Indicator 4.4.1

Contents

Indicator Name, Target and Goal

Indicator 4.4.1: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Definition and Rationale

Definition:

This indicator is defined as the percentage of youth (aged 15-24 years) and adults (aged 15 years and above) that have undertaken certain computer-related activities in a given time period (e.g. last three months).

Concepts:

Computer-related activities to measure ICT skills include:

1. Copying or moving a file or folder
2. Using copy and paste tools to duplicate or move information within a document
3. Sending e-mails with attached files (e.g. document, picture, and video)
4. Using basic arithmetic formulae in a spreadsheet
5. Connecting and installing new devices (e.g. modem, camera, printer)
6. Finding, downloading, installing and configuring software
7. Creating electronic presentations with presentation software (including text, images, sound, video or charts)
8. Transferring files between a computer and other devices
9. Writing a computer program using a specialised programming language

A *computer* refers to a desktop computer, a laptop (portable) computer or a tablet (or similar handheld computer). It does not include equipment with some embedded computing abilities, such as smart TV sets or cell phones.

Rationale and Interpretation:

ICT skills determine the effective use of information and communication technology. The lack of such skills continues to be one of the key barriers keeping people, in particular women, from fully benefitting from the potential of information and communication technologies. This indicator makes the link between ICT usage and impact and helps measure and track the level of proficiency of users. A high value indicates that a large share of the reference population has the ICT skill being measured.

Data Sources and Collection Method

Ministry of education, national statistical offices and other data providers would be required to conduct household surveys or learning assessment such as Multiple Indicator Cluster Surveys (MICS), to collect information for calculation of this indicator. In some cases, surveying the schools which maintain administrative data on ICT skills of students can also be a valid source. For cross-national purposes, data providers include Eurostat and the International Telecommunication Union (ITU).

Method of Computation and Other Methodological Considerations

Computation Method:

The indicator, ,is calculated as follows:

$$PICT_{a,s} = \frac{ICT_{a,s}}{P_a} \times 100$$

where,

PICTS is the percentage of people in age group **a** who have ICT skill **s**

$ICT_{a,s}$ is the number of people in age group *a* who have ICT skill *s*;

P_a is the population in age group *a*; and

s denotes one of the listed 9 ICT skills.

The indicator is calculated as the percentage of people in a given population who have responded 'yes' to a selected number of variables e.g. the use of ICT skills in various subject areas or learning domains, the use of ICT skills inside or outside of school and/or workplace, the minimum amount of time spent using ICT skills inside and outside of school and/or workplace, availability of internet access inside or outside of school and /or workplace, etc.

Comments and limitations:

The indicator is based on the responses provided by interviewees regarding certain computer-related activities that they have carried out in a reference period of time. However, it is not a direct assessment of skills nor of the effectiveness of how those activities were conducted.

This indicator is relatively new but based on an internationally-agreed definition and methodology, which have been developed under the coordination of International Telecommunications Union (ITU), through its Expert Groups and following an extensive consultation process with countries. It is also one of the Partnership on Measuring ICT for Development's Core List of Indicators, which was endorsed by the UN Statistical Commission in 2014.

Proxy, alternative and additional indicators: N/A

Data Disaggregation

This indicator is required to be disaggregated by type of skill. Therefore, this indicator should be calculated for each of the 9 ICT skills separately using the number of respondents that have responded 'yes' to questions on each skill. This indicator can also be disaggregated by age or age-group of students, sex, location and socio-economic status if collected in the relevant survey.

References

Official SDG Metadata URL
https://unstats.un.org/sdgs/metadata/files/Metadata-04-04-01.pdf

SDG 4 global and thematic indicators Metadata URL
http://sdg4monitoring.uis.unesco.org/metadata-global-thematic-indicators-follow-up-review-sdg4-education2030-2017.pdf

Other references
International Telecommunications Union (2014). *Manual for Measuring ICT Access and Use by Households and Individuals.* Available at: https://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-ITCMEAS-2014-PDF-E.pdf

Eurostat (2015). *Methodological Manual for Statistics on the Information Society.* Available at: https://circabc.europa.eu/sd/a/50760cae-348b-4a8a-9569-a96a6704fb70/Methodological_Manual_2015_ISS.zip

Country examples
N/A

International Organization(s) for Global Monitoring

This document was prepared based on inputs from United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS) and International Telecommunications Union (ITU).

For focal point information for this indicator, please visit https://unstats.un.org/sdgs/dataContacts/