Integrating ICT in Education, some Experiences & Lessons from Sweden

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Presentation outline

Purpose of presentation

Swedish education system

ICT4P – SAMR model

ICT in Swedish schools

Some Lessons for Uganda
Purpose of presentation

• To share our experiences of ICT use in Swedish education

• To solicit your support for our change projects that are integral part of the program
  ▫ Goal of change projects is to increase ICT use in pedagogy in CEES
Change projects

- Sam’s change project:
  - Greater utilization of OERs

- Rahman’s change project:
  - Enhance knowledge and skills of staff in ICT-enabled pedagogy materials design through collaborative learning & support
Sweden, some facts

- Size = 450,294 sq km
- Population = 9.42M (23 inhabitants sq. km vs EU average >100 sq. km)
- Life expectancy = women 83, men 79
- Research, education, HRD have led to transformation in 100 years
Sweden’s education system

• Schooling
  ▫ Pre-school | other pedagogical activities
  ▫ Compulsory school 9 years | Adult education
  ▫ Upper secondary school 3 years | Adult education
  ▫ Folk high school | Adult education
  ▫ University | College | Higher Vocational education

• Compulsory school is free for all, pre-school and higher education partly government funded

• All children have equal access to education
The Swedish Education System

Upper secondary school

University and university college

Higher vocational education

Folk high school

Supplementary education

Individuals with learning disabilities

Education for adults with intellectual impairment

Swedish lesson for immigrants

Municipal adult education

Adult education

Skolverket
Sweden’s education system cont.

- Education is high priority
  - 6.3% GDP invested in education (OECD average 5.7%)
  - 42% of municipal budget to education
- 70% of education funded by municipal taxes
- Government and private providers
- Schools for different needs
Sweden’s education system cont.

- Learning autonomy
- Learning is activity-based
- School supports different learning styles & abilities
- Basic education prepares learner for lifelong learning – for non-existent jobs/careers
- School is a safe place for children
- School leadership training program
Recent reforms in Swedish education system

- Reforms prompted by Sweden’s low ranking in PISA and TIMSS

- Recent reforms:
  - New education Act, 2011
  - New curriculum, 2011
  - New grading system, 2012
  - Teacher certification for pre-school, 2013
Visions for learning

- Fun, play
- Inquiry, exploration
- Formal, informal
- Multi-modality

ICT is used to improve learning experience
ICT for Pedagogy - SAMR model

- **Redefinition**: Tech allows for the creation of new tasks, previously inconceivable.
- **Modification**: Tech allows for significant task redesign.
- **Augmentation**: Tech acts as a direct tool substitute, with functional improvement.
- **Substitution**: Tech acts as a direct tool substitute, with no functional change.

R. Puonteduras
ICT in Curriculum

• ICT is important part of learning in Sweden – every child attending compulsory school is able to use modern technology as a tool to search for knowledge, communication, creativity, and learning

• 96% of children have access to ICT & Internet at school
Institutions / schools visited

- LIFE Academy – host institution
- Stockholm University
- Karlstad University
- Alvkullegymnasiet – a secondary school
- Tegelhagen – primary & pre-primary school
- Stellatus – primary & pre-primary school
ICT in pre-school/primary educ

• ICT in school admin
  ▫ Salaries, bookkeeping, website, schoolsoft
  ▫ Communication, collaboration, sharing child’s work with parents

• Children proficiently use ICT for learning and play
Tegelhagen pre-school children using iPads
ICT in pre-school/primary educ

- Children taught Ethics and Morals, and how to behave on the computer / Internet
- Challenges with ICT, but they work hard to make it work
ICT in secondary education

- **Alvkullegymnasiet** – natural science, technical, IB, media, TIME, vocational technical programs

- **Sundstagymnasiet** – arts, humanities, social sciences, special needs, project management, internship programs

- ICT for learning subjects
  - language learning, media production, math, geography, history, film/music, etc
ICT in secondary education cont..

• Laptop per student, owned/serviced/data backup by student
  ▫ New trends – BOYD, cloud services, smart phones
• Academic software portal
• ICT for special needs
  ▫ Intellectual disability, visual impairment, etc
• Social media in pedagogy
ICT in secondary education cont..

- Concerns with ICT
  - Technical difficulties
  - Student distractions
    - Make lessons more interesting than Internet, enforce discipline, but no software filtering
  - Plagiarism
    - Rules, source criticism, scientific publishing, anti-plagiarism software, well-designed assignments
  - Loss of human interaction
    - Not issue, flipped lessons
  - Cost
    - Initially high for Network, Laptops, Software licenses
ICT in higher educ in Sweden

- ICT integral in higher educ (admin, pedagogy)
- Research and innovation:
  - Pedagogy – use of virtual cases for learning & Assessment (simulation) e.g. in refugee trauma, law, medicine
  - Project supervision: SciPro
  - Active board & Smart board
  - Research interest in ICT for basic education
- Extensive use of e-library & other e-resources (OER, LMS/PLE, web tools)
ICT in higher educ in Sweden cont.

- Fully online programs e.g. MSc ICT Project Management, MSc ICT4D at Stockholm Univ

- University-industry collaboration & proximity, SU in Kista, Stockholm’s “Silicon Valley”

- Classroom collabo with schools in dev countries
Some ICT4E tools

- Zotero – for automated reference management
- SciPro – student’s research project supervision
- Turnitin – anti-plagiarism
- SMART Notebook – for collaborative learning
- OpenProj/ProjectLibre – project management
- Bambuser / Vimeo – live video broadcasting
- Camtasia Studio (+Snagit) – for screen recording / video editing
- Popplet – for mind-mapping / brainstorming
Some ICT4E tools cont.

- Adobe Connect – for virtual classrooms / videoconferencing
- Voteit.com – for voting/ consensus building/ group decision making
- Social media platforms – for communication, collaboration, data storage, etc
- Prezi – for web-based presentation
- TodaysMeet – for ‘silent’ feedback
Some lessons for Uganda

- Re-think Uganda’s education system so that it serves the country’s development needs
- Prioritize education – the BRAIN is most important national resource
Lessons for Uganda - ICT4E

• Need for more research, linked to practice in pedagogy
• Start small, but have a Vision
• Provide leadership & embrace ICT at school level
• Integrate in teacher training – teacher mindset, knowledge, skills, creativity key to success
• Focus on overall pedagogical transformation – ICT as enabler
• Integrate in basic education
• Local learning content, platforms
Lessons for Uganda - ICT4E cont.

- Develop expertise for integration
- Provide equal access regardless of gender, ability, social background, geo-location
- Consider differences in learning style & ability
- Take advantage of freely available resources – OERs, software, cloud services, etc
- Optimize use of available ICT – mobile, Internet, LMS, TV, radio, etc
- Make ICT accessible to children at home

Enough of talk, let each of us start the walk on ICT4E
Some useful links

- [www.life.se](http://www.life.se) LIFE Academy, Sweden
- [www.sweden.gov.se](http://www.sweden.gov.se) Ministry of Education and Research
- [www.do.se](http://www.do.se) Equality ombudsman
- [www.skolinspektionen.se](http://www.skolinspektionen.se) Swedish Schools Inspectorate
- [www.skolverket.se](http://www.skolverket.se) National Agency for Education
- [www.spsm.se](http://www.spsm.se) National Agency for Special Needs Education
- [http://timssandpirls.bc.edu/timss2011/international-results-mathematics.html](http://timssandpirls.bc.edu/timss2011/international-results-mathematics.html) Trends in International and Mathematics Study (TIMSS) 2011 results
- [www.cool-mathgames.com](http://www.cool-mathgames.com) games for primary/pre-schools
Opportunity

Call for applications for next round of “ICT and Pedagogical Development Training Program 2013” is open

www.life.se/system/visa.asp?HID=797&FID=779&HSID=13724

Closing date 01/10/2013
Tack!