Textbooks in ICT
Teaching

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About the thesis and my postgraduate studies

- Working title: Do textbooks fit for teaching ICT?
  - ICT = Information and Communication Technology
  - Target group: upper level of comprehensive school
- Monograph
- Licentiate thesis 2010 or 2011
  - Theory part almost ready
  - Questionnaire active at the moment
  - Next fall analyze of questionnaire results and finishing
- PhD thesis 2012
- Supervisors: Tommi Kärkkäinen and Leena Hiltunen
- All studies completed after this course
Learning situation of ICT in the schools

Teachers
- Qualified
- Unqualified

Curriculum
- National
- Elective
- Integrated to other teaching
- Core subject

Facilities
- Computers
- Software
- Peripheral devices

Students
- Cooperative and communal methods

Teaching methods
- Electronic materials
- Printed materials
- Other learning materials

Learning materials
- Textbooks
- Printed materials
- Electronic materials

Core of my research
Consideration things in the ICT learning situation 1/3

- Teachers
  - In ICT more unqualified teachers than in the other subjects
    - Reason: ICT not core subject -> not so much resources for ICT

- Facilities
  - Important thing, but in Finland we have quite good facilities
    - All schools have computers and Internet-connection
    - Students/computer ratio below 10 at most of the schools
  - Problems:
    - Video projector not in every class room
    - Lack of teaching/learning software like learning games
Consideration things in the ICT learning situation 2/3

- Students
  - If ICT is elective, maybe students are more motivated?

- Teaching methods
  - In cooperative and communal methods teachers become more tutors than teachers
  - Requires also different know-how from teachers

- Curriculum
  - Problem with integration is that there is no clear direction about who has to teach the basic things of ICT
  - Very much variation between schools and teachers
Learning materials

- The big problem: there is only a few textbooks for ICT
- There are lot of manuals or guides but they are not made for teaching
  - For example exercises are usually missing
- Teachers have to make their own materials which is totally different than in many other subjects
Status of textbooks in teaching

- In Finland and in the foreign countries textbooks are in the middle of teaching
  - This is status at the most of the subjects
  - Of course there are exceptions like physical education, art, music, shop or ICT
  - The way how to use textbook depends quite much about teacher, school or subject
  - Often textbook becomes more important force to teaching than the curriculum
Textbook’s positive and negative effects for learning

Positive effects:
- In the developing countries increase of textbooks has helped students to develop better and to get better learning results
- In England increasing of textbook use evoked better learning results for students in Math

Negative effects:
- In the background of the textbooks there is often old behavioristic learning perspective rather than present constructivistic perspective
- Textbooks could contain errors or outdated information -> the quality of the textbook is not always enough good
- Usually teaching with high quality textbook brings positive effects for teaching
  - Still have to remember the important role of the teacher -> pure textbook does not guarantee effective learning
Textbooks in the future

Textbooks’ role in the future has been under consideration after the “Internet revolution”

- Do we still need printed textbooks or are the electronic media and Internet all we need in teaching?

Experts think that the role of the textbook becomes a little smaller but the textbooks are not disappearing

- Textbooks and other materials could complete each other
- Textbook has a very good user interface
- Textbook assists both teachers and students
- Textbook is a “document” of which sectors or items belong to the specific course
Some pre result from questionnaire

- Nine teachers (upper level at the comprehensive school) with their students have tested teaching and learning ICT with the textbook in this spring.
- They have tested teaching and learning with two textbooks which I have made at 2007 and 2009 (http://kirjat.it.jyu.fi/tvt.html and http://kirjat.it.jyu.fi/tvt_kayttotaito.html).
- 2/9 teachers and their students (74 persons) have already answered the questionnaire at the Korppi.
- The next results come from those 74 students.
“I benefit from using textbook.”

Scale: 1 = totally disagree … 5 = totally agree

-> Most have answered “partly agree” or “totally agree”
“Textbook motivated me to study well.”

Scale: 1 = totally disagree … 5 = totally agree

-> Textbook do not motivate students so well
“I learned facts and skills very well with the textbook.”

Scale: 1 = totally disagree … 5 = totally agree

-> Most have answered “partly agree”
“Teaching with the textbook was better than teaching without it.”

Scale: 1 = totally disagree … 5 = totally agree

-> Majority agree at least partly
Conclusion

- Learning situation in ICT teaching in comprehensive school includes teachers, facilities, students, teaching methods, curriculum and learning materials.
  - Main focus in my research is in the textbooks.
- In Finland and in the foreign countries the textbooks are in the middle of teaching in many subjects.
  - Often textbook becomes more important force to teaching than the curriculum.
  - Textbooks have both positive and negative effects for learning.
  - Textbooks are not disappearing in the future but their role changes a little.
- According to pre results from my own questionnaire it seems that students benefit at least something from the use of the textbook in ICT teaching.
  - Majority agree that teaching with the textbook is better than teaching without it.
  - However, textbooks do not motivate students so well.
Thank you!

Questions or comments?