O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

Monitoring IC4TE worldwide policy goals @ the UNESCO Institute for Statistics

Claude Akpabie
UNESCO Institute for Statistics, Montreal, Canada
Head, Communication and Information Statistics Unit

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

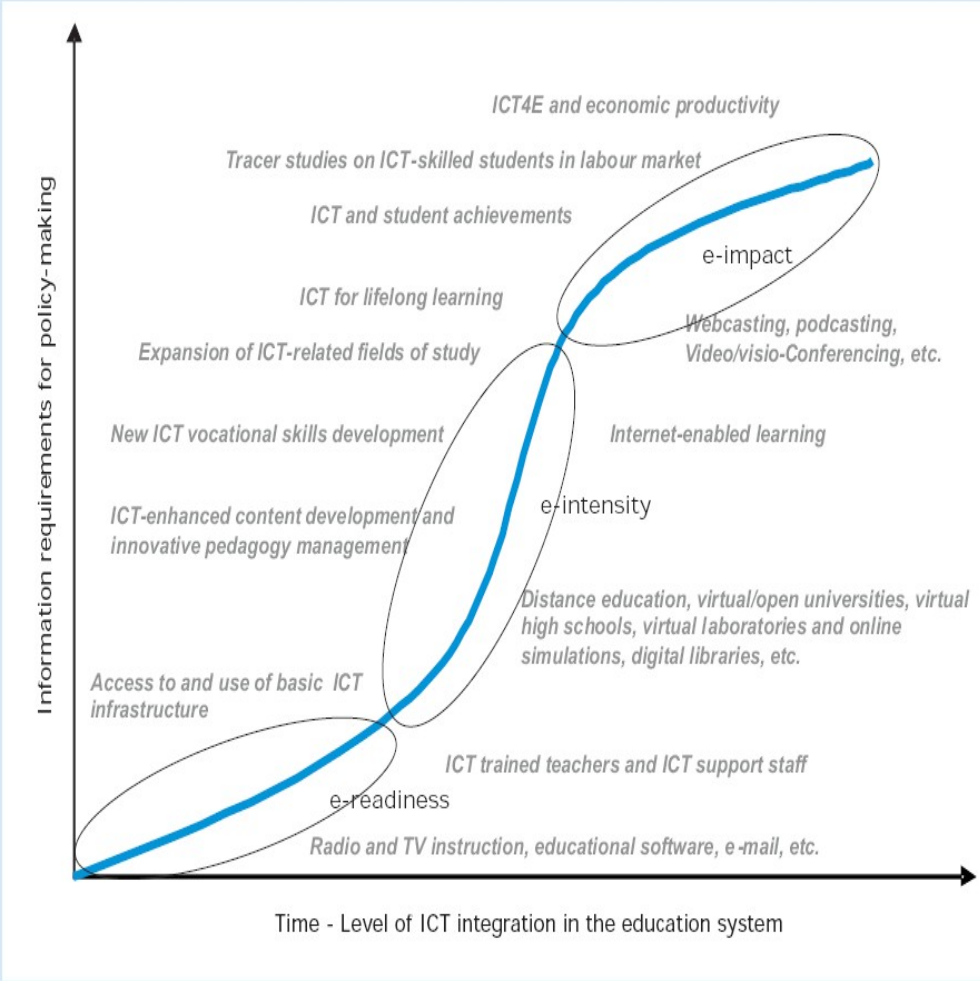
Context of the UIS ICT4E indicators initiative

- **Global monitoring needs of the WSIS targets, MDGs and EFA (demand)**
- **Our mandate as the UN system custodian for cross-nationally comparable data in UNESCO areas of competence (supply)**
- **Member of a consortium of international and regional agencies : the Partnership for measuring ICT for Development (quality-assurance mechanism)**

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

Different information needs at each level of ICT penetration in education: the UIS priority

- At Global level, before measuring ICTs impact, what do we know about:
  - the proportion of teachers in each country trained to use ICTs for class delivery?
  - the number of schools with or without computer or Internet connectivity (broadband and narrowband?
  - the average number of students per computer in schools?
  - etc.
- Basic questions but no answer still (World Bank 2005, 2009) ! If available, how comparable?



Source: UIS, adapted from [UNCTAD (2007)].

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

The UIS indicators development process

- Nov. 2005 WSIS Tunis - Initial core set of ICT4E indicators based on commonalities in various regional initiatives (ECLAC, ECA) and on a review of major international surveys (LABORATORIO, MLA, PASEC, PISA, PIRLS, SITES, SACMEQ, TIMSS, WEI-SPS, UAPRS, LAMP)
- Regional consultations between 2006-2007: Bangkok (26-28 July 2006), Panama (22-24 November 2006), Cairo (13-15 February 2007), Addis Ababa (3-7 December 2007)
- UIS launched worldwide scoping survey on ICT4E data availability (2006/2007)
- February 2009 - UN Statistical Commission endorsed the UIS proposed initial core ICT4E indicators
- UIS developed an expanded set of ICT4E indicators guidebook and survey instruments (English, Spanish…)
- Launch in Rabat (Morocco, May 2009) of the international Working Group on ICT Statistics in Education (WISE) of 25 pilot countries to validate the guidebook and pilot the survey instruments
- Evaluation of the pilot survey results in Montevideo Dec. 2009
- Regional rollout strategy in place starting with the all LAC countries by December 2010.

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

Policy Framework for ICT in education in the LAC
Some of the measurable targets of the eLAC 2010 Plan of Action

Second Ministerial Conference on the Information Society in Latin America and the Caribbean
San Salvador, 6-8 February 2008
'Education, our first priority'

	Access
3*	Connect 70% of public educational institutions to the Internet, preferably via broadband connections, or triple the current number.
	Capacities
4*	Ensure that, by the time they complete school, 90% of students have used computers for educational purposes for at least 100 hours, or double the current number.
5*	Train 70% of teachers in the use of ICTs or triple the current number.
6*	Train 70% of teachers and civil servants in the education sector in the use of ICTs for the development of school curricula, or triple the current number.

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

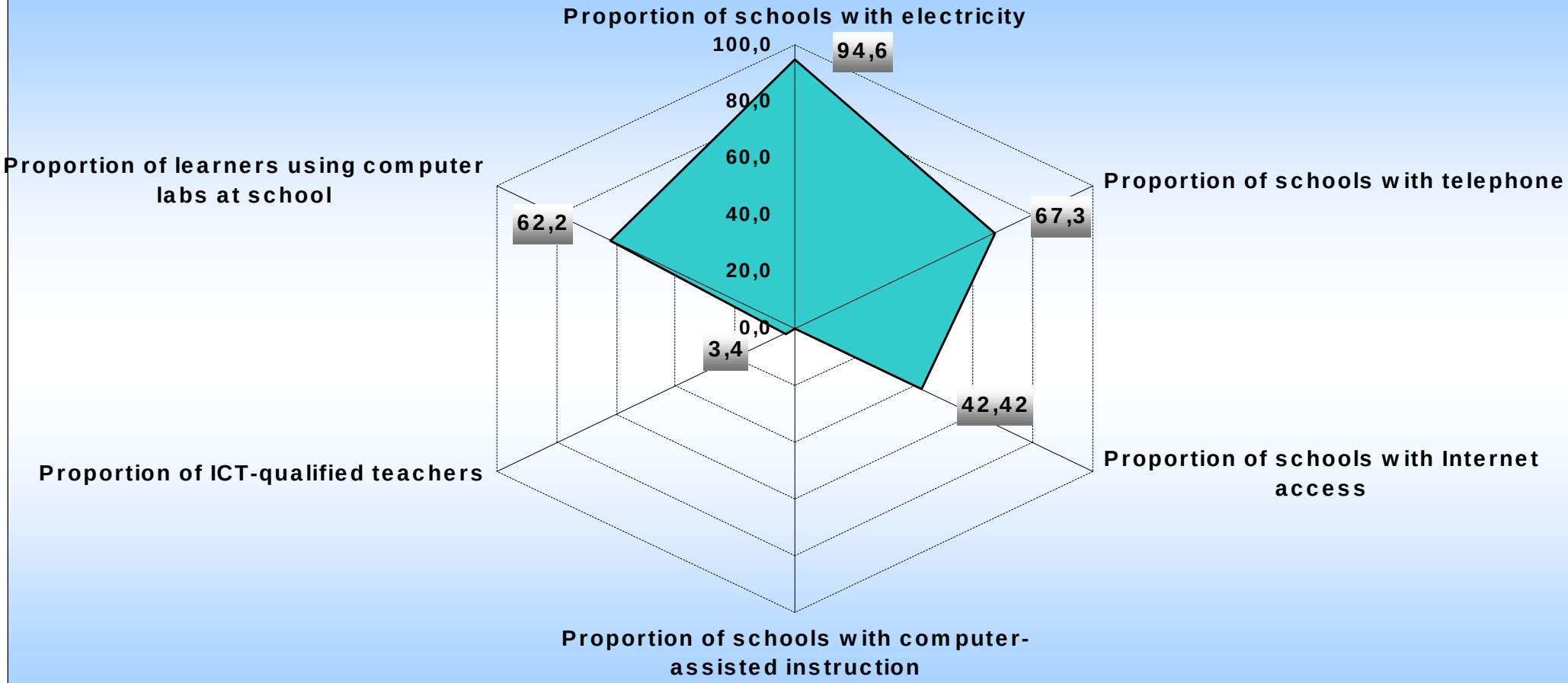
The Latin American and Caribbean Observatory for the Information Society
eLAC Core ICT in Education Indicators
(OSILAC/UN ECLAC)

Ref	Indicators
e1	Percentage of schools with radio set used for educational purposes (by ISCED level 1 to 3)
e2	Percentage of schools with television set used for educational purposes (by ISCED level 1 to 3)
e3	Percentage of schools with a telephone communication facility (by ISCED level 1 to 3)
e4	Percentage of schools with computers in Local Area Net (LAN) (by ISCED level 1 to 3)
e5	Percentage of schools with computers in Wide Area Net (WAN) (by ISCED level 1 to 3)
e6	Percentage of schools with an Internet connection by type (by ISCED level 1 to 3). Specify the options in the kind of connectivity and speed rather than bandwidth. Options: Dial-up, xDSL, cable modem, dedicated line, mobile Internet, satellite, and others. The indicator should show whether a connection is broadband or narrow band.
e7	Percentage of schools with computer laboratory (by ISCED level 1 to 3)
e8	Proportion of schools with computer-assisted instruction (for ISCED level 1-3)
e9	Student-to-computer ratio (by ISCED level 1 to 3)
e10	Percentage of students who use the Internet at school (by ISCED level 1-3)
e11	Proportion of learners enrolled by gender at the post-secondary non-tertiary and tertiary level in ICT-related fields (for ISCED level 4 and level 5- 6)
e12	Percentage of teachers trained in :
	A) use of ICT facilities
	B) teaching subject(s) using ICT facilities
	C) use of ICT tools to generate new knowledge.
e13	Percentage of schools with electricity (by ISCED level 1 to 3)

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

ICT4E data in the LAC countries from the UIS 2009 pilot Survey

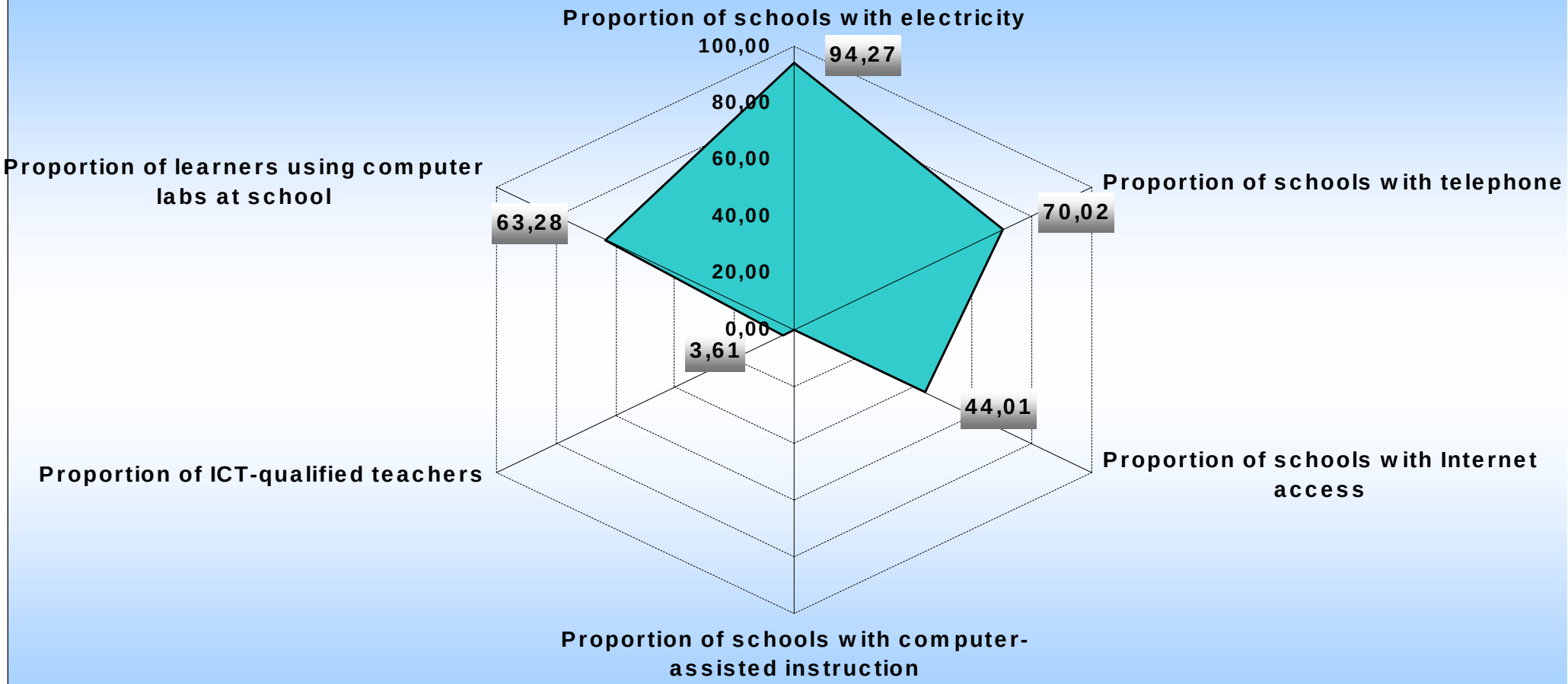
Argentina



O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

ICT4E data in the LAC countries from the UIS 2009 pilot Survey

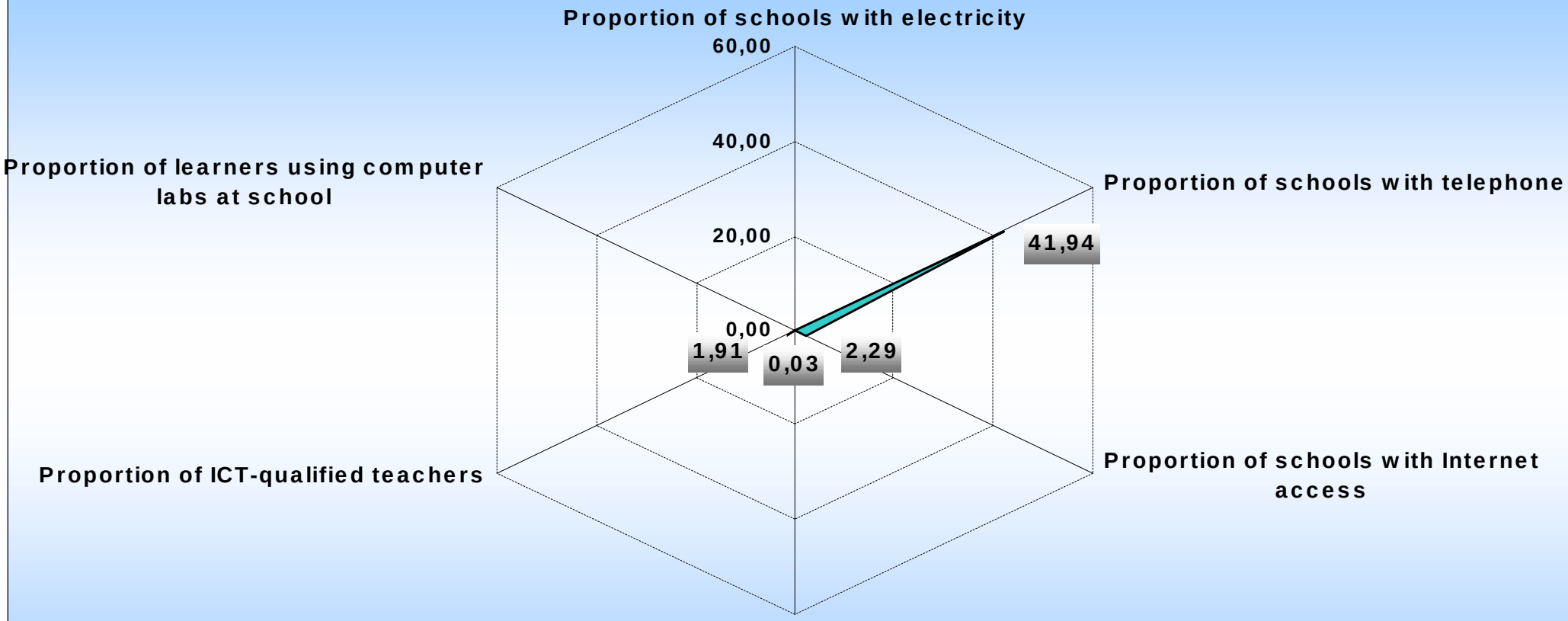
Costa Rica



O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

ICT4E data in the LAC countries from the UIS 2009 pilot Survey

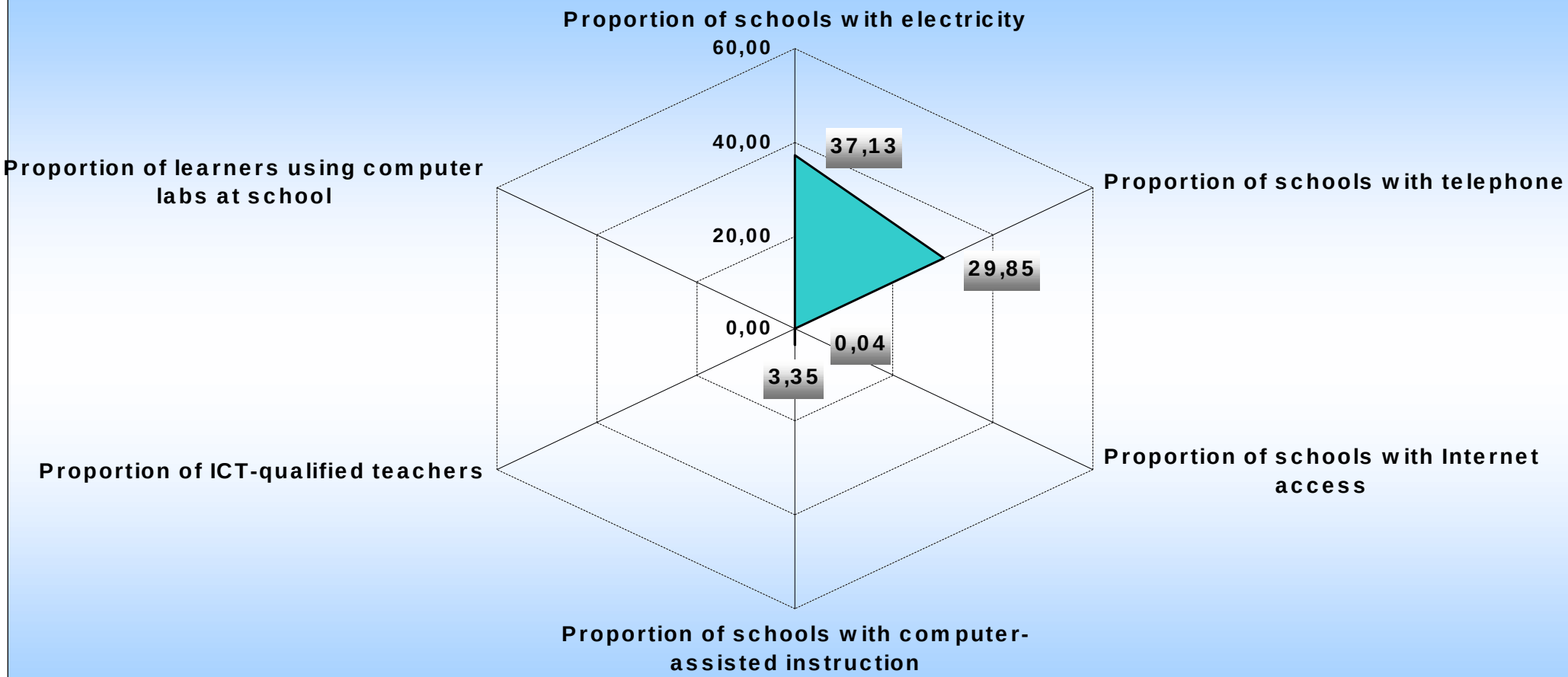
Dominican Republic



O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

ICT4E data in the LAC countries from the UIS 2009 pilot Survey

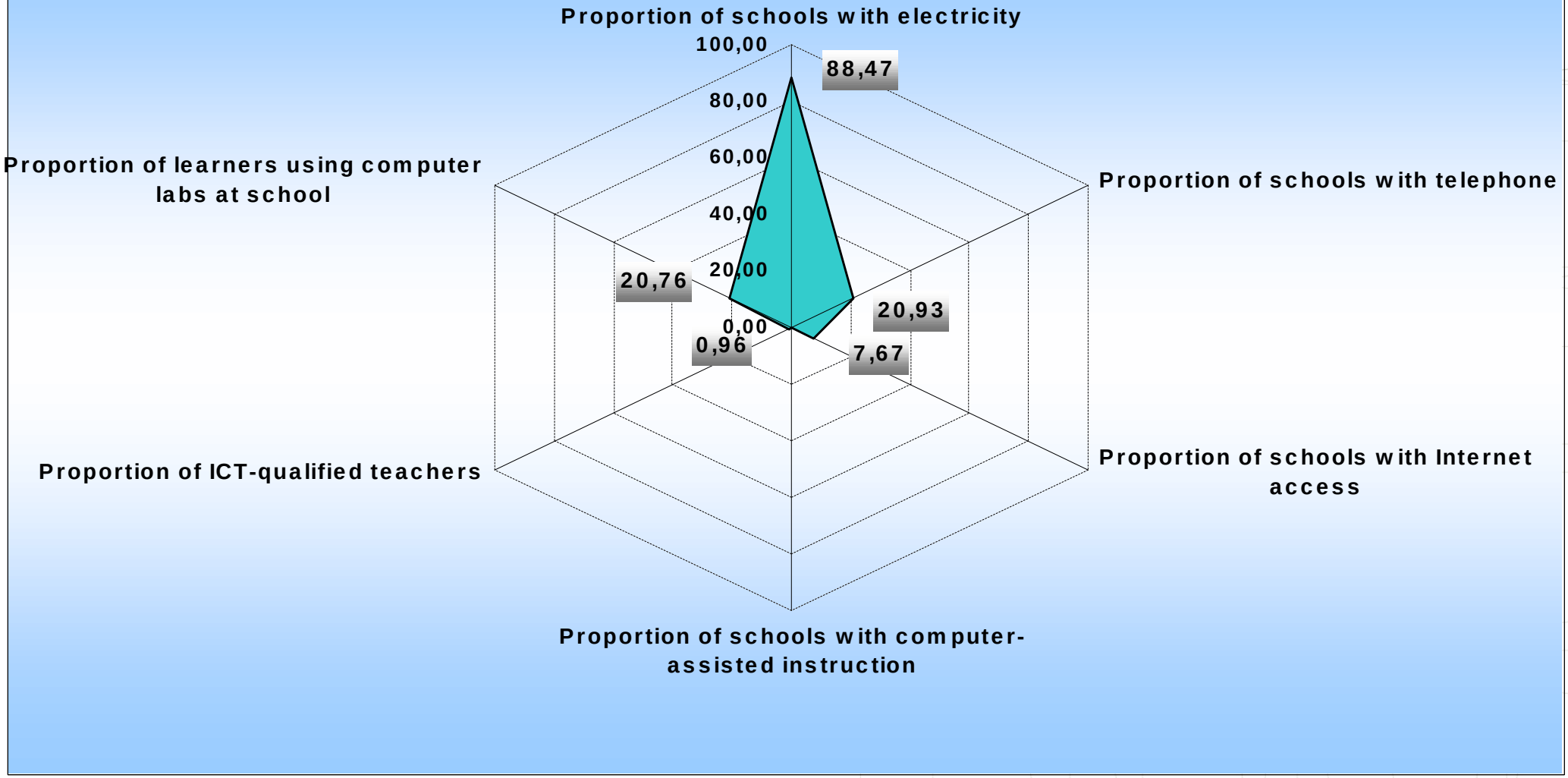
Guatemala



O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

ICT4E data in the LAC countries from the UIS 2009 pilot Survey

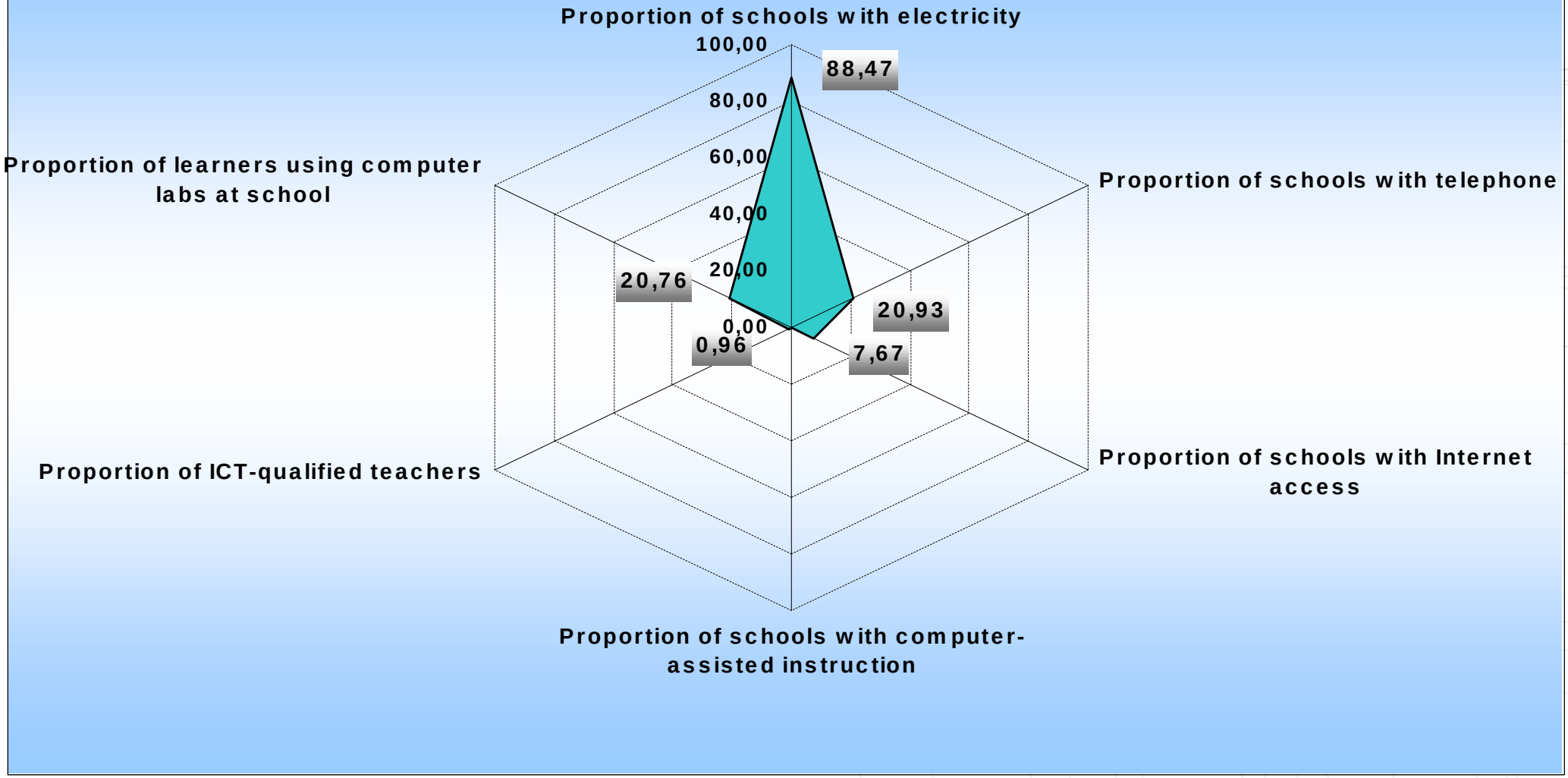
Paraguay



O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

ICT4E data in the LAC countries from the UIS 2009 pilot Survey

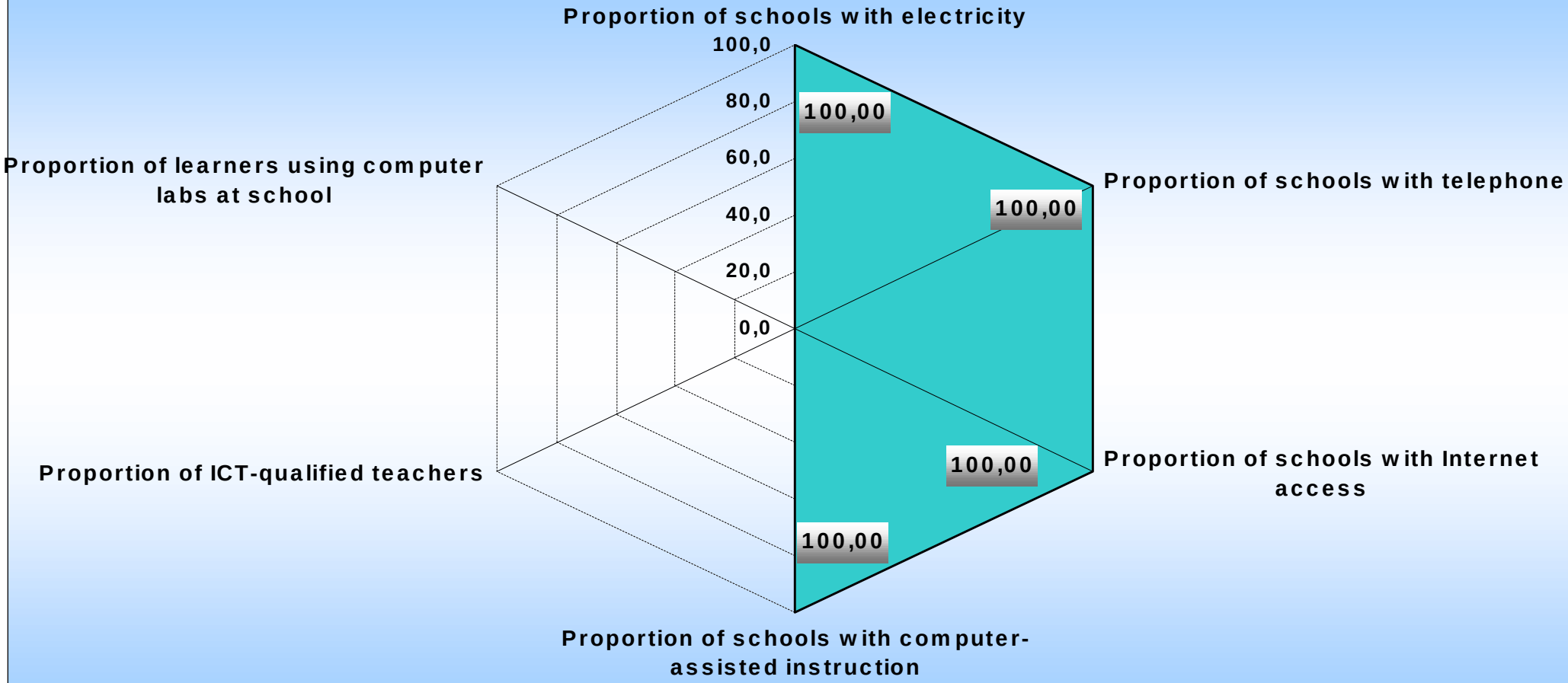
Paraguay



O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

ICT4E data in the LAC countries from the UIS 2009 pilot Survey

Uruguay



O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

Conceptualising ICT4E impact assessment dimensions: holistic vs. prioritisation?

Policy choices?	***Potential areas of assessment focus:***
1. Improve conventional teaching and learning processes & practices – learners' motivation?	**▪ Evidence of the reforming role of ICT on the curriculum delivery systems from traditional face-to-face to student-centred approach (trend analysis from time series on the presence and use of ICT in classes or class observations e.g. the cgi.br Brazil)**
2. Enhance the quality of student learning achievements?	**▪ Differential success rates of students in schools with ICT enhanced instruction vs. conventional. Or differential performance of students with higher exposure to ICT vs. low ICT exposure.**
3. Expand new skills supply for the new information economy?	**▪ Increase in the number graduates by a wider range of ICT related fields of study – tracer studies**
4. Enlarge lifelong learning opportunities?	**▪ Increased supply of ICT-enabled out-of-school or on-the-job training programmes for youth and adults outside the formal system.**
5. Manage more efficiently educational institutions –school leadership ?	**▪ Growing presence in educational administrations of ICT-supported management tools (e.g. EMIS, test-taking interfaces, ICT-assisted school improvement monitoring systems; etc)**

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

Possible directions of ICT4E impact assessment @ UIS: what options?

- **Students' achievement for over 200 countries is out off the scope of UIS resources – only clearinghouse function on impact assessment methodologies and best practices remain a feasible option.**

- **Trend or change observations of time series data on countries' education systems performance ratios (promotion, survival, completion, graduation, repetition, dropout rates etc.) correlated with the ICT infusion into schools are still worth exploring as early warning mechanisms before in-depth impact assessments.**

- **The UIS Information Literacy Skills assessment programme also offers potential developing cost-effective methodologies to assess ICT Literacy skills of Teacher Educators and Curriculum Developers. *Rationale: skilled educators or teachers always account for the highest explanatory power for the best achievers in classrooms.***

O impacto das TICs na educação
El impacto de las TICs en la educación
The Impact of ICT in education

Obrigado