BRIDGING THE DIGITAL DIVIDE IN SCHOOL EDUCATION OF RURAL AND SEMI-URBAN SCHOOLS OF NEPAL

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THE DIGITAL DIVIDE

- Divide between those with access to technologies to those without
- Digital divide between:
  - Rich and poor
  - Literate and illiterate people
  - Computer literate and computer illiterate people
  - Able and disabled people
  - New generation and old generation
  - Rural and urban school

DIFFERENT FORMS OF GAPS

- Social inequalities (gender, age, caste, race) is one of the major factor causing a digital divide.
- Lack of skills to take advantages of ICT services
- Language and literacy: User-interface of digital devices and websites and their contents, information and software applications available in the internet are mainly available in English language.

DIGITAL EQUITY

"Digital equity is defined as equal *access* to digital tools, resources, and services and equal *opportunity* to increase digital knowledge, awareness and skills."

Source: A National Consideration of Digital Equity. ISTE (2007).

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ICT IN EDUCATION

- Information has changed and ICT has changed the way of teaching
- Abundant information in the web: Students and teachers need basic computer skills to use available ICT services and to locate information they need
- Students will be better prepared for jobs that require technology skills, information searching, and collaboration
- Professional development of teachers: The great advantage of ICT is not to substitute for teachers, but to enable teachers to enrich their teaching and their access to information.

Use of ICT in Rural Nepal: National Conference on Technology Influences
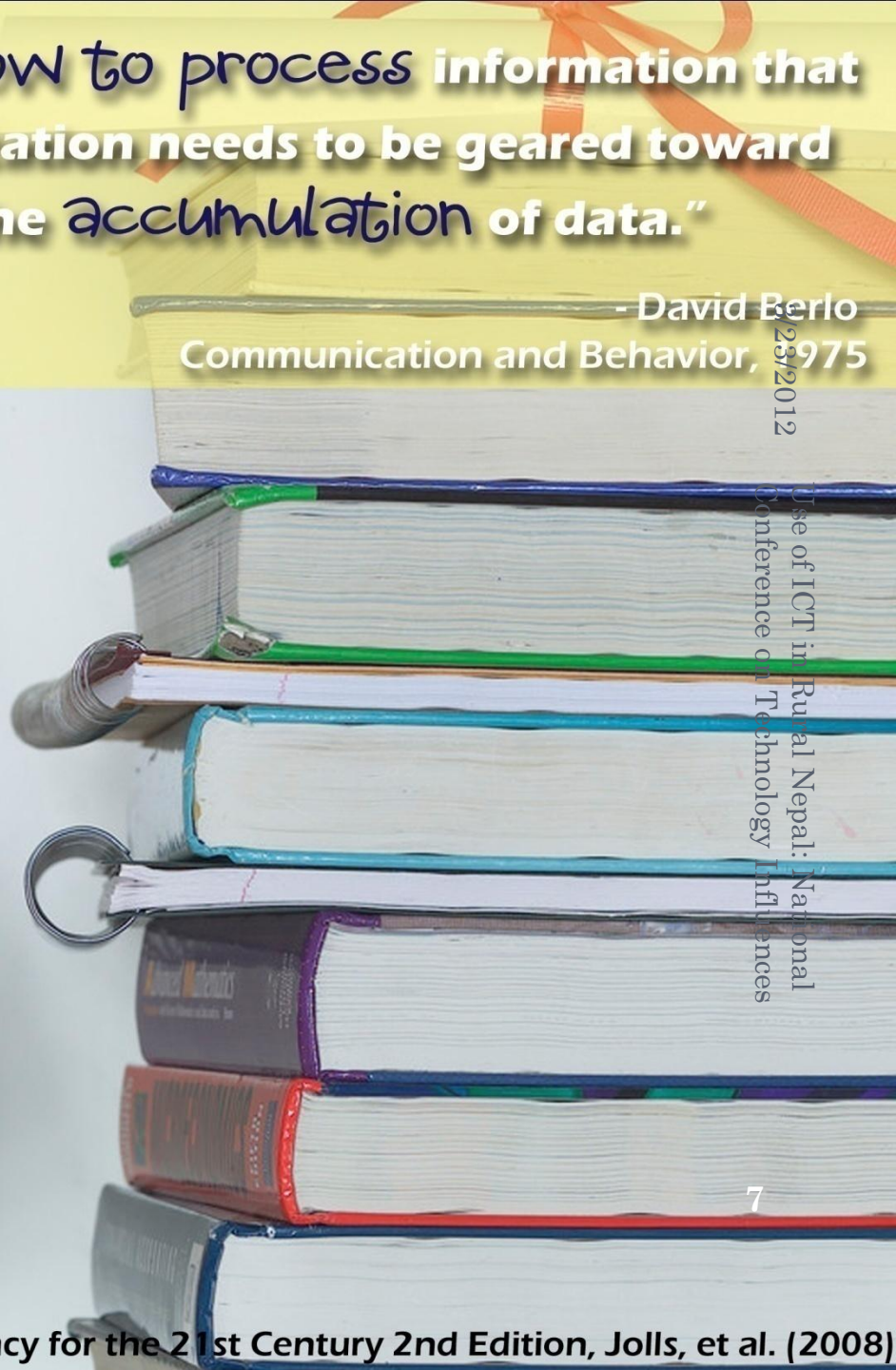
Information has changed... [6]

"Humankind needs to be taught *how to process* information that is stored through technology. Education needs to be geared toward the *handling* of data rather than the *accumulation* of data."

- David Berlo
Communication and Behavior, 1975

Source: Literacy for the 21st Century 2nd Edition, Jolls, et al. (2008)

"Students today need to learn how to *find* what they need to know..."

Source: Literacy for the 21st Century 2nd Edition, Jolls et al (2008)

"...when they *need* to know it..."

Source: Literacy for the 21st Century 2nd Edition, Jolls et al (2008)

"and to have the **higher order** thinking skills to **analyze** and **evaluate...**"
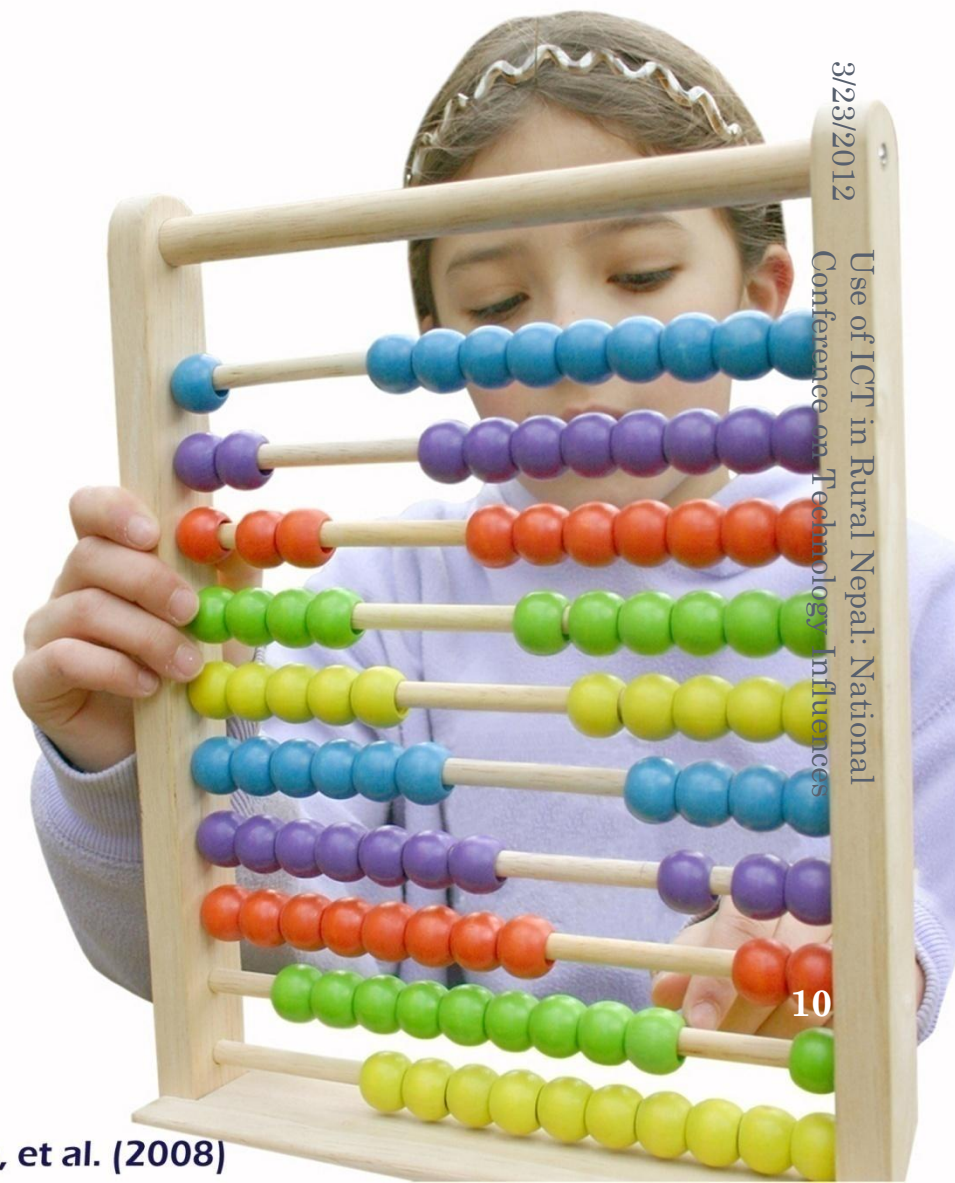
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Source: Literacy for the 21st Century 2nd Edition, Jolls, et al. (2008)

ONLY BY PROVIDING ACCESS TO ICT IS NOT THE SOLUTION FOR DIGITAL DIVIDE

- Hundreds of studies showed that providing access to technologies is not the key factor
- People are not aware of the benefits they can receive from the use of technologies
- People are the key factors, making them understand is the solution, not just access
- Localized application itself is not the solution
- Providing educational content in a local language is a challenging task

BRIDGING THE DIGITAL DIVIDE

- Donating computers and required technological infrastructures to the public schools
- From theory to action: ICT awareness, exposure and deployment programs in the rural areas
- Conduct training programs to provide required computer skills to use the available ICT services (Internet, email, voice and text chat, search engines)
- Understand the context for the educational content development: Localized applications and local content
- Free and open source software (FOSS) and Linux Terminal Server Project (LTSP)
- Government policy for integration of ICT in education with the help of stakeholders and key players

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OLPC PROJECT FOR DEVELOPING COUNTRIES

- XO laptop: an inexpensive laptop designed for children in developing countries to provide them with access to knowledge, and opportunities to "explore, experiment and express themselves".

PARTICIPATIONS OF SCHOOLS AFTER PROVIDING ACCESS TO ICT

- Periodic skill and experience sharing programs between schools through discussion program or through discussion forum

- Periodic educational resource sharing using teleconference, voice chat, email, website, blog, forum, etc.

DIFFERENT EDUCATIONAL RESOURCES FOR TEACHERS AND STUDENTS

- Wikipedia for schools
- E-Pustakalaya
- OpenStreetMap
- Nepali dictionary
- Yahoo! Babel Fish - Text Translation and Web Page Translation
- Midas Edukit
- Youtube
- dmoz Open Directory project

USEFUL TOOLS FOR SCHOOLS

- Nepali Unicode Keyboard Layouts
- Nepali spell checker for word processor
- Nepali Spell-check Dictionary for Firefox
- Nepali Unicode conversion software
- Google Transliteration
- Optical Character Recognition (OCR) system
- Text-to-speech
- Unicode Nepali Converter (http://www.unicodenepali.com/v3/convert.html)

ICT FOR DISABLED PEOPLE

○ Adaptive computer products: Screen readers, Touch screen, Braille Displays, special pointing or input devices, speech-to-text and text-to-speech technologies for disabled people

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Thank you

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