Evidence based approach of ICT use in higher education

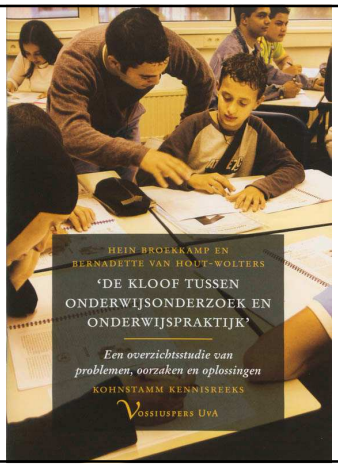
Dr. Ruben Vanderlinde
Ghent University

EMUTOM Timisoara

PART 1

Evidence-based

Why is there some much attention for an evidence-based approach in educational research ?



Vanderlinde, R., & van Braak, J. (2010). The gap between educational research and practice: views of teachers, school leaders, intermediaries and researchers. *British Educational Research Journal, 36*, 299-316.

This …

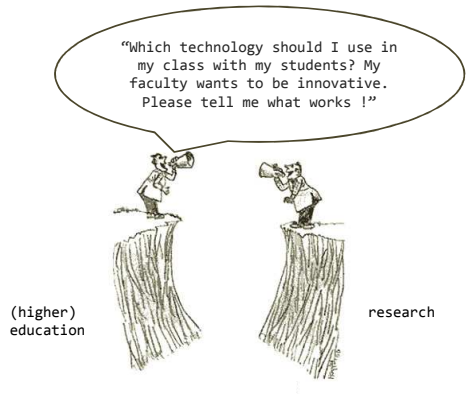
… or that?

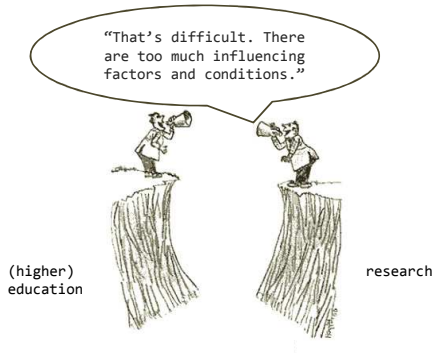
It’s complicated …

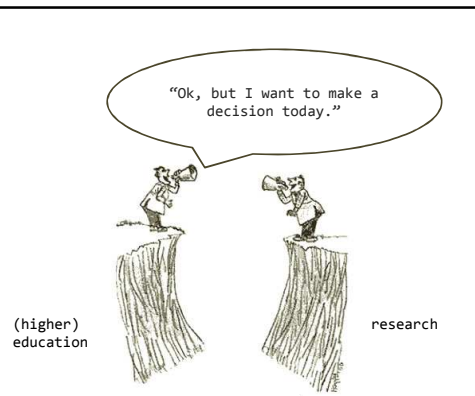
It depends …

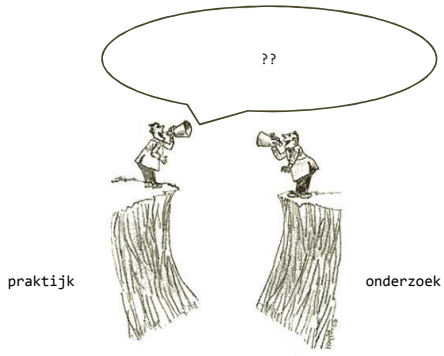
What works

What doesn't works



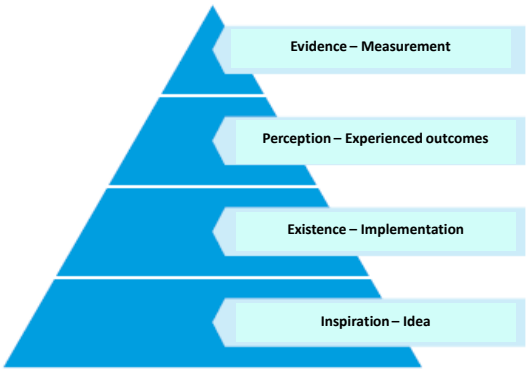




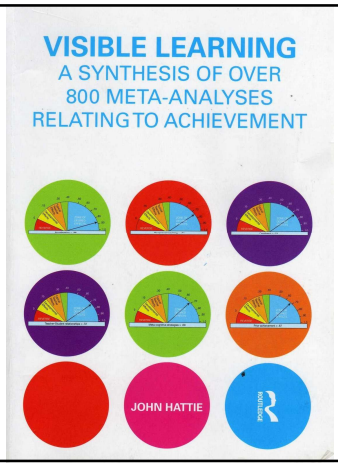


Evidence in a context of educational innovation

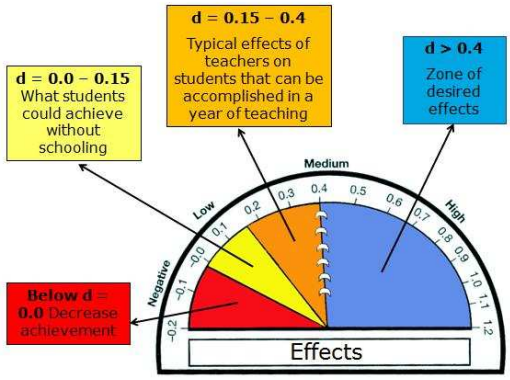
Knowledge pyramid (Kennisnet)



"effect" and "evidence" difficult to measure in educational research



Barometer of influence



Effect size

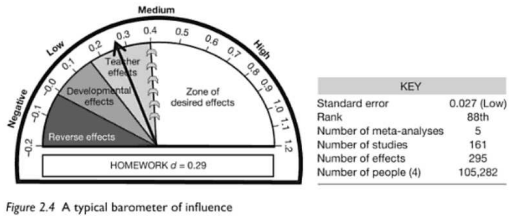


Figure 2.4 A typical barometer of influence

Effect of a method, approach, process, ….

Many research: meta analysis of different studies

Summarizing: effect size (*d*)

Rule: from *d* = >.40 interesting results.

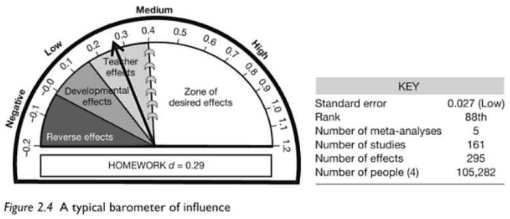


Figure 2.4 A typical barometer of influence

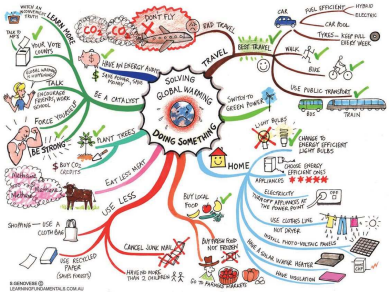
A concrete illustration

Question:

Which method leads to better learning results?

1. Homework

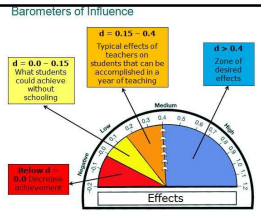
2. Mindmaps



3. Feedback to students

4. Computer supported education

5. Collaborative learning



1. Howework *d*=.29
2. Mindmaps *d*=.57
3. Feedback *d*=.73
4. Computer suppported *d*=.37
5. Collaborative learning *d*=.59

Conclusion part 1:

Recently attention for an evidence-based approach in education, answering the question on 'what works' is considered as a strategy to bridge the gap between educational research and practice

PART 2

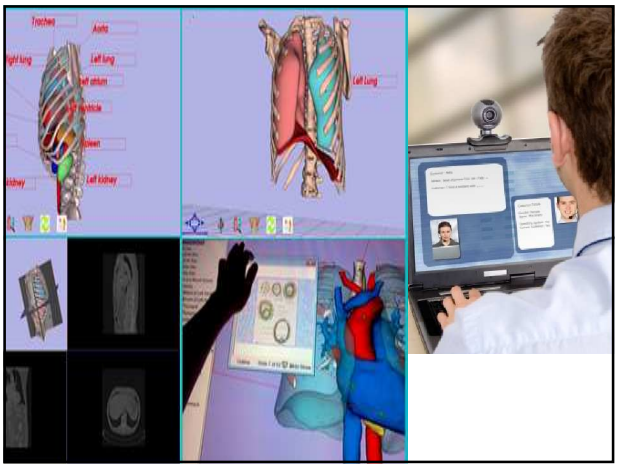
Technology in higher education

Technology is multidimensional

Typology of ICT or technology use

Vanderlinde, R., & van Braak, J. (Ed.). (2010). The e-capacity of primary schools: Development of a conceptual framework and scale construction from a school improvement perspective. *Computers & Education, 55,* 541-553.

Collaborative technology use



Simulation

Information tool

And what about ‘social’ media?

Conclusion part 2:

Speaking about ICT in higher education means thinking about a diversity of applications and didactical use

PART 3

Evidence-based ICT use in education

Review of Educational Research
March 2011, Vol. 81, No. 1, pp. 4–28
DOI: 10.3102/0034654310393361
© 2011 AERA. http://rer.aera.net

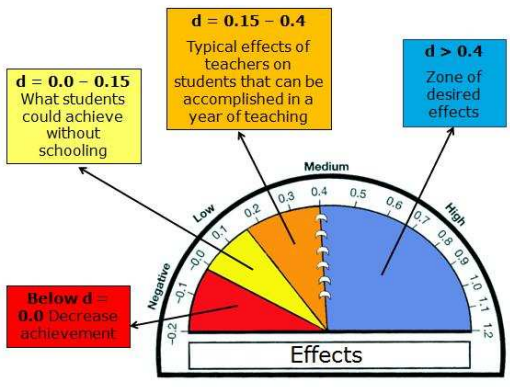
What Forty Years of Research Says About the Impact of Technology on Learning: A Second-Order Meta-Analysis and Validation Study

Rana M. Tamim
Hamdan Bin Mohammed e-University

Robert M. Bernard, Eugene Borokhovski, Philip C. Abrami, and Richard F. Schmid
Concordia University

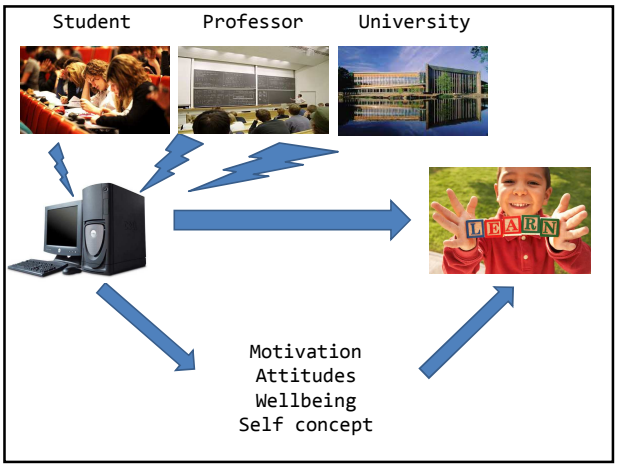
25 meta analyses
1055 studies

Barometer of influence



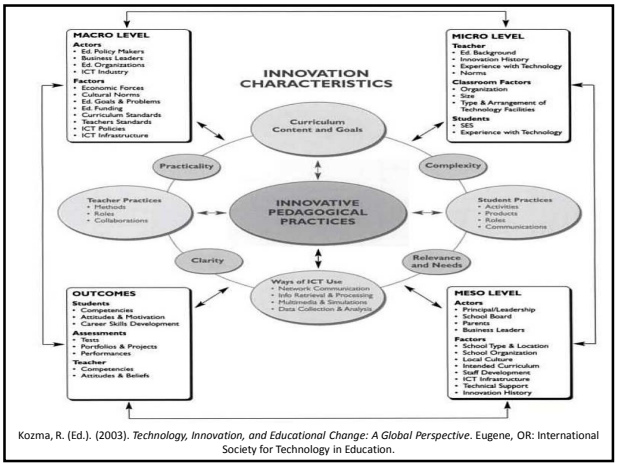
d=.35

… revealed a significant positive small to moderate effect size favoring the utilization of technology in the experimental condition over more traditional instruction (i.e., technology free) in the control group…



Pessimistic?

Conditions



Kozma, R. (Ed.). (2003). *Technology, Innovation, and Educational Change: A Global Perspective*. Eugene, OR: International Society for Technology in Education.

Conclusion part 3

Answering the question of what works with ICT in higher education, means looking at influencing conditions

To conclude

What works with ICT in our faculties and universities and what doesn't works?

It's complicated …

It depends …

More information?
Collaboration?
Contact?

Ruben.Vanderlinde@UGent.be

@rubenvanderlin

Papers?
Articles?

UNIVERSITEIT GENT

http://www.onderwijskunde.ugent.be/nl/cv_vanderlinde.htm

academia.edu follow research

http://ugent.academia.edu/RubenVanderlinde