Plenary Session 2
Promoting Discourse Exchanges among Different Education Stakeholders at Macro, Meso and Micro Levels for Up-scaling

ICT in Education School Level Indicators

Asia-Pacific Ministerial Forum on ICT in Education 2013

Alexandre Barbosa

Shenzhen, 27 November 2013
“Policies aim to solve problems, yet the key problem solvers are those who have the problem. Governments devise instruments to encourage implementation, but they help only if used well by those with the problem, whose capability is often weak. The realization of policy in practice thus depends on the fit between capabilities that support implementation and aims.”
“Policymakers in the U.S. have been trying to change schools and schools practices for years. Though studies of such policies raise doubts about their effects, the last decade has seen an unprecedented increase in state policies designed to change instructional practice. (...) Policymakers believe that they can steer school practice and change school outcomes.”

Policy and Practice: An Overview
Cohen et Ball (1990)
Policy and Practice Dilemma

How to bridge the gap between policy and practice in educational innovation?

“Good policy requires good statistics at different stages of the policymaking process.” (Scott, 2005)

“The impact of policy can be measured with good statistics. If policy cannot be measured it is not good policy.” (Othman, 2005)
Policy and Practice Dilemma

How to bridge the gap between policy and practice in educational innovation?

- Reliable
- Policy relevant
- Timely (to inform policy decisions)
- Accessible to all key stakeholders
- Cost-effective
- Interdisciplinary enough to address cross-cutting issues

Measurement:

Indicators & metrics
CETIC’s Mission: Measuring ICT Adoption to Bridge Policy and Practice

- Conduct ICT surveys;
- Produce ICT indicators and statistics;
- Promote the use of ICT statistics for policymaking and academic research;
- Monitor socioeconomic impacts;
- Cooperate with int’l organizations.
CETIC’s Mission
Measuring ICT Adoption to Bridge Policy and Practice

Brazilian Internet Steering Committee

Center of Studies on Information and Communication Technologies

1995

2003

2005

2012

Brazilian Network Information Center

Regional Centre of Studies for the Development of the Information Society under the auspices of UNESCO

UNESCO

Organização das Nações Unidas para a Educação, a Ciência e a Cultura
Monitoring the Development of IS
ICT Surveys

**ICT surveys** for monitoring the development of the information society

**ICT in Education survey**: generating inputs to policymaking and policy assessment; and monitoring the use and appropriation of ICTs in Brazilian schools through teaching practices and school management.
Survey on the Use of ICT in Brazilian Schools

Stakeholders engagement

STAKEHOLDERS

- Ministério da Educação
- UNICEF
- UNICEF
- UNICEF
- UNICEF

- Sample of public schools
- Increased sample size
  - Public schools
  - Private schools

- Articles on ICT4E
- Methodological report
- Analysis of results
- Table of results (Indicators)

2009 2010 2011 2012 2013 2014

Survey planning
- Methodology
- Indicators
- Questionnaires

OER Module

Complete list of ICT4E indicators available at http://cetic.br/educacao/index.htm
Publications (complete book) available for download at http://cetic.br/publicacoes/
ICT in Education Survey in Brazil

Stakeholders and Expert Group

15 organizations

28 experts participate in the survey process on a voluntary basis.

- Government and International Organizations
  - Unesco
  - UIS
  - Ministry of Education
  - Consed (State Education Council)
  - Undime (Municipal Education Council)

- Academia
  - Pontifical Catholic University of Paraná
  - Pontifical Catholic University of São Paulo
  - Federal University of Minas Gerais
  - Federal University of Rio Grande do Sul
  - São Paulo University

- Nongovernmental sector
  - Educadigital
  - Paulo Montenegro Institute
  - REA Brasil e New America Foundation
  - Victor Civita Foundation
  - Saibernet
  - Independent Consultants in Education
ICT in Education Survey in Brazil

Methodological approach

Target population

Public and private schools in urban areas

Methodological approach

Quantitative

Structured questionnaires

Teachers

Students

Principals

Director of Studies

Qualitative

Observation

In-depth interviews
ICT in Education Survey in Brazil
Quantitative and qualitative approach

ANNUAL SAMPLE SURVEY

- Sample frame: School Census – Ministry of Education;
- Sample design: stratified cluster sampling selected in stages; Sample size: 1.125 schools;
- Schools in urban areas: primary education, lower secondary and upper secondary education according to ISCED 2011;
- Face-to-face interviews with structured questionnaires.

4-YEAR CASE STUDY

- Longitudinal case study in public schools for a period of four years;
- School routine: pedagogical and management processes;
- 12 schools participating in the case study;
- Semi-structured in-depth interviews and observation;
- One full-week per semester during four years.
ICT in Education Survey in Brazil

Universe and unit of analysis

**UNIVERSE OF THE SURVEY**

- Public Schools: municipal and state schools
- Private Schools

**UNIT OF ANALYSIS**

- Schools
- School Principals
- Director of Studies
- Teachers: Portuguese & Maths
- Students: Elementary & Secondary

Dimensions of Indicators

List of Indicators (total = 48 for Teachers)

4 questionnaires
ICT in Education Survey in Brazil
Dimensions of Indicators

- SCHOOL PRINCIPALS
  - Administrative / management activities
  - ICT Infrastructure
  - Barriers preventing ICT use

- DIRECTOR OF STUDIES
  - Coordination and planning activities
  - Barriers preventing ICT use

- TEACHERS
  - ICT skills
  - ICT training
  - Online activities
  - Barriers preventing ICT use
  - OER

- STUDENTS
  - ICT Skills
  - ICT training
  - Online school activities

Demographics, Access and Use of ICT Indicators
Survey Data for Policymaking

*The role of CETIC*

**SURVEY DATA:**
PRODUCTION OF ICT-STATISTICS

- Sample design
- Data collection
- Data processing
- Data dissemination

**CAPACITY BUILDING**

**ICT core Indicators**
- Internationally comparable data
- ICT4E Statistics
- Policy-relevant data analysis

**Policymakers**
- ICT Infrastructure
- ICT access & use
- ICT skills
- ICT training
- Online activities
- Barriers and motivations
Survey Data for Policymaking

The role of CETIC

- Regional workshops (Brazil, Africa, LA)
- Expert group meetings
- Press conference & public debate
- International forum

Capacity Building

Knowledge Sharing

2012 2013
Education in Brazil
Figures and Facts

Population: 195 million
85% living in urban area
Source: IBGE PNAD 2011

46% HH with computers
40% HH with Internet access
Source: CGI.br, ICT Household Survey 2012

81 million Internet users
Source: CGI.br, ICT Households Survey 2012

99% public schools have computers
89% public schools have Internet access
Source: CGI.br, ICT in Education Survey 2012

- 192.676 schools of basic education;
- 50,5 millions of students enrolled in basic education:
  - 83,5% public schools and 16,5% private schools;
- 2 millions of teachers in basic education and 78% of these teachers have higher education.
Education in Brazil

ICT in Education Policies

The National Education Policy

The National Training Policy for Teachers of Basic Education

“Promoting theoretical and methodological update in processes of teacher training, regarding inclusively the use of ICT in educational processes.”

PROINFO: National Program of Educational Technology

PNBLE: Broadband in School Program

PROUCA: One Laptop per Child Program (Pilot)
Education in Brazil

ICT in Education Policies and Gaps for pedagogical use

- **POLICY**
  - 79% of teachers: insufficient number of computers;
  - 73% of teachers: low speed of Internet connectivity;
  - 12% of schools with computer in classrooms.

- **ICT skills gap**
  - ICT syllabus in tertiary education;
  - Lack of ICT skills;
  - 50% of teachers had ICT specific training;
  - 61% of teachers use ICT in non-pedagogical activities.
Education in Brazil

ICT in Education Policies and Gaps for pedagogical use

2009 - National Policy for Teachers Training
Basic Education

2013 - Mais Educação São Paulo Program
Municipal Education Secretariat

Curriculum and Administrative Reform Act

- Democratization of content created by teachers and students through the use of technologies;
- Integration of ICT in the educational curriculum;
- Enhancement of opportunities in the process of appropriation of technologies, considering the critical use of these tools.

1994 – POIE
Supervisor for Pedagogical IT Use

2013 – Teachers in basic education

POIE guides the pedagogical use of ICT, articulating and integrating interdisciplinary projects.
Evidence-based Policymaking

The role of statistics

“Half the worry in the world is caused by people trying to make decisions before they have sufficient knowledge on which to base a decision” (Dean Hawkes of Columbia University)
THANK YOU!
謝謝你！

ICT in Education Survey

ICT surveys available for download at
www.cetic.br/publicacoes

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