

Cooperation School-University

Cases of practitioners
learning from experience

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ICT meets education

Challenge: How to...?

Where do teachers find guidance?

Pedagogical approaches

Learning Resources reviews

New software tools and new hardware

New curricula (when to start?)

Developing teacher competences

How to organize for ICT in school
(computer hall versus class room)

How to organize for ICT in municipality

Channels for sharing

Where do teachers find guidance?

Working with shared teacher experience:

National association of teachers for ICT, '87-

Datorn i utbildningen/(computers in education)

By teachers (aided by administrator) doing

- Conferences
- Seminars
- Courses (often hands-on)
- Monthly Journal (in print)
- Publishing textbooks for students (DTP)
- Films for creating awareness
- Books, CD-roms
- Golden Apple (national price for pioneering work in ICT)

Issues

Journal Datorn i utbildningen/
(computers in education):
20 years, 125 issues in print and web

Process writing, Digital storytelling, Arts & Media projects, Language/Maths training projects, physical simulations, measurements and robotics, reports and presentations

Reviews of Learning Resources and (new) software tools, not a vista, but from practice, including pedagogical context and age level

ICT-plans, vision, goals, courses, equipment and organisation for ICT in school and municipality



Community of practice

Community of practice by Etienne Wenger,
1998

'A joint enterprise continually renegotiated by its members, [with] mutual engagement and shared communal resources (routines, artefacts, vocabulary... developing over time'

How is knowledge developing in relation to
ICT in schools?

Let's look at some cases

Case 1: Media and ICT in schools

Piteå 40.000 inh. 5.500
students, 500 teachers

Kristina Hansson in Piteå
Teacher 1985-, age 13-15,
Doing newspaper projects
students working jointly
with a fixed deadline

"Raising critical awareness"
"Selling to parents etc, funding
trips to professional journals"



Piteå: Media and ICT in schools

Doing theatre projects –

Involving all: 'dads carpentering, moms sewing'

Having an audience: visiting other schools on a round trip, parents as well as paying audiences

"'Hard students' involved, always a success"

"Playing a role, enables raising your voice"

... and film projects

Piteå: Media and ICT in schools

Henny Lindgren, former age 10-13 teacher, now media specialist of CMIT

Doing a 1 year study, with 50 visits to schools, talks and interviews, logging and analyzing the questions giving a systematic picture of the problems of practice, compared to research literature.

Tutored by KH and LTU/teacher training, writing a small report



Organizing...

- 1985 start of work
- 1990 media project in all schools of Piteå'
- 1994 building an informal network on teaching using media (teachers, researchers)
- 1994 model decided, media in all schools, by Board decision, KH 50% project manager
- 2000 Centre for media and ICT in compulsory school, CMIT, created. Kristina Hansson appointed head of centre.

...and developing teacher competence

- 1994 informal (nationwide network)
Kristina Hansson personally tutored by on
of the first Swedish phd's in media teaching
- Teachers apply for 1 year development work
Trying out media in classroom
Meeting every 14 days
5 seminars during the year
Writing one report

"Studying your own practice gives a focus on your
work and creates new knowledge" (KH)

In total about 200 participants in 1 year dev work

... and a growing university cooperation

Cooperation with Luleå Technical Univ, Umeå
University and now also Univ College of Dramatic
Arts (DI, since 2007)

Experience summed up in report
Att lära av varandra, 2004

KH Masters study

KH rewarded with Golden Apple 2007

7,5 p course with 16 participants with DI on Moving
images in education

Case 2: writing to read

Vahls school in Oslo, Norway.

Nissrin 6 years: "What do you want me to write? I can write."
Starting computer, wordprocessor,
changing to arabic, larger style

Working in pairs, breaking the code in two languages, starting from writing on the computer, writing their own textbooks. Proceeding from 'playing the piano', to their own name etc Also using mother tongue enables parents to keep up. Stories, letters, fact sheets, reports, poems...

Vahls school, working with handicrafts, drama, a garden for growing vegetables, has started its own publishing house for selected books from the children.



Writing to read

Emanating from researcher Arne Trageton, 'writing to read' has become a movement in primary schools, starting writing on computers in grade 1, handwriting introduced in grade 2 or 3.

Researcher and teacher trainer Arne Trageton, College of Stord/Haugesund, Norway, in 1998 ran a three year evaluation project "Tekstskaping på datamaskin", with 10 classes in Norway and parallel classes in Danmark, Finland and Estonia, all grade 1-4.

A comparative study with eight 'computer writing' classes compared to eight ordinary classes. Results showed better readers, better content, longer texts - and nicer handwriting in substantially shorter time when introduced in third grade.

More studies needed...

Writing to read

At the same time, many places in Sweden...

'Writing to read' has become a movement in primary schools, starting writing on computers in grade 1, handwriting introduced in grade 2 or 3.

Teachers are teaming up in many places in Sweden. Teachers working in parallel, supporting each other. In Sweden from southern Ystad, Sandviken, to Piteå, all reporting very positive experiences, some since 2004.

Typically teachers are old experienced teachers 50+, very knowledgable on the read and write introduction.

They are also typically critically testing and varying the methods. When to introduce handwriting, connecting computers to the Internet or not, are typical issues.

Practitioners inviting researchers to take part.

Case 3: Sandviken

KiU 1994-2000 focusing teacher development

KiU 2001-2006 focusing competence of management, student participation, organization, teacher competence and methods of documentation

ELISA, evaluation by M Alexandersson, Luleå Technical Univ, LTU, 2001-2006 focusing student learning. 4 evaluation reports and 1 PhD dissert.

In total 3 PhD dissertations over the period 94-06.

Sandvik: Student portfolio

Phd by Maria Hurtig, Making meaning through digital portfolios, 2007:45 Luleå TU, studying 9 students age 8-12 for 2002-2006

Ethnographic method, interviews and observations from video recordings of student-teacher dialog. Based on socio-cultural and multimodal theory. Motivated by few studies of ICT in relation to documentation and evaluation.

Dialog on choices of material for digital portfolio and on evaluation. Portfolios enabling process orientation, not intended for summative assessment, but for students own teachers guided assessment. (Potential conflict)

A work portfolio and support for a Show-version, in the system. Knowledge perspective directs portfolio choices.

Sandvik: Student portfolio

Nature of the dialog: portfolio enables the teacher to communicate in a concrete context values and evaluation in relation to the work

A teacher working with the individual student on his/her portfolio gives important occasion for cooperation.

'Ownership' of portfolio is important, ie for external assessment or not and, concretely, the place of storing and accessibility to student or teacher.

Practitioners partners?

Piteå, Oslo and Sandviken cases show teachers developing ICT uses in local, municipal cooperation.

They all show teachers developing methods for working with media, digital artifacts and developed by themselves.

Researchers here contribute through close longitudinal observing, analyzing and clarifying. A need is often seen from practitioners for developed cooperation with this kind of research.

A generation of researchers are often seen in these cases, with direct experience from the school environment.

From research *for* school to research cooperation in school

From the viewpoint of the pioneering practitioner, research is a necessary companion. Not because research brings the answers, but because it helps seeing the answers the practice provide.

Finding good models for this relation is an urgent task, called for by practice.

From research *for* school to research cooperation in school

Some problem of R&D projects

Developing methods of documentation by teachers themselves

Developing methods and tradition of self reflection

Developing cooperation with research

From research *for* school to research cooperation in school

Another problem of R&D projects

Necessary loop (Östen Ohlsson, 2006):

- steering documents changed
- new work positions created

Need for implementing changes in
existing structures for lasting results