

THE USE OF SMARTPHONES IS PROHIBITED: AN ANALYSIS OF BRAZILIAN NATIONAL AND STATE REGULATIONS FOR TECHNOLOGICAL INSERTION IN SCHOOLS BEFORE THE PANDEMIC

PROHIBIDO EL USO DE CELULARES: UN ANÁLISIS DE NORMATIVAS NACIONALES Y EN LAS PROVINCIAS EN BRASIL PARA LA INSERCIÓN TECNOLÓGICA EN LA ESCUELA ANTES DE LA PANDEMIA

É PROIBIDO USAR O SMARTPHONE: UMA ANÁLISE DAS REGULAMENTAÇÕES NACIONAIS E ESTADUAIS PARA A INSERÇÃO TECNOLÓGICA NA ESCOLA ANTES DA PANDEMIA

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Abstract

Both at federal and state levels, governments have been implementing measures that aim to restrict the use of mobile technologies in the school environment. However, the SARS-CoV-2 pandemic has changed the course and perspectives of several fields, including public basic education, showing the use of smartphones as essential for maintaining school activities in emergency remote education. In this scenario, the objective of this research is to identify the views on the insertion of mobile technologies in basic education from national and state educational legislation, in addition to comparing the views (and practices resulting from them) supported in some Brazilian states with some of the national guidelines fostering digital literacy at schools. The methodology adopted is that of bibliographic-documentary research as well as of case study and comprises the concepts of digital literacy (Bawden, 2001), (Gilster, 1997), (Gomes, 2019), interaction (Leffa, 2006) e Legislation on the use of technology at school (Brasil, 1972, 1997, 1998, 2000, 2007, 2008, 2016, 2018; Ceará, 2008; Maranhão, 2019; Piauí, 2015; Rio de Janeiro, 2009; São Paulo, 2017, amongst others). It was identified, at the end of the research, a particular view carried by national and state legislations in relation to the insertion of mobile technologies in the school environment and how that is reflected in the practices regarding the use of smartphones in public basic education. By pointing that out, we expect to offer tools that can help (re) think the role of these mobile technologies in contemporary education.

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Resumen

Tanto a nivel federal como en las provincias, los gobiernos han implementado medidas que tienen como objetivo restringir el uso de las tecnologías móviles en el ámbito escolar. Sin embargo, la pandemia del SARS-CoV-2 cambió las perspectivas de varios campos, incluida la educación básica, destacando el uso de teléfonos inteligentes como fundamental para el mantenimiento de las actividades escolares en la educación remota de emergencia. En este escenario, el objetivo de esta investigación es identificar visiones sobre la inserción de tecnologías móviles en la educación básica a partir de la legislación educativa en Brasil, además de comparar las visiones sostenidas en algunas provincias con algunas de las directrices nacionales para promover la alfabetización digital en la escuela. La metodología consta de una investigación bibliográfica-documental, así como un estudio de caso y comprende los conceptos de alfabetización digital (Bawden, 2001), (Gilster, 1997), (Gomes, 2019), interacción (Leffa, 2006) y Legislación sobre el uso de tecnologías en las escuelas de Brasil (1972, 1997, 1998, 2000, 2007, 2008, 2016, 2018); Ceará (2008); Maranhão (2019); Piauí (2015); Río de Janeiro (2009); São Paulo (2017), entre otros. Al final de la investigación se identificó una visión particular contenida en la legislación nacional y de las provincias respecto a la inserción de tecnologías móviles en el ambiente escolar y cómo esta se refleja en las prácticas respecto al uso de teléfonos inteligentes en la educación básica pública. Con la identificación de estas perspectivas, esperamos ofrecer herramientas para (re)pensar el papel de estas tecnologías en la enseñanza contemporánea.

Palabras clave: Tecnologías digitales móviles; Smartphone; Educación; Regulaciones.

Resumo

Tanto na esfera federal quanto nas estaduais, os governos vêm implementando medidas que visam normatizar o uso de tecnologias móveis no ambiente escolar. No entanto, o quadro de pandemia da SARS-CoV-2 mudou os rumos e as perspectivas de diversos campos, incluindo o da educação básica pública, evidenciando o uso do *smartphone* como fundamental para a manutenção das atividades escolares no ensino remoto emergencial. Neste cenário, o objetivo desta pesquisa é identificar as visões sobre a inserção de tecnologias móveis na educação básica a partir de legislações educacionais nacionais e estaduais, além de comparar as visões (e práticas decorrentes delas) sustentadas em alguns estados brasileiros com algumas das diretrizes nacionais de fomento ao letramento digital na escola. A metodologia consiste em uma pesquisa bibliográfica-documental, bem como em um estudo de caso e compreende os conceitos de letramento digital (Bawden, 2001), (Gilster, 1997), (Gomes, 2019), de interação (Leffa, 2006) e de Legislação sobre o uso de tecnologias na escola pautados em Brasil (1972, 1997, 1998, 2000, 2007, 2008, 2016, 2018); Ceará (2008); Maranhão (2019); Piauí (2015); Rio de Janeiro (2009); São Paulo (2017), entre outros. Identificou-se, ao fim da pesquisa, uma visão particular contida nas legislações nacionais e dos estados a respeito da inserção de tecnologias móveis no ambiente escolar e como isso se reflete nas práticas quanto ao uso de *smartphones* no ensino básico público. Com a identificação dessas perspectivas, esperamos oferecer ferramentas para que se possam (re)pensar o papel dessas tecnologias móveis no ensino contemporâneo.

Palavras-chaves: Tecnologias digitais móveis; Smartphone; Ensino; Regulamentações.

Introduction

Information and Communication Technologies (ICTs) constitute a significant part of Brazilians' lives, reflected in their daily routines and habits, especially concerning mobile telephony devices. According to the Continuous National Household Sample Survey (*Pesquisa Nacional por Amostra de Domicílios Contínua – PNAD*), in 2019, the proportion of individuals owning a mobile cell phone was 93.2%. In the Northeast region, in 2017, 89.9% of households also had access to this technology (IBGE, 2023). That indicates that the majority of the Brazilian population is, in some way, part of the digital universe through the use of mobile devices.

It's no surprise that there's a strong connection between young people and mobile phones. According to a study conducted by the Brazilian Internet Steering Committee (*Comitê Gestor da Internet no Brasil – CGI.br*) through the Regional Center for Studies on the Development of the Information Society (*Centro Regional de Estudos para o Desenvolvimento da Sociedade da Informação – Cetic.br*), these devices are the primary means used by individuals under 18 years old (CETIC.BR, 2023). This implies that technological integration for most Brazilians, especially among young people, seems to occur through mobile devices, suggesting that this age group is more acquainted with digital literacy practices mediated by these technologies.

Engaging in activities such as conducting searches on search engines, communicating through applications, reading and evaluating news via digital media, and generating content on social networks are some examples of tasks performed by digitally literate individuals. Being digitally literate implies the ability to actively and critically perform tasks in the technological realm. Gomes (2019, p. vii) characterizes digitally literate individuals as those capable of deploying various forms of knowledge to "observe, evaluate, judge, criticize, and produce knowledge in the contemporary world." Therefore, supported by this definition, it can be said that the current usage of smartphones by many young Brazilians places them within the realm of digital literacy practices. This literacy presupposes mastering skills in selecting, using, evaluating, and producing language in interactive situations. However, this digital literacy is not uniform and depends on the familiarity young people have with certain technologies and their use, among various other factors.

Furthermore, following Gomes' perspective (2019), it's also evident that to consider teachers and students as fully digitally literate, they need to transition from passively using new technologies to becoming agents who actively think, solve problems in the digital domain, and produce texts through digital tools.

Considering digital literacy in the school context, it becomes evident that despite the various technological tools present in schools, such as projectors, speakers, computers, tablets, and smartphones, these devices alone do not inherently improve the quality of education. Equally crucial as having access to such equipment is how teachers and students leverage these tools to achieve their learning objectives.

This manipulation, however, is subject to various influences, including those exerted by educational regulations, whether official legislation or guidelines from the school's management, which often establish behavior standards and perceptions³ (sometimes negative) among those involved in basic education, either at the local, regional, or national level. Among these standards and perceptions are those related to the use of cellphones in the school environment, sometimes seen as a "solution" to many educational problems and at other times perceived as a "villain," causing distraction, alienation, and indiscipline in the classroom.

Therefore, the central issue addressed in this text concerns the discussion surrounding regulations and guidelines regarding the use of smartphones by State Departments of Education adopted until the year 2019. Through this reflection, we aim to comprehend the perspectives that such departments held concerning the use of mobile technologies for the modernization of public education until the aforementioned year. Such reflection assumes even greater significance considering the recent educational context caused by the SARS-CoV-2 pandemic, which brought about a sudden change in the school routine, as well as in other aspects of social life on a global scale. Among these changes, the migration of school life to virtual platforms stands out. In this process, the smartphone, along with other mobile technologies, played a prominent role.

³ In this text, we comprehend perceptions as the set of socio-culturally derived constructs that correspond to how an individual views and evaluates their surrounding environment, a particular technological artifact, or even other individuals.

Thus, by examining how mobile technologies, especially smartphones, were actually perceived and addressed in schools before the pandemic, we believe it is possible to provide relevant data for future assessments of the transformations that occurred due to the COVID-19 pandemic.

Consequently, this text presents the results of a descriptive, qualitative, and bibliographic-documentary research (Gil, 2008). Through this approach, a range of official documents, including programs, resolutions, and laws approved by Legislative Assemblies and State Departments of Education from various Brazilian states regarding regulations on cell phone use in educational institutions, both public and private, were analyzed. The aim of examining these documents was to identify perspectives on the integration of mobile technologies in basic education from the viewpoint of educational policymakers. Additionally, the comparison between the views (and resulting practices) upheld in some Brazilian states and some of the national guidelines promoting digital literacy in schools was sought in contrast to those from the State of Maranhão. The particular interest in analyzing the reality of Maranhão is justified by the fact that one of the researchers is an active teacher in the state's public school system, aiming to contribute not only to national-level reflections but also at the local level, more directly within the context where they operate.

To achieve this, the text will initially provide a brief discussion on digital literacy and the importance of fostering the critical use of digital technologies in students' education in contemporary times. Subsequently, we will discuss some national norms and regulations aimed at promoting digital inclusion in basic education. Finally, we will present a bibliographic-documentary review of the laws and resolutions adopted by Brazilian states to regulate the use of smartphones and other mobile technologies in school environments, with emphasis on those addressing the educational context in Maranhão. Ultimately, concluding remarks will be presented.

The Role of Digital Literacy in Schools

The concept of digital literacy, as commonly used today, was popularized by Paul Gilster (1997) in his book "Digital Literacy." However, he was not the first to use the term, as several authors were already employing it in the 1990s. Nevertheless, those authors essentially referred to digital literacy as describing the ability to read and comprehend information in hypertext or multimedia formats as they became available. According to Gilster (1997, cited in Bawden, 2001, p.18-19), "[...] digital literacy is about mastering ideas, not keystrokes [...]. You must not only acquire the ability to find things, you must also acquire the ability to use these things in your life".

In 1997, Gilster (1997, cited in Bawden, 2001, p.18-19) drew attention to the fact that digital literacy was not limited to the mastery of artifacts and required significant use of digital technologies. At that time, he advocated for a critical approach toward digital formats and artifacts so that their use could be applied meaningfully in our lives.

Since then, numerous definitions for the term have been presented, including that provided by Gomes (2019), which is adopted in this text. According to the author:

We understand Digital Literacy as the set of knowledge and practices (both at the individual and collective level) necessary for the development of competencies that enable individuals to navigate in a world increasingly marked by the presence of digital technological artifacts. However, such knowledge and practices are not limited to a procedural or technicist approach focused on the uncritical operation of machines. Being digitally literate (...) means being able to mobilize diverse knowledge to observe, evaluate, judge, criticize, and produce knowledge in the contemporary world." (Gomes, 2019, p. 7)

For Gomes (2019, p. 7), digital literacy is not synonymous with skill; it is 'a set of knowledge and practices' that guide individuals in keeping up with the technological evolution of their environment. This set involves competencies in observation, evaluation, judgment, criticism, and production. In other words, to be considered fully digitally literate, individuals need to transcend the passive use of digital technologies. From this understanding, digital literacy can be seen as one of the pathways to improving the quality of education, as it is directly linked to the technological evolution present in people's lives, something that cannot be separated from the school environment.

Thereby, educating digitally literate students means fostering the adoption of a critical stance that enables learners to keep pace with the evolution of digital technologies, making meaningful use of them in their lives. This allows them not only to be socially integrated but also to act effectively within their social group, meeting the demands required of them. However, for this vision to be effective, it must be practically incorporated by school communities, not merely at the rhetorical level where technologies are often discussed through books without learners having the opportunity to engage with them or participate in real-world activities, even if simulated within school walls.

For this to occur, it is inevitable to consider the current educational policies, as many of them still reflect guidelines and regulations that are distant or not easily applicable to the reality faced by teachers and students in their everyday school lives.

Certainly, this can be observed, for example, in the discrepancies between what the guidelines of the Ministry of Education (MEC) suggest for basic education and what is actually practiced in schools. Regarding internet access, among the Ministry's guidelines is the implementation and access to the internet in public schools as a means to encourage the use of new technologies, including mobile devices. However, in practice, many schools still lack quality internet access or do not permit its use by their students. Similarly, while the National Common Curricular Base (Brasil, 2016) advocates for the student's integration into the digital world as a means to enhance learning, until the end of 2019, there was a noticeable opposite trend, especially linked to the prohibition (sometimes referred to in official documents as "regulation") of smartphone use by students and teachers in many public and private schools.

However, we believe that, for students and teachers to become digitally literate and capable of socially functioning in the world they inhabit, they must be given opportunities to explore digital tools critically and creatively in the context of teaching and learning, extending their use beyond instrumental purposes. Conversely, prohibition tends to lead to a lack of reflection on the meanings and functions of technologies, contributing to cultural isolation and social subjection, especially for economically disadvantaged groups.

In this sense, it is evident that teachers and students need to be prepared to approach the teaching and learning processes very consciously, adapting to new text formats and the new possibilities offered by technological advancements. The use of tools that foster learning has potentials and limitations that educators and learners need to understand to use them properly. To this statement, it is worth adding what Leffa (2006, p. 175-176) mentions about the change caused in learning by contact and interaction with technological artifacts, as learning naturally presupposes modification. This modification is not caused solely by human interaction but also by contact with machines. However, this does not necessarily imply something negative. On the contrary, it can sometimes represent the innovation in the way of learning that schools so earnestly seek. In the author's words:

Interactions, based on the idea of reciprocity, are always processes that involve two or more elements, whether they are particles, bodies, or people [...] Interaction, in its essence, therefore arises from the idea of contact and can be defined as contact that produces change in each of the participants. This contact doesn't necessarily need to occur between beings of the same nature; it can take place between beings of different natures, such as between people and objects – but it always affects both [...].

In stating that learning is modification, it is affirmed that a person can learn not only in contact with other people but also in contact with objects. (Leffa, 2006, p. 175-176)

And based on these theoretical frameworks, our aim in this text is to integrate the concept of digital literacy with the utilization of mobile technologies to enhance the learning process, particularly focusing on the use of cell phones within the classroom setting. We posit that through alignment with the evolving dynamics and requisites of learning environments, educators and students may adeptly contemplate the potential transformations stemming from the utilization of smartphones and other mobile technologies in the scholastic milieu.

To facilitate this transition, it becomes imperative that technological tools such as cell phones are regarded not merely as devices but also as instruments for learning. This redefined perspective allows for an educational appraisal that seeks to evaluate the conceivable advantages and challenges presented by such technologies, rather than

fostering perspectives driven solely by the discomfort these technological advancements may instigate in conventional educational practices and the resistance to change.

National regulations for the use of technology in schools

In this section, we will discuss some of the guidelines, programs, and actions conducted at the national level, until the year 2019, for the implementation or regulation of smartphone usage in the school environment, with an emphasis on public basic education and, more specifically, in high school. The aim is to illustrate the type of encouragement regarding the use of mobile digital technologies in regulatory documents of national education. Subsequently, we will compare these regulations with the trends demonstrated by legislative assemblies and State Departments of Education, which, since 2007, have been legislating on the subject.

Contrary to what one might imagine, the standardization of educational technologies in Brazil did not occur recently. In 1971, Law No. 5,692 established the Guidelines and Bases for the teaching of the 1st and 2nd grades (current Elementary and High School). Article 43 of the law regulated that public resources allocated to education should ensure, among other things, progressive improvement in both teaching and educational services. In subsection c of this article, the document addresses the scientific and technological development of education by indicating that technology in schools should not only be promoted but also financed by public resources. It is evident from the document that since 1971, there has been a concern with standardizing how resources allocated for technology investments in education should be managed for continuous improvement in teaching. Consequently, in 1972, Decree No. 70,185 was issued on February 23 of the same year, creating the National Teleducation Program (PRONTEL), directly linked to the Ministry of Education, aiming at "the national integration of didactic and educational activities through Radio, Television, and other means, in conjunction with the National Education Policy" (Brasil, 1972, p. 786). In other words, the program sought to integrate education with the technologies of that time.

The following year, PRONTEL gave rise to the National Plan for Educational Technologies (PLANATE), which was launched in 1973 by the Brazilian Ministry of Education – MEC, with the objective of developing strategies for managing and using educational communication technologies. Therefore, stemming from PRONTEL, PLANATE was also a program aimed at the development and integration of technologies related to communication media prevalent at that time, such as radio, television, cinema, correspondence courses, among others.

During the 1980s, Brazil witnessed the emergence of new movements and programs focused on the development of educational technologies, including the EDUCOM Project, implemented from 1983 in some Brazilian universities (UFRGS, UFPE, UFMG, UNICAMP, UFRJ). The project aimed to foster a national culture of educational informatics through the promotion of research, encouragement of educational software production, and the training of teachers capable of utilizing emerging computer resources. Additionally, in 1989, the National Program for Educational Informatics (PRONINFE) was established, aiming to create educational informatics centers across the country by providing ongoing training to teachers, technicians, and researchers at all levels and forms of education.

Moving forward to 1996, a new Law for Guidelines and Bases for 1st and 2nd grades education was enacted by Law No. 9,394, establishing the guidelines and bases for national education. Among the modifications to the former law, the use of technologies is mentioned. For instance, in Article 32, section II, one of the objectives of basic citizen education is the understanding of technology. This includes the ability to comprehend and use technology as one of the skills to be acquired, aiming to build a foundation for societal development. The new Law was followed by the emergence of the National Program of Educational Technology (PROINFO) in 1997, aiming to promote technological integration in both elementary and high school public education. Through this program, the Ministry of Education sought to provide schools with necessary equipment for the digital inclusion of students and teachers, including computer labs, computers, and other electronic devices.

In 1997 and 1998, respectively, the National Curriculum Parameters (PCNs) for grades 1 to 4 (Brasil, 1997) and for grades 5 to 8 (Brasil, 1998) were also published. Although not compulsory, these documents aimed to pave the way for the National Common Curriculum Base. In 2000, they were accompanied by guidelines related to High School Education (PCNEM). Within the PCNs, it is suggested that formal education should keep pace with changes in knowledge and social relations in general, including the importance of incorporating new technologies into teaching as a way to keep up with contemporary transformations:

The so-called "computer revolution" brings about radical changes in the field of knowledge, placing it at the center of development processes in general. It can be stated that, in the coming decades, education will transform more rapidly than in many others, due to a new theoretical understanding of the role of school, encouraged by the integration of new technologies. [...] The student's education should primarily target the acquisition of basic knowledge, **scientific preparation, and the ability to use various technologies related to specific fields of action.** (Authors' emphasis) (Brasil, 2000, p. 6)

This established that the preparation of students to use various technologies would also fall under formal education, thus becoming the role of schools to shape individuals capable of dealing with the advancements in the globalized world. This is reinforced by other sections that detail the role of education in the technological society, emphasizing technological knowledge as a tool for human development and the enhancement of individuals' productive capacity. Furthermore, technologies are seen as a means through which schools can work to reduce differences inherent in social class disparities:

Even considering the obstacles to overcome, a contemporary curriculum proposal should incorporate, as one of its axes, the trends pointed out for the 21st century. The increasing presence of science and technology in productive activities and social relations, for instance, establishing a continuous cycle of changes and causing rapid disruptions, needs to be considered. [...]

The technological revolution, in turn, creates new forms of socialization, production processes, and even new definitions of individual and collective identity. Faced with this globalized world, which presents multiple challenges for humanity, education emerges as a necessary utopia indispensable for peace, freedom, and social justice. According to the Report of the International Commission on Education for the Twenty-first Century by UNESCO, it must be seen, "among other paths and beyond them, as a path

leading to a more harmonious, more authentic development, in order to reduce poverty, social exclusion, misunderstandings, oppressions, and wars." (Brasil, 2000, p. 13-14)

It is evident, however, that during that period, the emphasis of discussions on the role of technologies was not on the use of mobile technologies by students and teachers in the school environment, since tablets, laptops, and cell phones were still rare or non-existent tools for most of the population. Despite this, indirect relationships can be established with such tools, as technological changes over the past two decades have led to changes in the collective and individual needs of those involved in school communities.

Only recently, with the BNCC, have technologies assumed an explicitly prominent role in educational public policies. In the document, besides the significant emphasis on digital technologies, mobile telephony devices are exalted as important tools to allow students learning methods consistent with how knowledge has recently been configured. However, until the end of 2019, some lawmakers in the country seemed to be moving in the opposite direction.

In 2007, debates regarding the use of cell phones in schools were already observed. It was in this context that the issue began to be present in the national political sphere as well. One of the discussions on this matter gained prominence through Bill No. 2,246/07, authored by then Federal Deputy Pompeo Mattos, which suggested the banning of mobile phone use in public schools throughout the country. In one of the articles of the project, it was possible to find: "Art. 1 - The use of mobile phones in public schools in the country is prohibited" (Brasil, 2007, p. 1). The project was archived. However, at that time, its elaboration gave rise to two other bills - which ran concurrently in the Chamber - Bill 2,547/07, authored by the then-deputy Nilson Mourão, and Bill 3,476/08, by the then-deputy Eliene Lima. Although they had the same objectives, they differed from the first project by proposing an exception to the prohibition: the use of cell phones would be allowed if it had educational purposes. This can be observed in the following excerpt taken from Bill 2,547/07:

Art. 2º Fica vedado o uso de aparelhos portáteis sem fins educacionais, tais como celulares, jogos eletrônicos e tocadores de MP3, nas salas de aula ou em quaisquer outros locais em que estejam sendo desenvolvidas atividades educacionais nos níveis de ensino fundamental, médio e superior nas escolas públicas no País. (Brasil, 2007, p. 2)

It is interesting to note that since the onset of debates regarding cell phone use in schools, attempts at regulations tend to mention educational or pedagogical purposes as an exception to the prohibition. However, none of the documents define what would characterize this type of activity. On the other hand, Bill 3,476/08, in addition to suggesting an exception for educational purposes, also proposed a warning and a fine in case of repeated use of cell phones outside the stated exception in the text. In this case, apart from addressing the use of mobile devices by students, the text established that the judgment regarding what would constitute a didactic-pedagogical activity or not would be left to the discretion of teachers or school administrators, as can be observed in the following excerpt:

Article 1. The use of portable electronic devices in classrooms of basic and higher education establishments is prohibited.

Sole paragraph. Portable electronic devices will be allowed in classrooms of basic and higher education establishments, provided they are integrated into the development of didactic-pedagogical activities and duly authorized by teachers or the school management. (Brasil, 2008, p. 6)

It omitted the definition of what would characterize a didactic-pedagogical activity, leaving a wide margin for subjectivity and conflicts, as each teacher or administrator might have significantly different views regarding the role of this technology in education. Although the aforementioned bills were not approved, they served as a foundation for other successful projects at the state level.

In the next section, we will briefly discuss some of these regulations that were effectively approved by Legislative Assemblies or Education Departments. As we present these documents, we will discuss the meanings they carry regarding the role of technology in education and digital inclusion.

Restrictions on smartphone use in schools: trends in state regulations until 2019

In 2007, the state of São Paulo became the first Brazilian state to regulate the use of cell phones in the school environment through Law 12.730, authored by the then state deputy Orlando Morando Júnior. According to the deputy, the cell phone in the classroom would be a mere distraction; therefore, his opinion on the matter was that 'the prohibition of its use in the classroom is a measure that harmonizes with the environment in which the student is. In this context, the cell phone is a device that only hinders the teaching-learning relationship' (Morando Júnior, 2015). When approved, the law stated:

GOVERNOR OF THE STATE OF SÃO PAULO:

Be it known that the Legislative Assembly decrees and I promulgate the following law:

Article 1 - Students are prohibited from using cell phones in educational establishments of the State during class hours.

Article 2 - The Executive Power will regulate this law within 90 (ninety) days from the date of its publication.

Article 3 - This law comes into force on the date of its publication. (São Paulo, 2007, p. 1)

In 2017, however, the law was modified in its Article 1, introducing an exception similar to those proposed by the national bills mentioned earlier. It added that the use of cell phones in educational establishments in the state of São Paulo would be allowed if the purpose of such use was pedagogical. However, similar to the previous bills, the document did not define what was understood as "pedagogical use". Partly, the inclusion of this exception, a decade after the approval of the original law, was due to the creation of a project that aimed to test the migration from physical textbooks to digital format, which inevitably implied the use of cell phones in the classroom, rather than a direct change in lawmakers' perception of the possibilities that the device provided for formal learning. In the new wording given to the text, we can read "Article 1 - Students are prohibited from using a mobile phone in educational establishments in the State, during class hours, except for pedagogical purposes" (São Paulo, 2017, p. 1).

In the mentioned project, the books would be stored on students' cell phones through an application that, once downloaded, would not require internet access. In this case, the inclusion of the cell phone found economic and logistical justification, as,

if it showed positive results, the project could imply a reduction in costs related to the acquisition and distribution of printed textbooks. Starting in 2018, 38 state schools in São Paulo began using digital materials, still in a testing mode, for teaching mathematics. According to data from the website <saopaulo.sp.gov.br>, in that year, approximately 98% of mathematics teachers were technically and pedagogically oriented by the team coordinating the initiative, and all unit managers were called upon to act as facilitators of the actions.

Following the São Paulo government's initiative in 2007, other states also began to follow the trend by regulating the use of cell phones in educational institutions of state networks. Among them was Rio de Janeiro, which in 2008, through Law 5222/2008, not only prohibited the use of cell phones in schools but also exempted itself from any exception to the rule, similar to what São Paulo had done a year earlier. However, in 2009, with the popularization of tablets and other portable devices, the law was amended to add new technological artifacts to the prohibition. At that time, the prerogative for the use of such tools was also opened when authorized by the state educational institution. The law's text states:

Article 1. The use of cell phones, walkmans, diskmans, iPods, MP3 players, MP4 players, headphones and/or Bluetooth devices, Game Boys, electronic agendas, and cameras are prohibited in classrooms, library rooms, and other study spaces by students and teachers in the state public education system, except with authorization from the educational institution for pedagogical purposes. (Rio de Janeiro, 2009, p. 1)

Once again, it is possible to notice that during that time, portable devices were perceived by educational legislators solely as something detrimental to students' learning, as they had the potential to divert attention away from traditional school materials, such as printed books. Additionally, it is evident that the prohibition extended beyond the classroom to the entire school space. Once more, the decision regarding what would be classified as a "pedagogical purpose" was left to the discretion of each school's management and their perception of the role of such technologies in education.

In addition to São Paulo and Rio de Janeiro, Ceará was a state that followed the trend of prohibiting portable devices in schools by the end of the first decade of the 21st century. Through Law No. 14,146/2008, students were "prohibited from using cell phones, walkmans, discmans, MP3 players, MP4 players, iPods, beepers, pagers, and other similar devices in educational institutions in the State of Ceará during class hours" (Ceará, 2008, p. 1). The law remained unchanged until the end of 2019, without any provisions regarding the pedagogical use of such devices.

In Piauí, the inclination towards standardizing devices in schools began in 2009 with a bill authored by then-deputy Francis Lopes. According to the parliamentarian's statement in an interview with the G1 Piauí portal in 2015, "Brazil is among the most undisciplined countries in the world during classes. [...]. In my view, things are very messy, and the cellphone has contributed even more to this" (Portal G1 Piauí, 2015). As per the Piauí Legislative Assembly website, although the bill was drafted in 2009, it began its legislative process in the Assembly only on August 18, 2015, and its status remained the same thereafter: under consideration. Therefore, although Piauí did not implement regulations on the use of cellphones and similar devices in the school environment, the possibility of prohibition was not ruled out until the end of 2019.

The original text of the Piauí bill, however, shows that it was drafted in line with the national trend to allow pedagogical use with authorization from school managers or teachers – unlike the state of Ceará. However, unlike the inclination of other states, the bill under consideration in Piauí extends the prohibition to private educational institutions, not just the state public network. Additionally, it provides insights into the school's management responsibilities regarding this matter, as can be seen in the following excerpt:

Article 1. The use of cell phones and similar or interactive electronic devices in public or private educational institutions in the state of Piauí is prohibited in the following manner:

- I – During class hours, in classrooms, by students and teachers, except when prior authorization is granted and solely for pedagogical purposes;
- II – In other spaces and areas of educational environments, except for use in silent mode, for pedagogical purposes and communication between students and their guardians.

§ 1. Disobedience to the content of this article will result in the adoption of measures provided for in the school's regulations or rules of conduct.

Article 2. It shall be the responsibility of the school unit's administration:

- I – To adopt measures aimed at raising students' awareness about the interference of cell phones in educational practices;
- II – To ensure the publicity of the prohibition by posting notices in visible places. (Piauí, 2009, p.1)

In Minas Gerais, however, although the 'pedagogical use' of cellphones was not adopted as an exception, Law No. 14.486/2002 of 09/12/2002 extended the prohibition to cinemas, theaters, and churches. Nevertheless, similar to what occurred in other states that regulated cellphone usage, it is possible to observe how permission or prohibition regarding the use of such devices is conditioned by how legislators perceive them, sometimes without considering the needs or demands of school communities. This can be illustrated by the conflict of opinions that involved the governor of the state at the time and the Minas Gerais State Legislative Assembly. In 2015, when the bill authored by then-deputy Gilberto Abramo, proposing stricter restrictions on the use of portable devices in various settings, including non-school environments, was approved by the Minas Gerais State Legislative Assembly, the governor at the time, Fernando Pimentel, fully vetoed the law, arguing that:

Considering that the State has actions aimed at discussing conduct in the school environment and it is possible to regulate the use of the devices addressed in the proposal in each specific case, the generic prohibition of their use, especially in non-governmental settings, appears to be risky and out of touch with the current computerized reality of society, which could generate significant and legitimate social discontent (Cipriani, 2018, p. 1).

Beyond the mentioned states, other federative units also followed the path of regulating the use of mobile technologies in educational environments, particularly mobile phones, whether in basic or higher education institutions, public or private. These include Santa Catarina (Law No. 14.363, January 25, 2008), Rio Grande do Sul (Law No. 12.884, January 3, 2008), Distrito Federal (Law No. 4.131, May 2, 2008), and Pernambuco (Law No. 15.507, May 21, 2015).

Analyzing the legislations of each of these states, certain consistencies among them can be observed. For instance, Rio Grande do Sul and Santa Catarina only restrict the use of mobile phones, simultaneously without establishing exceptions to the prohibition and without foreseeing punishment for "offending students" in the law's text. However, while Santa Catarina's prohibition applies only to state public schools, the legislation in Rio Grande do Sul forbids the use of mobile phones in any educational institution throughout the state.

On the other hand, in Distrito Federal and Pernambuco, stricter legislations encompass the prohibition of electronic devices' usage by students in general, foresee penalties for students who violate the law (though the establishment of penalties is left to the school management or school rules), and make an exception for "use with pedagogical applications," without defining, however, what these applications entail. Despite similarities, differences between the two states are also noticeable. While in Distrito Federal, the legislation applies to public schools in basic education, allowing the use of electronic devices during breaks and recess, in Pernambuco, the prohibition applies to all school spaces, both public and private, across all levels of education, without exceptions related to schedules and locations within educational environments.

- Regulations for the use of smartphones in schools in Maranhão

Amidst several states setting regulations on the matter, Maranhão, albeit later than other states, also addressed this issue through Order No. 1474, dated August 20, 2019. However, unlike other states that established restrictions through laws, Maranhão employed an order issued by the Department of Education. This order prohibited the use of cell phones and electronic devices in educational units maintained by the State Education Network. Unlike other states, the Maranhão order is based on Article 286, X of the School Regulations of the State Public Education Establishments of Maranhão. This article addresses what is prohibited to students in the school environment and

contains the following restriction: 'to use cell phones, tablets, notebooks, or any electronic devices in the classroom, except when used by the teacher as a pedagogical tool' (Maranhão, 2019, p. 2).

The mentioned order aims to endorse the regulations that already prohibited the use of cell phones and electronic devices in educational units maintained by the State Education Network of Maranhão. However, while the regulations refer only to students, the new document opens possibilities for interpretation that the prohibition also extends to teachers. This can be verified by the text of the regulation, as follows:

The STATE SECRETARY OF EDUCATION, under his legal powers, especially in reference to Article 25 of the Federal Constitution of 1988, and Article 69, item I, of the Constitution of the State of Maranhão; [...] CONSIDERING the provisions of Article 286, X, of the School Regulations; [...] RESOLVES:

Article 1. The use of cell phones and electronic devices in educational units maintained by the State Education Network in the State of Maranhão is prohibited under the following terms:

I - in classrooms, except with prior authorization for pedagogical purposes;
II - in other spaces, except when in 'silent mode' or for pedagogical assistance." (Maranhão, 2019, p. 2)

Cognizant of this possibility, the Secretary of Education at the time, Felipe Camarão, through a statement on the Maranhão Department of Education website, attempted to clarify that it was up to teachers and administrators to assess what would fit or not as 'pedagogical use' of the cell phone. In the words of the secretary:

It may be a controversial measure, but our intention is precisely to grant teachers and school administrators the authority that is rightfully theirs within the school environment. Digital life is increasingly present in people's lives. The cellphone has become an almost indispensable item for many, but we cannot allow checking social networks, playing games, or following the latest news to become competitors to pedagogical routines in the classroom. (SEDUC-MA, 2019, p. 1)

We can once again observe the national trend of prohibiting the use of smartphones and other electronic devices in school spaces, which was in place until 2019, with the exception of using them for pedagogical purposes. However, as discussed earlier, such an exception makes it difficult to clearly define what would be

classified as 'educational use or application,' generally falling to school administrators to determine based on their particular views on the importance and role of technologies in formal learning spaces. In some cases, this could easily open up space for the strengthening of authoritarian or conservative attitudes by certain school administrators, as well as potentially inhibit attitudes geared towards innovation and technological integration by teachers and students in schools whose administrators did not maintain a friendly relationship with such devices.

In the case of Maranhão, according to the ordinance, besides acting as overseers for how students and other members of the school community use their cell phones, teachers and administrators were also responsible for 'confiscating' devices that were not being used appropriately. In the words of the then-secretary of education: 'We are not absolutely prohibiting, but leaving it to the teacher to make the necessary interventions and retention of devices when they are not being used for pedagogical purposes' (SEDUC-MA, 2019, p. 1).

Although late compared to other states, Order No. 1474, dated August 20, 2019, was not the first document to prohibit smartphone use in Maranhão. In fact, back in 2008, the São Luís City Hall had already sanctioned Law No. 4958, dated June 17, 2008, which prohibited the use of cell phones, games, iPods, MP3 players, and other electronic devices that caused noise and disrupted communication processes in classrooms. The prohibition extended to institutions of Elementary, Middle, and Higher Education, as well as spaces designated for conferences, lectures, seminars, congresses, and roundtable discussions, without specifying exceptions for potential pedagogical uses.

Although discussions on this issue go beyond political scope as they are directly linked to understanding how these devices either aid or disrupt teaching and learning processes in contemporary society, a discrepancy between national guidelines present in documents such as the PCNs (National Curricular Parameters) and BNCC (Brazilian National Common Core Curriculum) and state laws is noticeable, showing the emergence of educational trends that are 'more or less technological.'

Furthermore, it's essential to consider that for teachers and administrators to fulfill the supervisory role established by ordinances and laws, without relying solely on their views about the cellphone's role as an educational tool, Education Departments should invest in continuous training focused on technology use in the school environment. Given that smartphones are relatively recent technological artifacts, it's expected that many teacher training programs have not yet adapted to discussing the pedagogical potentials of mobile technologies. Similarly, considering that they are widely used for entertainment, there's a high probability that without awareness of other possibilities, cellphones may only be associated with their disruptive characteristics. Thus, when regulations for smartphone use don't establish criteria for 'pedagogical use,' nor predict discussions or training aimed at awareness and the development of possible criteria, they tend to pave the way for technological rejection and the potential benefits it can bring to the school context.

Recently, the UNESCO report 'Technology in Education: A Tool in Service of Whom?' (UNESCO, 2023) questioned the use of smartphones in schools worldwide. According to the report, although cell phones prevented the collapse of education during the pandemic, they were also an instrument for neglecting a portion of the population for whom quality education was not offered during remote learning. The report also establishes a relationship between excessive use of digital technologies and low student performance, suggesting that when improperly used, cell phones can distract students and have a negative impact on learning. Furthermore, according to UNESCO, another concern regarding the use of cell phones for educational purposes is related to the security of children's data, as schools do not invest in ensuring user data security when such devices are used for didactic purposes.

Although the UNESCO report was hailed by some as a recommendation for banning smartphones in schools worldwide, in reality, the United Nations agency draws attention to the need for responsible use of this and other digital technologies, showing that unfortunately, actions aimed at integrating technological artifacts into schools still revolve solely around the technology itself, rather than education. In this context,

regulations for smartphone use reveal another aspect pointed out by the report: that it is easier to prohibit than to invest in teacher and administrator training and the creation of a culture of responsible and critical technology use—or, in other words, a digital literacy culture.

Final considerations

In this text, we aimed to describe and compare some national and state policies regarding the integration of mobile technologies into education. Through the analysis of the laws in force in states that regulated the use of cell phones and other electronic devices in educational environments, it was possible to identify trends oriented towards technological prohibition rather than fostering digital inclusion among students in both public and private educational networks.

Furthermore, reflecting on the concept of digital literacy, we showed that teaching with and for the use of technological artifacts is a necessity in contemporary schooling. This is because the social mechanisms of interaction and production outside the school demand that learners master skills allowing them to more effectively interact with the world around them. To achieve this, technological inclusion must be genuinely incorporated by educational institutions from a critical and meaningful perspective, grounded in the real needs of students in their educational journey. However, throughout the analyses, it became apparent that many of the 'regulations' for the use of digital technologies have been formulated by lawmakers seemingly unfamiliar with the needs of educational contexts. This is because such regulations are based on individual views regarding the role of technologies in education, notably the cell phone, which is predominantly perceived in the analyzed documents as a source of distraction and disruption to traditional schooling.

However, considering that the analyzed data pertains to a context preceding the pandemic caused by the SARS-CoV-2 virus, it is plausible that new perspectives may emerge following the social and cultural changes educational contexts have been compelled to undergo. During these times, the cell phone, along with other portable technologies, has proven to be a fundamental tool for many teachers and students to

access remote learning and other 'non-canonical' forms of education. As a result, rather than being perceived as adversaries, such technologies may be seen as an integral part of educational practices aimed at fostering increasingly digitally literate students.

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