

# Textbooks in ICT Teaching

Antti Ekonoja  
University teacher at Department of  
Mathematical Information Technology  
[antti.j.ekonoja@jyu.fi](mailto:antti.j.ekonoja@jyu.fi)

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# About the thesis and my postgraduate studies

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- 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



# Consideration things in the ICT learning situation 1/3

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## ■ 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

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- 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

# Consideration things in the ICT learning situation 3/3

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## ■ 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

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- 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

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- 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

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- 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

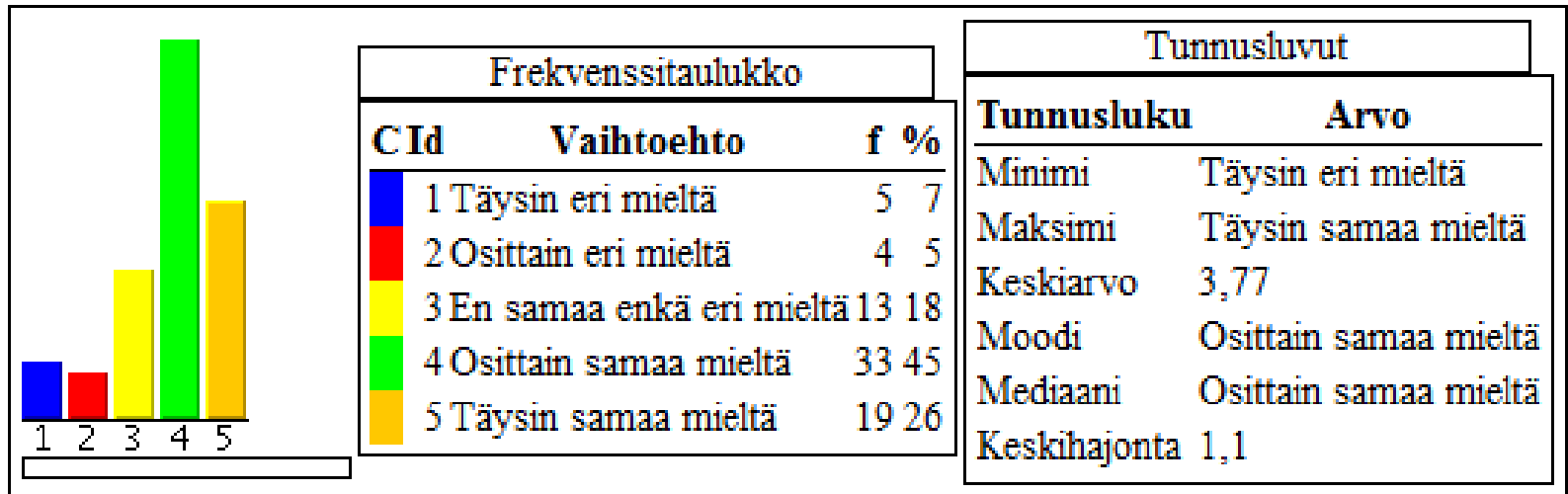
# Some pre result from questionnaire

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- 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](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.”

## 1. Oppikirjan käytöstä oli hyötyä opiskelussani.

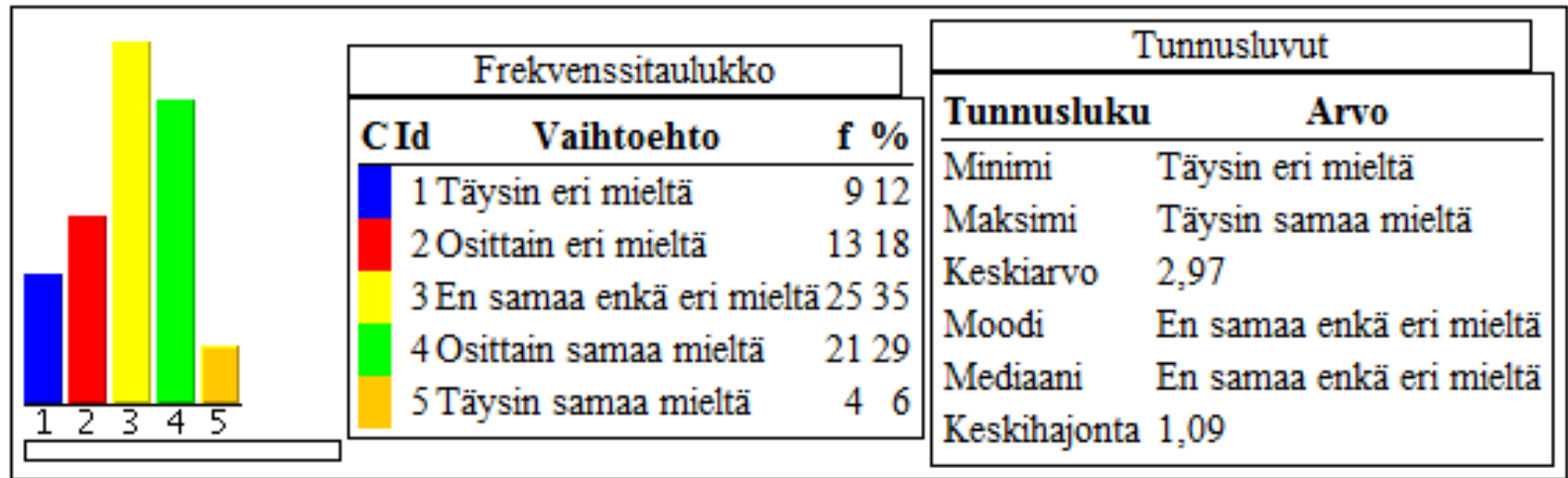


**Scale: 1 = totally disagree ... 5 = totally agree**

**-> Most have answered “partly agree” or “totally agree”**

# “Textbook motivated me to study well.”

## 2. Oppikirja motivoi minua opiskelemaan parhaani mukaan.

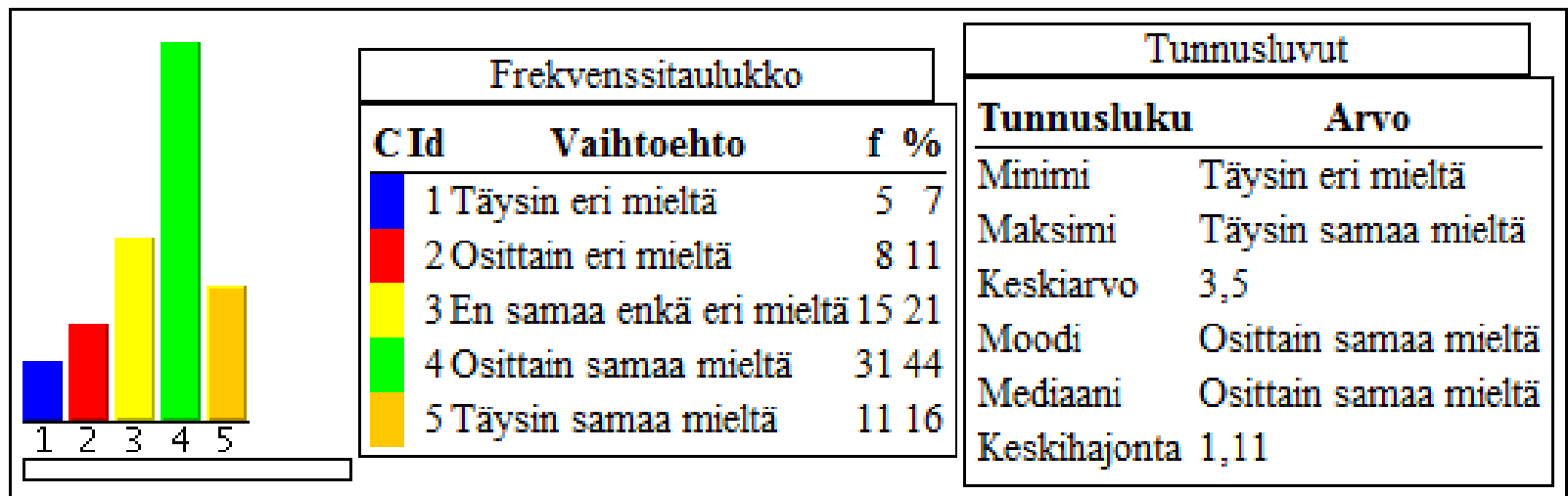


**Scale: 1 = totally disagree ... 5 = totally agree**

**-> Textbook do not motivate students so well**

# “I learned facts and skills very well with the textbook.”

## 5. Opin opiskeltavat asiat hyvin oppikirjan avulla.

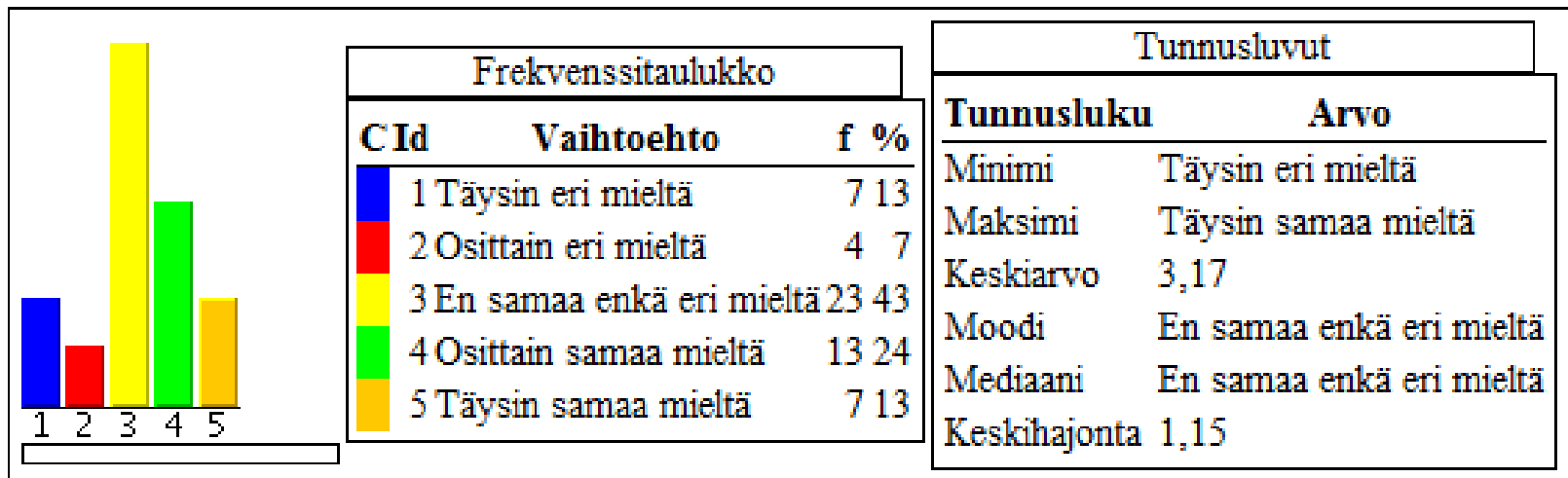


Scale: 1 = totally disagree ... 5 = totally agree

-> Most have answered “partly agree”

# “Teaching with the textbook was better than teaching without it.”

10. Opetus oli parempaa oppikirjaa käytettäessä kuin ilman oppikirjaa.



Scale: 1 = totally disagree ... 5 = totally agree

-> Majority agree at least partly

# Conclusion

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- 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!

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- Questions or comments?