop a web-based social networking environment model to support entrepreneurial education. Through these, entrepreneurial students have the opportunity to demonstrate their entrepreneurial skills more effectively and diversely. Students gather self-evaluations, ideas and references from their upper secondary school entrepreneurial studies into a continuously developing ePortfolio, and also describe

learning that has occurred in informal situations. The objective is that they are able to continue compiling the ePortfolio after matriculation. Some of the teachers in the Hämeenlinna Yhteiskoulu Upper Secondary School AVO project have become familiar with social media specifically from an entrepreneurial education perspective. They have challenged their German entrepreneurial sister school to join the development work.

The Hämeenlinna Yhteiskoulu Upper Secondary School is also considering what the institution could reciprocally offer partner enterprises that provide expert knowledge for the school's use, assist various projects financially, and accept students into the TET programme (Introduction to Work programme). One idea is to develop 'reverse mentoring', in

which students mentor a business and offer their social media abilities for the business' use. Before this plan proceeds to an implementation stage, teachers need to be trained – students of course are already able to do this.

AVO project and Y-love entrepreneurial upper secondary school network.

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Y-love meeting in Jyväskylä, May 2009



Photo: Terho Aalto



# LTSP – quality and practical reasoning to workstations

The ICT systems in education face a difficult problem. New services and software such as social media and eLearning are required – yet budget resources remain at the same level or are even reduced. This puzzle is a very hard one to solve using traditional methods. That is why Linux Terminal Server Project (LTSP) is gaining in popularity: it has major social, technical, ecological and economic advantages over traditional PC based environments.

LTSP is a Thin Client system running on the Linux operating system. There are proprietary Thin Client systems but Linux is the ultimate educator's choice because it brings all the advantages of Free/Libre and Open Source Software (FLOSS) with it: cost efficiency, no vendor lock-in, freedom to make changes to software yourself.

The Thin Client System differs fundamentally from a standalone PC. Instead of having the operating system and software on a hard disk drive of the PC, thin clients are booted over the network. The operating system is transferred to the Random Access Memory of the client via Eth-

ernet cable. All programmes and processes are also run on the server. The resources and processor time of the server are shared among the users: those who need the CPU time at a certain moment get it. The situation is totally different from a typical PC setup where the resources of the computers are usually not maximised. Even if a PC could spare some CPU time it cannot be given to another user due to technical limitations.

LTSP is technically very robust and well-behaving: the boot up process is slightly faster than a new PC running Windows OS. Maintenance is easier: instead of having an armada of standalone computers there is only one server to maintain. A faulty client machine is simply unplugged and changed into a working one in five minutes.

## ICT services for learning – not for organisation

The Dreamschool project of Kasavuori Upper Secondary School in Kauniainen, Finland is a good case example of LTSP in optimal use. The basic idea of Dreamschool

is simple: learning is seen as a process the student does; hence all structures and functions of the school should support this view. The reason ICT infrastructure exists is to support the learning process. It is there primarily for the learners, not the administration, ICT department, principal or even the teachers.

The board of education in Kauniainen facilitated a process where needs were described anew from this angle and a thorough analysis of how to produce these services was done. They ended up with a solution where workstations are mostly LTSP terminals and the services the students use are run with FLOSS software. The latter was not even the goal – it just happens to be the case that when buying even slightly tailored solutions cost efficiency is on different level when using FLOSS compared to proprietary software. The reason is of course the licensing model of FLOSS software: you may make modifications to the software as you wish. Even though the council of Kauniainen is one of the wealthiest in Finland, the service level which has been achieved would not have been possible using only proprietary software due to

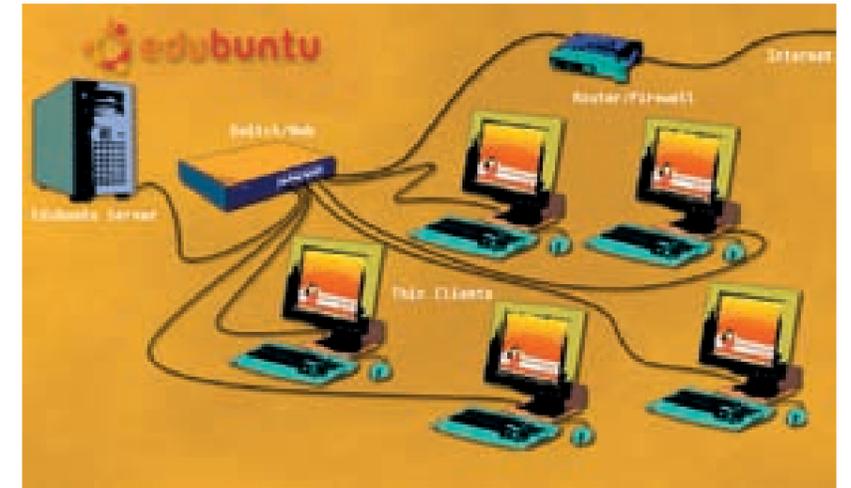
its higher cost.

In Kauniainen low cost was not the primary concern – quality and suitability to meet needs were. Low cost is generally speaking the top reason why schools in Finland choose LTSP. One major reason is the possibility of prolonging the life cycle of old computers: when they cannot run the monolithic proprietary operating systems any more, they are still high-end, fast to use LTSP terminals. An old PC with 1 Ghz CPU and 256 megabytes of RAM gives an amazing user experience. In many schools old boxes like these, hard disks removed, are used in combination with new flat displays and – voilà – a new efficient computer class is equipped. Very old hardware can be used in hallways and other unlocked places: diskless old computers are not interesting to thieves, either.

## Energy saving and ergonomic

An LTSP system is both ergonomic and environmentally friendly. There are no hard disks producing high pitch noise. Commercially available thin clients have no fans and are thus noiseless, are typically the size of a VHS cassette and can be hidden behind the display. The difference in consumption of electricity is huge: an LTSP client needs around 10 watts, a PC typically around 150 watts. A setup of 20 PC machines annually consumes 13140kWh and a set-up of 20 LTSP terminals plus server consumes 4380kWh. Based on the consumer prices of electricity this means a difference of 700 € annually.

This cost factor remains mostly unnoticed as it is not treated in the same class of expenditure inside the budget. The calculation fails to note that usually the computers dissipate so much heat that a cooling unit is needed to keep the class-



Topology of LTSP system (<https://help.ubuntu.com/community/UbuntuLTSP/> by Oliver Grawert).

room cool enough to work in. The cost of a cooling unit is about the same as that of the 20 computers in the classroom. Why should one make a choice like this when there is an elegant way to do the trick? As the server and router room is needed in any case, the extra thermal energy can be collected from there to heat tap water for instance.

## Resourcing with thought

There is a huge variation in the amount of money used in the ICT systems of education in different towns and municipalities. In many places it is not known how much money is actually used for ICT in different ways and thus comparing the present situation with alternatives is impossible.

Kauniainen gives us a good basis for a comparative analysis as it has two educational systems of almost exactly the same size, Finnish and Swedish speaking. Based on the Dreamschool concept the Finnish board of education has for years developed both learning methods and ICT in-

frastructure for LTSP and FLOSS. Swedish schools use the common proprietary software and Windows PC approach. The resource need of the Finnish schools in the 2009 budget was 80 000 € which included the building of open wireless LAN to all schools. The Swedish schools announced the need of 145 000 € with no development activities. Both administrations were given 90 000 €. This calendar year will show how big the already existing difference in service levels will be by 2010.

Lauritsala School Centre, Lappeenranta has chosen a turn key, all inclusive LTSP based learning environment. The overall annual cost per workstation is 140 € where the general Windows PC system produced by the ICT department of the town costs 400 € per workstation annually. Many schools run either self-made and self-maintained LTSP systems or they buy some parts of the whole as a service. These users communicate actively, sharing tips and advice using the Educoss mailing list and web forums.

LTSP workshop at Mäntykangas school, Kokkola, Finland, October 2009. Photo: Elias Aarnio.



<http://ltsp.org/>  
[http://kasavuori.fi/images/stories/dream\\_school.pdf](http://kasavuori.fi/images/stories/dream_school.pdf)

# Open Learning and Learning Networks for teachers and learners

Finnish national project Open Networks for Learning – (AVO) facilitates open learning resources and peer-production

Openness in the AVO project means that users have a significant role in content production using synchronic and asynchronous methods. The production process is run in strong cooperation resulting in high-quality products and a spirit of doing together.

Open content can be textual, visual, audio or video. The focus is on production methods and end-product modes. Open access is a key word and special attention is paid to those procedures that support high-quality open content and open access to everybody participating in the process and using the content. Open content has close connections to the social media concept through the technology used and especially through the means of production and delivery

## Scope of the AVO-project

- **Strengthening open content production with high quality**
- **Moderating interaction in virtual worlds like Second Life**
- **Training for teaching professionals**
- **Developing peer-production networks**
- **Developing schools as learning communities**
- **Providing online communities for individual workers**
- **Developing tools and pedagogy for social media in schools**
- **Generating optional open source software for school users**
- **Strengthening active citizenship and democracy**
- **Increasing media criticism**



Operating through a national network, there are a dozen organisations and tens of experts involved in the project. The main themes are mobile devices, blogs and wikis in learning and interaction, training and education on virtual worlds and online conferences; piloting social media tools, open source solutions for schools and web-communities as learning resources for teachers. An essential sub-project is quality evaluation; how to define criteria for peer-production and open content.

The main outcomes of AVO are new networks and forums to facilitate a web2.0-learning culture; handbooks and toolkits for teachers, decision makers and citizens about social media; patterns for social networking and open content production, roadshows and online conferences; hands-on workshops and seminars to train users to apply digital tools to their everyday activities.

AVO is a large national project coordinated by The Association of Finnish eLearning Centre and it is funded by the Finnish Ministry of Education and European Social Funds (ESF). Project will last till the end of 2011.

**More information:**  
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[sometu.ning.com/group/avo](http://sometu.ning.com/group/avo)



# The Association of Finnish eLearning Centre – Promoter and Network-builder in Finnish e-Learning Branch

The Association of Finnish eLearning Centre is an independent, national non-profit organisation that promotes the use of e-learning and digital education solutions in Finnish companies and organisations. It was established in 2002. Our purpose is to develop and increase the skills and knowledge of e-learning in education, teaching and business operations. We organise annual events such as meetings, seminars and briefings for our members. The largest national event is the Digital Competence and Learning -conference, which is organized traditionally in November in Hämeenlinna, this year is the third time.

The Association is a national meeting point which provides networking links for the Finnish e-learning projects and regional clusters and helps to create contacts between companies, organisations and individuals. Since 2008 we have been coordinating a significant Finnish national project “Open Networks for Learning –(AVO)” which promotes open learning resources and open content production, virtual and online learning environments and social media tools, peer-production and open source solutions for schools. Operating through a national network, there are a dozen organisations and tens of experts involved in the AVO-project.

The Association of Finnish eLearning Centre organises also annually the eEemeli e-learning competition for domestic e-learning products, services or policies produced or owned by the company itself. The competition seeks for domestic e-learning solutions and enhances innovation and quality of e-learning products.

The Association serves as a co-operation forum for e-learning interest groups,

provides expert services and spreads information on e-learning. We assist e-learning professionals and other stakeholders in achieving common goals and bringing out their know-how and promote research and usability of results achieved in the branches of e-learning and e-studying.

We co-operate with the best experts and provide up-to-date information about research, development, trends and experiences from e-learning. We promote sharing of knowledge, best practices and quality in e-learning. We also distribute information and perform as a contact surface for finding partners, such as experts and service providers, on the Finnish e-learning market.

Our networks offer contacts to the producers and users of the e-learning

services. We provide leading speakers in the field of e-learning in a variety of seminars and workshops. We participate in national e-learning policy making and in the work of the Finnish Digibusiness Cluster programme.

Our expertise is based on the knowledge of our members and associates. The goal of our data service is dispersing existing, well-working practices and creating fresh information. Theme group activities promote networking and learning from one another. Discussion, learning and education seminars deliver expertise and promote networking.

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