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EXECUTIVE SUMMARY

ICT IN EDUCATION SURVEY

2019

cgi.br
Brazilian Internet Steering Committee

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Executive Summary ICT in Education 2019

The tenth edition of the ICT in Education survey was carried out between August and November 2019, a period that was prior to the identification of the first cases of the COVID-19 pandemic in Brazil and to the closure of schools as one of the measures to contain the disease. Thus, the analysis of such data paints a picture of the conditions of schools and the difficulties faced by school communities in adopting strategies to maintain continuity in educational activities, especially when based on remote teaching mediated by digital technologies.

Schools located in urban areas

AVAILABILITY OF VIRTUAL ENVIRONMENTS AND PLATFORMS IN SCHOOLS

In 2019, 14% of public schools and 64% of private schools in urban areas had virtual learning platforms (Chart 1). These proportions revealed the considerable challenge of implementing remote teaching initiatives.

At the same time, 73% of public schools and 94% of private schools in urban areas already had profiles or pages on social networks. In 2014, 46% of public schools and 67% of private schools had some space available in this type of platform.

The ICT in Education 2019 survey found that, in 54% of public schools and 79% of private schools, these profiles and pages on social networks were used by parents and guardians to interact with the school. In this context, social networks were one of the main channels of interaction between schools, students, and families.

SOCIAL NETWORKS WERE ONE OF THE MAIN CHANNELS OF INTERACTION BETWEEN SCHOOLS, STUDENTS, AND FAMILIES

ACCESS AND USE BY ELEMENTARY AND SECONDARY EDUCATION STUDENTS

One of the greatest challenges faced by school systems in terms of providing continuity of educational activities remotely has been the connectivity conditions of students. In 2019, 83% of students in schools located in urban areas were Internet users, i.e., they had used the Internet in the three months prior to the survey. However, the data pointed to inequalities among students in different regions of the country (Figure 1).

Another important issue was the quality of Internet access. Access via mobile phone was practically universal among students: in 2019, 98% of urban school students who were Internet users used mobile devices to go online. However, for 18% of the students, mobile phones were the only devices available to access the Internet, and this proportion was higher among students in public schools (21%) and those in the Northeast (25%) and North (26%) regions.

The survey results also showed that among students in urban public schools, 39% did not have any type of computer at home, a proportion that was 9% among students in urban private schools (Chart 2).

SKILLS FOR USING DIGITAL EDUCATIONAL RESOURCES

Although the data collected from students revealed intense use of technologies in general activities, such using social networks (81%), sending messages through applications (89%),

and watching videos, programs, films or series on the Internet (94%), the use of these resources for teaching and learning activities, especially through remote teaching, was not part of the routine of most students. In 2019, 93% of students said they had used the Internet to do research for schoolwork; however, only 28% had used the Internet to talk to teachers, and 16% had taken part in online courses.

The use of technologies in learning activities was limited by students' difficulties in accessing them in schools. Among students in urban schools, only 39% mentioned schools as a location where they accessed the Internets. In most cases, difficulties related to connectivity in school facilities were a barrier to the dissemination of Internet access among students. Although 99% of schools located in urban areas had Internet access, among public schools, 63% had Internet access inside classrooms, a proportion that was 82% among private schools.

IN 2019, 93% OF STUDENTS SAID THEY HAD USED THE INTERNET TO DO RESEARCH FOR SCHOOLWORK

TEACHERS CONDUCTING TECHNOLOGY-MEDIATED ACTIVITIES

Connectivity conditions were also mentioned by teachers as one of the main barriers to developing technology-mediated teaching and learning activities with students. For 70% of teachers in urban public schools, low Internet connection speeds made it very difficult to use this resource in activities with students, in addition to the insufficient number of computers per student, which was mentioned by 82% of teachers in the public system (Chart 3).

Some teachers also had no experience in carrying out remote technology-mediated activities with students: 48% of teachers in urban public schools had shared content on the Internet with students in the 12 months prior to the survey, 44% had used the Internet to answer students' questions, and 31% had received assignments or homework through the Internet, proportions that, among teachers in private schools, were 65%, 65%, and 52%, respectively.

CONNECTIVITY IN URBAN SCHOOLS

In 2019 the availability of resources for student use was still an issue to be overcome by educational technology policies. In 26% of urban schools, there were no computers available for student use in educational activities.

In 92% of schools with Internet access, there were Wi-Fi connections; however, in many schools, student access was restricted. Among public schools, 90% had Wi-Fi, and of these, one-third (34%) provided students with access to this connection. Among private schools, 96% had Wi-Fi connection and 49% made it available to students.

Between 2018 and 2019, there was an improvement in the connection speeds available in public schools, with an increase from 12% to 28% in the proportion of institutions that had a connection speed of 11 Mbps or more. However, investments are still needed so that the quality of connections can allow sharing the Internet among administrative and pedagogical areas.

Schools located in rural areas

In 2019, 40% of schools in rural areas had at least one computer with Internet access (desktop, laptop or tablet). Mobile phones were one of the main means of accessing the Internet and carrying out administrative and pedagogical activities in these institutions. In 52% of schools, school managers said that teachers used mobile phones with students to carry out pedagogical activities.

FIGURE 1

URBAN SCHOOL STUDENTS WHO ARE INTERNET USERS (2019)

Total number of students who studied in schools located in urban areas (%)

TOTAL		83%
GRADE	4th grade / 5th year of Elementary Education	70%
	8th grade / 9th year of Elementary Education	90%
	2nd year of Secondary Education	93%

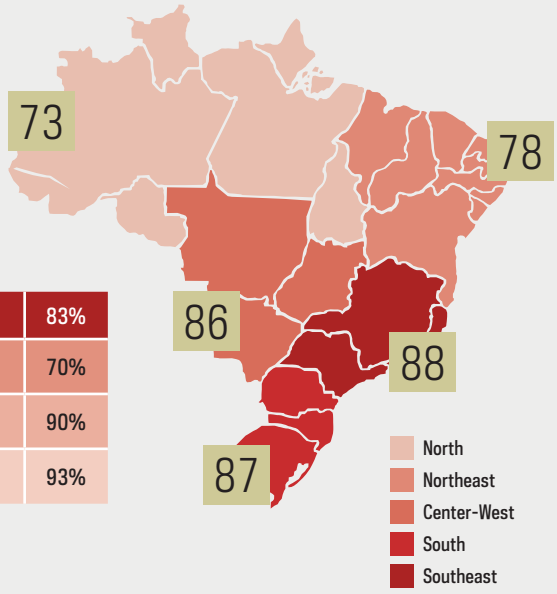


CHART 1

URBAN SCHOOLS, BY AVAILABLE RESOURCES (2019)

Total number of schools located in urban areas (%)

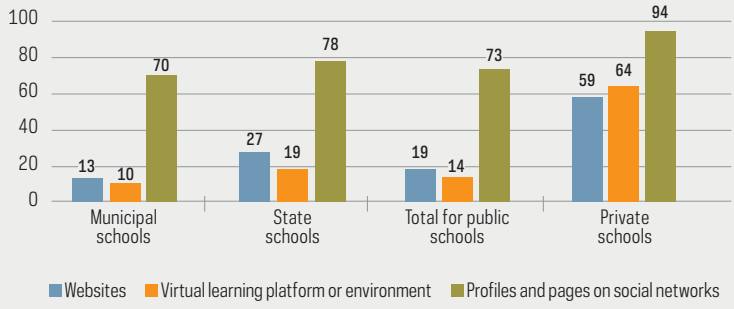
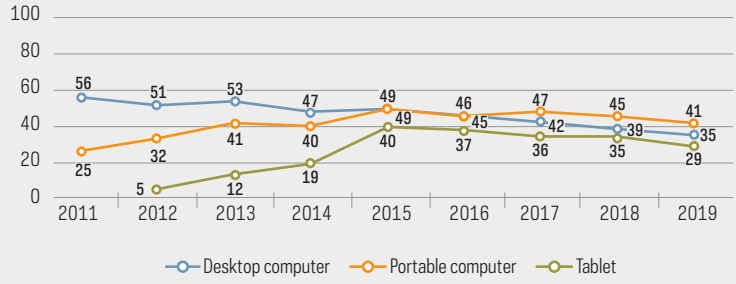


CHART 2

URBAN SCHOOL STUDENTS BY TYPE OF COMPUTER AT HOME (2011 – 2019)

Total number of students who studied in schools located in urban areas (%)



39% of public school students do not have a computer at home

18% of students from public and private schools access the Internet only by mobile phone

21% of public school students access the Internet only by mobile phone

3% of private school students access the Internet only by mobile phone

Teacher training for the use of technologies in pedagogical activities

The lack of specific courses on the use of technologies in teaching and learning activities was cited by 59% of teachers in urban public schools and by 29% of teachers in urban private schools as a barrier to the pedagogical use of these resources with students. In 2019, only 33% of teachers had participated in continuing education courses about the topic. Most teachers sought out materials and information about the pedagogical use of these resources based on their own initiative: between 2015 and 2019, the use of online videos and tutorials by teachers to learn about technologies to update themselves about the implementation of pedagogical activities with the use of technologies went from 59% to 81%.

Mobile phones were also mentioned by 65% of managers as tools to carry out administrative activities, a percentage that was 48% in 2017. In most cases (61%), these activities were carried out on their own mobile phones and their credits or plans were not funded by the schools.

According to data from the ICT in Education 2019 survey, 37% of rural schools with Internet access had connections of up to 2 Mbps. Between 2017 and 2019, there was an increase in the proportion of schools with connection speeds between 3 and 10 Mbps, from 13% to 42%, possibly as a result of the implementation of connectivity policies in these regions (Chart 4).

The improvement of Internet access in schools located in rural areas is associated with the expansion of infrastructure conditions where these schools are located. For 40% of school managers, lack of infrastructure in the region was one of the reasons why their schools did not have Internet access (Chart 5).

Research methodology and access to data

Carried out since 2010, the ICT in Education survey investigates access to, and use and appropriation of technologies in the educational community, in public and private schools, Elementary and Secondary Education, and urban and rural areas. In schools located in urban areas, the following population participated in face-to-face interviews: 11,361 students in the 5th and 9th years of Elementary Education and the 2nd year of Secondary Education; 1,868 teachers of Portuguese, mathematics or Elementary Education; 954 directors of studies; and 1,012 principals. In schools located in rural areas, 1,403 principals or persons responsible for schools were interviewed. The data were collected between August and November 2019. The results of the ICT in Education survey, including tables of total values and margins of error for each indicator are available on Cetic.br's website (https://www.cetic.br) and data visualization portal (https://data.cetic.br/cetic). The methodological report and the data collection report can be accessed in both the printed publication and the website.

CHART 3

URBAN PUBLIC SCHOOL TEACHERS BY PERCEPTIONS OF BARRIERS TO ICT USE IN SCHOOLS (2019)

Total number of teachers who worked in schools located in urban areas (%)

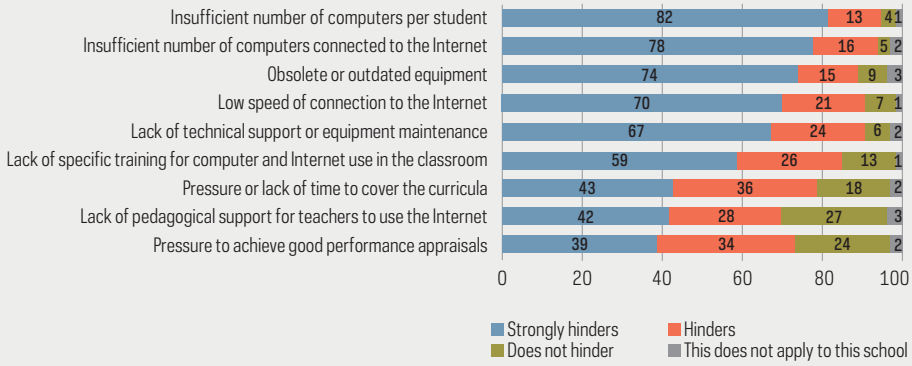


CHART 4

RURAL SCHOOLS BY MAIN INTERNET CONNECTION SPEED (2017 – 2019)

Total number of schools located in rural areas with Internet access (%)

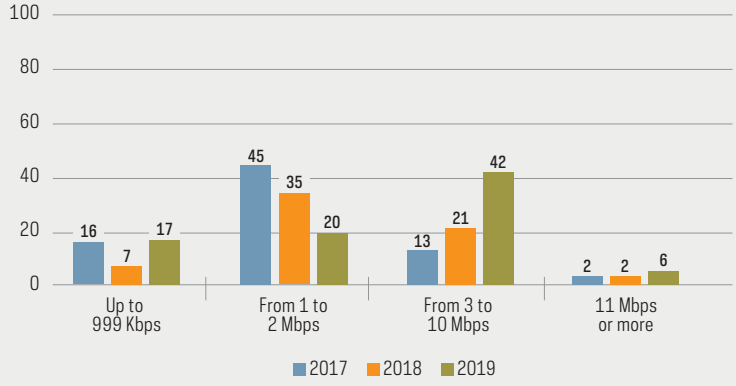
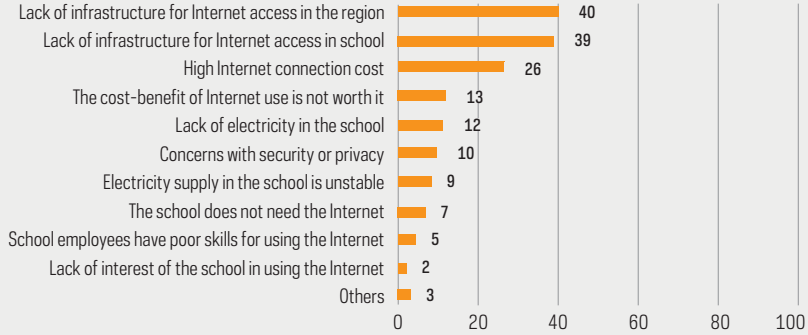


CHART 5

RURAL SCHOOLS BY REASONS FOR NOT USING THE INTERNET (2019)

Total number of schools located in rural areas (%)



ABOUT 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

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

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.