



Digital Education in the Americas: **Best Practices for Transformation**

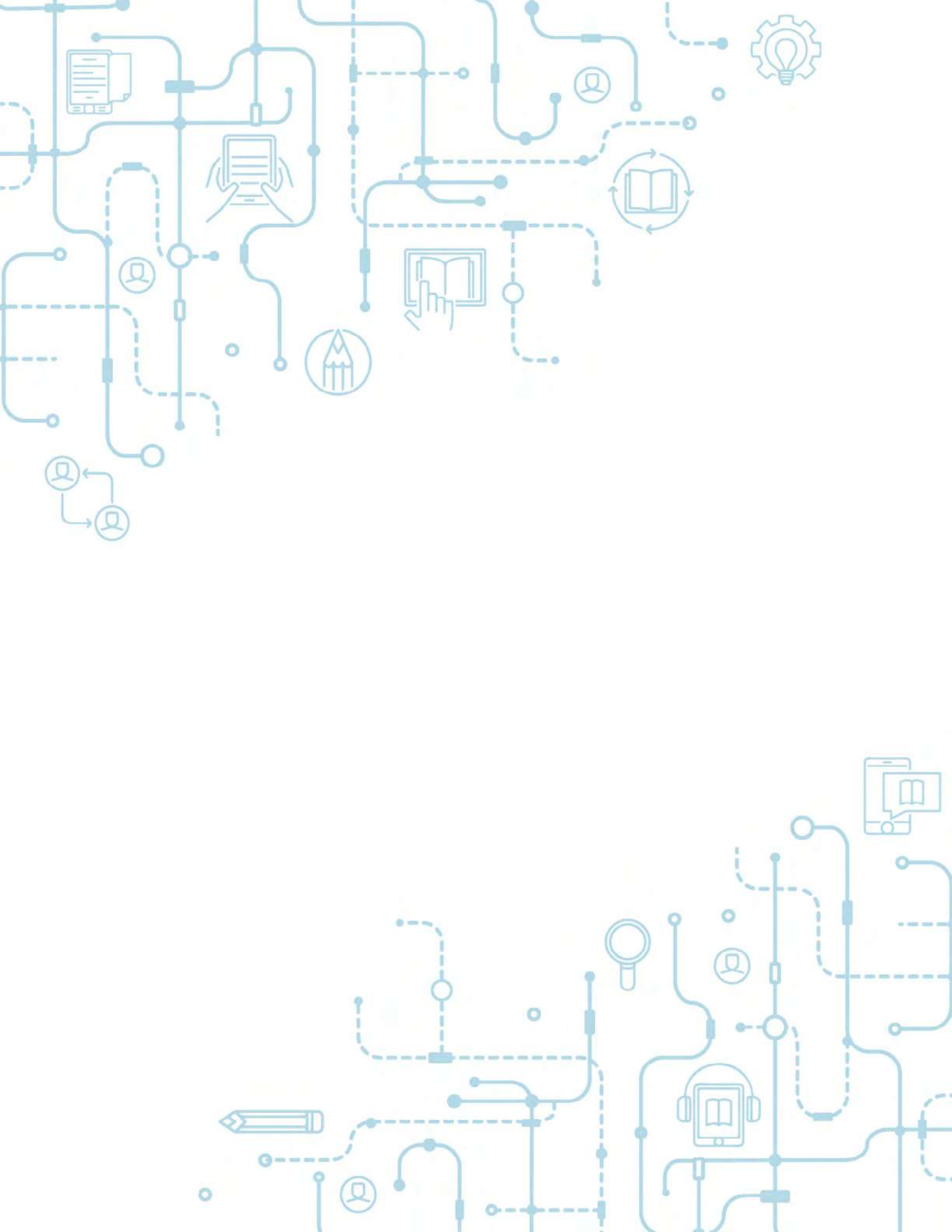


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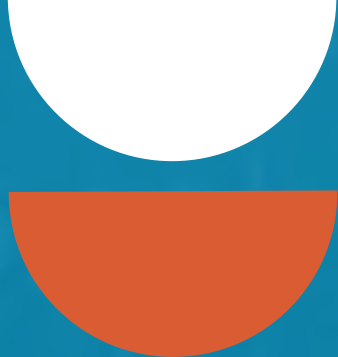
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Opening **Remarks**

Opening Remarks by the OAS

Dear Participants,

From the Executive Secretariat for Integral Development (SEDI) of the Organization of American States (OAS), we are pleased to present this report that highlights the commitment and innovation in the educational field of our region.

For the second time, OAS, in collaboration with ProFuturo, has worked diligently to identify the most outstanding initiatives in digital education. This joint effort has brought together 17 countries and 179 proposals, demonstrating the power of collaboration and creativity in educational transformation. Thanks to this partnership, we have been able to highlight and support projects that are making a significant difference in the lives of thousands of students and educators.

In this second edition of the mapping, we celebrate the achievements reached and reaffirm our commitment to the continuous improvement of education through technology. The stories and experiences shared in this report are a testament to the positive impact that digital education can have on our communities, promoting more inclusive, equitable, and quality education.

We express our gratitude to all participants, the educational community, institutions, and organizations that have contributed with their dedication and effort. Your work is essential to building a future where digital education is accessible to all and prepares our future generations with the skills necessary to face the challenges of the 21st century.

We hope this report not only serves as a source of inspiration but also as a tool to foster learning and collaboration among the diverse educational communities of the Americas. Together, we can continue advancing toward integral and sustainable development for our region.

I also thank Fundación ProFuturo for their collaboration; their commitment to digital education has enabled not only the identification of best practices but also the creation of a space for exchange and learning that benefits the entire region.

Thank you for being part of this important initiative and for your commitment to digital education.

Jesús Schucry Giacomán Zapata

Department of Human Development, Education, and Employment

Opening Remarks from ProFuturo

In an increasingly interconnected and digitalized world, education faces the challenge of evolving to meet the demands of new generations.

Aware of this reality, the Organization of American States (OAS) and ProFuturo—the educational innovation program driven by Fundación Telefónica and the “la Caixa” Foundation—have joined efforts to present the second edition of the **“Mapping of Best Practices in Digital Education of the Americas.”**

This publication aims to highlight and share successful experiences that are transforming the educational landscape in our region, promoting inclusion, equity, and educational quality through the pedagogical use of technology.

This document gathers a series of innovative initiatives implemented in diverse educational contexts, from rural schools to urban environments, demonstrating that technology can be a powerful tool to overcome barriers and create new learning opportunities.

With this mapping, we seek not only to recognize the effort and dedication of educators and organizations committed to educational improvement but also to inspire others to adopt and adapt these practices in their own contexts, generating a positive and transformative impact.

We hope this document becomes a valuable guide for all those committed to digital education. We offer concrete examples and lessons learned that can be replicated and scaled in different settings, with the aim of advancing toward a more inclusive and quality education for all.

Collaboration and knowledge exchange are essential to driving progress toward an education that enables every student, regardless of their background or context, to access a future full of opportunities.

Magdalena Brier López-Guerrero
Director General of ProFuturo



Executive **summary**

Executive summary



Following the positive results achieved in the first “Mapping of Best Practices in Digital Education of the Americas” organized in 2022 by the General Secretariat of the Organization of American States (SG/OAS) and ProFuturo, it was decided to conduct a second edition of the mapping in 2024, whose objectives were:



To highlight initiatives from Latin American and Caribbean countries that promote educational improvements through digital technologies.



To analyze common and original aspects among these initiatives in order to build knowledge about their starting points, purposes, characteristics, and outcomes.

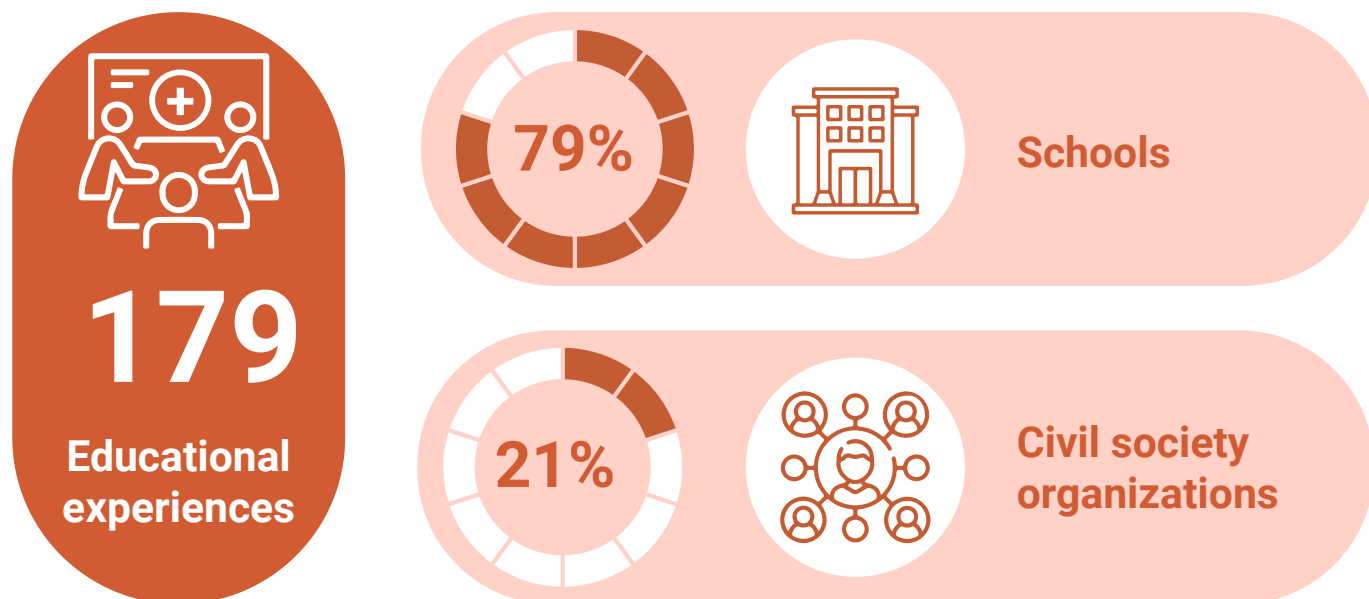


To systematize information about the initiatives to facilitate their transfer to other contexts and contribute to the promotion of digital education in the region.

For this second edition of the mapping, it was considered that “best practices in digital education” may pursue different purposes:

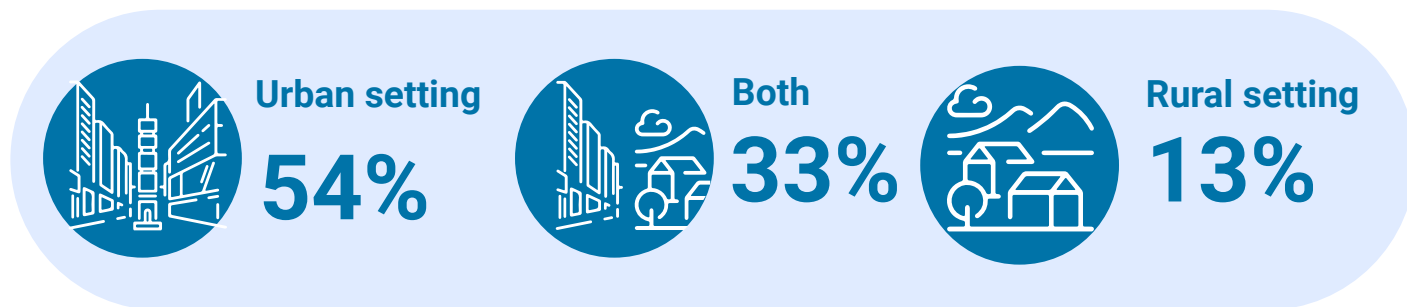
- 1 To promote a more inclusive and **equitable** education
- 2 To promote specific **digital competencies** in students
- 3 To offer a more **personalized** education
- 4 To strengthen or enhance **professional teacher development**
- 5 To enrich the teaching and learning of **school subjects**

In both mappings, educational institutions and Civil Society Organizations (CSOs) were invited to submit educational experiences. On this occasion, 179 experiences were presented, of which 79% were submitted by schools and the remaining 21% by civil society organizations.

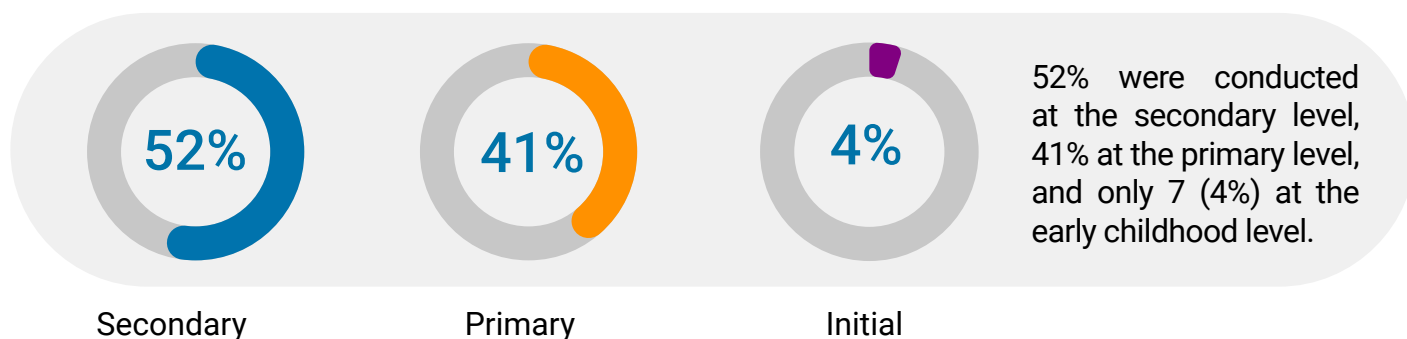


The experiences come from 17 countries in the region, with the highest participation from institutions in Mexico (37%), Colombia (22%), Ecuador (10%), Peru (6%), and Argentina (6%).

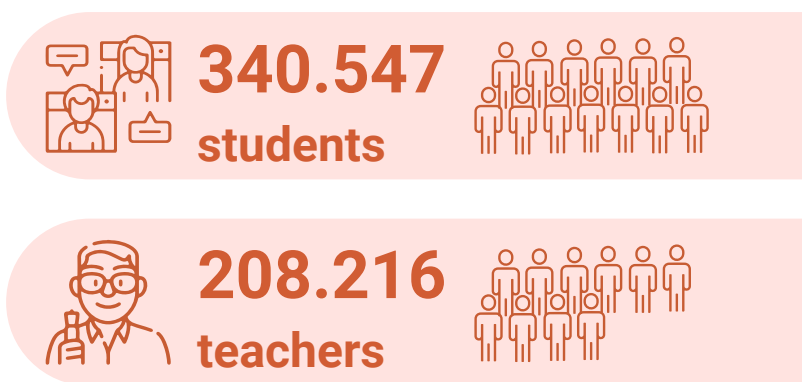




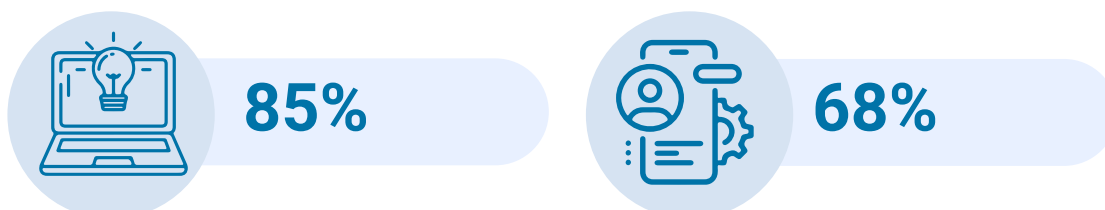
More than half of the experiences (54%) were implemented in urban settings; approximately one-third in both urban and rural settings, and one-quarter in rural settings.



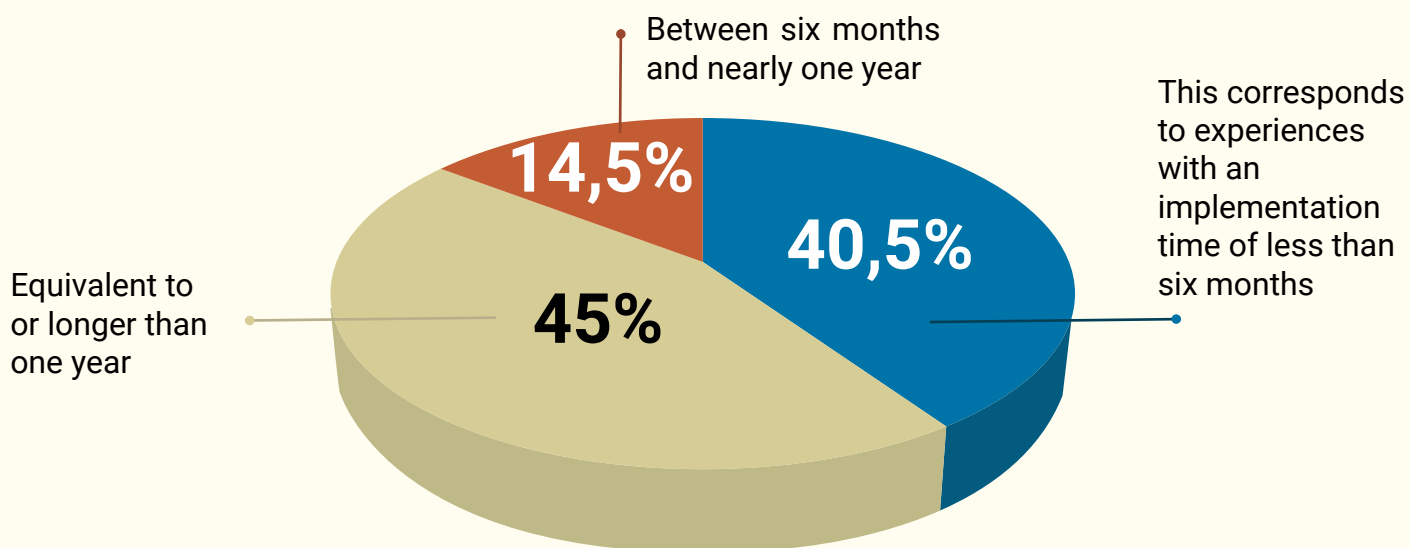
In total, **340,547 students** and **208,216 teachers** were reached by the best practices submitted, and a huge portion of the experiences targeted populations living in poverty or socioeconomic vulnerability; populations with people with disabilities; and migrant or Indigenous populations.

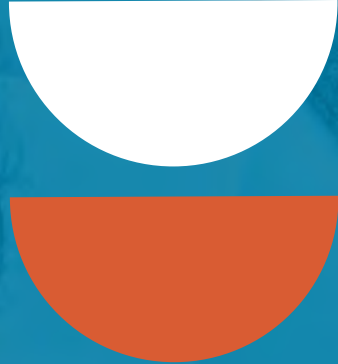


The range of technologies used has been truly diverse, although the most commonly employed were **Computers/Netbooks/Laptops (in 85% of the practices)** and **Mobile Phones (in 68% of the practices)**. This appears to be linked to the availability of technologies both at home and in schools. Generally, the submitted experiences combined different technologies simultaneously.



Approximately 45% of the experiences had an estimated implementation time of one year or longer, and about 14.5% ranged between six months and nearly one year. No information was available for 3 of the 179 experiences.





Introduction

Introduction

The digital divide is a tangible, real, and pronounced reality, especially in the context of Latin America and the Caribbean, not only in terms of access to connectivity and devices but also regarding the digital skills necessary for full citizenship in today's world.

Although the growth of the technology sector has been remarkable, “the region still lacks the basic infrastructure for an inclusive digital transition that puts the benefits of digitalization within everyone's reach” (UNDP, 2024). Significant gaps persist in access to devices or connectivity, for example, according to income level, rural and urban areas, and gender. Likewise, inequalities exist in the population's digital skills. In some countries in the region, 71.8% of people still lack basic digital skills, which is double the percentage in OECD member countries (Dalio, M. A.; García Zaballos, A.; Iglesias, E.; Puig Gabarró, P.; and Martínez Garza, R., 2023).

In the educational field, unequal access to digital content, tools, and systems that can enhance teaching and learning processes and digital skills training is an added challenge. The report “Technology in Education: A Tool According to Whose Terms?” by UNESCO (2023) states that, over the past 20 years, students, teachers, and institutions have widely adopted digital technological tools; however, the change derived from the use of digital technology is gradual, uneven, and greater in some contexts than others: “Digital technology varies according to community and socioeconomic level, teacher readiness and preparation, educational level, and the country's income. Except in the most technologically advanced countries, computers and devices are not widely used in classrooms” (UNESCO, 2023). Thus, there have been many advances, but also many challenges. In this scenario, the dissemination of best practices can be a valuable strategy for spreading or deepening digital education programs and strategies, from governmental and non-governmental organizations as well as educational institutions.

ProFuturo is an educational innovation program with technology that works to reduce the educational gap worldwide by providing quality education to children in vulnerable environments.

The partnership between the Organization of American States (OAS) and ProFuturo focuses on promoting digital education in Latin America and the Caribbean, with the goal of improving educational quality through technology.

This collaboration aims to strengthen public policies on digital education by facilitating access to technological tools and innovative educational resources. The initiative focuses on providing equal opportunities to children and young people from disadvantaged sectors, enabling them to develop essential digital skills for their future.

As part of the OAS and Fundación ProFuturo Alliance's work plan, the first edition of the “Mapping of Best Practices in Digital Education of the Americas” was launched in July 2022. Under this initiative, schools and Civil Society Organizations (CSOs)¹ was invited to submit experiences focused on supporting school trajectories and improving learning outcomes, involving pedagogically innovative resources, and incorporating new digital technologies as tools to enable these strategies. In the context of the COVID-19 pandemic and the global suspension of in-person classes, this mapping particularly focused on experiences that ensured pedagogical continuity and student pathways, as reflected in its two main objectives.

In 2024, a decision was made to conduct the second edition of the “Mapping of Best Practices in Digital Education of the Americas.” This edition sought to expand the scope and meaning of the experiences presented, especially considering that the most critical phase of the pandemic had passed and educational systems had resumed in-person classes. Additionally, it aimed to make explicit objectives related to knowledge building and opportunities for sharing and transferring experiences.

In both editions, educational institutions and CSOs were invited to submit experiences. The recorded best practices can be consulted in detail in the “interactive map of best practices in digital education of the Americas,” available in both [Spanish](#) and [English](#).

The second edition of the “Mapping of Best Practices in Digital Education of the Americas” was disseminated during October and November 2024. The call for submissions was open from October 15 to November 20, 2024.

¹CSOs: Civil Society Organizations are institutions, organizations, or entities—national or international—composed of natural or legal persons of a non-governmental nature (OAS, 1999).

Mapping Objectives



To highlight initiatives from educational institutions and Civil Society Organizations in Latin American and Caribbean countries that promote educational improvements through digital technologies.



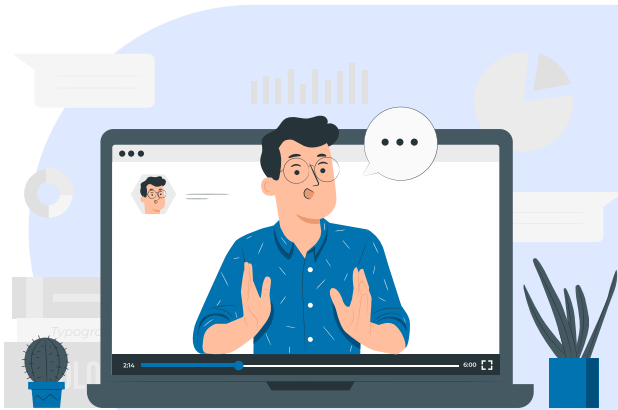
To analyze common and unique aspects among these initiatives in order to build knowledge about their starting points, purposes, characteristics, and outcomes.



To systematize information about the initiatives to facilitate their transfer to other contexts and contribute to the promotion of digital education in the region.



What do we understand by best practice?



In this mapping, we consider best practices (BBPP) as experiences that drive educational improvements through the use of digital technologies. Accordingly, the various purposes these practices might have were considered and evaluated. The mapping invited institutions to select one or more purposes, although the guidelines encouraged identifying the one deemed most relevant.

The purposes were:

i. Practices that promote a more inclusive and equitable education. The digitalization of learning tools and resources can expand access to teaching and learning materials and, consequently, increase learning opportunities for the most disadvantaged students. In this case, technologies enable the timely identification of students with learning difficulties or specific needs and also offer accessible resources and activities for these students. Through virtual teaching, it is possible to guarantee access to education for populations in remote areas, in disaster situations, or those facing difficulties accessing schools, as well as to improve educational opportunities for populations previously receiving low-quality services.

Technologies foster activities and tools that can be used to accelerate learning for students who have not met certain learning goals and/or who require additional time interacting with the content. Another important advancement in this regard is digital information systems, which provide timely and systematic data about students and enable interventions aimed at supporting their educational trajectory and preventing grade repetition or school dropout.

ii. Practices that promote specific digital competencies in students. In the context of the exponential advancement of technologies, it is increasingly necessary to train future generations in digital competencies that enable them, among other things, to: participate responsibly in socialization processes and in the construction and circulation of knowledge in the digital world; operate and think critically about the information available in cyberspace; interact meaningfully with digital resources that expand or enhance our capabilities; coexist respectfully with others on social networks; and analyze and reflect on the impact of technologies and digital environments on life and human development.

Unlike the previous purpose, in this case, the priority and focus of technology use is on developing digital competencies in students, although this may also be relevant for teaching specific content.

iii. Practices that offer a more personalized education for students. Technologies can be used to generate relevant, timely, and dynamic information about each student and their learning process, which serves as a key input for teaching and for school-based interventions aimed at supporting and improving their educational trajectory. They also provide the opportunity to offer individual assistance to students in their learning, propose activities, and guide them according to their levels of achievement, prior knowledge, interests, learning styles, and pace.

iv. Practices that strengthen or enhance teacher training and professional development. Digital education includes not only students but also school leaders and teachers within the educational system. Technologies create new opportunities for teacher professional development through virtual training, digital networks and communities for socialization and learning among teachers, platforms that provide access to resources and practices from colleagues, tools for evaluating teacher performance, and systems for digitizing professional records and career development.

v. Practices that enrich the teaching and learning of school subjects. Digital technologies provide various platforms, software, and resources that can enhance, update, or invigorate teaching. There is software programs aimed at teaching and learning specific content, platforms that teachers can use as support systems for instruction both inside and outside the classroom, and tools specific to disciplinary fields that can be integrated into curricula to modernize student education.

As can be seen, a purpose specifically focused on teacher training and professional development was included, which also broadened the range of practices to be considered compared to the first edition of the mapping. The inclusion of this purpose also allowed higher education institutions to submit practices, as they often develop teacher training programs.

Requirements and Evaluation Criteria

For the evaluation of the experiences, a set of requirements and evaluation criteria were established. The requirements were conceived as the conditions that practices had to meet in order to be evaluated. The criteria were proposed to rate and weigh the different practices. This distinction between requirements and criteria allowed for differentiation between necessary conditions that had to be present for practices to be evaluated, and other aspects that could be valued but were not essential.

The established requirements were:

★ **To be based on the right to education**, that is, the practices should view education as a fundamental process for the development of individuals and societies and contribute to improving educational opportunities and the quality of the training accessed by students and teachers.

★ **To integrate ICT (Information and Communication Technologies) and/or LAC (Learning and Knowledge Technologies)** into educational systems, schools, classrooms, or professional learning communities to enhance educational opportunities and improve the quality of education.

★ **To have evidence of their progress or results**, that is, having documented the experience through sources or records of information (for example: written projects, audiovisual or visual materials, productions by teachers and/or students, among others).

★ **To be or have been sustained over time, that is, systems**, communities of practice, projects, curricula, or instructional sequences that are currently in development or have been completed, and whose implementation takes place over a period of time.
Additionally, the experience submitted to this mapping could not have been selected in the first edition.

The criteria defined for the evaluation of the practices were:

● **Relevance.** The experience presented effectively contributes to the purpose(s) it sets out to achieve. There is a logical relationship between the initial problems or diagnoses, the goals established, and the strategies or interventions implemented.

● **Centrality of technologies.** ICT or LAC are used strategically and meaningfully to achieve the purpose(s) within which the experiences are framed.

● **Systematization.** The practices are described and documented, clearly defining their foundations, objectives, involved actors, strategies or interventions, timelines, and progress or results.

● **Replicability.** Feasibility of implementing the practices in other institutions and contexts. This will particularly consider the resources required for their development as well as the efforts and adaptations necessary for their transfer.

- Equity focus. Experiences aimed at guaranteeing the right to education for populations in conditions of socioeconomic vulnerability or belonging to minority groups (migrant and/or rural and/or Indigenous and/or persons with disabilities, among others) and for girls or adolescents. Taking this last aspect into account, experiences with a gender focus will also be valued.

Each criterion was assigned a weighting, which was determined based on the relevance attributed to it within the final score.

► Relevance: 30%

► Centrality of technologies: 30%

► Systematization: 20%

► Replicability: 10%

► Equity focus: 10%

To clarify the criteria and score the experiences, four levels of achievement were defined for each criterion, each with a specific description.

The score for each level was determined based on the weighting of each criterion within the final score and was distributed evenly across levels. For example, for the criterion “Equity focus,” Level 1 was scored 2.5 points; Level 2, 5 points; Level 3, 7.5 points; and Level 4, 10 points. The assessment of the level and the score assigned to each criterion for the practices was conducted by a team of expert evaluators in the subject matter.

The analysis of the best practices submitted was conducted by a group of independent professionals with extensive knowledge of the topics promoted by this initiative. We were fortunate to have the valuable collaboration and contributions of Ana Raad (Ecuador), Virginia Soto (Spain), Pilar Suárez (Mexico), and Ramón Majé (Colombia).

This report was developed by Emmanuel Lista (Argentina).

Graphic design by Sebastián Acosta Vivero (Colombia).



Experts who participated
**in the evaluation of best
practices**

Experts who participated in the evaluation of best practices



"Identifying and highlighting best practices in educational innovation is a necessary process to make visible the tremendous effort conducted by different educational communities and their visions of the change education must undergo in the region. In a time of great uncertainty, constant changes, and huge learning gaps, it is unbelievably valuable and exciting to see that innovation is happening in Latin America with positive results and that it is becoming the driving force for change and improvement. Without a doubt, these best practices will serve as a reference and inspiration over time."

Ana Raad



"Access to education has improved considerably in the Americas; however, quality education remains a challenge, especially in rural and remote communities. Effective teaching practices contribute to reducing these gaps. The experiences of teachers from the Americas who have participated in this call are truly inspiring, providing a map of what is happening in many classrooms and giving a voice to those who work tirelessly every day to help improve the quality of life for their students."

Pilar Suárez



"Participating as an evaluator in the Second Edition of the Mapping of Best Practices has been a deeply enriching experience. Exploring these diverse and creative educational practices fills me with hope, seeing so many teachers and social organizations committed to innovation to transform learning. Each proposal reflects a genuine purpose: to guarantee a better future for the children of Latin America. This experience reaffirms my conviction about the power of education to change lives and build more just societies. It has been an honor to be part of this collective effort."

Virginia Soto



"My experience as an evaluator for the Second Edition of the Mapping of Best Practices in Digital Education of the Americas allowed me to understand the diversity and complexity of digital educational projects in the region. I was captivated by the creativity and commitment of the projects to improve education using technological mediators. This experience reaffirmed for me the importance of collaboration and knowledge sharing to address educational challenges in the digital age."

Ramón Majé



Results

Results

As previously presented, mapping invited submissions of practices developed in recent years by educational institutions and CSOs from countries in Latin America and the Caribbean.

One of the requirements of the call was to complete a form designed to gather relevant information about each experience. This instrument included 37 questions aimed at characterizing the practice, covering aspects such as: the organization submitting it, year and scope of application, target audience, context, purposes, technologies used, participants, progress or results, challenges and lessons learned from its implementation, and available documentation on the experience.



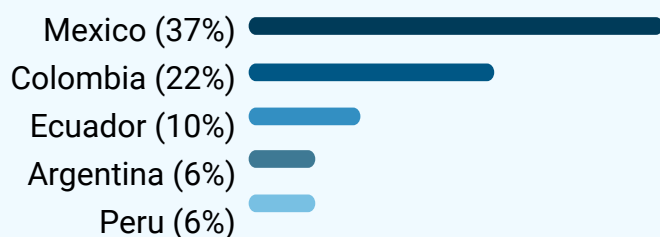
Characterization of best practices

A total of **179 practices** were submitted to the mapping, of which 79% were proposed by schools and the remaining 21% by CSOs. It is worth noting that in 6 of these practices, the applicants selected the technologies used in each experience within the digital form but did not include any mention in the description regarding how they were employed. Therefore, it is unclear how these practices constitute digital education experiences. Nonetheless, these practices were included in this report, considering the information that was provided.

The submitted best practices belong to **17 countries**; the majority are implemented in Mexico, Colombia, Ecuador, Argentina, and Peru.

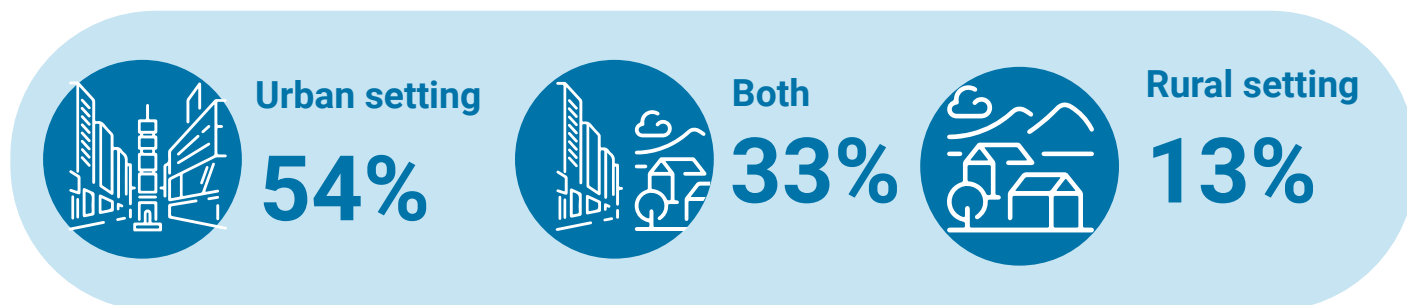


179 practices



Implementation Contexts

Scope: More than half of the experiences (54%) were implemented in urban settings; approximately one-third (33%) in both urban and rural settings; and 13% in rural settings.



The 24 experiences implemented exclusively in rural contexts are concentrated in Colombia (11), Mexico (9), Ecuador (3), and Guatemala (1). Five of these were designed to develop digital knowledge and competencies in students; five addressed contents related to environmental education and/or sustainable economy; three focused on teaching natural sciences; and the remainder covered diverse topics such as intercultural education, socio-emotional education, mathematics instruction, and reading comprehension development.

Scope: 65% of the submitted experiences were implemented in the public sector, while the remainder was distributed almost equally between the private sector (16.7%) and both sectors combined (17.8%).

Educational level: 52% of the experiences (93) were implemented at the secondary level, 41% (73) at the primary level, and only 4% (7) at the preschool level. Among the experiences submitted by CSOs, 60.5% (22) were implemented at the primary level and the rest at the secondary level. Among those submitted by schools, 59% (79) were implemented at the secondary level, 36% (51) at the primary level, and 5% (7) at the preschool level. It is worth noting that there were 5 practices reported as being implemented at the secondary level and 1 at the primary level, but the descriptions of these experiences actually refer to undergraduate or postgraduate university programs (4 cases) or to training or support for older adults (2 cases).

Purposes

This mapping considered different purposes for the submission of practices, in order to understand the diversity of goals they may pursue. Although the mapping guidelines recommended selecting only one purpose, in many cases, institutions chose more than one.

The most frequently selected purpose was “Promoting specific digital competencies in students”: 116 practices referred to this purpose.

Table 2. Number and percentage of submitted experiences according to the purposes they fulfilled.

Purpose	Quantity	%
Promote specific digital competencies in students	116	65
Enrich teaching and learning of school content	110	61
Strengthen or enhance teacher training and professional development	103	57,5
Offer more personalized education for students	69	38,5

The purpose of “Strengthening or enhancing teacher training and professional development” was included in this mapping in order to consider best practices whose direct beneficiaries are teachers and not necessarily students.



Teachers are key to improving the quality of education systems and, therefore, it is important to recognize and build knowledge about experiences specifically aimed at these actors.

Thus, there were 69 experiences that reported having this purpose, although most of them also selected other purposes aimed at students, simultaneously. Consequently, it is possible to infer that, in most cases, these were experiences designed for students—as the direct recipients—but which also included training or work sessions with teachers. Beyond this, 6 experiences were indeed exclusively framed with the purpose of strengthening or enhancing teacher training and professional development.

Beyond the purposes declared for this report, the description of the experiences provided in each application made it possible to identify certain specific objectives and themes worth mentioning in order to continue characterizing the nature of these practices.

A total of 21 experiences reported applying a STEM or STEAM approach. Among them are multiple projects aimed at reducing classroom noise, creating a vegetable garden, solving existing problems in the community, raising public awareness, organizing science fairs or clubs, among others. In not all cases was it possible to clearly identify the inclusion and interconnection of the different disciplines that make up the STEAM/STEM approach, and even less so the inclusion of artistic disciplines or content (in the case of experiences claiming to apply a STEAM approach). Two additional experiences also addressed specific natural science content, while another seven covered topics related to environmental education.

Sixteen practices focused on improving students' literacy or communication skills. Some promote creative storytelling, the study of a novel through immersive experience, reading digital comics, producing digital content, or creating a digital newspaper. Another 10 experiences were aimed at developing mathematical knowledge through multisensory materials to address dyscalculia, challenges, games, and projects. In addition, 9 experiences addressed specific social science content such as human rights, history, or religion.

Within the 116 practices that claimed to develop specific digital skills in students, 16 explicitly mentioned in their description the development of abilities and knowledge related to computational thinking, robotics, and/or programming.

While 49 reported experiences are aimed at students with disabilities (not exclusively), around 20% of these are specifically mentioned in their description interventions or impacts for students with learning difficulties or disabilities. Some of these experiences include adaptive technologies or universal design for learning.

More than 15 experiences reported training students and/or teachers through virtual platforms, webinars, distance education, and/or YouTube channels. One of these cases took place in the context of a public health emergency, and two others offered a virtual high school program for students who have dropped out of face-to-face education. It should be noted that many other experiences also report using platforms, but this does not appear to be a distinctive feature, rather an additional resource employed within a set of technologies.

Finally, it is important to note that some practices ensure the distribution of equipment or connectivity in contexts where these are not available, and in some cases, with significant reach among teachers and students. However, these experiences are not exclusively aimed at technology access but also include training programs for teachers and/or students to develop digital skills or to learn school content through technology.

Technologies used

The application form for the practices included a multiple-choice question regarding the technologies and software involved in the experience. One noteworthy aspect of the submitted experiences is precisely the number of technologies or software tools they selected.



Generally, the submitted experiences combined different technologies simultaneously.



Only seven used a single technology or software; 19% relied on one or two types of technology or software, and more than half of the experiences reported using more than five different types².

The simultaneous implementation of different technologies or software may be due to a necessary complementarity between them for the educational purposes pursued by the experience, or, in other cases, to the availability of resources in the context where they were implemented. For example, 96 of the 184 practices used both computers/netbooks/notebooks and mobile phones together; the use of both technologies may have served the same purposes and simply resulted from the fact that both were available to the participants involved in the experience.

Table 3. Number of submitted experiences by type of technologies or software reported

Technologies or Software	Quantity	% of practices by each technology or software
Computers/Netbooks/Notebooks	152	85
Mobile Phones	121	68
Cameras and Microphones	85	47
Tablets	78	44
Learning Management Platform	64	36
Multimedia Creation Software	50	28
Digital Whiteboard or Interactive Projector	48	27
Educational Software (programs specifically designed for teaching or learning certain content or subject areas)	45	25
Collaboration Application	43	24
Programming Application	35	20
Online Assessment Software	28	16
Sensors and Robotics Kits	27	15
Simulator	22	12
Assisted Reading and Writing Application	22	12
Virtual Reality (VR) and Augmented Reality (AR) Devices	18	10
3D Printers	16	9
Data Analysis Software	15	8
Virtual and Augmented Reality Platform	14	8
Smartwatches	6	3
Others	39	22

The most widely used technologies were computers/netbooks/notebooks and mobile phones. These were followed by cameras, microphones, tablets, and learning management platforms. Multimedia creation software, educational software, digital whiteboards or interactive projectors, and collaboration applications were used in 20% to 30% of the practices. The least used technologies or software are smartwatches, data analysis software, and 3D printers. This appears to be related to the availability of technologies both in households and in schools.

²Four experiences did not provide information in this regard.

Duration

45% of the experiences had an estimated implementation time equal to or greater than one year, which is a significant period for documenting the practice and assessing certain results. Fourteen and a half percent were implemented over a period between one semester and one year, 13% between one quarter and one semester, and 12% between one month and one quarter. Only 14.5% of the experiences lasted approximately one month or less³.



In addition, 75 experiences began in 2022, 53 in 2023, and 51 in 2024.



Image: pexels.com/es-es/

³ Three experiences did not provide information in this regard.

Scope

A total of 340,547 students and 208,216 teachers were reached by the best practices submitted. The vast majority of these best practices targeted students (79%), and more than half (54%) targeted teachers. Thus, most experiences had both groups as beneficiaries, although 22 of them were aimed at teachers only, with no direct involvement of students. In addition, 36% of the experiences reported targeting families and/or the broader educational community.

Regarding the scale of the experiences that did target students, 15% reached fewer than 50 students; 25% reached between 50 and 249 students; 13% between 250 and 499 students; and 24% reached more than 500 students.

Table 4. Number and percentage of experiences targeting students by range of student reach.

No. of Students	No. of Best Practices	%
No Information	4	2
Fewer than 50	26	15
Between 50 and 99	21	12
Between 100 and 244	23	13
Between 250 and 499	24	13
Between 500 and 999	14	8
Between 1,000 and 2,499	15	8
Between 2,500 and 4,999	4	2
More than 5,000	10	6
Total	141	100

On the other hand, 114 (64%) of the 179 practices were aimed at populations living in poverty or in situations of socioeconomic vulnerability; 52 (28%) targeted populations including persons with disabilities; 46 (26%) targeted migrant populations; and 34 (19%) targeted Indigenous populations.

Conditions for the continuity of the practices

In the application form for the practices, participants were asked what would be needed for the experience to continue developing overtime within the institution, regardless of whether the current leaders remained in place. Sixty-seven percent (120) of the practices would require teacher training, and another 54% (96) would require training for school leaders. Fifty-four percent (96) indicated the need for the distribution or installation of technological equipment, and 35% (62) for the distribution/installation of free software. Additional factors mentioned included infrastructure improvements (31%), curriculum review (33%) or regulatory adjustments (22%), and inexperienced staff profiles or human resources (26%). Only 11% identified the distribution/installation of paid software as a requirement.





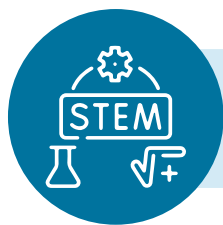
24 best practices
in focus

24 best practices in focus

All the practices presented in this mapping are valuable, as they contribute experiences developed in diverse contexts, using various technologies, and aiming to improve teaching and learning processes for children, adolescents, and/or young people.

Here we detail a selection of 24 practices that can inspire other actors to continue designing and implementing experiences that enhance educational opportunities. This selection was made by a group of experts, considering the requirements and evaluation criteria set out in the guidelines for this second edition of the mapping. In addition, a jury convened for the mapping awarded a special mention to 6 of these 24 practices, based on their evaluation against the established criteria. The six practices receiving a special mention are marked with a star next to their graphic profile. Moreover, an informational video was produced with details of each of these 6 practices; the link to each video can be found in their respective profiles.

The experiences were regrouped into distinct categories, which were proposed considering the specific learning outcomes they aim to develop in students and/or teachers. These categories were defined by prioritizing the components considered most important in each experience. Thus, certain experiences could fit into more than one category if all their elements were considered, but they were placed in the one deemed most representative of their main objectives. The categories were:



STEAM/STEM teaching practices



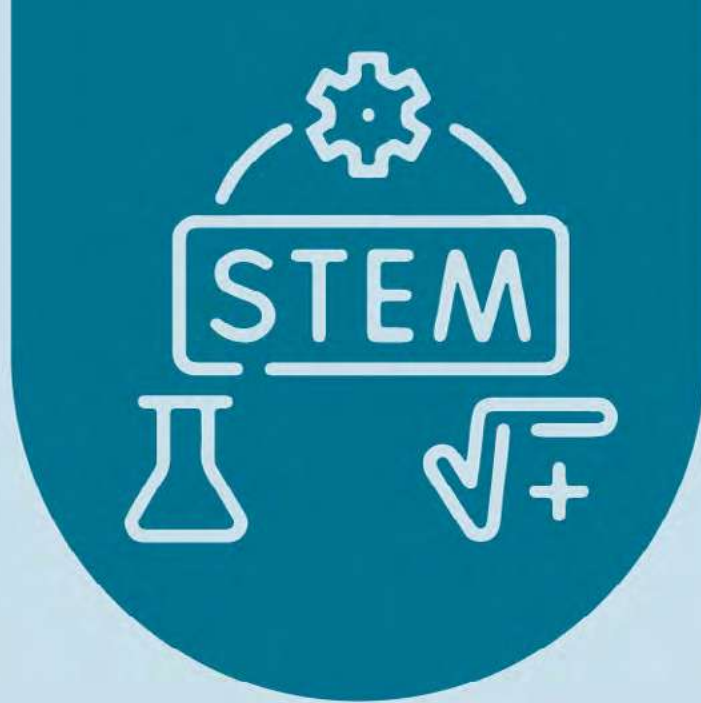
Practices oriented toward the development of digital competencies



Teaching practices for other school subjects



Practices that expand access to educational opportunities



STEAM/STEM teaching practices

This is a selection of experiences aimed at developing skills that connect technology, natural sciences, mathematics (commonly referred to as “STEM” for the initials of these fields in English), and, in some cases, the arts (STEAM). While other experiences may focus on learning specific content from these fields, what is distinctive about the experiences in this category is their goal of integrated learning across these diverse areas. Generally, these experiences adopt project-based learning through which students create solutions, responses, or products to address real-world problems.

Center for Innovation and Research for Learning (CI2A): STEAM i2 Project



Institution: CEDES Don Bosco



Educational Level: Secondary



Scope: Urban



Sector: Both



Country: Costa Rica



Topic: Complementary technical training in digital tools, technological equipment, and STEAM projects



Practice video:
<https://youtu.be/RD5rn7Cux7Q>

Summary

This experience involved students from Cycle III receiving, as a complement to their exploratory technical training, the STEAM i2 workshop, aimed at exploring new digital tools and technological equipment. In addition, students entering Cycle IV were offered the EXPO STEAM program, which consists of developing interdisciplinary projects (across different technical specialties) and a series of mentorships in innovation, research, entrepreneurship, and rapid prototyping technologies. This program complements their technical profile and fosters teamwork and solution design. Participants also prepare a business plan, enabling them to start their own ventures or apply for non-repayable funding for their projects. From CI2A, the STEAM i2 project also launched an extracurricular space called I Box, focused on providing digital tools for innovation, creativity, and collaboration in functional products.

In addition to these activities, the initiative encouraged youth participation in external competition programs such as the National Robotics Olympiad and the Formula 1 for Schools challenge.

Learning circles application in technology



Institution: Circoap – Beatvi (OSC)



Educational Level: Primary



Scope: Both



Sector: Both



Country: Colombia



Topic: STEM Learning Circles

Summary

These are learning circles applied to the study of mathematics, science, and technology. In these circles, challenges, games, or experiences are proposed to encourage participating students or families to devise solutions, become motivated by learning, and create creative solutions, testing and adjusting them along the way. The experience is then systematized with the aim of sharing these learning circles with other teachers.

Each year, learning circle cycles are held, consisting of 8 classes, 3 cycles per year, conducted virtually. Additionally, in-person events are organized twice a year. Some of the circle names include: “Life in Water,” “Science, Color, and Cooking,” “Binary Arithmetic with Robots,” “Engineering and Redstone in Minecraft,” and “Video Games and Programming.”

STEAM without barriers: Closing gaps in rural areas



Institution: Ministry of Education of Boyacá



Educational Level: Primary



Scope: Rural



Sector: Public



Country: Colombia



Topic: Promotion of digital skills and scientific thinking in multigrade classrooms

Summary

This is an experience developed for multigrade classrooms that promotes computational thinking, the maker culture, and scientific thinking, while students actively learn curricular content from each subject, solving real-world problems, creating technology-based solutions, and becoming more aware of their own learning process.

Among the projects conducted by the students are communication devices for students with visual or hearing impairments, sensors to help protect vocal health, hackathons, and the creation of digital games.

MACH Robotics for a New School



Institution: I.E. “Justo Arias Araguez”



Educational Level: Primary



Scope: Both



Sector: Public



Country: Peru



Topic: Construction of Robots through the MACH Strategy

Summary

This is a project that provided training to the teachers of the educational institution in the use of the Lego WeDo 1.0 robotics kit and the application of the MACH Robotics strategy (Mathematics, Art, Communication, and Soft Skills) for the development of classroom projects.

Through this experience, students built robotic prototypes. The MACH strategy motivated students by engaging them in the solution of authentic and contextualized problems, leading to the creation of real and tangible solutions. Through educational robotics, students face challenges they could address by designing in their minds and building with their hands, thus fostering critical thinking and creativity.

Art and Technology Laboratories: an invitation to explore new expressive languages for original childhood productions.



Institution: Instituto Martín Buber



Educational Level: Early Childhood



Scope: Urban



Sector: Private



Country: Argentina



Topic: Art and Technology
Laboratories in Early Childhood
Education

Summary

This is a co-design experience of LABs between the kindergarten's management team and the school's educational technology team, conceived as technologically equipped spaces for conducting research, experiments, and artistic work with students. The full project sequence was:

(i) Work sessions, training, and experimentation with teachers. (ii) Labs with classrooms, each level having its own narrative and technological themes that included exploration and production. (iii) Externalization and sharing of the work among different classrooms in a museum format. The structure of the LAB sessions involved small groups, each meeting starting with a narrative axis introduced through a literary proposal. This was followed by a brief explanation of the technological experiment to be used in that session. A huge portion of the time was dedicated to students creating their projects, and finally, sharing their creations with the rest of the group. The different technologies used (stop motion, real-time green screen filming, animation of drawings, sound drawings with graphite, conductive dough, and light painting) were selected based on criteria such as exploratory potential, versatility in offering a wide range of languages and nuances, and their ability to integrate with artistic languages such as drawing, movement, or sound.

STEAM Zone: A teaching medium that supports conducting learning experiences with a STEAM approach in a blended modality



Institution: Colegio Anglo Mexicano de Querétaro



Educational Level: Primary



Scope: Urban



Sector: Private



Country: Mexico



Topic: STEAM activities for students

Summary

This is an experience designed by a Technology and STEAM teacher at the school to support STEAM education for children aged 6 to 12 in primary school. It includes activities, challenges, experiments, and projects in the areas of Science, Technology, Engineering, Arts, and Mathematics, aimed at developing 21st-century skills and competencies. To this end, the website zonasteam.com was developed with challenges for students. This site has been presented at seminars and webinars for teachers. Each challenge also includes a teaching guide to make it easier for educators to replicate the activities in their own context, even without the need for internet access or a computer. Currently, the website is accessed from 70 countries, with a total of 42,562 visits.



Practices aimed at developing digital competencies

They comprise a set of experiences specifically aimed at developing knowledge and skills related to the digital world. These include computational thinking and programming, robotics, promoting the “maker culture” (creating objects, projects, and practical solutions), exercising active and responsible digital citizenship, and designing several types of digital content. In some cases, these experiences also include learning other curriculum-based content. It is worth noting that one of the experiences in this category focuses on teaching older adults, which, while not part of basic or compulsory education, was considered relevant due to its impact on this age group, likely one of the groups facing the greatest inequality in access to and use of technology.

Digital Seed



Institution: Escuela Normal Superior “Lácides Iriarte”



Educational level: Primary



Scope: Both



Sector: Public



Country: Colombia



Topic: Development of digital skills through complementary spaces



Video of the practice:
https://youtu.be/O_8mBG1Px8

Summary

This is a complementary educational experience designed to develop digital competencies. It arose in a context marked by the digital divide and lack of access to technology among the student population. The program involved trainee teachers from the Complementary Training Program and primary school students. The trainee teachers functioned as mentors and facilitators, while the students actively participated in practical and playful activities integrating the use of technologies. Both students and trainee teachers learned to use technological tools such as the MicroBit board and the MakeCode simulator to design and execute interactive projects. This learning process helped students understand programming and robotics concepts in a practical and engaging way.

We learn together with EDUCA SM TV



Institution: Institución Educativa San Martín en Sechura



Educational level: Primary



Scope: Public



Sector: Both



Country: Peru



Topic: Creation of digital content



Video of the practice:

<https://youtu.be/a0zVpEkblo8>

Summary

This experience is based on the Design Thinking approach, involving both teachers and students in creating digital learning content on the EDUCA SM web platform and mobile app. Activities planned included radio plays, podcasts, debates, role-playing dynamics, and the creation of audiovisual content for radio and television programs.

Students actively participated in producing and disseminating digital content using tools such as Vmix, RadioBoss, Filmora, and Vivavideo; audio editing with Audacity; text creation with Canva; interactive resources on Genially, Kahoot, Stopmotion; the EDUCA SM platform and app; and other interactive programs, supported by workshops led by strategic technology partners. Equitable participation of children was promoted in roles such as programmers, cameramen, reporters, and hosts, highlighting the role of women in the community and fostering gender equity. Additionally, EDUCA SM TV programs featured teachers and students from other regions of the country who shared stories about their communities through videos using puppets, which were broadcast on the TV channel.

Robotmaker “Exploring Digital Worlds”



Institution: Institución Educativa Rural Luis Antonio Duque Peña



Educational level: Primary



Scope: Rural



Sector: Public



Country: Colombia



Topic: Robot building and development of technology knowledge

Summary

This experience invited students to design, build, and program robots that interact with digital environments, fostering their understanding of how emerging technologies can be applied to problem-solving. It arose as an educational proposal that integrates robotics and virtual environments, aiming to motivate students to explore and comprehend the use of technology in their daily lives, especially in contexts where access to and integration of technological tools in the classroom is limited.

Given the difficulties in accessing computers, a rotation system for equipment use was organized, and support was requested from the educational community and external entities to obtain additional resources.

Digital Citizenship and Rights for Older Adults



Institution: Red Aprender A.C. (OSC)



Educational level: Primary



Scope: Urban



Sector: Public



Country: Mexico



Topic: Digital Education for Older Adults

Summary

This is an initiative that promotes the development of digital skills among older adults through workshops, audiovisual content, and educational experiences that strengthen their autonomy, well-being, and social participation. It aims to facilitate access to technological tools in contexts where digital gaps often hinder the full exercise of rights, access to information, and inclusion.

This experience is shaped as a citizen-led cultural management project that integrates digital rights, active aging, and a culture of peace. It is carried out in collaboration with academic, cultural, and institutional spaces. In response to the challenges posed by technological inequality, the initiative has worked in network with the community, engaging institutional support and creating accessible content through platforms such as YouTube and social media, encouraging a critical, determined, and informed appropriation of technology by older adults.

EcoPrácticas Environmental Foundation (CSO- Civil Society Organization)



Institution: Fundación Ambiental
EcoPrácticas (OSC)



Educational level: Secondary



Scope: Urban



Sector: Both



Country: Venezuela



Topic: Computational Thinking
Projects

Summary

This experience is focused on the planning and execution of school projects that promote computational thinking among students across different knowledge areas using the MicroBit board and a robotics kit. First, a needs assessment and evaluation of teachers' knowledge levels were conducted, based on which a hybrid training program was offered. This program covered basic concepts as well as practical applications of computational thinking in various subjects. Simultaneously with the training, teachers began developing projects with their students. Additionally, visits to the institution were conducted to support this process. Finally, to share experiences, teachers and students presented their projects at a knowledge fair.

The training was delivered through the Virtual Education Center (CE-Virtual). Students received academic support from specialized tutors in various fields, as well as guidance and counseling from psycho-pedagogical advisors.

Strategy for the development of digital skills



Institution: Bachillerato Bivalente de Talentos de Irapuato



Educational level: Secondary



Scope: Public



Sector: Urban



Country: Mexico



Topic: Development of digital skills within the framework of workforce training

Summary

This is an experience implemented at the high school level to develop specific digital competencies in students. The project was structured in several stages. In the first stage, students received training in the use of office software, online collaboration tools, and digital learning platforms. Subsequently, the focus shifted to creating and editing audiovisual content, including video production and the use of graphic design programs. Additionally, the use of emerging applications and technologies such as augmented reality and mobile app programming was promoted.

The methodology employed in the project was primarily practical and collaborative, allowing students to work on real projects equivalent to situations in the professional world. Through this experience, students not only acquired technical skills but also developed transversal competencies such as effective communication, time management, and adaptability.



Teaching practices for other school subjects

These are practices that, although they link the learning of digital knowledge or competencies or some of the disciplines within the STEAM field, have as their main purpose the teaching and learning of specific content included in the official curriculum disciplines (for example: literature, history, or natural sciences). Also included here is an experience aimed at enabling teachers to build knowledge and skills to teach digital content through one of the most widely used social media platforms today. The selected experiences corresponding to this category were:

Climate and Earth Explorers



Institution: IEPGPE Teniente Coronel "Alfredo Bonifaz Fonseca"



Educational level: Secondary



Scope: Urban



Sector: Public



Country: Peru



Topic: Learning about environmental phenomena with technologies

Summary

This project's main objective is to engage students in monitoring meteorological, hydrological, and seismic phenomena, promoting the development of scientific and technological competencies. Through the use of platforms such as Ventusky, SENAMHI, the Geophysical Institute of Peru, IQaiAir, among others, students acquired skills in data analysis and interpretation of natural events, while strengthening their ability to respond to emergencies.

Among other outcomes achieved, students have improved their ability to interpret and analyze data using statistical tools to measure climatic phenomena. They have also gained a deeper understanding of natural phenomena and the human impact on climate. Additionally, they developed skills in using technologies for environmental data collection and analysis, as well as in formulating hypotheses and conducting experiments that foster scientific thinking.

Augmented Reality as a didactic tool to strengthen fine motor skills



Institution: Unidad Educativa Isabel Tobar ITL



Educational level: Primary



Scope: Urban



Sector: Private



Country: Ecuador



Topic: Augmented reality to encourage the development of fine motor skills

Summary

This is an experience aimed at promoting fine motor skills in students, after identifying deficits in this ability following the COVID-19 pandemic. To achieve this, students are encouraged to conduct various activities that engage their motor skills through different creations (for example: assembling cubes or coloring images) which then, through an augmented reality system, become three-dimensional productions, images, or holograms with which students can interact and play.

Machining a Future



Institution: Escuela Secundaria
Pública “Escuela Secundaria
Técnica N°31”



Educational level: Secondary



Scope: Urban



Sector: Public



Country: Mexico



Topic: Prevention campaign
through video game design

Summary

This is an experience involving the design of a video game using the MBLOCK programming platform to promote a prevention campaign against drug use, primarily aimed at adolescents and young people in secondary and upper secondary education. To conduct this practice, the third-year secondary school students themselves proposed creating it as an interactive video game, leveraging their prior knowledge of programming logic on the MBLOCK platform.

TIC, TAC, TOC: Technologies for inclusive education



Institution: Unidad Educativa
Fiscomisional Mater Dei



Educational level: Secondary



Scope: Both



Sector: Both



Country: Ecuador



Topic: Interactive Audios for
Learning

Summary

This is a project focused on teaching and learning history with an inclusive approach, especially addressing students with special educational needs (SEN), or learning difficulties.

The project is divided into seven subprojects, each designed to tackle specific aspects of history. These subprojects involved the development and creation of content using Artificial Intelligence; the development of gamified modules and content; the design of virtual learning environments; the creation of augmented reality content; programming modules; recording and production of podcasts, among other activities.

Training programs were implemented for teachers and students on the effective use of technologies to promote educational inclusion. These programs focused on familiarizing participants with available technological tools, as well as on inclusive pedagogical strategies and peer collaboration methods.

The Wonderful World of Jules Verne



Institution: Escuela Martín Buber



Educational level: Primary



Scope: Private



Sector: Urban



Country: Argentina



Topic: Immersive Technologies and Artificial Intelligence in a Reading Experience



Summary

This is an experience that serves as the culmination of a project conducted by 4th-grade students in the Language area, based on the study of Jules Verne's novel.

The students participate in shared reading activities, debates, and analyses of characters and settings from the work. Additionally, they are given creative writing challenges. The proposal encourages students to work in a workshop focused on identifying problems and generating creative solutions through the creation of objects that do not yet exist. From this process, artificial intelligence (AGI) with DALL-E is used to create prompts and generate possible images of the designed object.

The immersive features of the final proposal aim to achieve a deeper and expanded understanding of the novel, allowing students to experience the work from a multisensory and creative perspective. This experience combines literature and digital technology (Artificial Intelligence), and the space is decorated with elements resembling the aesthetics of the period. The immersive experience itself takes place in a space organized into four rotating stations. The proposal also promotes digital literacy, familiarity with virtual reality technology, and the use of interactive stories and bots.

Teachers with Digital Leadership



Institution: Movimiento STEM+ (OSC)



Educational level: Secondary



Scope: Both



Sector: Both



Country: Mexico, Colombia, Peru, Chile, Ecuador, Argentina



Topic: Use of TikTok as an Educational Tool

Summary

This is a course called “Teachers with Digital Leadership” aimed at promoting the use of TikTok as an educational tool among secondary and upper secondary school teachers. To this end, a free 8-hour training was offered either synchronously or self-paced on a digital platform. The course was designed in collaboration with TikTok and seeks to encourage the creation of increasingly valuable and educational content on the platform under the hashtag #LearnOnTikTok. Upon completing the training, teachers were invited to create and share the videos they produced as a result of their learning with Movimiento STEM+.

In addition to the synchronous or self-directed training, teachers have access to the #LearnOnTikTok Guide, a user-friendly resource to help them learn how to use TikTok and its tools, better understand digital literacy and leadership, and follow step-by-step instructions to create a TikTok video for their class. The guide also includes elements of digital wellbeing to support students in having a safe online experience.

The implementation goal was to reach 25,000 teachers from Mexico and five Latin American countries: Colombia, Peru, Chile, Ecuador, and Argentina. Additionally, teachers from 16 other countries in the region also participated.

Minecraft Without Borders



Institution: Escuela de Práctica N°9 “Cristóbal Colón”



Educational level: Primary



Scope: Public



Sector: Urban



Country: Uruguay



Topic: Interdisciplinary learning through Minecraft

Summary

This is an experience developed through Minecraft in which the representation of the International Plaza was proposed as part of a didactic sequence. This virtual construction allowed students to explore and understand the geographical and architectural layout of important buildings and monuments, conducting research on the history, culture, and significance of each element in the plaza. Minecraft’s multiplayer mode encouraged collaboration among students.

Students created interactive narratives in which they described the places recreated in the game and explained the meaning behind them, in both Spanish and Portuguese. For teaching Portuguese, the immersive environment offered by the application was leveraged, allowing participants to interact with the language as they presented their worlds and projects. This enabled them to practice vocabulary and grammatical structures contextually, improving their oral and written comprehension, as well as effective communication in a playful context.

Students also used digital tools to create infographics and folders about the International Plaza, summarizing their learning in both languages. Additionally, they participated in a Computational Thinking workshop to link their projects with QR codes and create interactive presentations.

Digital reading adventure: Towards reader empowerment



Institution: IE “Manuel Antonio Mesones Muro”



Educational level: Secondary



Scope: Public



Sector: Urban



Country: Peru



Topic: Development of reading skills through digital platforms

Summary

This is an experience aimed at developing reading competence for several types of written texts in the native language through digital tools. To achieve this, training sessions were offered to teachers on reading teaching approaches and the use of digital platforms such as Classroom, Quizizz, and Kahoot. The main objective of these training courses was to provide teachers with the necessary tools to integrate technology effectively and dynamically into their classes. The training was conducted in a direct manner, using the tools simultaneously, and interactive readings were jointly created with them. This allowed teachers to experience firsthand how these tools can be used to create engaging and participatory content for their students.



Practices that expand access to educational opportunities

These are experiences aimed at reducing the digital divide among students or populations in vulnerable situations, or that use technologies to facilitate access to quality educational offerings and/or materials for certain groups. As mentioned earlier, these experiences may also contribute to the learning of school content or the development of digital skills in students, but their primary purpose appears to be more focused on equalizing or improving educational opportunities for specific groups of children, adolescents, youth, and/or teachers.

Basic Programming Tactile Kit for the Visually Impaired



Institution: Corporación Ulkantú (OSC)



Educational level: Primary



Scope: Urban



Sector: Public



Country: Chile



Topic: Access to technology and computer science for blind or visually impaired students



Video of the practice:
<https://youtu.be/GiHgiwv7MPk>

Summary

This is an experience conducted within the framework of the IdeoDigital Initiative by the Fundación para la Inclusión Tecnológica Kodea, which promotes capacities in the school system for the incorporation of Computer Science in the classroom. The Ulkantú Corporation, as the implementing partner, applies the initiative in some school courses.

Faced with the situation of a blind child who had been left out of the initiative, a tactile material was created to replicate the mazes and blocks with which the other children in the class interact. The blocks were enhanced with raised letters (from the Latin alphabet) and Braille signs, both to allow the child to read by touch. The experience runs in parallel with the application of Course C (2021) from code.org, replacing the computer screen with the manipulative kit in those lessons and activities where it is possible. Learning guides were also developed and transcribed into Braille so the student can read independently, as well as didactic guides for the educational assistant who works directly with the student. Additionally, the experience integrated into the Bee-Bot robot, for which accessible activities were designed for students with visual disabilities.

Global Classroom through Interactive Audio Instruction



Institution: Fundación Carvajal (OSC)



Educational level: Primary



Scope Both



Sector: Public



Country: Colombia



Topic: Interactive Audios for Learning



Video of the practice:
<https://youtu.be/1GAn3-zn0yg>

Summary

This is a strategy that adapts content into language understandable for children. It is delivered through interactive audio that presents challenges and games.

Aula Global - IAI provided initial awareness workshops and ongoing support for teachers, enabling them to become familiar with and manage the content and resources of the strategy. This approach strengthened their skills in using technological tools and interactive methodologies in the classroom. Additionally, kits containing speakers and user guides were distributed as incentives, facilitating the implementation of the strategy and motivating teachers to incorporate this methodology into their classes, resulting in the program being perceived as an innovative and effective resource. The strategy enriches teaching through multichannel exposure, encouraging participation in various forms of discourse. Through prerecorded lessons, it allows continuous use for reinforcement after class, at home, additional educational support, and even delivering quality education to remote areas and to populations on the move or in migration.

Digital Divide Program



Institution: Potenciar Solidario Foundation (CSO)



Educational level: Primary



Scope: Both



Sector: Private



Country: Argentina



Topic: Access to technologies and training in digital skills for vulnerable contexts



Video of the practice:
<https://youtu.be/i6lpSB4Qc5w>

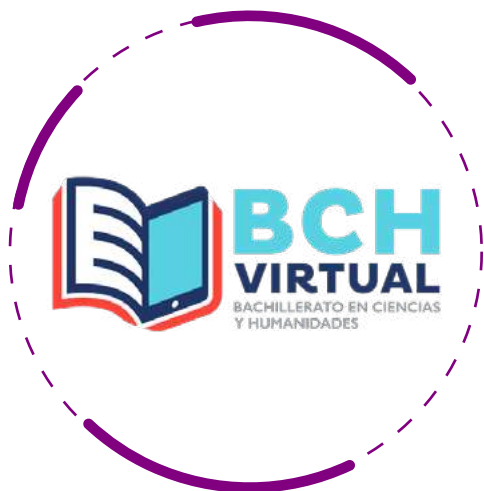
Summary

This is a program that facilitated access to devices and the internet, along with training in digital tools and digital citizenship for people from vulnerable contexts. The program has benefited over 10,000 individuals.

So far, 35 digital classrooms have been established in NGOs with internet connection, and various educational platforms have been used: Matific, Glifing, Ticmas, RVD.AI (an artificial intelligence platform for students and teachers), and Google Classroom. The initiative also promoted the recovery and recycling of digital equipment, involving donations from companies and individuals, and establishing partnerships to ensure the proper use of the devices.

The leaders of the organizations that participated in the program were responsible for deciding to participate, defining the objectives, and including digital transformation in the organization's strategic plan. Teachers received training, implemented educational platforms, and measured the impact on learning. The pilot of each platform was evaluated with a small group of students to determine its suitability and impact. Parents and/or guardians attended workshops to learn about technology and how to support their children in digital safety and setting limits on screen time. Additionally, in many cases, they accompanied their children in using reading and math learning platforms at home.

Virtual bachelor's degree in Science and Humanities



Institution: Ministry of Education



Educational level: Secondary



Scope: Both



Sector: Public



Country: Honduras



Topic: Virtual High School

Summary

This is a Virtual High School program in Science and Humanities (BCH-V) designed as an educational option for young people and adults who, due to their age, cannot attend in-person classes or face work, family, economics, or social obstacles that prevent them from studying in the regular education system. The BCH-V follows a flexible and enriched curriculum enabled by the use of technology. It is organized into four academic periods, each lasting four and a half months, totaling 18 consecutive months. Each academic period consists of three modules, and each module includes two subjects, allowing for an organized and accessible structure for students. The modules have an interdisciplinary focus realized through an integrative project, providing opportunities to apply the knowledge and skills developed.

The training is delivered through the Virtual Education Center (CE-Virtual), which is available at all times. Students receive academic support from tutors specialized in various fields, as well as socio-emotional guidance and support from psych pedagogical advisors.



Conclusions

Conclusions

The mapping of good digital education practices in the Americas has proven to be an important project for schools and Civil Society Organizations (CSOs) to systematize and share experiences related to digital education. In the first edition of the mapping, 118 practices were selected, and in the second, the number increased to 179. In both cases, practices from 17 countries in the region were submitted, with greater predominance from the most populous countries: Mexico, Colombia, Ecuador, Argentina, and Peru, excluding Brazil. The Caribbean Island region did not participate in this edition of the mapping, except for the Dominican Republic.

The main objectives of this mapping, besides highlighting initiatives that promote educational improvements through digital technologies, were to analyze common and original aspects of these initiatives and to systematize information about them to encourage their transfer to other contexts and contribute to the promotion of digital education in the region.

79% of the experiences were submitted by schools, and the remaining 21% by CSOs. More than half (54%) were implemented in urban areas; approximately one-third (33%) in both urban and rural settings, and 13% in rural areas. Sixty-six percent (66%) of the practices were implemented in the public sector, and the rest were evenly distributed between the private sector and both sectors. 79% of the practices declared being aimed at students, although not necessarily exclusively. Within this group, experiences of truly diverse reach were subjected: from those developed in classrooms or with fewer than 50 students (15%) to experiences involving more than 2,500 students (8%). Within this latter group, half belong to schools and the other half belong to CSOs.

The findings of this mapping of good digital education practices in the Americas reflect significant advances in the integration of technologies and the development of digital education proposals but also highlight persistent challenges.

First, most experiences were developed at the primary and secondary levels; only 4% were conducted at the early childhood level. Although the latter has lower coverage and fewer years of schooling compared to the other two levels, the difference may also be due to a greater emphasis in existing policies and programs on digital education at the primary and secondary levels in the region. Significant gaps persist in access to technologies and digital education within basic education, which may lead to prioritizing these educational levels over the advancement of policies or programs in early childhood education. In turn, the inclusion of technologies at the early childhood level continues to be the subject of educational debate. There is still a need to build consensus in the region regarding the potential and scope of digital education in early childhood.

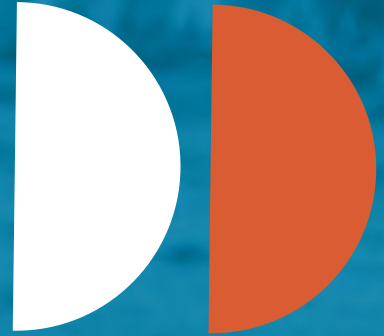
Second, while some of the experiences submitted ensure the distribution of equipment or connectivity in contexts lacking these resources, they also include training programs for teachers and/or students to develop digital skills or to learn school content through technologies. This is a notable aspect as it reflects a more comprehensive view of the set of interventions necessary to achieve effective digital education.

For the practices to continue developing over time within the institution, regardless of whether the current leading agents remain, the applicants also identified teacher training (67%) and training of school leaders (54%) as key necessary aspects. Additionally, approximately half (54%) stated that the distribution or installation of technological equipment is necessary, which is striking given that these educational experiences require such equipment as a necessary condition (48% reported not needing it). This may be a result of the recent expansion of access to technological devices, both through individual consumption and through policies and programs distributing technologies to schools. To a lesser extent, the submissions also indicate other factors necessary for the continuity of practices (regulations, curriculum review, infrastructure improvements, additional human resources, among others), highlighting the need for a comprehensive approach in digital education policies and programs. In this regard, a recent UNESCO report points out that providing equipment and connectivity is necessary but not sufficient: “It is important to consider policy designs that go beyond the dichotomy between access and pedagogical change and to coordinate efforts so that both drivers advance in parallel. Therefore, multidimensional policies are required, with planning that provides direction and meaning to management; curricular definitions and proposals for pedagogical models in which the digital factor is an integral part of educational rationality; teacher training actions for the appropriation of digital competencies for teaching; and development of meaningful educational resources and content (...)” (UNESCO, 2022: 11). Most of the experiences submitted in this mapping incorporate some of these components highlighted by UNESCO.

Thirdly, one striking aspect is the number of technologies or educational software that the experiences report using. More than half states have used more than five different technologies or software, and only 19% used one or two types. It is unclear whether this diversity of technologies corresponds to taking advantage of the specific features and functionalities of each or, at least in some cases, to the availability of devices in the contexts where they are developed. For example, some of the more frequently used technologies were computers/netbooks/notebooks (used in 85% of the practices), cellphones (68%), and tablets (44%). In 57 cases, these three technologies were used simultaneously even when their uses can be equivalent. On the other hand, the less used technologies could be understood in relation to their scarce availability in the contexts where the practices take place and/or their more specific functionalities, which consequently limits their versatility for integration into educational proposals. This is the case, for example, with virtual or augmented reality devices and platforms, 3D printers, data analysis software, or simulators.

On the other hand, only 11% of the submissions of good practice experience reported the need for the distribution/installation of paid software in order to continue the practice, while 35% indicated the need for the distribution/installation of free software. This may reflect a trend towards the use of open-access tools or cost-free platforms, which is a crucial factor given the existing budgetary constraints in the region.

Fourthly, within the set of submitted experiences, multiple uses of technologies are identified. While various submitted experiences demonstrate important levels of technology integration to ensure the learning of school content, the development of digital competencies, or access to educational opportunities for populations in situations of exclusion, vulnerability, or disability, there are also experiences where technology plays a more instrumental and less strategic role within the educational proposal. Examples of this include platforms where certain content, materials, or communications complementary to face-to-face education are developed. Furthermore, in some experiences that declared applying a STEM or STEAM approach, it was not possible to clearly recognize the inclusion and interrelation of the disciplines that comprise the approach (science, technology, engineering, mathematics, and arts), and even less so the inclusion of artistic disciplines or content (in the case of experiences claiming to apply a STEAM approach). This highlights the need to continue providing training on digital education and to disseminate experiences that model and inspire innovative and powerful practices for the education of students throughout the region.



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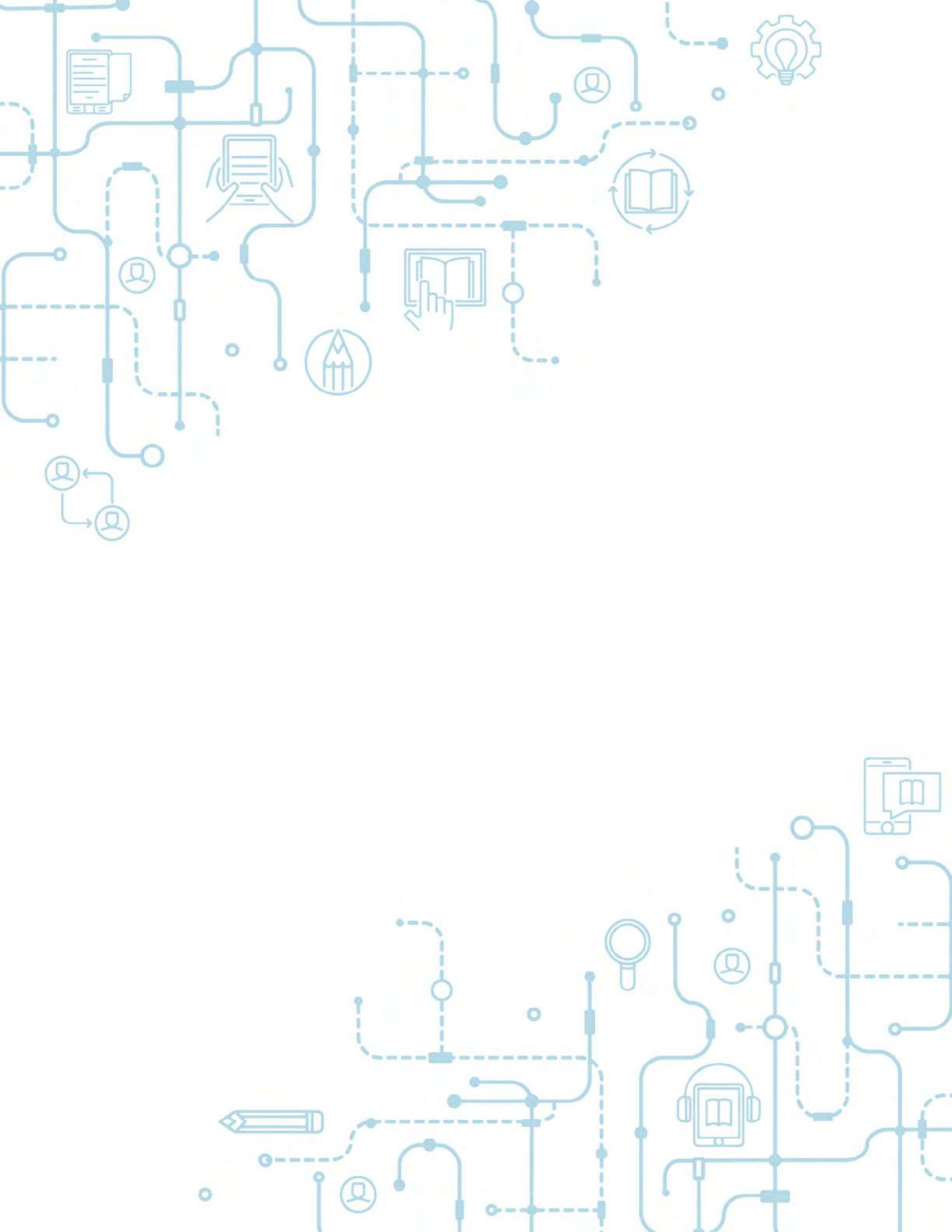
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