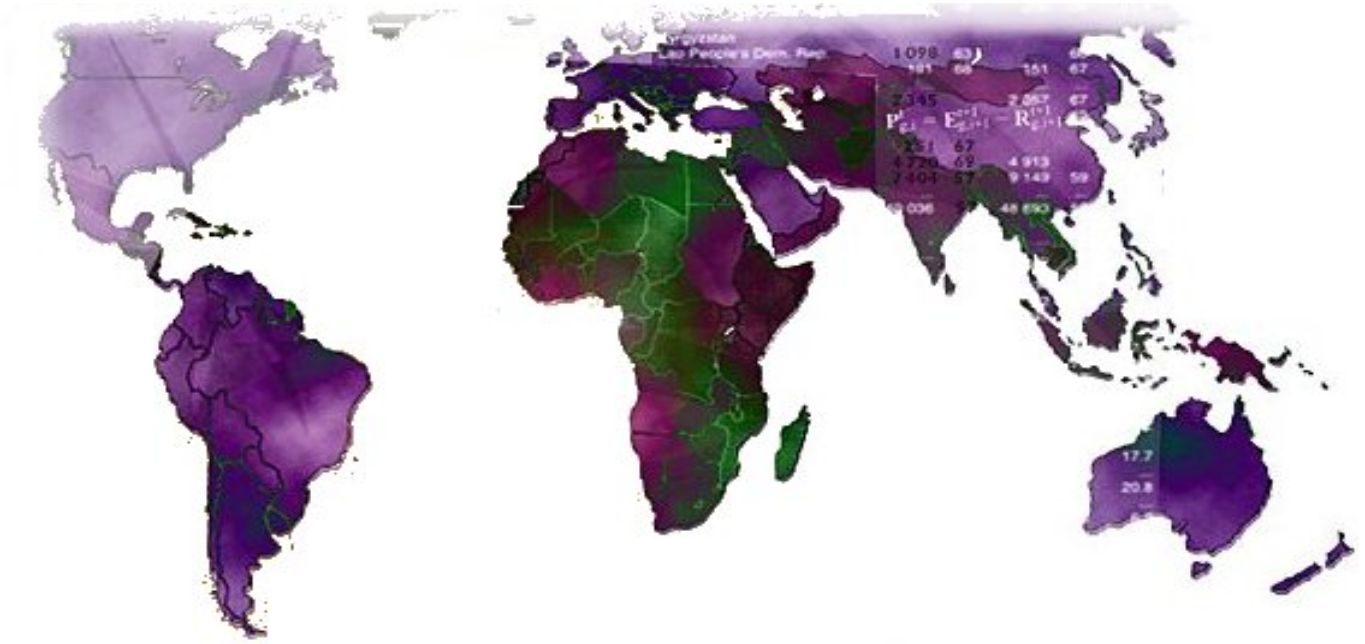


UIS Survey on Statistics of Information and Communication Technology (ICT) in Education

Regional workshop for Latin America and the Hispanic Caribbean
Sao Paulo, Brazil, 17-18 November 2016

Outline

Module 5

- Global survey on ICT in education
  - ✓ Policy and Curriculum
  - ✓ Educational Institutions & ICT infrastructure
  - ✓ Enrolment
  - ✓ Computers allocated to schools
  - ✓ Teaching staff and ICT

The questionnaire

Structure

- Section VAL — General information
- Section VAL — Policy
- Section VAL — Curriculum
- Section ICT1 — ICT infrastructure
- Section ICT2 — Enrolment
- Section ICT3 — Computers
- **Section ICT4 — Teaching staff**

ICT4: Teaching staff and ICTs by level of education and sex - all programmes (general and vocational)

Teaching staff				Primary (ISCED 1)	Lower secondary (ISCED 2)	Upper secondary (ISCED 3)	Not specified	Total
All schools	Number of teachers		Total					
			Female					
	Of which:	Teaching basic computer skills/computing	Total					
			Female					
		Trained to teach basic computer skills/computing	Total					
			Female					
		Using ICT to support teaching	Total					
			Female					
		Trained to use ICT to support teaching	Total					
			Female					
		Attended in-service training on ICT in the past year	Total					
			Female					
Public schools only	Number of teachers		Total					
			Female					
	Of which:	Teaching basic computer skills/computing	Total					
			Female					
		Trained to teach basic computer skills/computing	Total					
			Female					
		Using ICT to support teaching	Total					
			Female					
		Trained to use ICT to support teaching	Total					
			Female					
		Attended in-service training on ICT in the past year	Total					
			Female					

The questionnaire

Sources of information

Questionnaire of formal education (Questionnaire A)

- Section VAL — General information
- Section VAL — Policy
- Section VAL — Curriculum

United Nations Educational, Scientific and Cultural Organization — UNESCO INSTITUTE for STATISTICS

2016 SURVEY OF FORMAL EDUCATION
Students and teachers (ISCED 0-4)

Data for the academic year ending in 2015

Deadline for returning the completed questionnaire: 29 April 2016

- Section ICT1 — ICT infrastructure
- Section ICT2 — Enrolment
- Section ICT3 — Computers
- **Section ICT4 — Teaching staff**

ED/ICT - ICT4: Personal docente y las TIC

Teaching staff				Primary (ISCED 1)	Lower secondary (ISCED 2)	Upper secondary (ISCED 3)	Not specified	Total
All schools	Number of teachers		Total					
			Female					
	Of which:	Teaching basic computer skills/computing	Total					
			Female					
		Trained to teach basic computer skills/computing	Total					
			Female					
		Using ICT to support teaching	Total					
			Female					
		Trained to use ICT to support teaching	Total					
			Female					
		Attended in-service training on ICT in the past year	Total					
			Female					

ICT4: Teaching staff and ICTs by level of education and sex - all programmes (general and vocational)

ICT4: Teaching staff and ICT (ISCED levels 1-3)

As in UIS questionnaire of formal education, ICT in education survey collects data on Total teacher headcounts

- Teacher headcounts includes all full-time and part-time teachers by sex, sector and level (ISCED levels 1-3)
  - ✓ All programmes (General education & Vocational)
  - ✓ Total = Public + Private; and public only
  - ✓ Total = Male + Female; and Female only
- Data should correspond to data provided in UIS Questionnaire A: Statistics of Education. If different, please provide details

ICT4: Teaching staff and ICT

Teaching staff by gender and level of education - public and private institutions

Teaching staff				Primary (ISCED 1)	Lower secondary (ISCED 2)	Upper secondary (ISCED 3)	Not specified	Total
All schools	Number of teachers		Total	1,000.000	1,000.000	300.000	100.000	1,400.000
			Female	250.000	300.000	150.000	25.000	725.000
	Of which:	Teaching basic computer skills/computing	Total	200.000	300.000	200.000	20.000	720.000
			Female	100.000	200.000	75.000	5.000	380.000
		Trained to teach basic computer skills/computing	Total	50.000	75.000	100.000	25.000	250.000
			Female	25.000	35.000	75.000	20.000	155.000
		Using ICT to support teaching	Total	400.000	450.000	300.000	100.000	1,250.000
			Female	200.000	200.000	150.000	10.000	560.000
		Trained to use ICT to support teaching	Total	20.000	30.000	50.000	60.000	160.000
			Female	10.000	15.000	25.000	15.000	65.000
		Attended in-service training on ICT in the past year	Total	25.000	100.000	75.000	10.000	210.000
			Female	12.000	25.000	45.000	5.000	87.000

Figures in “Total” column are the sums of ISCED levels 1-3; they sum automatically

ICT4: Teaching staff and ICT

Teaching staff by gender and level of education - public and private institutions

Teaching staff				Primary (ISCED 1)	Lower secondary (ISCED 2)	Upper secondary (ISCED 3)	Not specified	Total
All schools	Number of teachers		Total	[illegible]	[illegible]	[illegible]	[illegible]	1,400.000
			Female	250.000	300.000	150.000	25.000	725.000
	Of which:	Teaching basic computer skills/computing	Total	200.000	300.000	200.000	20.000	720.000
			Female	100.000	200.000	75.000	5.000	380.000
		Trained to teach basic computer skills/computing	Total	50.000	75.000	100.000	25.000	250.000
			Female	25.000	35.000	75.000	20.000	155.000
		Using ICT to support teaching	Total	400.000	450.000	300.000	100.000	1,250.000
			Female	200.000	200.000	150.000	10.000	560.000
		Trained to use ICT to support teaching	Total	20.000	30.000	50.000	60.000	160.000
			Female	10.000	15.000	25.000	15.000	65.000
		Attended in-service training on ICT in the past year	Total	25.000	100.000	75.000	10.000	210.000
			Female	12.000	25.000	45.000	5.000	87.000

Total number of teachers is NOT the sum of other sub-categories

ICT4: Teaching staff and ICT

Distribution of teaching staff by level of education - public and private institutions

If teaching staff are assigned to more than one level or grade or if they have more than one teaching contract, their numbers should be pro-rated according to the percentage of **contractual (or teaching) working hours** devoted to each programme, **level or grade** during the reference school or academic year. Where this information is unknown, teaching staff should be pro-rated in equal shares to each programme, level or grade to which they are assigned during the reference year.

*If this is not possible, information on student-teacher ratios or average class sizes may be used instead.

Concepts and Definitions

TEACHERS (OR TEACHING STAFF)

Persons employed full-time or part-time in an official capacity to guide and direct the learning experience of pupils and students, irrespective of their qualifications or the delivery mechanism, i.e. face-to-face and/or at a distance.

This definition excludes educational personnel who have no active teaching duties (e.g. headmasters, headmistresses or principals who do not teach) or who work occasionally or in a voluntary capacity in educational institutions.

Concepts and Definitions

FULL TIME TEACHERS

Teachers who are employed for at least 90% of the normal or statutory working hours of teaching staff at the given level of education.

PART TIME TEACHERS

Teachers who are employed for less than 90% of the normal or statutory working hours of teaching staff at the given level of education.

Concepts and Definitions

TEACHERS TRAINED TO TEACH BASIC COMPUTER SKILLS (OR COMPUTING)

refers to teachers considered qualified according to national standards or norms to teach basic computer skills (or computing) courses.

At higher ISCED levels, in particular, teachers trained to teach computing should have a nationally required academic credential in an ICT-related field of study, such as computer science.

TEACHERS TRAINED TO TEACH SUBJECT(S) USING ICT FACILITIES

Are teachers that have received at least a nationally defined minimum of formal training to teach one or various subjects at the relevant level(s) using ICT to support their teaching.

Concepts and Definitions

IN-SERVICE TRAINING

Is training that is concurrent to official teaching responsibilities to improve teachers' qualifications and skills. In-service training can be compulsory relating to official professional development activities to maintain or upgrade professional qualifications or it can also be optional with the sole purpose to improve skills.

ICT4: Teaching staff and ICT

Teaching staff				Primary (ISCED 1)	Lower secondary (ISCED 2)	Upper secondary (ISCED 3)	Not specified	Total
All schools	Number of teachers		Total	500.000	500.000		100.000	1,100.000
			Female	250.000	300.000		25.000	575.000
	Of which:	Teaching basic computer skills/computing	Total	200.000	300.000		20.000	520.000
			Female					
		Trained to teach basic computer skills/computing	Total	50.000	75.000		25.000	150.000
			Female	25.000	35.000		20.000	80.000
		Using ICT to support teaching	Total	400.000	450.000		100.000	950.000
			Female	200.000	200.000		10.000	410.000
		Trained to use ICT to support teaching	Total	20.000	30.000		60.000	110.000
			Female	10.000	15.000		15.000	40.000
		Attended in-service training on ICT in the past year	Total					
			Female					

- Primary data includes pre-primary data
- Lower secondary data includes upper secondary data
- Data not available for in-service training in the past year
- Gender disaggregated data not available for teachers teaching basic computer skills

What is measured ?

Indicator prioritization

Conceptual domains	Indicator label	Indicators
Teaching staff & Development	ED8	Proportion of ICT-qualified teachers in primary and secondary schools (for ISCED levels 1-3)
	ED36	Proportion of primary and secondary-school teachers who teach basic computer skills (or computing; for ISCED levels 1-3)
	ED37	Proportion of primary and secondary-school teachers who currently teach subject(s) using ICT facilities (for ISCED levels 1-3)
	ED38	Proportion of primary and secondary-school teachers trained to teach subject(s) using ICT facilities (for ISCED levels 1-3)
	ED39	Ratio of pupils-to-teachers of basic computer skills (or computing; for ISCED levels 1-3)
	ED40	Ratio of pupils-to-teachers using ICT to teach (for ISCED levels 1-3)
	X	Proportion of primary and secondary-school teachers who attended in-service training on ICT in the past year (for ISCED levels 1-3)

Additional indicator

Core + WSIS indicator

Indicator prioritization

Proportion of ICT-qualified teachers in primary and secondary schools

ED8 Proportion of ICT-qualified teachers in primary and secondary schools (for ISCED levels 1-3)	
Definition: Number of teachers trained to teach basic computer skills (or computing) in primary and secondary schools, expressed as a percentage of the total number of teachers at these levels of education.	**Purpose:** To measure the extent to which primary and secondary school teachers have the required ICT training to teach basic computer skills (or computing) classes.
Data requirement: **(*TTB*)** Number of teachers in primary and secondary schools who have been trained to teach basic computer skills (or computing) at ISCED levels 1-3. *(refer to questionnaire item D.1.3)* ***(T)*** Number of teachers in primary and secondary schools regardless of subject(s) taught at ISCED levels 1-3. *(refer to questionnaire item D.1)*	**Method of collection:** Administrative data collection through annual school census (or extract data from school records). **Data source(s):** Statistical unit of the Ministry of Education or, alternatively, the national statistical office.

Indicator prioritization

Proportion of ICT-qualified teachers in primary and secondary schools

Formula:

$$\frac{\sum_{h=1}^{3} TTB_h^t}{\sum_{h=1}^{3} T_h^t} * 100$$

Where:

TTB_h^t = Number of teachers trained to teach basic computer skills (or computing) at level of education ***h*** in school-year ***t***

T_h^t = Number of teachers at level of education ***h*** in school-year ***t***

Indicator prioritization

Proportion of ICT-qualified teachers in primary and secondary schools

Analysis and interpretation:

A high percentage of ICT-qualified teachers among the overall teaching staff in primary and secondary schools of a country suggests that it aims to provide learners with basic ICT skills and to meet emerging and evolving skills requirements in the information economy and society.

This does not automatically mean that basic computer skills (or computing) classes are effectively offered to learners by all teaching staff having received formal training to teach basic computer skills (e.g. if certain pre-requisites - such as computer labs, basic computer skills course syllabus, etc. - are not available in schools).

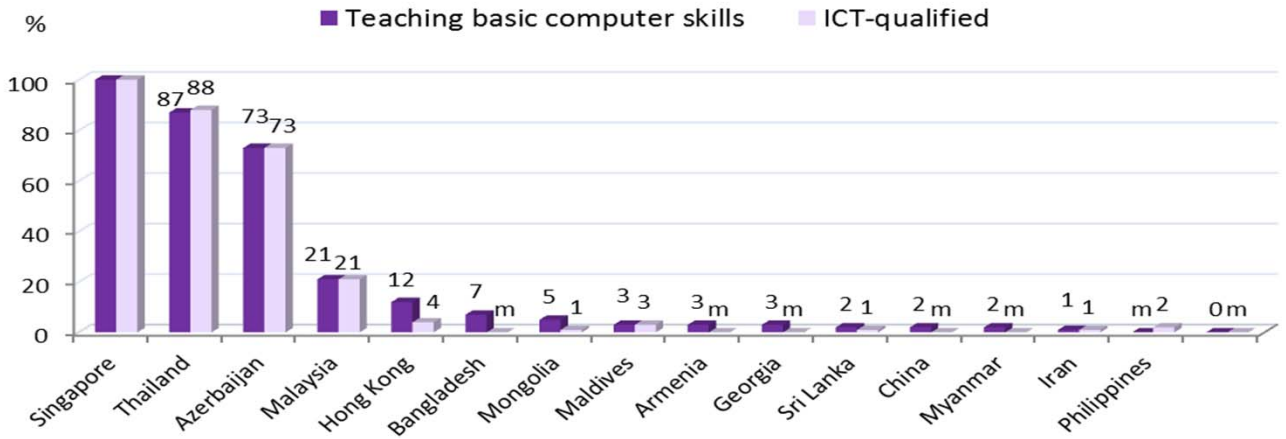
Besides its use for international comparison, this indicator can also be calculated and analysed at national and sub-national levels (by ISCED levels and grades, geographical regions, urban/rural areas, and by public/private schools) in order to inform policies and help implement measures for training and deploying adequate numbers of ICT-trained teachers in schools.

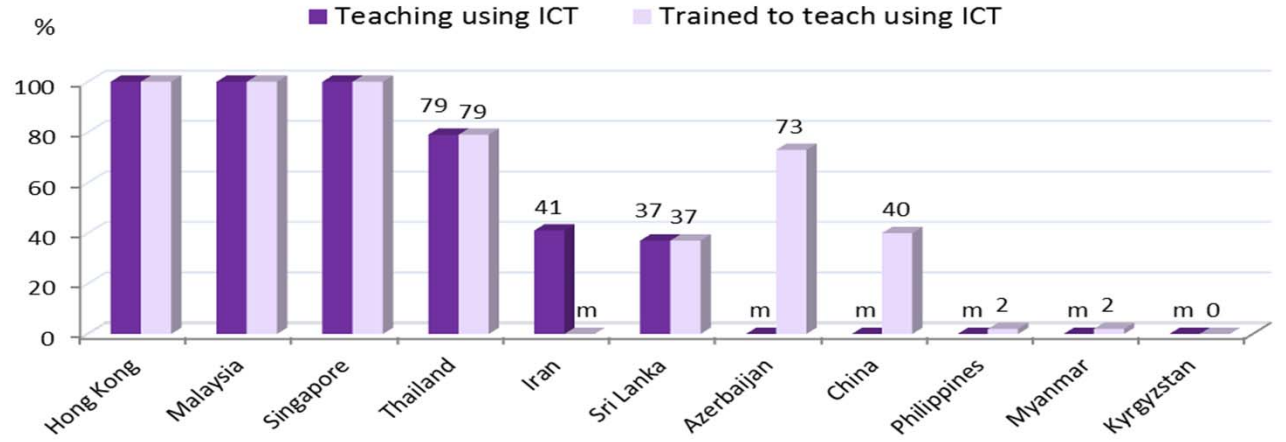
Methodological and definition issues or operational limitations:

- All teachers trained specifically in pre-service or in-service schemes in ICT according to **nationally defined qualification standards** are counted as qualified.
- This indicator only presents the skilled teaching force available to deliver basic ICT skills (or computing) classes. This does not necessarily mean that each of the teachers recorded as qualified does actually teach a basic ICT skills (or computing) course. Furthermore, in schools where there is no ICT equipment or inadequate ICT equipment, course delivery may not be effective even though the schools have teachers qualified to teach ICT.

What is measured ?

Proportion of combined primary and secondary teachers teaching basic computer skills and teaching with ICT versus teacher preparedness, 2012 - Asia





Comments

For more information on UIS statistics of ICT in education, please visit the UIS website:

www.uis.unesco.org

uis.datarequests@unesco.org
uis.information@unesco.org