The cell phone in the classroom: Prohibitions, possibilities and reflections

ORIGINAL ARTICLE

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SUMMARY

In the daily life of Brazilian schools, there is divergence in relation to the use of mobile phones by students either as a pedagogical tool or as an instrument of recreation. With the lack of a guide legislation, schools have different regulations when dealing with the subject. In São Mateus-ES, from the Common Rules of Municipal Schools, it was identified that the student is forbidden to use the cell phone in the classroom. The study in question aims to analyze whether the students of the municipal network comply with what the Rules of Procedure determine or seek ways to circumvent this law. This study is based on Prensky (2001), Bauman (2004), Castells (1999) among others. This is a quali-quantitative research, with closed questionnaires for students. It was found that the cell phone, even though it is prohibited in the classroom, it is still used by the student. Therefore, there is still a challenge to use this technological tool in order to corroborate with teaching-learning in a significant way.

Keywords: Mobile, prohibition, student, postmodern subject.

INTRODUCTION

It is of great knowledge that society as a whole has been experiencing metamorphoses in all aspects, and linked to these metamorphoses the educational context, also, has gone through several allomorphies. With the emergence of the media, it further corroborated these structural transitions in the school space. Technological changes in society in the last decade of the 21st century have opportunistized Brazilian

youth and adolescents to use mobile phones for the most diverse purposes, including educational, the focus of this discussion. Technology has changed the logic of content production and also the way to acquire knowledge.

For Castells (1999), we live a technological paradigm that is organized around information technology. In this scenario, the mobile phone is configured as one of the great inventions of modern technology. Most have the ability to store photos, games, watch videos, browsing, built-in camera, playback and recording of audio and video, send and receive emails, social applications and web browsing, wireless, internet and other elements indispensable to modern life. However, the use of this in the classroom is still a controversial issue, because on the one hand the advancement of technology provides in a single device the most diverse possibilities to interact and acquire knowledge and on the other, the school has regiments, rules and rules that sometimes imply the prohibition of the use of mobile phones in the classroom during study hours. From the emergence of the cell phone to its popularization, the classroom was never the same. Considering this reflection, Litwin (1997) considers relevant the use of technology in school with the purpose of improving the quality of teaching, because the cell phone as a didactic and technological contribution can qualitatively expand learning.

As much as the use of technology through the use of mobile phones in the educational context is widely debated, there are still many controversies and resistances from some education professionals. In the municipality of São Mateus, site of the research, when reviewing the Regiment of the Municipal Network of São Mateus in 2014, it is observed that the directors request a unique definition for the use of the cell phone, because the device was responsible for most occurrences of indiscipline, including inappropriate photos, posts on social networks, thefts, physical assaults, among others. It is worth noting that the rules approved in 2014, Art. 169 considers as an indisciplinary act on the part of the student: "V - use cell phone during classes and be absent from them to serve him in the corridors", without authorization of a servant of the school units (REGIMENTO COMUM DAS ESCOLAS DO SISTEMA MUNICIPAL DE ENSINO, 2014, p. 48). It is noteworthy that in this network, if the student needs emergency contact with the family, the servers of the school units, make urgent contact meeting their demands.

At the school where the research took place, the cell phone was completely prohibited. Measures such as meeting with the school community, signing of a term of commitment by parents, intervention of the Court of Childhood and Adolescence, surveillance by teachers regarding the use of mobile phones during classes were welcomed by the institution as part of the problem solution as a form of guidance to students. However, although there is still resistance, the device is released only for pedagogical purposes in some institutions. Otherwise, it has to be kept off inside the backpack.

Considering this discussion, this research aims to make a correlation between the prohibition and use of mobile phones in the classroom by elementary school II students in the final years, linking some challenges in the face of prohibition and at the same time reflecting on the possibilities for use. We hope that the results serve as a basis for the school to rethink its methodologies so that the cell phone is a possible pedagogical resource in the school routine.

Regarding the theoretical contribution, the following authors Antunes (2014), Bauman (1999; 2004), Freire (1996; 2003), Morin (2011), Hall (2001), Base Nacional Comum Curricular (2017), Bannell et al (2016), Castells (1999), Kenski (2007; 2010), Moran et al (2000), Prensky (2001), Santaella (2001) among others.

VILLAIN OR ALLY OF LEARNING: THE CELL PHONE IN SCHOOL DAILY LIFE

It is clear that nowadays people are more connected to the internet through mobile, and that it has become an object of desire for virtually all Brazilians. Data from the Brazilian Institute of Geography and Statistics (IBGE), referring to 2016, indicate that it is part of the life of 92.6% of the 69.3 million households visited. 69.3% of Brazilian households use the internet and most of them use 97.2% use their mobile phones to access it. Data also indicate that most people who access the internet are under the age of 24. Through this technological progress, Silva (2015, p. 20456) alludes to:

Given the advance of new technologies, the teacher has as an aid a new resource that makes his classes more stimulating and differentiated. This is a way to show that the student can rather get a good performance before the machines, with educational software that enriches their best way to grow. Thus, as in economics, politics, culture, the advancement of technology is present in the educational sector, bringing with it the need to use this technology tool in learning. This leads us to realize that today, there are several technological tools that make and can be worked on in the school context, but precisely in the classroom. Of these technologies, one of those that are present in the school environment and that practically became part of the individual material of each student is the cell phone. That is, the mobile phone, considered as mobile technology are in strong evolution and seems to be destined to become the new dominant paradigm of computing.

It is infered based on the above fragment, that the use of the cell phone is part of the historical context of the contemporary subject, this postmodern individual, who grew up in this conjuncture of technological transformations. In this sense, the school as an institution of systematized knowledge should seek alternatives of how to use this tool, consciously, in the search for knowledge, convert information that at all times arrives through social networks, and transform it into knowledge, consemnating with the National Common Curriculum Base (BNCC) (2017), which is that the student is the protagonist of his life, his discourse is based on facts , have a critical sense about the reality that surrounds it, this is the role of the school, reflecting on the changes that occur in society.

In this context of transformations, young people when they have questions watch the tutorials on *Youtube*, and create channels that deal with the most diverse subjects connecting simultaneously in various locations. For Prensky (2001), students of modernity opt "for practice before theory". Young people want to receive information quickly and immediately, randomly access hypertexts, work better when networking, and learn more easily in a playful way where mobile and internet use can be important allies to help with learning. The author Edgar Morin (2011) evidence on the education of the future, in which the writer brings an approach to the uncertain times experienced by today's society, and the school in this context of transitions, needs to articulate itself to meet the demands of society as a whole. This is the focus of contemporary education articulated to educational metamorphoses, attentive to the changes that unfold in society.

Emphasizing the use of technology in the classroom, Almeida (2000, p. 165) elucidates that the insertion of technologies in the classroom "[...] allows breaking with the walls of the classroom and the school, integrating with the community that surrounds it, the information society and other spaces that producers of knowledge". In the knowledge society, there is a flow of expressive information that quickly reaches people through mobile, it is necessary that the school meets this demand and the use of technology is inevitable and urgent. Converging, Kenski (2010, p. 21) explains that "Technologies transform their ways

of thinking, feeling and acting. They also change their ways of communicating and acquiring knowledge." This is the context experienced by today's students, a scenario of information volatility and transformations.

In this sense, Antunes (2014) ironicly, in the title of his work, makes a comparison of "teachers and professaurs", that is, the writer brings an approach of teachers who are stuck to the crystallized teaching standards of the past, the author reflects on the current context, and how the educator should pay close to these realities. What worked once may not be a good alternative today, ingrained pedagogical postures corroborate school failure. Meeting the ideals of Freire (1996) who for more than two decades in his work "Pedagogy of autonomy", versa that "[...] education is a form of intervention in the world. [...]" (FREIRE, 1996, p. 110).

In this perspective, the use of mobile phone is something natural for the student of modernity who builds a digital world, accesses millions of information in a short time, breaks down geographical barriers with translation programs, communicates with anyone independent of the language. On the other hand, this is not a reality for most teachers, who find it difficult to use a technological instrument to improve students' learning, which comes mainly from the lack of encouragement and training, and it becomes impossible to teach what is not known. Regarding the use of the cell phone, the teacher still attends students who do not connect pedagogically and use the cell phone for other purposes during classes. However, despite the challenges Freire (2003) postulates that learning, guiding the student and guiding the student is always possible:

For me it is impossible to understand teaching without learning and both without knowledge. In the process of teaching there is the act of knowing on the part of the teacher. The teacher has to know the content of what he teaches. So in so that he or she can teach, he or she must first know and, simultaneously with the teaching process, continue to know why the student, when invited to learn what the teacher teaches, actually learns when he or she is able to know the content of what he/she has been taught (FREIRE, 2003, p. 79).

In addition to the difficulty of the teacher in having autonomy in the various possibilities that the cell can provide in the learning of students, there is legislation. In many schools, there is still a total prohibition of mobile phone use or partially, being used only for pedagogical purposes. The main argument is based on research that points to the device as a distraction instrument.

In Brazil, draft national laws such as Law Project nº 2,246, 2007, by Deputy Pompeo de Mattos whose objective "aims to prohibit the use of cell phones in public schools across the country," projects nº 2,547, 2007, by deputy Nilson Mourão, and nº 3,486, 2008, by deputy Eliene Lima, which expands the scope of the ban for all portable electronic devices. PL nº 3,486 / 2008 extends this measure to basic and higher education establishments, except for educational purposes. Deputy Pompeo presents several justifications for the ban, including:

According to teachers is constant the exchange of "torpedoes" between students inside the classroom and also for friends from another room. Many leave their phone in silent mode and sometimes can't resist when they get a call by whispering in a low voice. Other reports indicate that many use the phone to play, since virtually all models bring options from various "games". There are reports of students using their cell phones to paste in the tests, through text messages and also storing the matter on the device itself

(CÂMARA DOS DEPUTADOS, 2007, p. 2).

Unesco's recommendation (2014) is that schools review existing policies on the use of mobile devices in order to increase the opportunities provided by mobile technologies and other new Information and Communication Technology (ICT's), testifying that UNESCO (2014) points out that:

Avoid full bans on the use of mobile devices. These prohibitions are crude instruments that generally obstruct educational opportunities and encourage innovation in teaching and learning, unless they are implemented for well-founded reasons (UNESCO, 2014, p. 32).

Unesco's Mobile Learning Policy Guidelines (2014) also provide for policies for teacher training so that they can use their mobile phones as an instrument of good pedagogical practice. According to the document, without training the teacher will take advantage of technology to do "old things in new ways". It also recommends that content be developed specifically for mobile devices and that all students have their own mobile phone. The change in pedagogical practices for digital inclusion is inevitable. The school needs to organize itself with its teachers for this purpose, or it will be further out of time in the teaching-learning process. To accompany this challenge, the National Common Curriculum Base (BNCC) (2017) in the ten general competencies, emphasizes digital technology:

Understand, use and create digital information and communication technologies in a critical, meaningful, reflective and ethical way in various social practices (including school children) to communicate, access and disseminate information, produce knowledge, solve problems and exercise protagonism and authorship in personal and collective life (BRASIL, 2017, p. 9).

Generally speaking, it is relevant that schools and education systems find alternatives for the insertion of mobile phone use in the classroom so that they are more attractive and dynamic. It is evident the student's dissatisfaction with traditional practices that only increase cases of indiscipline. It is necessary to reflect that in addition to the prohibitions or releases of the use of mobile phone in the classroom, it is necessary to ensure the training of teachers so that they know how to use it as a pedagogical tool, and to direct the student's learning, otherwise the use of the cell phone can become a frustrating and disastrous experienc**e.**

METHODOLOGY

Regarding methodological procedures, this research was characterized as quantitative and qualitative, exploratory and bibliographic in order to make a data collection, to verify whether the prohibition of the use of the device in schools inhibits its use. For research, 41 students from the final years of Elementary School II were selected from a elementary school in the municipality of São Mateus, located in Espírito Santo. The sample consists of 80% of the students of the morning shift, enrolled in the 9th grade of the Municipal Elementary School, with an age of approximately 14 to 16 years of age. Regarding data collection, the students answered a closed questionnaire with questions to meet the demand of a quantitative research. The sample was for convenience, the justification for this choice was based on the classes with the highest number of occurrences for indiscipline by the use of the cell phone, in this case the subjects were the students who had a cell phone.

Regarding qualitative and quantitative research, according to Minayo (1994, p.22), "The set of quantitative and qualitative [...] data are not opposed. On the contrary, they complement each other,

because the reality covered by them interacts dynamically, excluding any dichotomy.

Bibliographic and documentary research was necessary for data collection and analysis. The reading of books, legislation in force, articles and other scientific materials gave theoretical support to the research. In response to the closed questionnaire, authorizations were requested directed to the parents for the children to participate in the research at the educational institution, the research site.

DATA ANALYSIS

In this topic will be presented the data collected for the discussion and analysis of this research in question. In this sense, the study participated in 9th grade students aged between 14 and 16 years, totaling 41 students. At the first moment there was a conversation clarifying the objectives of the work, after all the clarifications about the research, the request for written authorization was sent to the parents so that the children could participate in the investigation. The questionnaire was directed only to students who had a mobile device. With the first, the following results were asked about the operational system of the students' cell phones, and based on the figure below:

Figure 1: Operational system of the students' cell phone
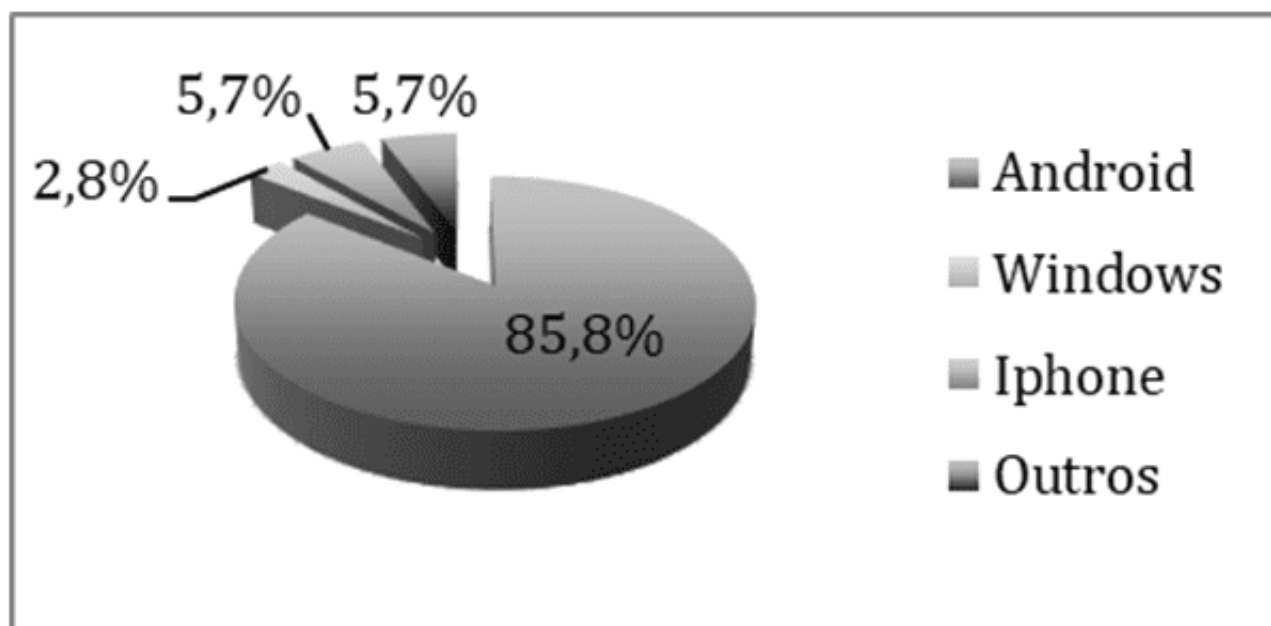
Source: Data collected by the authors, 2018.

Based on figure 1 above, Android is the most used operating system by students about 85.8%. The consulting firm Garther shows that this system is also a leader among Brazilians and corresponds to 85.1% of devices that depending on memory can access up to more than 1 million applications and allows its users to share news, news, online games, anytime and anywhere, including in the classroom. From the data, it is infer that, probably, by the resources offered with this system, it is justified that these young people end up exceeding the time limit on social networks, or even in virtual games. Given that this digital world needs to be attractive, or rather, hold people's attention, otherwise disinterest is right. The internet creates bubbles of information that trap the subject to this virtual world, with this, time control is

lost, and they isolate themselves in this virtual reality.

According to Santaella (2001, p. 4):

At the heart of these transformations, computers and communication networks undergo an accelerated evolution, catalyzed by digitization, data compression, multimedia, hypermedia. Fueled by such progress, the internet, the world network of interconnected networks, explodes spontaneously, chaotically, superabundantly, a trend that only seems to increase with the recent massive immigration of e-commerce into the universe of networks. In this same environment, in the technical and scientific sectors, disturbing trends emerge, such as virtual reality and artificial life.

Corroborating, Perlow (2012) explains that it is a modern human need is always connected mainly because we can have the world in the palm of our hand through a smartphone, iPad, laptop and notebook. Without any embarrassment, the students responded to using their cell phones in the classroom despite school bans and teacher supervision, 48.5% responded by using them more to access WhatsApp, as shown in Figure 2:

Figure 2: Purpose of mobile phone use in the classroom
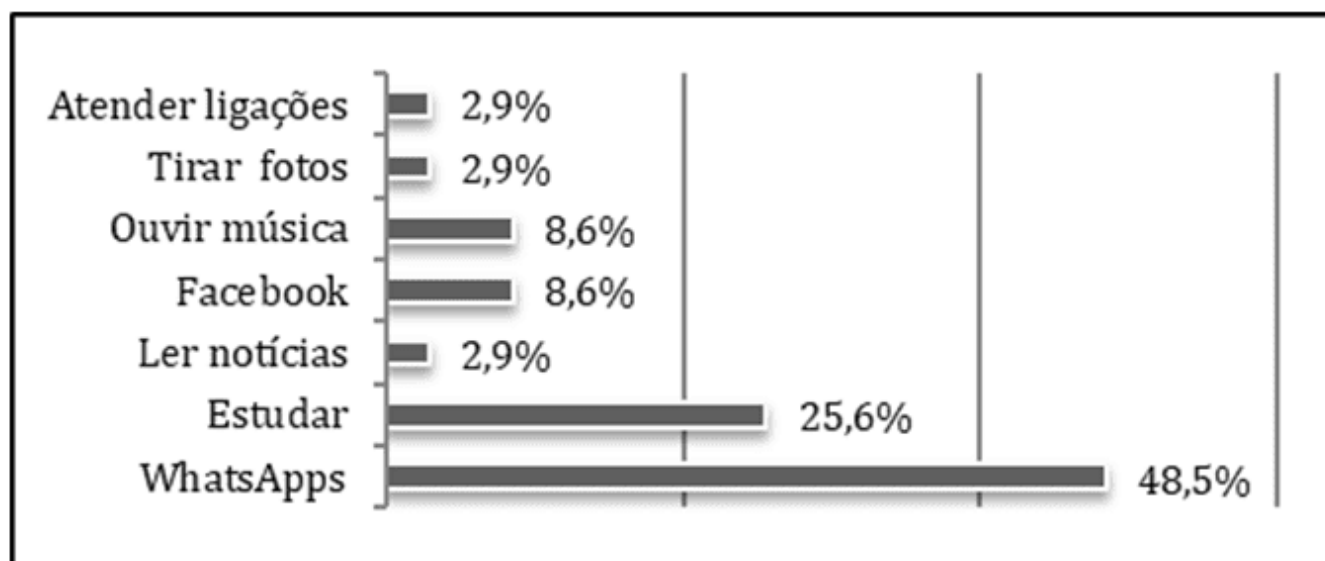
Source: Data collected by the authors, 2018.

WhatsApp is one of the most used applications in the world, providing the user with sending videos, texts, documents and a series of communicative activities very quickly and at a very low price, besides allowing the interaction of groups with common interests. Through this application, even the student, in a classroom, can follow what happens in other classrooms and outside the school, managing to stay connected full-time.

These data corroborate the studies by Bannell *et al* (2016), the authors show about the handling of these technological tools, however the students have an improved management in some resources offered by the technology, to the detriment of other possibilities that the Internet subsidizes, for example, in the

search for new sources of systematized knowledge, ratifying the above data, when only 25.6% seek these tools for studies. In this respect Bannell *et al* (2016, p. 70) point out that:

It is possible to realize how skilled children and young people are in the day-to-day management of the resources of their electronic equipment (making and storing photographs, creating and editing images, creating and storing data in text files or spreadsheets, setting and changing settings of electronic devices, solving small technical problems, among others) and, more overthe use of tools for social interaction (social networks , exchanges of messages with voice, image or text, interpersonal communication networks, etc.). But they have not identified the same skill levels when it comes, for example, to search, select, evaluate and analyze new information or formal knowledge (school, academic, scientific) or when it is necessary to produce and convey new content stemming from the information obtained. These are important skills for acquiring/building knowledge with the use of the Internet and, in general, its development requires mediation of people who have already internalized them (BANNELL *et al* 2016, p. 70).

Through this reality Bauman (2004) highlights about the need that people have to be connected and the more time they dedicate, the further away from reality they stay. In this case, the virtual environment makes it more attractive and knowledge acquisition is in the background, 25.6% of the interviewees answered using the device to study, although it is not the main end of the use of the cell phone in the classroom, the student has used the device for pedagogical purposes enabling according to Moran et al (2000, p. 31 "[...] research in all ways , using all media, all sources, all ways of interacting."

As Bauman (1999) points out, the fluids of the times corroborated in a "fluid" subject, as the author points out, considering that the stimuli are varied. In line with Stuart Hall (2001) it is very important that the postmodern subject is segmented, that is, does not present a defined identity, to a large extent related to the advent of technologies. Converging, too, with Bannell *et al* (2016, p. 79) that:

[...] The fast pace of contemporary societies seems to require a greater dispersion of attention, so that we can protect ourselves, move around, study, work, preserve our affective relationships and, in addition, keep us informed of the events, many of them occurring thousands of miles away. At the same time, intellectual life, reflection, school learning require deep attention, a requirement with which most of our daily tasks compete. This is one of many contradictions that interfere with school life.

Pinto (2004) clarifies that the school should be willing to modify the forms of learning, even because this new generation performs multitasking and are able to watch TV, listen to music and key the phone at the same time. Still in this line of thinking, the author highlights about the school being open to the challenges of modernity. Accepting this challenge means providing necessary training to teachers so that they can work with new technologies. Table 1 shows that this is not a reality of the researched school, which finds it difficult to use the cell phone for pedagogical purposes:

Table 1: Use of mobile phones for pedagogical purposes per discipline

	Never	**Sometimes**	**Always**
Portuguese language	49%	43%	8%

| Math	63%	31%	6%
Geography	54%	40%	6%
Sciences	40%	46%	14%
Story	34%	48%	18%
Arts	43%	43%	14%
Physical Education	60%	32%	8%
English	40%	43%	17%

Source: Data collected by the authors, 2018.

Prensky (2001) clarifies the reason for the difficulty of mobile phone use. Teachers, for the most part, are digital immigrants[6] who teach digital natives[7], dominant in the language of computers, video games and the internet and adds [...], but Digital Immigrants typically have little appreciation for these new skills. "These skills are almost entirely foreign to immigrants." Therefore, the importance of providing training to teachers. Unesco (2014) recommends as an educational policy the teacher's training to better teach the content through mobile technologies, in addition to technical support.

Costa and Fradão (2012) show that in the initial formation of the teacher there was no use of technology and this reflects in their practice. Kenski (2007) reinforces the importance of using technology in the classroom, and a traditional class with chalkboard and chalk does not attract as much attention to the student, and does not prepare him for the job market that requires knowledge in technology.

Increasingly the Ministry of Education (MEC) charges the political education systems for the use of ICT's so that the student is inserted in the digital world and receives preparation for the labor market. Grossi and Fernandes (2014) state that the growth of the Federal Government's programs in the incentive to ICT's in the classroom comes from the research created and supervised by universities for the purpose of digital inclusion. However, many Brazilian schools find it difficult to provide students with access to ICT either because of the lack of financial resources, or because of the fear of the new because of lack of training. This fear is real, in front of videos circulating on the internet in which the teacher has the lesson filmed in order to be humiliated.

The researched school does not offer internet to its students, although there are two companies that provide this service to the school. It does not offer, aiming to hinder the use of the device. Nevertheless, students when asked how they manage to stay connected stated that they use various features as shown in Figure 3:

Figure 3: Internet access by mobile phone at school.
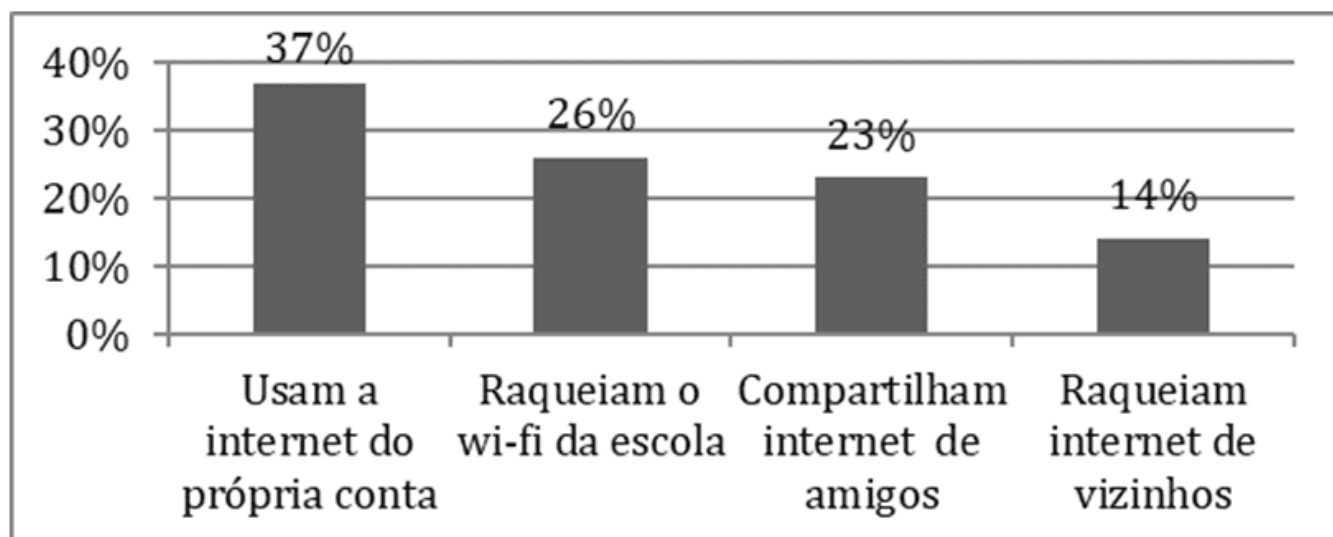
Source: Data collected by the authors, 2018.

Considering Bauman (2004), the arrival of technology allowed people to stay connected, constantly connected. These connections have tenuous bonds that can be brief and intense over time. For this new generation, especially teenagers, being connected is inevitable, so they even practice illegal acts like "raquear" the internet.

When asked about the laws that prohibit the cell phone in the classroom, 91% think that this is nonsense, that there will always be a way for the student to use the device, including for non-pedagogical purposes. To reach these digital natives, Prensky (2001) states that teachers, mostly digital immigrants, should stop whining and seek alternatives that encourage their students to access technology. The use of the cell phone in the classroom together with the teacher's pedagogical practice can provide significant learning as long as it is included in the political-pedagogical project. In this sense Lopes and Pimenta (2017, p. 55) show that:

Some statements of the researches consulted showed that in some cases, the use of the cell phone is still strongly associated with generalizations and prejudices, especially in relation to the effect of possible distraction of students. In addition to the insecurity that the cell phone causes in some teachers, the simple fact that they do not fully master such technology, which makes them feel unable to manage something they do not yet know very well and this insecurity seems to be the main cause of so much resistance to the use of the cell phone as a teaching tool. However, although such resistances prevent a number of relevant issues, they lead us to believe that the use of the cell phone depends largely on its management, that is, on how it will be used in a formal educational context.

Prensky (2001) stresses that teachers learn to communicate in the language of digital nativespeakers. Only the slate and the books do not hold the student's attention. Suggests that there are two contents in the school: legacy content and future content. The first includes reading, writing, aritmetics, logical reasoning, understanding, etc. The second refers to software, hardware, robotics, nanotechnology, genome, etc. And also ethics, politics, sociology, languages and other things that accompany them. Balancing the old and the new is a challenge for the teacher of modernity.

In this respect, Bannell et al (2016, p. 121) point out that "Proposing the exploration of digital technologies in the space of the pedagogical relationship between teacher and student implies percebing them as a space for dialogue [...]. It implies subverting the patterns of the traditional learning process and admitting the possibility of a new model of knowledge construction, based on the mutual exchange between teacher and student [...]. Digital technology has already changed the out-of-school learning processes of young generations[...]."

This time, the student notices when the teacher uses the mobile phone without pedagogical purposes. 65% answered that their teachers always use their mobile phones for non-pedagogical purposes.

Figure 4: Teacher who uses a non-pedagogical cell phone in the classroom.
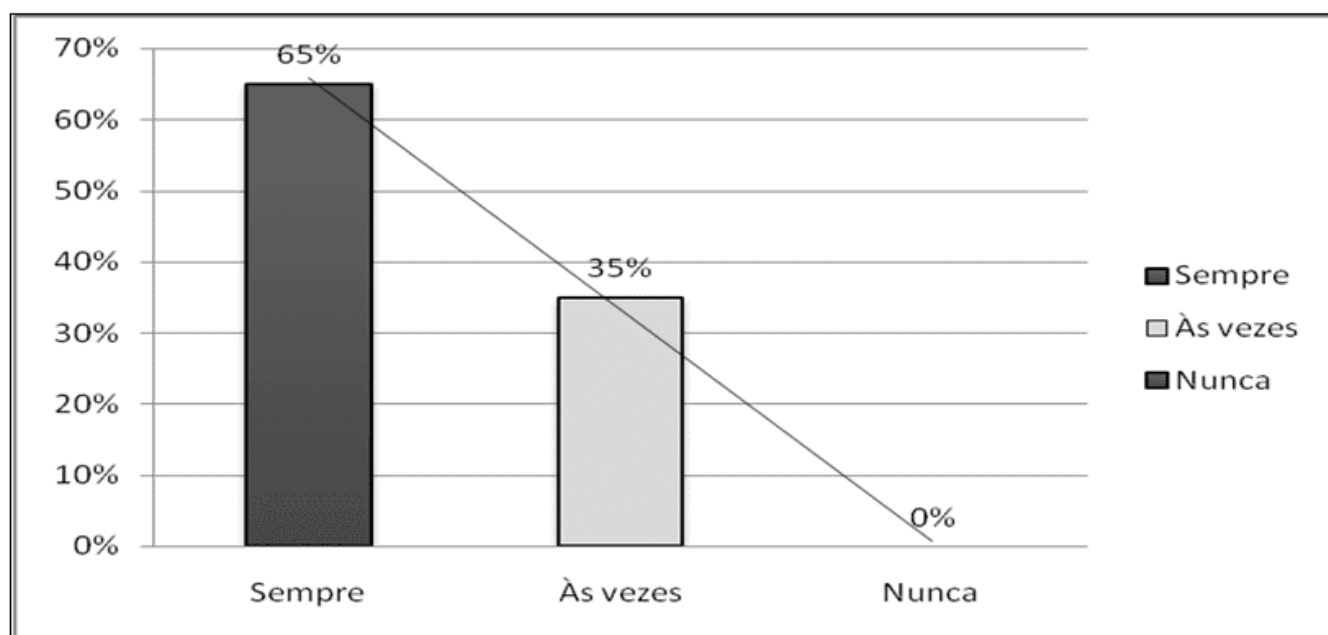
Source: Data collected by the authors, 2018.

So that there are no such contradictions in school, in which there is a law that is prohibited the use of mobile phone, UNESCO (2014) recommends avoiding "gross attitudes" to ban the cell phone. They will be norms and laws that will not be complied with and create situations of indiscipline in the school space. Prensky (2001) has stated for more than 15 years that today's students are not the same as they were, and this is one of the causes of the decline in education in the U.S. And why not say brazil is slow to the insertion of mobile technologies in the classroom.

For Batista and Barcelos (2013, p. 8) they indicate that, "Mobile phone use is, in particular, an issue that still presents several difficulties [...]. The prohibition of the use of these devices in the classroom may not even prevent the occurrence of problems, because students often circumvent restrictions. This is a broad issue, which requires common sense and dialogue, even if it is only to justify the reasons for the ban."

Thus, based on the data evidenced and the authors mentioned above, for the good result of mobile learning is subject to the competence of teachers to add the educational benefits of mobile devices. It is basic to master the profuse functions of the cell phone, since they modernize quickly and tend to be more

difficult to use. Over the next 15 years mobile learning will be more integrated into general education. "By strengthening the links between technical and pedagogical innovations, mobile technology will assume a clearly defined but increasingly essential role in the general ecosystem of education" (UNESCO, 2014, p. 28). Therefore, in this context of change educators and public policies for education will have to adapt to modernity and mobile learning with a focus on student learning.

FINAL CONSIDERATIONS

The study presented showed that the cell phone, even though it is prohibited in the classroom, is used by the student who does not evaluate efforts to stay connected full-time to the virtual world. Based on these results, it is recommended that schools provide regular use of the device in a responsible manner, as it does with other teaching resources such as books, movies, games, among others. Mainly, that school institutions show students the importance of knowing how to handle these tools as evidenced by the National Common Curriculum Base (2017), taking the best advantage that they offer.

The research in question showed that some teachers do not allow students to use their cell phones. This expresses the lack of mastery of the digital language. It is a challenge to insert the technology through the mobile phone in the room even to include students who do not have the device. Most of our teachers are digital immigrants, born before the 80s, in the twentieth century, faced with this digital native, or rather this postmodern subject that is traversed by abundant technological stimuli. Thus, learning to use the cell phone as a pedagogical tool is a task that will require a lot from the teacher. To do so, training is the key word of the process and it must happen before technology. It is *sine qua non* emphasize that, often, technology arrives first than teacher education, hence the need to ensure the continued education of teachers, this reflexive posture is basic in teaching praxis, considering that the role of the school as an institution of systematized knowledge is to rethink its action.

Generally speaking, to ensure the use of the cell phone in the classroom, it is necessary that the teacher has access to curricula, educational resources and lesson plans through mobile devices and can have training for the proper handling of the cell phone. It is also relevant that there are public policies and investments in mobile learning, considering that the school needs to follow the transformations that occur in society.

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APPENDIX - FOOTNOTE REFERENCES

6. This term is used to define "digital immigrants" because they prefer the physical to the digital environment, and have to learn to use digital technology, often unrelated to technological advances.

7. The "digital native" is the term used for those who were born in the progressive middle of technology. PrensKy (2001) clarifies that they grow with technology and handle computers, mobile phones and all the toys and tools of the digital age.

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