



EXECUTIVE SUMMARY

ICT IN EDUCATION SURVEY 2023

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Executive Summary

ICT in Education 2023

One of the priorities of education policies is to expand the dissemination and quality of connectivity in the country's Basic Education institutions, especially its diffusion in the school spaces used by students and teachers in teaching and learning processes. Another priority is to reconcile the expansion of universal and meaningful access to digital resources with the guarantee of rights for students, through the provision of safe, inclusive, and participatory digital spaces. The indicators of the ICT in Education 2023 survey aim to inform society about these issues, using data collected from managers of primary and secondary education schools in Brazil.

Connectivity and use of digital technologies in primary and secondary education schools

The 2023 edition of the ICT in Education survey showed an increase in the proportion of primary and secondary education schools with Internet access compared to the 2020 edition, from 82% to 92%. The greatest variations in this indicator were observed in institutions which, over the course of the survey's time series, had shown greater difficulty in disseminating connectivity, such as municipal schools (from 71% to 89%), institutions located in rural areas (from 52% to 81%) and smaller schools, such as those with up to 50 enrollments (from 55% to 70%).

The main challenges faced by the institutions were the fact that the Internet signal does not reach the classrooms furthest away from the

router and that the school's Internet cannot support many connections at the same time. These aspects make it particularly difficult for students to access the school Internet.

According to the latest edition of the survey, 83% of connected schools had Internet access in classrooms; however, it was only available to students in 65%. Even so, among public schools, classrooms were the school spaces that showed the highest growth levels in Internet access between the 2020 and 2023 editions of the survey (from 61% to 82%).

82% OF
CONNECTED
PUBLIC SCHOOLS
HAD INTERNET
ACCESS IN
CLASSROOMS

In addition to the quality of Internet access, the availability of computers is another factor that can have an impact on students' use of digital technologies in educational

activities. The 2023 edition showed that 90% of schools had at least one computer – desktops, portable computers, or tablets – but only 62% had at least one device for students to use in educational activities. These differences become even more pronounced if the data on the presence of Internet access in at least one school space and of at least one computer for students to use in educational activities are considered together (Chart 1).

Of all the institutions, 87% had Internet access in at least one school space and on at least one computer, but these resources were available to students in only 57%.

Mediation of the use of digital technologies by students

The proportion of institutions with Internet access in rural areas grew by 29 percentage points between the 2020 and 2023 editions of the survey. Also in schools located in rural

areas, it was possible to observe an increase in the proportion of those in which wireless networks was free for everyone, including students, from 10% to 19%.

On the other hand, the proportion of urban, state, and private schools that allowed students to access wireless networks showed decreases compared to the 2020 edition, indicating the implementation of more restrictive measures on the use of these resources by students. In 2023, the proportion of primary and secondary education schools that allowed students to access wireless networks, even if they were protected by passwords, decreased from 35% to 26%, and the proportion of those that completely restricted student access increased from 48% to 58%.

This move towards adopting more restrictive measures may be associated with the quality of Internet access, since most educational facilities face challenges when it comes to sharing connections between students, teachers, and administrative staff. However, these measures may also be associated with discussions in society about protecting children from the possible risks associated with the use of screens and digital technologies. In relation to educational facilities, these discussions have focused particularly on the risks of mobile phone use among students.

In the 2023 edition of the survey, 7% of institutions allowed students to use the devices in any spaces and at any time, 64% allowed use only in some spaces or at some times, and 28% prohibited students from using them. The greatest variations for this indicator in relation to the 2020 edition of the survey were found when analyzing the data by the highest levels of education offered by the schools (Chart 2). Among schools that taught students up to the primary education, the prohibition on students using the devices rose from 32% to 43%; in schools that taught students up to the lower secondary education, from 10% to 20%.

28% OF PRIMARY AND SECONDARY EDUCATION SCHOOLS PROHIBITED STUDENTS FROM USING MOBILE PHONES

Adoption of digital systems and presence of schools on platforms and social networks

According to data from the 2023 edition of the survey, 62% of schools adopted educational platforms (Chart 3). Institutions located in the North (41%) and Northeast (59%) regions, municipal schools (51%), those located in rural areas (43%), and smaller schools, such as those with up to 50 enrollments (35%), had lower proportions of using these resources.

Between the 2020 and 2023 editions, the proportion of institutions with profiles or pages on social networks increased from 64% to 73%. This trend was even more noticeable among schools in the North (from 35% to 47%) and Northeast (from 56% to 68%), municipal schools (from 47% to 60%), and those located in rural areas (from 29% to 47%).

In the same period, unlike the majority of educational institutions (Chart 4), the proportion of schools in rural areas that used their social network profiles to carry out educational activities remotely increased. For example, the maintenance of discussion groups for students and educators rose from 26% to 35% between the 2020 and 2023 editions.

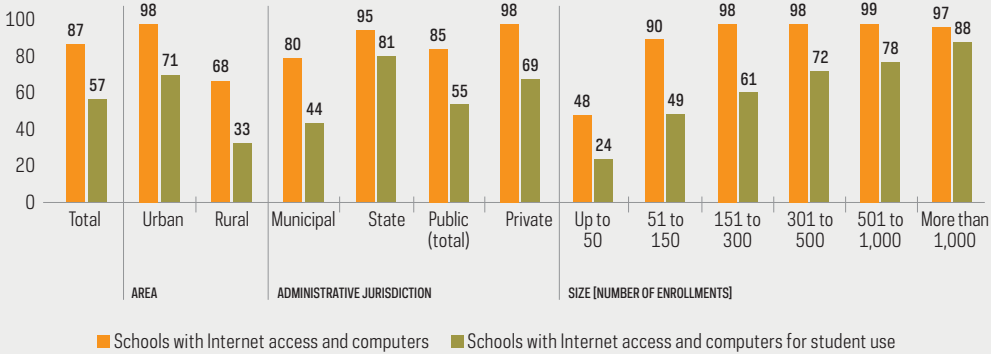
Privacy and personal data protection

According to the ICT in Education 2023, 55% of primary and secondary education schools had documents defining the institutions' data protection and information security policies. In the 2020 edition, 41% of institutions mentioned having these documents, which shows a gradual increase in the adaptation of institutions to the guidelines of the Brazilian General Data Protection Law (LGPD).

CHART 1

SCHOOLS BY PRESENCE OF INTERNET ACCESS AND COMPUTERS FOR STUDENT USE (2023)

Total number of primary and secondary education schools (%)

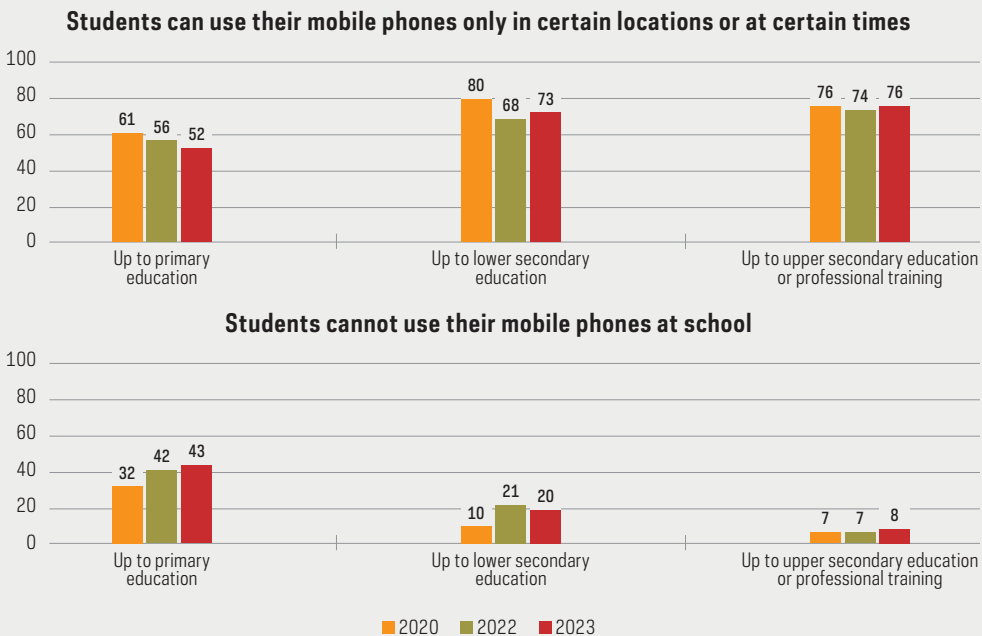


- 98%** of schools with Internet access have Wi-Fi networks
- 14%** of schools with Internet access allow everyone to use Wi-Fi networks, including students
- 26%** of schools allow students to access Wi-Fi networks, even if they are protected by passwords
- 58%** of schools restrict access to Wi-Fi networks with passwords and students cannot use them

CHART 2

SCHOOLS BY CRITERIA FOR STUDENTS' USE OF MOBILE PHONES (2020-2023)

Total number of primary and secondary education schools (%)



Continuous professional development on digital technologies in education

The ICT in Education 2023 survey also investigated the participation of school managers, in the 12 months prior to the survey, in training activities on the use of digital technologies in educational practices (62%) and in school management activities (58%). Between the 2020 and 2023 editions, the proportion of managers of institutions serving students up to upper secondary education who took part in training on the use of technologies in educational practices went from 58% to 73%. In 54% of primary and secondary education schools, teachers were offered training on the use of digital technologies in teaching and learning activities in the 12 months prior to the survey. The highest proportions were observed among state schools (67%), private schools (64%), and those that offered up to secondary education (72%).

The data collected from school managers also shows concern about privacy and the protection of students' personal data during the process of selecting digital educational resources to be adopted in schools. In 2023, 29% of managers said they had not adopted educational resources, such as platforms, applications, computer programs, or some types of digital devices, because they were concerned about these issues. This proportion was even higher among state schools (30%) and private schools (41%).

Schools are also considered to be important spaces for disseminating information and knowledge and encouraging the development of skills in relation to digital rights. In the 2022 edition, 28% of managers said that their schools had promoted discussions or lectures on the subject in the 12 months prior to the survey, a proportion that increased to 34% in the 2023 edition. Teachers (33%) and other professionals working at the schools (32%) were the main target audiences for such initiatives. Only 24% of managers said that the schools had held discussions or lectures for students and 24% for parents and legal guardians.

Survey methodology and access to data

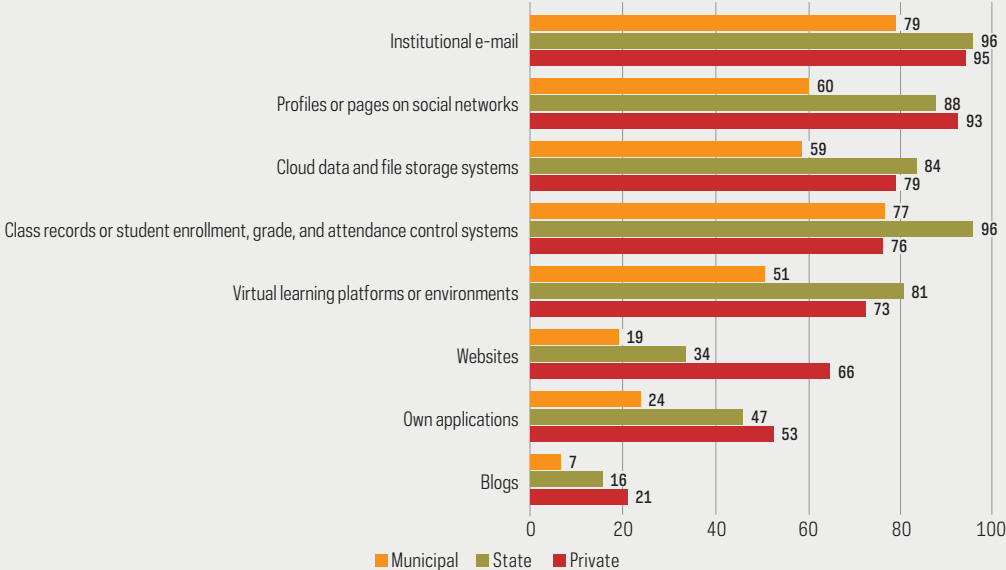
Carried out annually since 2010, the ICT in Education survey investigates access to, and use and appropriation of, information and communication technologies (ICT) by educational communities, especially students and teachers, in teaching and learning activities and school management.

The data collection for the ICT in Education 2023 survey took place between August 2023 and April 2024 using the computer-assisted telephone interviewing (CATI) technique. A total of 3,001 interviews was carried out with the managers of primary and secondary education schools, both public and private, located in urban and rural areas. The results of the ICT in Education survey, including tables of proportions, total values, and margins of error, are available on Cetic.br|NIC.br's website (<https://www.cetic.br>). The "Methodological Report" and the "Data Collection Report" can be accessed both in the printed publication and on the website.

CHART 3

SCHOOLS BY SYSTEMS, APPLICATIONS, AND PLATFORMS USED (2023)

Total number of primary and secondary education schools (%)



12%

of schools in the South adopted facial recognition systems to identify students

73%

of schools have profiles or pages on social networks

55%

of schools have data protection and information security policies

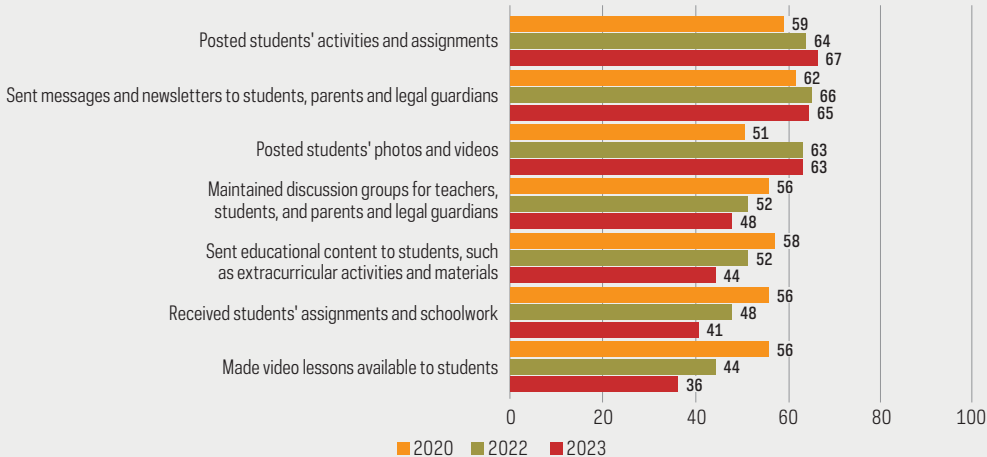
34%

of schools held discussions or lectures on privacy and personal data protection in the 12 months prior to the survey

CHART 4

SCHOOLS BY ACTIVITIES CARRIED OUT ON THE SOCIAL NETWORKS ON WHICH THEY HAD PROFILES IN THE 12 MONTHS PRIOR TO THE SURVEY (2020-2023)

Total number of primary and secondary education schools (%)



ABOUT CETIC.br

cetic.br

The Regional Center for Studies on the Development of the Information Society, a department of NIC.br, is responsible for producing indicators and statistics on the access and use of the Internet in Brazil, disseminating analyzes and periodic information on the Internet development in the country. Cetic.br is a Regional Study Center, under the auspices of UNESCO. More information at <http://www.cetic.br/>.

ABOUT NIC.br

nic.br

The Brazilian Network Information Center – NIC.br (<http://www.nic.br/>) is a non-profit civil entity, which in addition to implementing the decisions and projects of the Brazilian Internet Steering Committee, has among its attributions: coordinate the registration of domain names – Registro.br (<http://www.registro.br/>), study, address and handle security incidents in Brazil – CERT.br (<http://www.cert.br/>), study and research network technologies and operations – CEPTRO.br (<http://www.ceptro.br/>), produce indicators on information and communication technologies – Cetic.br (<http://www.cetic.br/>), implement and operate Internet Exchange Points – IX.br (<http://ix.br/>), enable the participation of the Brazilian community in the global development of the Web and support the formulation of public policies – Ceweb.br (<http://www.ceweb.br/>), and host the Brazilian W3C office (<http://www.w3c.br/>).

ABOUT CGI.br

cgi.br

The Brazilian Internet Steering Committee, responsible for establishing strategic guidelines related to the use and development of the Internet in Brazil, coordinates and integrates all Internet service initiatives in the country, promoting technical quality, innovation and dissemination of the services offered. Based on the principles of multistakeholderism and transparency, CGI.br represents a democratic Internet governance model, internationally praised, in which all sectors of society participate equitable in the decision-making. One of its formulations is the 10 Principles for the Governance and Use of the Internet in Brazil (<http://www.cgi.br/principios>). More information at <http://www.cgi.br/>.



Access complete data from the survey

The full publication and survey results are available on the **Cetic.br** website, including the tables of proportions, totals and margins of error.

