

## **Utsjoki: An Example of Implementing ICT in School Environment in Lapland**

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### **INTRODUCTION**

As to information and communication technology, Finland is in the front row in international comparison. The Finnish Parliament and the Ministry of Education emphasize lifelong learning and information society. Universities and institutions develop new learning environments and a wide range of learning opportunities is available in our country. Schools are encouraged to exploit information and technology to the full.

Within Finland Utsjoki is an Ultima Thule. It is the northernmost municipality on the top of Finland and the whole EU. In the beginning of 1990s we had the opportunity of experimenting modern technology in education as a result of innovative experiments and projects which initiated first in the field of space physics and the study of atmosphere and later especially in observation of the northern ozone layer. We were lucky to be able to participate in the activities of association EURISY (The European Space Year) which offered our pupils challenging activities and international contacts including annual meetings abroad. Simultaneously information technology took long leaps and we could sense how the world shrank: one of our very first international videoconferences was between Utsjoki and Noordwijk in the Netherlands where two students represented our school. We took part in the Forum by videoconferencing in Utsjoki, we could state questions to the speakers and interview our students there. All this gave us great expectations: ICT meant new opportunities, a way out to the world. These views and optimism acted as a spur to the present Utsjoki project which is financed by the National Board of Education, the Ministry of Education, the Regional Council of Lapland/EU (ESF, objective 6) and the municipality of Utsjoki. The project is at the moment in its second phase and it has benefited our school a lot.

Thanks to it we have got videoconferencing equipment and the method has been implemented as a tool in education on daily basis. The expertise of the University of Oulu, the University of Lapland, the Regional Council of Lapland and Kemi-Tornio Polytechnic's is at our disposal: each of the institutions has a representative in the steering committee of Utsjoki project.

It is a clear trend in the Finnish society at the moment that young people move to the capital or other big towns which are growing fast. Less people stay in the countryside where the unemployment rate is high. This is a fact in our community, too. Utsjoki is sparsely populated having a scant 1.500 inhabitants. The municipal economy is in constant struggle with lessening means. The governmental subsidies are diminishing. The costs of health care, education, social and other services can not be cut, however. It is a vicious circle: people move away, accordingly fewer pupils come to schools, fewer services are available. In the future we may face the fears of turning into a God-forsaken hamlet forgotten by everybody.

On the other hand the small size of our schools is an advantage. Teachers know the students well and are able to give individual instruction and take different kinds of learning styles into consideration. This is the framework where we are expected both to keep up our relatively high standard of education and cut down costs. We have tried to figure out very practical solutions. Exploiting ICT offers our pupils equal choices and by

**networking and cooperation we believe we can find new practices for the benefit of the whole community.**



### **PRACTICAL SOLUTIONS**

**Videoconferencing facilities, computer classroom equipment and ISDN connections have offered us fairly good audiovisual standards in all three schools: Utsjoki, Nuorgam and Karigasniemi. These are examples of our videoconferencing experiments in the late 1990s:**

**a) Instead of having a 50-kilometre busride oneway every day from Nuorgam to Utsjoki and back the pupils in class 7 were allowed to stay in their village school. This meant shorter schooldays for pupils. Some of the lessons were given by local teachers in Nuorgam, physics, chemistry and study counseling were taught by videoconferencing. The teacher had a group of pupils in Utsjoki and there was a tutor in Nuorgam. The results showed a bit better results for the pupils who followed the intruction on screen than those who were present in the classroom where the teacher was.**

**b) German language was taught by videoconferencing. in the school year 1997-98 from Utsjoki to Karigasniemi, 100 km away. There were two pupils in Karigasniemi, four in Utsjoki. That made a group. Without this arrangement the pupils would have been told to choose another optional subject instead of their first choice. Videoconferencing seems to be a way of making most optional subjects real choices for pupils in remote areas.**

c) The lack of competent teacher has caused several attempts to bring musical expertise to Utsjoki. Music lessons have been arranged from Kilpisjärvi, the west of Lapland, from the University of Oulu and lately from the Sibelius Academy. At the moment we have a local band which the most active members of a distance teaching group founded.

d) Trainees from the University of Lapland taught our pupils in arts and crafts in 1998-1999. The works of pottery students made during the course were very impressive and both the teachers and the pupils regarded the experiment interesting.

e) In special education we had a period of videoconferencing for two boys who had problems with school and who opposed practically to all of our teachers. Again there were trainee teachers, this time from the University of Jyväskylä. No tutors were available and the sessions were totally confessional. Moreover, the pupils were given relatively much responsibility within timetable and videoconferencing contacts.

f) Instruction in Sámi and in the Sámi language has been given from Kautokeino, Norway. The groups of pupils having Sámi as their mother tongue are relatively small and the amount of competent Sámi teachers is even smaller. One of our teachers who himself was continuing his own studies at the Sámi Allaskuvla in Kautokeino, gave lessons by videoconferencing to Utsjoki for some time. This arrangement made it possible to get Sámi education for the pupils and from the teachers point of view it realized his further training without excessive traveling.

g) Further education for teachers by videoconferencing has been a success. Teachers are motivated and they appreciate the possibility of updating their knowledge both in their own field and in information technology.

## **THE LESSON WE LEARNED**

Those who looked forward to actual savings may have been disappointed. The advantages were not necessarily in terms of money. But we got benefit from the time and energy saved, we needed less transportation and in some cases we realized the impossible.

In the initial phase it is important to have time for planning and cooperation and in the end of the course for evaluation and feedback. There are lots of things that just do not work out by themselves, you have to plan, replan and rearrange them. Feedback is important. Listening to all those concerned is crucial.

Technical problems can never be avoided totally. If they occur too often, the actual time for learning during the lessons is shorter and pupils are less motivated. But basically teaching by videoconferencing is like driving a car: it's easy after you have learnt it.

In some cases we have had groups without any tutor or teacher in the other end. It may cause problems: some pupils do not let their classmates work in peace -and the teacher can't possibly handle the situation via videoconferencing. But if there is a teacher in both classes- what do we save and what are the benefits compared to traditional teaching? The size of the group is of importance in this case, so are the age and motivation of the pupils.

Some teachers feel they have to cut their wide variety of educational tools to a very narrow survival kit when sitting in front of the camera. No drama, limitations in creating groups, individual instruction diminished to the minimum. You can't even move or turn in the normal way. Aching shoulders because of trying to control the group intensively!

Checking students' notebooks during the lesson proved out to be a bit complicated. It is possible via document camera but it is time-consuming and all the pupils' don't want to show their essays to their classmates.

In some subjects like student counseling, where face-to-face contact is important, a whole course of 38 lessons seemed to be too much to be arranged via videoconferencing. It is a fact that already 15 minutes of a talking head is enough for adults- school children can't be expected to be more persistent than we are. But occasional sessions like an anti-smoking campaign or a lecture in career information may be a welcome change. In some cases the whole school can join a videoconference like that.

E-mail is an excellent a way for the distant teacher give feedback to the students. Not only in the end of the course but also for encouragement during the course. It doesn't take more time than seeing the pupil after the lesson and it could be exploited in traditional teaching as well.

When starting distance teaching our main concern was: Does it work? Is it possible to teach music or arts or practical subjects by videoconferencing? The answer is yes. At the moment our questions are more specified and detailed and they have doubled in number. A lot of adjustment is needed to reach the best additional value in distance teaching. It means fine tuning in composing the selection of courses, careful course planning, continuous follow-up, an open mind to see the characteristics of each experiment, ability to handpick the working practices for the future, special attention to the content of teaching, etc.



## **FUTURE PLANS**

### **The Sámi Language**

The Sámi are an indigenous people who have lived in Lapland for ages. The total number of Sámi people in Finland is about 6.500 and many of them live scattered around the country. We have started teaching the Sámi language from Utsjoki to schools in northern Finland and we look forward to a wider interest in this minority language. We also believe videoconferencing is an excellent way of reaching the students of Sámi in Scandinavia.

### **Content Focused Multimedia Education in Languages**

We have experiences in language teaching by videoconferencing both in secondary school and open college. We would like to adapt a wider set of learning environments to enrich instruction. This means a combination of educational material in the net, CD-Roms, e-mail, project work, international contacts, etc. We plan to cooperate with our partners in the Northern Virtual Dimension called Povilus. Povilus is a project of 12 municipalities in

Northern Finland and the University of Oulu and it is financed by the National Board of Education.

### **FiNSaNet Project**

Utsjoki is situated in a junction of three cultures: there are the old Sámi traditions, Norwegian influence is obvious today e.g. in border trade but we belong to Finland. The border river Teno has always united more than separated the local people. In the future we hope ICT connections between Norwegian and Finnish Lapland will be easier when the aims of the new FinSaNet Project will come true. A new local communication network will be built in the area which means better and faster connections and cheaper prices in the long run. This concerns not only distance teaching but also telemedicine, information technology education, travel business, communication between municipalities, harmonization of information systems, etc.

The current plan is to realize a wideband backbone by micro links in radiomasts between the province of Lapland in Finland and Finnmarken in Norway. This kind of network would be the first in the world at the moment.

### **Kevo 2000**

Utsjoki Project has launched a subproject "Kevo 2000" for young people in Europe. It is a combination of computerized activities in the net during the winter and it will culminate in an international hiking trip in Kevo National Park in August 2000. It symbolizes our hopes of the new millennium: close to nature in a global village.

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