Teachers’ use of ICT in education: competences, attitudes and identity

Catarina Player-Koro
Teachers’ use of ICT in education: competences, attitudes and identity

- The project
- Background
- Theories and methods
- Conclusion
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- The project
  - Part one
    - First and second study
  - Part two
    - Third study
- Background
- Theories and methods
- Results obtained
- Conclusion
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  - Implementation of ICT in schools
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  - Implementation of ICT in teacher training
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Implementation of ICT in schools

...today the intention behind the integration of ICT in schools in many countries including Sweden is that ICT can play a role in both improving education and in changing schools...
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Attitudes and identity

- **Self-efficacy beliefs**
  
  - Important factor in decisions about using ICT in education (Albion, 1999; Cox, Preston & Cox 1999; Honey & Moeller, 1990)
  
  - Expectations of integration of ICT must be supported by developing teachers feeling of self efficacy (Albion, 1999)
  
  - Teachers with strong self-efficacy seem to be more positive toward changing in their teaching and with experimenting with their practices (Delcourt & Kinzie, 1993).

- **Teacher attitudes**
  
  - Important factor in encouraging teachers to use ICT in classrooms (Delcourt & Kinzie, 1993; Cox, Kiridis, et al. 2006; Preston & Cox, 1999)
  
  - Teachers with positive attitudes toward the educational impact of computers tend to use computers more intensively for teaching (Pelgrum, 1993)
  
  - Technology integration in education appears to be strongly related to teachers attitudes toward computers (Christensen, 1997)
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Implementation of ICT in teacher training

...teacher education should provide students with ICT knowledge and methods for teaching based on new technology...

Regeringens prop. 1995/96:125
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Mathematics education

...research has provided evidence that the use of technology can change what mathematics is taught and how it is learnt ...

(Forster, 2004; Kersaint, Horton, Stohl, & Garofalo, 2003; Alagic & Palenz, 2006; Pierce, Stacey & Barkatsas, 2005; Schaffer, 2002)
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- The project
- Background
- Theories and methods
  - First study
    - Method and results
  - Second study
  - Third study
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Method and results - first study

Stepwise multiple regression

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 \]

Criterion variable
- Teachers use of ICT in education

Predictor variables
- Experience of change in pedagogical practice
- Self-efficacy in using computers in educational practice
- Teachers attitudes toward using ICT in education
- Teachers use of ICT for private purpose
- Self-efficacy in using computers for private purpose
- Age
- Formal education in ICT

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Stepwise multiple regression...

\[ F(3, 184) = 27.18, \ p < 0.001 \ 31\% \]

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 \]

Criterion variable

Predictor variables

- Teachers use of ICT in education
- Experience of change in pedagogical practice 19% (\(p < 0.001\))
- Self-efficacy in using computers in educational practice 7% (\(p < 0.01\))
- Teachers attitudes toward using ICT in education 5% (\(p < 0.01\))
- Teachers use of ICT for private purpose
- Self-efficacy in using computers for private purpose
- Age
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Third study

- Ethnography
- Inside teacher training program
- Learning as a social and cultural process
- How understandings are formed, and how meanings are negotiated
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Thank you for your attention!