

# Use of ICTs for Inclusive Education: costs and benefits

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<introductions>

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- PhD student, Centre for Disability law and Policy, NUI Galway



- Editor, ITU/G3ict e-Accessibility Policy Toolkit for Persons with Disabilities



- CEN Project Team: Mandate 376



- Author: ITU Connect A School, Connect A Community module on ICTs for persons with disabilities



- Author: UNESCO Institute for IT in Education: Policy Guide "ICT for Inclusion: Reaching More Students More Effectively"



# Outline

- Context
- Benefits of accessible ICTs for inclusive Education
- Issues of funding, costs and effective policy support
- Evidence based policy development in support of effective use of ICTs for Inclusive Education

# Based on

- ITU-D Special Initiatives: “Connect A School, Connect A Community: module on ICTs for persons with disabilities – 2010

<http://www.connectaschool.org>



- UNSECO IITE Policy brief: “ICT for Inclusion: Reaching More Students More Effectively” - 2010

[http://iite.unesco.org/policy\\_briefs/](http://iite.unesco.org/policy_briefs/)



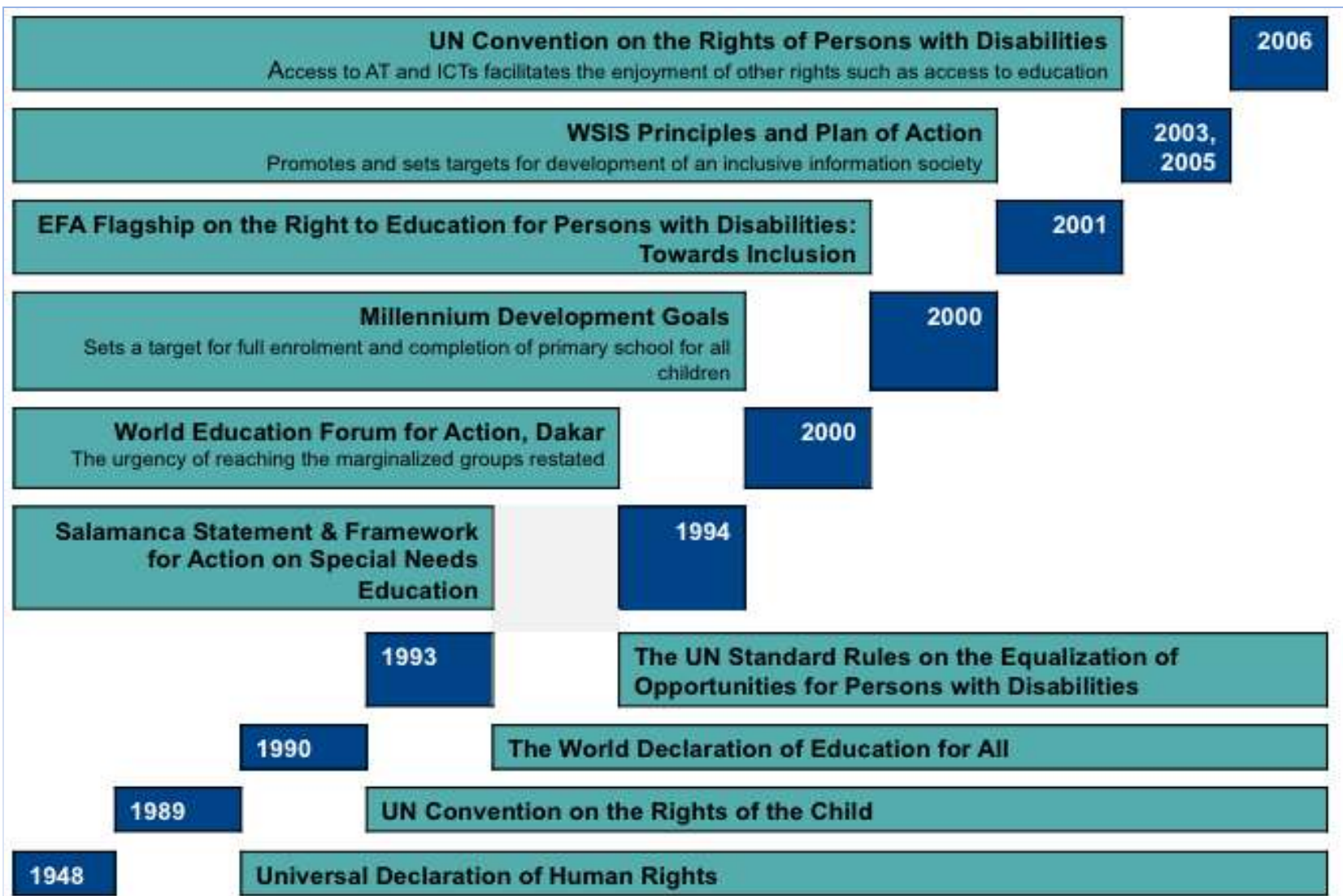
UNESCO Institute for Information Technologies in Education



</introductions>

<context>

- 10 and 12% of the world's population has a disability (World Bank)
  - **140 to 165 million** children under the age of 16 have a disability
    - **62 million** children of primary school age worldwide have a disability.
- 75 million children out of school worldwide: **one third** are children with disabilities
  - **186 million** children with disabilities have not completed primary school education
    - In developing countries: 97% do not have reading and writing skills
- Link between poverty and disability
  - world's poorest: 20%
  - Unemployment: 80% in some countries
    - set to rise over the next four decades



*“UN Millennium Development Goal 2: Achieve Universal Primary Education  
 Target 1: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling”*



</context>

<benefits>

# Roles and types

- UNESCO IITE – role of accessible ICT:
  - Compensation use
  - Didactic use
  - Communication use
- Types
  - Maintream technology e.g. PC, Mac accessibility features
  - Accessible formats e.g. DAISY
  - Assistive technology e.g. screen readers, hearings aids
- Curriculum- From static curriculum to flexible digital media

# Examples of assistive technology - hardware

- Switch input – enabling independent access to a computer and/or environmental controls



- Augmentative and Alternative Communication



- Braille notetaker



# Examples of assistive technology - software

- Screen reader – video clip
- Screen magnifier



# Low tech

## **Low Tech Tools**

**Pencil grips  
Color coding  
Highlighters  
Slanted surfaces  
Reading and writing guides  
Enlarged worksheets**



## **Mid Tech Tools**

**Books on tape  
Talking spell checker,  
dictionary  
Word processor  
Tape recorder  
Adaptive eating utensils  
Switch controlled toy, light,  
blender**



## **High Tech Tools**

**Text readers  
Voice recognition  
Environmental control devices  
Augmentative communication device  
Software for manipulation of objects  
Electronic books**

*Example cited by Michigan Department of Education report on AT*

</context>

<benefits>

- Students – specific benefits for each disability type
  - **Independent access**
  - **Accomplish tasks** working at own pace
  - Visually impaired students **equitable access** to electronic (accessible) content
  - Ease of **communication** for students with I.D.
  - Aug Com users gain **confidence**
  - **More motivated** to use ICTs for other purposes e.g . Social networking
- Teachers:
  - Reduced professional **isolation**
  - Better **appreciation** of and increased **usage** of ICTs in general for education
- Parents and carers:
  - Higher **expectations** of children's sociability and levels of participation and achievement

</benefits>

<costs>



# In general

- Educating children with special needs costs 2-4 times more
- Lower figure associated with inclusive Education settings
- IE leads to lower rates of recivism
- Cost of exclusion/ cost of inclusion
  - UNESCO has estimated
    - Europe: 35.8% of GDP
- Conclusion:
  - Inadequate data of cost analysis of ICTs for IE

<costs>  
<policy>

# Towards evidence based policy development

*“complex proposition based on the principle that technology is not only a tool [but requires] a shift the focus from technology provision to the design of learning environments”*

# Main areas for policy interventions

- infrastructure,
- support for practice,
- needs assessment for persons with disabilities,
- training for students and teachers,
- co-operation and research on best practices
- evaluation on the benefits and uses of ATs
- Funding options – lessons from developing countries
- Support for Research and Development

# Research in support of evidence based policy development

- National demographics
- Installed base of ICTs
- State of ICT and in particular AT infrastructure
- Efficacy and sustainability of current funding strategies
- Attitudes of students/teachers/parents
- Preparedness of teachers
- Availability of support networks

</costs>  
<conclusions>

*“Ensuring that children with disabilities enjoy opportunities for learning in an inclusive environment requires changes in attitude, backed by investment in teacher training and learning equipment”.* Education for All Global Monitoring Report 2010

*“If the real potential of ICT for pupils’ learning is to be reached, teachers will first have to be convinced of the value of using ICT “* European Agency for Development in Special Needs Education

Is it critical that funding strategies go beyond “parachuting-in technology” and look to support projects that will enable persons with disabilities through the provision of AT on a long term basis.

TASCHA

# More at...

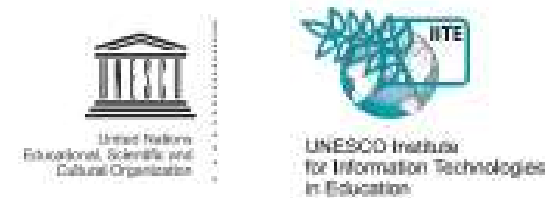
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</conclusions>

**Thank you**

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