

**SKILLS  
FOR LIFE**  
SERIES

# DIGITAL SKILLS

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# What are Digital skills?

Digital skills involve the ability to access, manage, evaluate, and create information safely and appropriately through digital technologies (Law et al., 2018). Being digitally skilled entails being able to use digital technologies in a critical, collaborative, and creative way (Carretero Gómez et al., 2017).

Even though there is no universal definition of digital skills and multiple ways of characterizing them, the most common descriptors include the following:

- ▶ Basic Tech Literacy
- ▶ Media Literacy
- ▶ Computational Thinking
- ▶ Cloud Computing
- ▶ Digital Citizenship

## Basic Tech Literacy

- ▶ Having basic knowledge of information, data, and technology (browsing, searching, filtering, and managing data, information, and digital content).
- ▶ Using e-government services, online banking, online transactions; buying and selling goods and services online.
- ▶ Adopting, adapting, and using digital devices, applications, and services.
- ▶ Utilizing digital devices for work and learning.
- ▶ Collaborating online.

## Media Literacy

- ▶ Developing digital content and interacting with online technology.
- ▶ Searching and sharing information; integrating and reworking digital content.
- ▶ Being knowledgeable about copyright and license issues.
- ▶ Becoming part of an online network and using social media to share information and ideas.
- ▶ Reading critically and creatively producing personal and professional media content.

## Computational Thinking

- ▶ Programming using coding language.
- ▶ Understanding and decomposing problems; extracting and organizing key elements for problem-solving.
- ▶ Automating effective procedures and methods to solve problems using information and computer technology (ICT) devices.


## Cloud Computing

- ▶ Creating, storing, accessing, and managing data and information in the cloud.
- ▶ Programming, using coding language to build, deploy, and manage applications.

## Digital Citizenship

- ▶ Guarding against cyberbullying and being aware of “netiquette,” legal status of online content, digital footprints, privacy, and safety.
- ▶ Participating in civic activities harnessing technology.
- ▶ Managing online identity and reputation.
- ▶ Engaging in safe and ethical behaviors online.





## **As a citizen of the 21st century with digital skills, you should be able to do the following:**

- ▶ Confidently navigate new technologies and social media.
- ▶ Identify, select, critically read, and manage different sources of information.
- ▶ Combine basic knowledge with problem-solving skills to complete online tasks and develop online content, such as writing blogs and creating websites.
- ▶ Manage cloud computing and data storage.
- ▶ Program and understand the logic of computational thinking.
- ▶ Be a digital citizen who collaborates, interacts, and contributes to the collective intelligence of the online community by creating positive content and interactions.
- ▶ Use online banking and e-government services.
- ▶ Buy and sell goods and services online.



# Why Digital skills?

Digital skills are needed for everyday life and to be able to continuously learn so we can reinvent ourselves, adapt to changing and diverse circumstances, and identify opportunities for growth amid differences. Digital skills are widely transferable to different settings and not specific to a job, task, sector, discipline, or occupation. Therefore, their development is pivotal for every citizen.

Digital skills also contribute to economic growth. In a world where the digital economy is continuously expanding and offers a varied range of professional alternatives, digital skills boost employability and open doors to new fields, such as IT, e-commerce, and digital entrepreneurship. They attract foreign investment and push technical advancements in industry, which increase development in the region. Digital skills also promote social inclusion bridging the digital divide, giving marginalized youth access to information, education, and resources while also reducing social disparities (OECD et al., 2020).

Unfortunately, there is a lack of comparable data between countries regarding digital skills development. The scarce comparable information shows that Latin American and Caribbean (LAC) adults (15 years and older) lack digital skills (ECLAC, 2022). Of the eight LAC countries for which digital skills data are available, only around 30 percent of their adult population display at least basic digital skills, such as copying or moving a file or folder, or sending an e-mail with attached files, compared to 80 percent of adults from five developed countries from Europe and Asia. Moreover, the distribution of digital skills varies in LAC countries by gender. A lower proportion of females than males show digital skills when moving to more complex levels of skills such as programming. Finally, only one in three youth (15–24 years old) from 10 LAC countries is on track to acquire digital skills, ranking below the world average in digital skills development (The Education Commission & UNICEF, 2022).



# How to develop Digital skills?

Digital competencies, apart from the most basic ones—such as using a mobile phone for voice calls or simple messages—cannot be developed without foundational literacy and numeracy skills. Therefore, it is important to ensure the development of foundational skills alongside digital skills.

Whether to teach children fundamental digital skills in a stand-alone subject or to embed digital technology use in curriculums is a crucial decision to make for determining implementation requirements. In the context of many countries, working digital skills transversally across curriculums also requires ensuring all teachers' digital skills so they are confident in using digital information and technology not only for their own work but also by making students interact with them. It is important to ensure that there is adequate and consistent technical support for novice teachers and students to troubleshoot issues with hardware, software, internet connection, and content use. Likewise, it is important to promote interventions aiming to balance the opportunities to pursue technology-based studies between males and females. Multiple Latin American countries have included digital skills in their curriculums in different ways, such as the following:



## **Nicaragua: Enuma School Gamified Foundational Learning Application**

The IDB is financing «Enuma school» to cater to different learning needs of children from diverse backgrounds in the Caribbean coast and Dry Corridor. The Enuma school focuses on promoting the foundations of literacy, math, and English as well as digital skills in developing country schools. It is a comprehensive learning application that can be used both online and offline, and it is tailored to the language and culture of the target region (Enuma, 2023). The main target of the project is students; however, teachers and local stakeholders are also involved in the project.





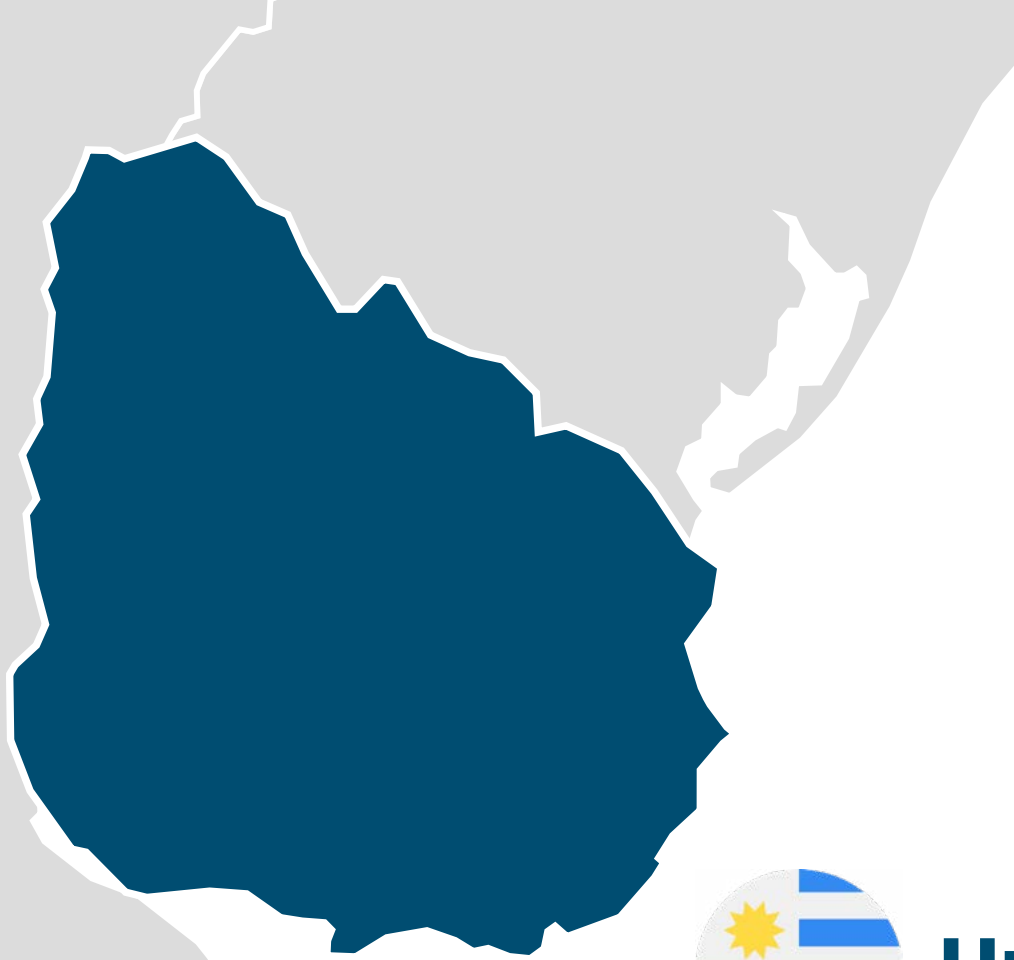
## Peru: Digital Platform for Indigenous Languages

This is one of the IDB initiatives to diminish inequalities in access to technology in Latin America, especially since the COVID pandemic. The interactive technological application, to be executed by the Organization of Ibero-American States (OEI), supports the indigenous language development of Peruvian students. Given the connectivity limitations throughout the country, the app will be available to use offline on a mobile phone, which has strong penetration in poor and rural areas across LAC countries. The application will help develop Quechua language skills and community integration as well as the perceptions and attitudes of indigenous adolescents. The intervention will take place in 2024 in secondary public schools, and its impact will be evaluated.



## Peru: Laboratoria

Laboratoria is a social impact organization that developed an innovative learning model to promote the inclusion of Latin American women into the technology industry (Vélez et al., 2023). Through immersive bootcamps, women of all ages and educational backgrounds develop technical skills, such as web development, UX design, and data analysis, as well as life skills, such as communication, teamwork, and self-awareness. The teaching methodology is characterized by simulating an agile work environment under a project-based learning approach. Laboratoria also helps its graduates to secure quality jobs by promoting a networking community among alumnae and by connecting its students to tech companies. The organization was first launched in Peru in 2014 and is now present in 10 Latin American countries: Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, Paraguay, and Uruguay.



## Uruguay: Ceibal

Ceibal is a multi-stakeholder public policy initiative that started in 2007 and focuses on education and innovation in Uruguay by integrating pedagogy and technology. It is carried out in close collaboration with the country's entire education sector (Cobo & Montaldo, 2018). It was originally designed to reduce the digital divide of all learners and educators in the country by ensuring access to digital devices, high-quality content, and connectivity. However, after achieving this goal, the program turned into a holistic ecosystem of pedagogical innovations. Ceibal provides educators and practitioners with a range of tools, techniques, and solutions that they can choose and adopt based on specific needs and local contexts and use them transversally in the classroom.



## Some of Ceibal's ways to support education are:


- ▶ **Enhancing collaborative learning.** It promotes the use of pedagogical approaches for experimentation, teamwork, and project-based learning to solve real challenges. Technology becomes a facilitator of coordination and collaboration.
- ▶ **Integrating formal and informal learning.** It offers extracurricular activities to students.
- ▶ **Developing professional development opportunities for school staff.** It offers coaching, peer work, and teacher training through a variety of formats to enrich school practices.
- ▶ **Diminishing inequalities between public and private school students.** It ensures that all students have equal access to opportunities, quality training, and challenging competitions such as the annual Robotics, Coding, and Videogames Olympic Games.

# How to assess and measure Digital skills?

Measuring digital skills is critical for tracking progress and ensuring effective skill development. There is no universal definition of digital skills, in part because definitions become rapidly outdated as technology evolves and because the scope can be very broad, making its measurement and comparability a challenge. Also, like other 21st century skills, digital skills can be measured by means of self-reported instruments or performance-based tests. Therefore, there are several ways to measure them with different comparability levels.

For instance, some tests that measure digital skills are international, so participating countries can compare their data within and across countries, such as the Programme for the International Assessment of Adult Competencies (PIAAC), the International Computer and Information Literacy Study (ICILS), and the Programme for International Student Assessment (PISA). PIAAC and ICILS use performance-based assessments with realistic scenarios in browsers or word-processing software. PIAAC targets adults ages 16–65, while ICILS aims 8th grade students. In the 2022 student self-reported questionnaires, PISA included questions on the availability and use of ICT resources, student competencies to carry out computer tasks, and attitudes toward computer use (OECD, 2023).




















Some platforms also provide digital skills assessments for free. The European Union offers an online test that evaluates five competence areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. The test is available in many languages, including Spanish. Each test-taker receives suggestions of courses and learning opportunities based on their results (European Union, 2023).

Finally, the IDB is launching CLIC, an online platform that users from LAC countries can access to assess their skills. One of the skills assessments offered by CLIC is the Digital Literacy Assessment, which was developed by the Korean Education and Research Information Service (KERIS) and measures ICT proficiency and computational thinking (CT) in students aged 11-16.

## RESOURCES:

-  [Blog. Perceptions on women and girls in STEM - ¿Y si hablamos de igualdad?](#)
-  [Blog. Digital citizenship: do we have rights and duties in the online space?](#)
-  [Blog. Digital skills for the labor inclusion of vulnerable populations](#)
-  [Blog. Workforce development and closing the global digital skills gap](#)
-  [Blog. Digital skills to write a 21st century resume with artificial intelligence](#)
-  [Blog. Effective online education experiences in Honduras](#)
-  [Blog. People versus machines: Improving online communities beyond algorithms](#)

-  [Blog. The Race between technology and education](#)
-  [Blog. Bootcamps vs. traditional education: how to train tech talent](#)
-  [Brochure. What technology can and can't do for education](#)
-  [Event. What technology can and can't do for education - YouTube](#)
-  [Video. Digital literacy and why it matters](#)
-  [Video. The essential elements of Digital Literacies: Dough Belshaw at TEDxWarwick](#)
-  [Website. Digital skills - 21st century skills](#)
-  [Website. "Test your digital skills" - based on DigComp framework 2.0.](#)

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