

**EXECUTIVE
SUMMARY**

—
ICT IN EDUCATION
SURVEY
2021

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Graphic Design : Pilar Velloso

Publishing : Grappa Marketing Editorial (www.grappa.com.br)

Brazilian Internet Steering Committee - CGI.br

(in November, 2022)

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Executive Summary

ICT in Education 2021

COVID-19 Edition - Adapted methodology

The year 2021 was marked by the continuation of health measures to contain the COVID-19 pandemic, with the closure of educational institutions during the most intense periods of spread of the disease. As in 2020, the implementation of remote classes and activities was adopted by public and private education systems to enable access to education. The indicators of the ICT in Education 2021 survey, collected from Primary and Secondary Education teachers, have made it possible to map the pedagogical practices carried out during this period and encourage reflection on post-pandemic education, especially with regard to the increasingly constant presence of digital technologies in school management and in teaching and learning processes.

Use of digital technologies in remote and hybrid activities

According to the ICT in Education 2021 survey, 98% of teachers carried out remote activities in the 12 months prior to the survey, either during strictly remote activities or as part of hybrid activities implemented by schools. To carry out these activities, most teachers used their own resources, such as personal computers and mobile phones, and household Internet connections. Although 84% of the teachers mentioned portable computers as the devices used to carry out remote activities, the use of mobile phones was the most

prevalent among them (93%). Among teachers in rural areas, 12% did not have computers at home (desktops, portable computers, or tablets) and used mobile phones exclusively to conduct remote activities.

Free access to digital educational applications, platforms and resources was the type of support received from schools or education systems most frequently reported by teachers (60%), especially among those who taught in private schools (70%). However, 26% of teachers said they had not received any type of support from schools or education systems (Chart 1).

One of the main difficulties reported by teachers in carrying out remote educational activities was lack of devices, such as computers or mobile phones, and Internet access in students' households (86%), a percentage that reached 91% among teachers who taught in public schools (municipal, state, and federal). In the 2020 edition of the ICT in Education survey, 86% of school managers also mentioned lack of connectivity among students as one of the main difficulties faced by schools. Challenges related to assisting socially vulnerable students and students' difficulties in contacting schools were also reported by both teachers and school managers (Chart 2).

THE MOBILE PHONE
WAS THE DEVICE
MOST USED BY
TEACHERS IN
REMOTE ACTIVITIES

Digital educational resources used in activities with students

As a way to overcome these challenges, teachers adopted several educational resources and pedagogical strategies to share content with

students. Printed materials were the resource most frequently used by teachers (92%). Videorecorded classes, such as video lessons (72%), were also among the resources most adopted by teachers in all education systems. However, there were significant variations in the adoption of digital technologies among teachers by administrative jurisdiction (Table 2), with higher proportions of use of videoconferencing platforms, virtual learning environments and applications or resources for synchronous transmission of classes, such as live broadcasts, by teachers in state and private education systems. State school teachers also used applications, didactic materials, and activities available on public administration websites more frequently, or remote activities through television or radio channels.

In the 12 months prior to the survey, 84% of teachers said they had answered students' questions online. To interact with students, most teachers used instant messaging applications such as WhatsApp and Telegram (91%), and this resource was the most frequently used by public school teachers. Printed activities handed in by students and the use of the telephone and communication tools such as chats and forums, present on websites, platforms, and applications, were also mentioned among the main strategies used by teachers to answer students' questions.

Inequalities and difficulties in using digital technologies

Students' difficulties regarding connectivity and appropriation of pedagogical activities may have influenced the selection of didactic resources used by teachers. Among rural school teachers, 55% used virtual environments or platforms in remote activities with students, a percentage that was 71% among urban school teachers.

STUDENTS'
CONNECTIVITY
DIFFICULTIES
WERE AMONG THE
MAIN CHALLENGES
FACED BY
TEACHERS DURING
THE PANDEMIC

Unequal opportunities for access to education among students were one of the main challenges for teachers and school systems. For 76% of teachers, assisting students with disabilities was one of the main difficulties faced in carrying out remote activities during the pandemic (Chart 2). Although 94% of teachers used some type of digital educational resource in the preparation of pedagogical activities for students in the 12 months prior to the survey,

only 46% said they adopted these resources in activities with students with disabilities, a percentage that was 33% among rural school teachers. Of all teachers, half used virtual learning environments or platforms (54%), and 21% said that the platforms were not adapted for the development of activities with students with disabilities, while 14% said they made adjustments to the

resources offered by the platforms.

Efforts undertaken by teachers were essential in continuing to provide pedagogical activities and assistance to students during the pandemic. Even so, the perception of most teachers was that there was a gap in student learning, a challenge reported by 93% of all teachers.

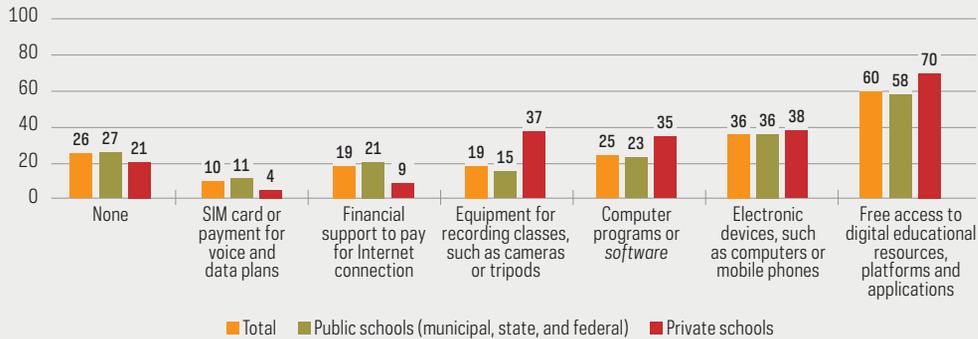
Teacher training and support for the use of digital technologies

The search for strategies to help pedagogical activities and content reach the students may have led teachers to discover ways to innovate in their own teaching practices. For 92% of the teachers, the use of digital technologies in teaching and learning activities led them to adopt new teaching methods, and 84% said they gained access to more diverse didactic materials. The demand for teachers' digital skills also increased during this period. Of all teachers, 82% said they made educational

CHART 1

TEACHERS BY SUPPORT RECEIVED FROM THE SCHOOLS OR TEACHING NETWORKS TO CARRY OUT EDUCATIONAL ACTIVITIES, BY ADMINISTRATIVE JURISDICTION (2021)

Total number of Primary and Secondary Education teachers whose schools offered remote or hybrid classes (%)



93%

of teachers used mobile phones in remote activities

84%

of teachers used portable computers in remote activities

23%

of teachers said they shared the devices with other household members

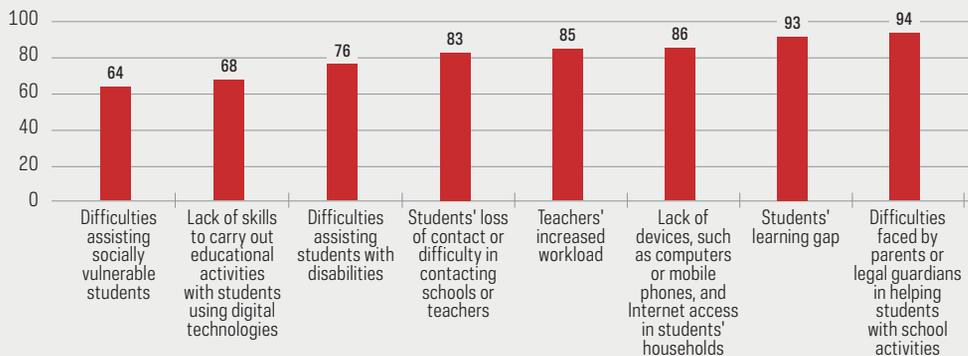
12%

of rural school teachers did not have computers and used mobile phones exclusively for remote activities

CHART 2

TEACHERS BY CHALLENGES FACED IN CONTINUING TO CARRY OUT PEDAGOGICAL ACTIVITIES DURING THE COVID-19 PANDEMIC (2021)

Total number of Primary and Secondary Education teachers (%)



Media and digital citizenship education

Half of the teachers (49%) said they supported students in dealing with sensitive situations on the Internet in the 12 months prior to the survey. Excessive use of digital games, discrimination, and cyberbullying were among the main situations experienced by students for which teachers said they offered support. Activities about cyberbullying, hate speech, and discrimination on the Internet were also among those most frequently performed by teachers with students (57%). However, only 37% of teachers reported having participated in training courses on ways to guide students regarding safe use of digital technologies, which highlights the need to expand opportunities for teachers to be prepared to address these issues.

content available to students on the Internet in the 12 months prior to the survey, 81% received students' schoolwork and activities over the Internet, and 75% used the Internet to assess their students' performance.

However, 59% of teachers reported that lack of specific training made it very difficult to use technology in pedagogical activities, a percentage that reached 73% among rural school teachers and 64% among teachers who taught in public schools (municipal, state and federal) (Chart 3). In the 12 months prior to the survey, 65% of teachers took a continuing education course on the subject, a percentage that was 48% among teachers in rural schools. The development of digital skills among teachers is one of the main areas of concern for educational policies in the post-pandemic period.

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 by educational communities, especially students and teachers, in teaching and learning activities and school management. The data collection for the ICT in Education 2021 survey took place between October 2021 and May 2022. Because of the health measures adopted by schools to contain the spread of the COVID-19 pandemic during this period, the survey was conducted by telephone, with 1,865 teachers in active public (municipal, state, and federal) and private schools that provided regular Primary and Secondary Education, based on the institutions that participate in the 2020 edition of the survey. 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 in both the printed publication and the website.

TABLE 1

TEACHERS BY MEANS OF COMMUNICATION USED (2021)

Total number of Primary and Secondary Education teachers whose schools offered remote or hybrid classes (%)

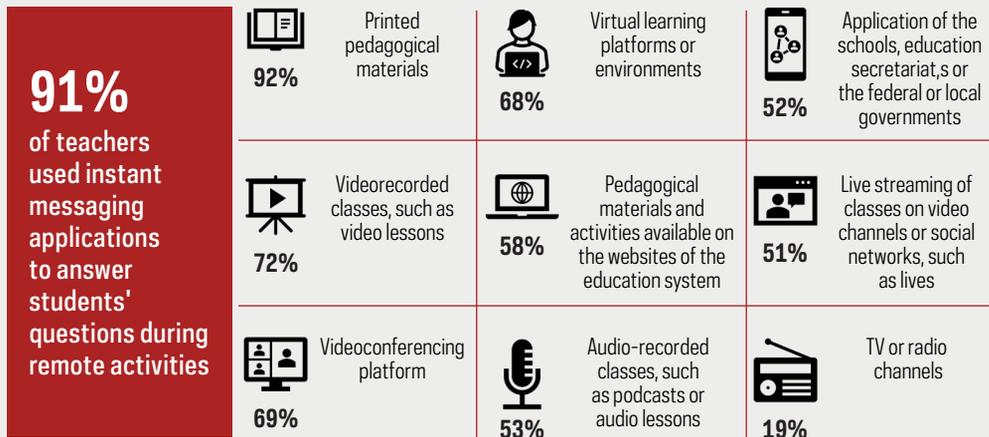
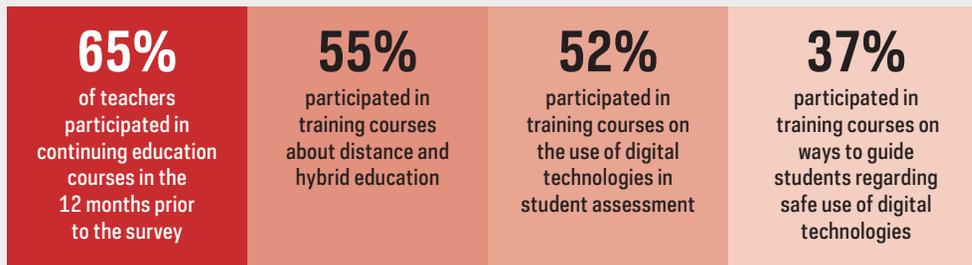
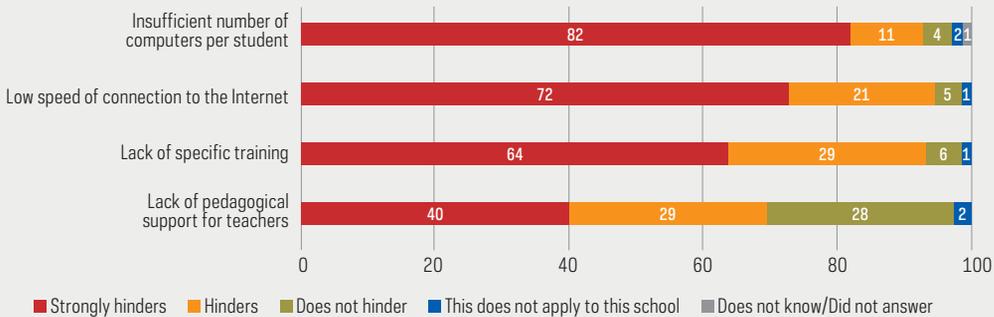


CHART 3

PUBLIC SCHOOL TEACHERS, BY PERCEPTIONS OF BARRIERS TO ICT USE IN SCHOOLS (2021)

Total number of Primary and Secondary Education teachers of public 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.

