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Speeches on Facebook and Twitter about the educational use of smartphones in the classroom.

Discursos en Facebook y Twitter sobre el uso educativo de los móviles en el aula.

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RESUMEN
Introducción: Los mensajes sobre el uso pedagógico de los móviles en el aula generan debate en las redes sociales y logran crear opinión en la ciudadanía. Los objetivos de este trabajo son: analizar las características de los discursos que se difunden en Facebook y Twitter sobre el uso educativo de los móviles en el aula, según si los argumentos que defienden se basan en la promoción, la prohibición o la indeterminación, e identificar los perfiles de sus principales agentes emisores, así como el tipo de contenido argumental de los mensajes que tienen mayor impacto. **Metodología**: Se plantea un estudio descriptivo transversal. Se analizan 142 mensajes en español o inglés, sin excluir su procedencia geográfica, desde una aproximación mixta empleando el criterio de *engagement* para clasificar su relevancia. **Resultados**: Los resultados muestran que la argumentación predominante es la de la promoción del uso educativo de móviles en el aula siendo los profesionales de la educación quienes mayoritariamente la publican. Los argumentos de prohibición son emitidos principalmente por los medios de comunicación y los perfiles institucionales, siendo estos mensajes los que tienen mayor repercusión.

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Discusión: Teniendo en cuenta que el liderazgo informal generado en las redes sociales puede provocar cambios en la agenda social y/o política, se destaca la relación hallada entre el tipo de usuario y el tipo de mensaje emitido. **Conclusiones**: Entre otras, se observa que las críticas y recelos al uso de los móviles en el aula se deben a la confusión generalizada entre móviles y redes sociales.

PALABRAS CLAVE: Educación; móvil; centros educativos; aula; discurso; Facebook; Twitter

ABSTRACT
Introduction: Messages about the pedagogical use of smartphones in the classroom generate debate in social networks and bring about opinions among citizens. This paper aims to analyze the characteristics of the messages, that are disseminated on Facebook and Twitter about the educational use of smartphones in the classroom according to whether the arguments they defend are based on promotion, prohibition, or indeterminacy; and to identify the profiles of their main issuers, as well as the type of argumentative content of the messages that have the greatest impact. **Methodology**: A descriptive study was carried out. 142 messages in Spanish or English are analyzed, without excluding their geographical origin, from a mixed approach using the engagement criterion to classify their relevance. **Results**: The results show that the predominant argumentation is the promotion of the educational use of smartphones in the classroom, being education professionals the predominant publishers. Arguments for prohibition are mainly issued by the media and institutional profiles, and these messages have the greatest impact. **Discussion**: knowing how the informal leadership generated in social networks can lead to a change in the social and/or political agenda, the relationship found between the type of user and the type of message they emit, confirm the relevance of the present study. **Conclusions**: Ultimately, we find that the criticisms and misgivings about the use of smartphones in the classroom are due to the widespread confusion between the use of smartphones and the use of social networks.

KEYWORDS: Education; mobile phone; schools; classroom; speech; Facebook; Twitter.

CONTENIDO

CONTENT

Translation by **Paula González** (Universidad Católica Andrés Bello, Venezuela)

1. Introduction

The great technological deployment and the communicative revolution experienced at the beginning of the 21st century with the emergence of the Internet as a global communications network and the gradual replacement of traditional media as sources of information and social interaction, would not be understood without the invention and popularization of mobiles in the last decade (Sancho-Gil et al., 2019). The mobile term groups all types of devices such as tablets, smartwatches, e-books, mobile phones, and smartphones (Ramírez-Montoya and García-Peñalvo, 2017). The impact generated by these devices on young people of school age is not unrelated to this authentic phenomenon of communication and/or social relations, given that their popularity, ease of access, and connectivity have favored this sector of the population incorporating them into their usual socialization and/or entertainment (Medrano et al., 2017).

According to the National Institute of Statistics (2020), in Spain, 22.1% of 10-year-old boys and girls had a mobile phone, while, in the 15-year-old age group, availability reached 95.7%. In the last 3 months of the same year, 99.7% of young people between 16 and 20 years old had used the mobile phone for private or non-educational reasons. On the other hand, their educational use in classrooms has been little studied to date. More research is needed on this topic (Kates et al., 2018) so that the results can guide educational policies.

Until now, the content of the speeches issued by various social agents (educators, families, politicians, companies, administrations, educational centers, etc.) has brought together different types of messages that, on many occasions, take place in parallel. Some studies show speeches that warn of the dangers and/or difficulties of using mobile phones in the school context. These are mainly based on the fear of the individual and difficult-to-control use of these devices, the dependence that they are capable of generating, the difficulty that they can add to educational processes due to lack of attention or the fraudulent performance of evaluation tests, and the undermining of teaching effort (Martín-Martín et al., 2021; Selwyn et al., 2017). The concern that exists over the incidence of digital harassment behaviors among adolescents, and the role played by social networks in this phenomenon, services that are accessed mainly through mobile phones, is becoming more and more noticeable (Sabater and López- Hernandez, 2015). In general, studies along these lines tend to see young people as unprepared to make critical and autonomous use of mobile phones. Another consideration to take into account is that advocated by various authors and official bodies (Montenegro et al., 2020; United Nations International Children's Emergency Fund, 2020), which warn of the existence of significant barriers (such as differences in the access and use of technological resources by families and/or students) that prevent students from responding to the educational demands posed by the use of mobile phones in the school context. Some works observe the lack of digital competence in the educational community to link these devices with work in the classroom and use them appropriately as a didactic tool that facilitates learning at any time and place (Navarro-Pablo et al., 2019; Koroleva, 2016).

Some authors issue other types of messages related to the development of media literacy that, for years, has been demanded for the citizens of our time (Buckingham, 2003; Buckingham and Willett, 2006) and that has been expanded by the need to identify and describe the cultural competencies and social skills that are needed to be able to fully participate in the new digital environments (Jenkins, 2008; Jenkins et al., 2016; Scolari et al., 2018), defend the introduction of mobile phones in classrooms for didactic use, highlighting their advantages of access and exchange of information, fluidity, and effectiveness in communication, as well as the motivational capacity of students, according to a 21st-century school and society where mobile phones are omnipresent, and that steps away from considering young people as uncritical beings incapable of discriminating what is valuable in digital media (Gajdics and Jagodics, 2021; Koroleva, 2016; Suárez, 2018; Urien et al., 2019).

Likewise, the debate about what to do with mobile phones in schools has been present in the political discourse on education in recent years. Internationally, France launched a complete ban on mobile phones in primary and secondary education in 2018. In Australia, the state of Victoria has also prohibited its use in primary and secondary schools, and in the province of Ontario, Canada, it has also recently been prohibited, except for educational, medical, or special education uses (Rushowy, 2019).

In Spain, the autonomous communities of Madrid, Castilla-La Mancha, and Galicia have opted for the ban, while other communities have softened their positions, such as the Valencian Community and Aragón (Agencia EFE, 2020). In Catalonia, in 2019, the mobils.edu plan promoted the use of digital technology in schools and, especially, mobile devices, as a strategic educational tool for curricular development (Government of Catalonia, 2019).

93% of the Spanish Internet user population between 16 and 65 years old (31.7 million) are Internet users and 87% use social networks (IAB Spain, 2020). The use of these networks has been integrated, worldwide, in people's lives, becoming part of their routine. Social networks have been defined as communities of individuals who share interests, activities, experiences, and/or friendships. Their main objective is to put people in contact (Rambaran et al., 2015). Through mobile devices, these networks allow expanding communication and virtual social relationships, especially among young people (Roberts et al., 2015) besides disseminating the messages that are published on them. Not all social networks are the same and the most common classification defines 4 main types: those of relationships (whose purpose is to connect people, Facebook being the most representative in this category, although Instagram, Linkedin, Twitter, and Google+, among others, are also included in this group), entertainment (their main objective is to consume content and occupy leisure time, YouTube is its most representative example and the largest video distribution platform in the world, there are also Pinterest, Instagram, Snapchat, and TikTok), the professional ones (aimed at creating professional relationships between users, Linkedin is the best known and most used, others such as Bebee, Bayt, Xing, and Viadeo share this objective), and the niche ones (aimed at a specific audience with a specific interest in

common, TripAdvisor, DevianArt, and Goodreads being some examples) (RD Station, 2021).
Although in Spain the use of Facebook has suffered a certain decline in recent years (it went from 24 million followers in 2016 to 22 million in 2020), this social network is still the most widespread among the population, as indicated by the user figures of the 4 most popular social networks in 2020: Facebook (22 million), Instagram (20 million), Linkedin (14 million), and Twitter (4.1 million), which makes its ability to influence public opinion very significant. On the other hand, the communication that occurs between Twitter users is also considered to be of special relevance. It should be noted that Instagram is one of the networks that is experiencing the greatest growth in recent times (9.6 million users in 2016 compared to 20 million followers in 2020) (The Social Media Family, 2021), but the messages that circulate through this network are basically visual, which does not allow the analysis of argumentative discourses.

2. Objectives

The general objectives of this work have been two:

1. Analyze the characteristics of the discourses that are disseminated on Facebook and Twitter about the educational use of mobile phones in the classroom, according to the arguments that are positioned in favor (positive or promotional), against (negative or prohibited), or are indefinite (neutral or of indeterminacy).
2. Identify the profiles of the main emitting agents of these speeches and the type of argumentative content of the messages that have the greatest impact on both social networks.

3. Methodology

This research is part of a broader project on the discourses of different social and educational agents about the pedagogical use of mobile phones in secondary education classrooms in Spain. The study design is cross-sectional descriptive. The content of the speeches broadcast in both English and Spanish on two social networks, Facebook and Twitter, on this educational practice was analyzed to differentiate the main elements that are part of the social debate on the subject. The analysis was carried out without excluding any geographical area since the discourses present in social networks can be globally influenced and fed back.
The chosen publications were classified according to whether the type of message disseminated was positive (promotion), negative (prohibition), or neutral (undetermined).

The selection of these two social networks, besides other reasons (popularity, ability to influence, and publication of written messages), was due to the public that participated in each of them, where a more popular debate could be found led by society, in general, (Facebook), compared to a more technical debate aimed at creating opinion and discussion among professionals (Twitter).
The methodological approach was carried out from a mixed perspective, combining qualitative data (messages were classified according to whether they used arguments that defended prohibition, promotion, or indeterminacy) and quantitative data (in the case of Facebook, the number of reactions and comments generated, as well as the number of times the messages were shared on this social network. Regarding the messages published on Twitter, the number of "likes", the times the tweets were cited, and the retweets were counted). The data search was carried out through the Google search engine since a specific campaign or hashtag was not searched for (a label used to bring together publications from professional groups, associations, etc.) (Rodríguez-Suárez et al., 2021), introducing the text site: facebook.com or site: twitter.com to limit the search results to the publications of each social network, to which the following keywords were added: education, mobile phone, smartphone, classroom, class, school, mobile devices, classroom, school. A total of 14 searches were carried out, reviewing the first 100 publications of each of them, so an initial sample of 1,400 messages issued from anywhere in the world in English or Spanish was used.

The following exclusion criteria were applied to this sample: messages that were not related to the use of mobile phones in the classroom, that referred to the use of these devices outside the educational center, that referred to having habits of use related to hygiene or health but not with education, video publications with reactions to the improper use of mobile phones in the classroom; advertisements for mobile use; duplications or repetitions of messages; engagement less than 100.

Once the exclusion criteria were applied, the sample was reduced to 92 publications (whose messages were directly related to the subject of study and an engagement greater than 100). To know in greater detail the elements that were part of the speeches of promotion, prohibition, and indeterminacy of the use of mobile phones in the classroom among the Internet community, the 50 messages with the highest number of reactions were also considered, raising the sample to a total of 142 messages (n=142). The data collected covers from January 1st, 2017 to July 1st, 2021, coinciding with the initial phase of the project in which this study is framed. Statistical analysis was performed with SPSS statistics v.26 software. The non-parametric Pearson's Chi-square test was carried out to check if the different types of messages were adjusted to a uniform distribution between the different types of users or between the language in which they were published.

3.1. Engagement

In this study, it has been considered that in social networks the term engagement can be translated as the ability of a profile or a message to generate relationships, debates, or disseminate ideas through the network. There are different ways to calculate engagement to identify the profiles or messages with the greatest impact, using different formulas depending on the objective of the research.

Starting from the previous studies by Oviedo-García et al. (2014) and Bitiktas and Tuna (2020), the research that analyzes social network profiles takes into account variables such as the number of followers, the number of publications, the number of reactions ("likes"), the number of replies (quoted tweets, comments), and the number of times the message is reproduced by another profile (shared or retweet). For this research, the number of followers variable has not been considered relevant, given that the interest is not limited to the reach that a message has among the followers of the sender but that it has in the social network. Nor has the variable number of publications been considered, which also provides information on the popularity and network penetration capacity of a profile, not of an isolated message.

In the research by Miquel-Segarra et al., (2020) and Pezzuti et al., (2021), the engagement formula takes into account the number of reactions, replies, and reproductions of the message but they approach it differently, being, in the first case, an arithmetic sum of the variables, and, in the second, a weighted sum. In this research, a formula has been chosen that considers these same variables but from a mixed model, establishing an arithmetic sum of interactions and replies, and giving the reproductions of the message a multiplying effect on the impact they have on the dissemination of a message on social networks.

Thus, it was decided to establish the following formula to calculate the engagement (ε) of each message.
For Facebook, it was used (Fε) = (Reactions + Comments) x Shared, and for Twitter (Tε) = "Like" x (Quoted Tweets x Retweet).

Opting for these engagement formulas made it possible to make a more precise approximation of the scope of the analyzed messages and their ability to influence public opinion. However, it limited the study to delve into the nature of the impact of these messages.

4. Results

The data found showed a certain balance in the frequency with which the types of analyzed discourse are disseminated on Facebook and Twitter regarding the educational use of mobile phones in the classroom. Messages associated with the promotion (39.1%) were identified first, followed by prohibition messages (32.6%) and those in an undetermined position (28.3%).

In terms of user profile (any social and educational agent from any country and/or geographical area), the sending accounts of the messages were categorized as: education professionals (38.0%), which included teachers from all educational stages; press (19.6%), which included the social media accounts of newspapers and traditional press publications; institutional (16.3%), made up of political personalities and public administrations; groups (13.0%), which consisted of accounts or pages of non-profit groups or associations; individual (7.6%), which grouped people with no known affiliation; educatio-

nal centers (3.3%) that included primary, secondary, and university education; and businesses, which included both private and public companies related to education (2.2%).

The distribution of the three types of discourse studied (promotion, prohibition, and indeterminacy) among the identified user profiles was uneven. Pearson's Chi-square test suggested the existence of a high probability of dependence between the variables type of speech and user profile ($p = 0.007$). This was not the case for the language in which the messages had been written ($p = 0.115$).

Figure 1 shows the differences in the distribution of the different types of speech according to the user profile. Particularly noteworthy are the differences in the profiles of education professionals, among whom the discourse associated with the promotion of the educational use of mobile phones in the classroom (57.1%) versus its prohibition (25.7%) predominated, and the profiles belonging to the press, in which the prohibition discourse predominated (50.0%), with impact publications that had a discourse associated with the promotion of these tools being practically marginal (5.6%).

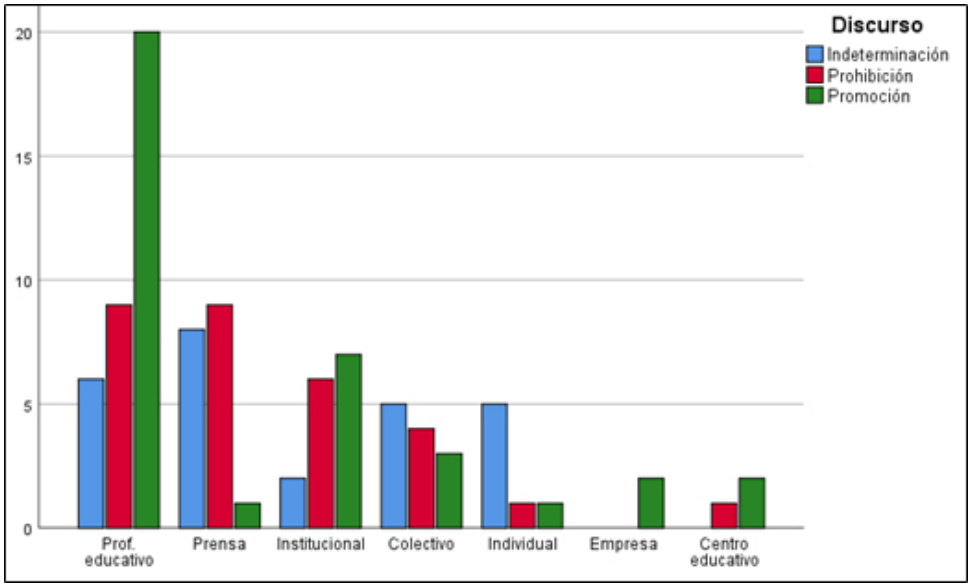

Figure 1: Frequency distribution of the types of discourse according to the type of user
Source: Own elaboration

In contrast to the fact that most of the messages came from education professionals and that, within this group, the discourse associated with promotion predominated, it was observed that this was not the type of message with the greatest engagement in social networks. The data reflected in Table 1 indicate that no message promoting the use of mobile phones in educational centers was found among the 10 messages with the highest engagement, it was necessary to go down to position 12 in the table to find the first one. Most of these messages with the highest engagement were associated with the ban (80%) and were disseminated by the press (40%). The elements that are part of the prohibition discourse with the greatest engagement were born around the debate on the approval of regulations in certain national and international educational administrations, which aim to eliminate the presence of mobile phones in educational centers.

ε	Social Network	Speech	User
6.326.915	Facebook	Prohibition	Press
4.238.117	Twitter	Prohibition	Professional
4.082.397	Facebook	Prohibition	Press
1.998.380	Facebook	Indeterm.	Group
1.688.232	Twitter	Prohibition	Institutional

ε	Social Network	Speech	User
2.900	Twitter	Promotion	Professional
2.625	Facebook	Promotion	Educational center
2.565	Twitter	Indeterm.	Professional
2.160	Twitter	Prohibition	Professional
2.112	Facebook	Prohibition	Group

1.379.340	Twitter	Prohibition	Press
1.023.192	Twitter	Prohibition	Institutional
931.693	Twitter	Indeterm.	Individual
621.680	Facebook	Prohibition	Press
303.600	Twitter	Prohibition	Individual
278.046	Facebook	Prohibition	Professional
271.360	Twitter	Promotion	Individual
253.989	Facebook	Promotion	Institutional
202.536	Facebook	Promotion	Institutional
186.494	Twitter	Promotion	Professional
154.105	Twitter	Promotion	Institutional
147.414	Facebook	Promotion	Professional
127.368	Facebook	Prohibition	Press
114.995	Twitter	Promotion	Professional
98.800	Twitter	Prohibition	Professional
92.796	Facebook	Prohibition	Professional
83.025	Facebook	Promotion	Professional
80.154	Twitter	Prohibition	Institutional
69.003	Facebook	Promotion	Group
68.753	Facebook	Indeterm.	Press
63.656	Facebook	Promotion	Institutional
46.956	Twitter	Indeterm.	Institutional
35.955	Facebook	Indeterm.	Press
35.625	Twitter	Promotion	Professional
32.802	Twitter	Promotion	Professional
29.415	Facebook	Indeterm.	Group
21.204	Facebook	Indeterm.	Press
17.990	Twitter	Prohibition	Professional
14.979	Twitter	Prohibition	Institutional
14.976	Twitter	Promotion	Professional
13.134	Twitter	Indeterm.	Professional
9.515	Twitter	Promotion	Professional
9.128	Twitter	Promotion	Professional
7.387	Facebook	Promotion	Professional
6.300	Twitter	Promotion	Business
6.204	Facebook	Indeterm.	Group
5.916	Facebook	Prohibition	Institutional
5.696	Facebook	Prohibition	Press
4.758	Twitter	Promotion	Business
4.108	Twitter	Prohibition	Press
3.626	Twitter	Prohibition	Professional
2.067	Facebook	Prohibition	Press
1.824	Facebook	Prohibition	Institutional
1.716	Facebook	Indeterm.	Press
1.716	Twitter	Indeterm.	Institutional
1.690	Facebook	Promotion	Professional
1.475	Twitter	Promotion	Professional
1.302	Twitter	Promotion	Professional
1.235	Twitter	Indeterm.	Professional
1.220	Twitter	Prohibition	Professional
1.200	Facebook	Prohibition	Group
1.120	Facebook	Promotion	Professional
1.107	Twitter	Prohibition	Press
1.092	Facebook	Promotion	Group
986	Twitter	Promotion	Professional
925	Twitter	Indeterm.	Professional
884	Twitter	Prohibition	Professional
880	Facebook	Indeterm.	Group
871	Facebook	Promotion	Professional
864	Facebook	Prohibition	Group
735	Facebook	Indeterm.	Individual
646	Twitter	Promotion	Professional
610	Twitter	Promotion	Press
588	Twitter	Promotion	Group
567	Twitter	Indeterm.	Individual
550	Twitter	Indeterm.	Individual
540	Twitter	Indeterm.	Press
516	Facebook	Promotion	Institutional
510	Twitter	Promotion	Professional
493	Twitter	Indeterm.	Group
440	Twitter	Promotion	Institutional
435	Twitter	Indeterm.	Professional
432	Twitter	Promotion	Professional
400	Twitter	Indeterm.	Professional
338	Facebook	Prohibition	Educational center
319	Twitter	Indeterm.	Press
240	Facebook	Promotion	Institutional
216	Facebook	Prohibition	Group
216	Twitter	Promotion	Educational center
189	Twitter	Indeterm.	Individual
168	Twitter	Indeterm.	Press
132	Twitter	Indeterm.	Press

Table 1. Classification of the analyzed messages according to engagement (ε).
Source: Own elaboration

The core of this discourse consisted in considering the prohibition of mobile phones as a measure against bullying (Figure 2), eliminating their presence both during recess and during work time in the classroom.

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Figure 2. Messages in the press and political personalities with greater engagement
Source: Own elaboration

This idea of prohibition as a measure against bullying has been echoed at an institutional level and has been reinforced by a more pedagogical argument: concentration. In this case, it was observed that the two messages with the highest engagement at the institutional level, issued by deputies from different Spanish political parties, shared a similar position on the presence of mobile phones in the classroom, although for different reasons.

Regarding the Internet community that interacted with the publications with the highest engagement (Figure 3), the arguments for the prohibition of mobile phones revolved around five ideas: the mobile as a distracting element, as an element that interferes with the creativity of students, the idea that education on its use should be the task of families, that students should be educated in the discipline of respect for a coercive norm, and that not all families have the necessary resources to guarantee one device per student.

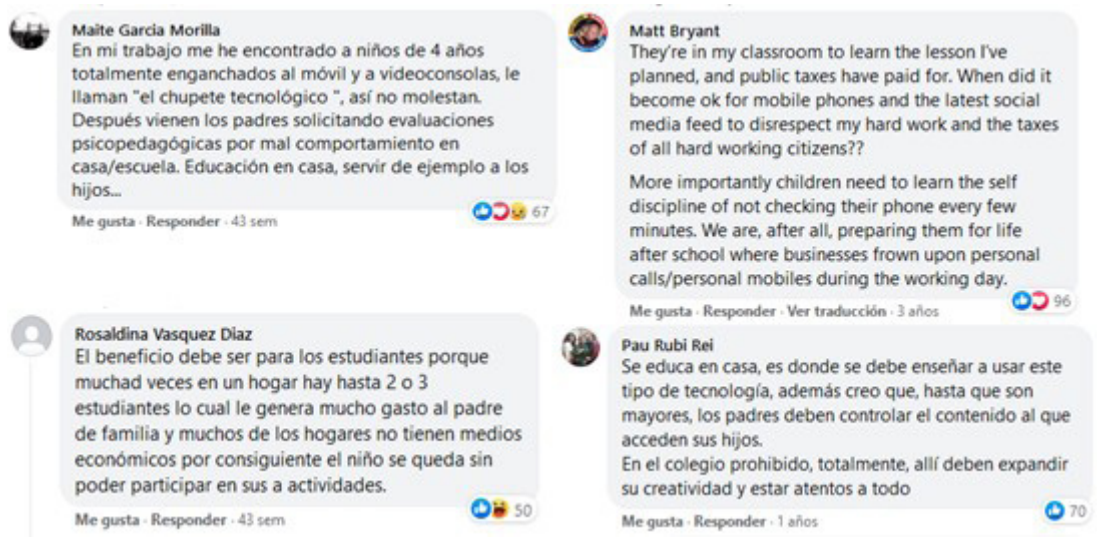

Figure 3. Prohibition messages among Internet users with the highest engagement
Source: Own elaboration

Regarding messages favorable to the use of mobile phones in schools, greater engagement was observed in institutional messages of a training nature and aimed at teachers. In the rest of the messages with the greatest impact associated with the promotion, arguments that tried to discuss the discourses in favor of the ban were found (Figure 4). These arguments questioned the effectiveness of the measure, as mobile phones are a widely used device, and defended the possibility of schools educating in the correct use of mobile phones.

Figure 4. Non-institutional promotional messages with higher engagement
Source: Own elaboration

Another argument about the promotion of the use of mobile phones in the classroom that generates high engagement was the technical functionality of these tools for educational purposes. These messages pointed out the potential of mobile phones due to the multiple functions they have and the fact that they can be used in a cooperative learning environment. Regarding the messages ascribed to the promotion of the use of mobile phones among the Internet community, the messages with the highest engagement reiterated the arguments about the need to educate at school, pointed to other educational problems such as online teaching during the pandemic, and the usual presence of «bullying» in schools before the appearance of mobile phones was underlined.

Lastly, the messages categorized as indeterminate were limited to transferring the debate to the Internet community, without clearly positioning themselves. That is why no comments were found that could be considered indeterminate, with the most engagement being the polarized comments that unequivocally took a stand for one or the other option.

5. Discussion and Conclusions

Although there are studies that detail the arguments in favor (Barfi et al., 2021; Brownyn and Thompson, 2019; López, 2018), against (Gajdics and Jagodics, 2021), or that explain both positions without opting for one or the other (Beeri and Horowitz, 2020), there is practically no research that analyzes the discourses that, regarding the educational use of mobile phones in the classroom, take place on social networks. According to Carpenter and Harvey (2019), digital social networks create opportunities to share experiences, ideas, conceptions, and reflections between different individuals and/or groups. In turn, they favor the emergence of new forms of social participation, as well as the establishment of informal leadership. Some operate as true opinion leaders (influencers) since they not only redistribute information but also generate it (they create content or spread first-hand news depending on their position in the social network in which they operate) (Marcelo and Marcelo 2021; Walter and Brueggemann, 2020). This type of leadership can even cause changes in the current and/or future social and political agenda (Rodríguez-Suárez et al., 2021). Hence, the importance of the research presented in this article.

According to other authors (Abúndez et al., 2015; Luo et al., 2020; Pecourt and Villart 2018; Waghid and Waghid, 2016), the social networks Facebook and Twitter are the most used by Internet users. These virtual meeting spaces encourage the establishment of communication and social debate. Both networks present great flexibility and offer the opportunity to access the study of different profiles of Internet users without requiring face-to-face contact by the researchers. While the social network Twitter has been used preferably for accessing/monitoring specific accounts and hashtags used as badges, Facebook is ideal for analyzing personal, family groups, and/or friends' profiles, among others (Rodríguez-Suárez et al., 2021).

The results obtained suggest that the discourses that are most frequently disseminated on Facebook and Twitter related to the use of mobile phones in the educational field are those that contain messages that promote them, followed by those that prohibit them, and those that do not position themselves in any way.

Along the same lines as other authors (Derounian, 2020; Grupta and Irwin, 2016), it is observed that the characteristics of favorable messages refer mainly to the technical functionality of mobile phones and their didactic potential in the classroom. These include, among others, learning the proper use of these devices and browsing the Internet, rapid accessibility to content, the ability to exchange and share knowledge, the promotion of group work and cooperative learning, the ease of establishing communication, and the opportunity to socialize and/or expand interpersonal relationships. The role that learning the proper use of mobile phones can have in promoting media literacy should also be considered. In a context in which biased or fake news quickly penetrates and conditions society, pedagogy has the challenge of transmitting habits and values aimed at developing a critical evaluation of the reliability and credibility of digital information sources (Buckingham, 2019).

Likewise, and in line with the results of another study (Koroleva, 2016), some promotion speeches refute both the arguments related to the possible effort involved in teacher training on this topic and those that refer to the lack of consensus between countries, administrations and/or educational centers,

facing a reality in which students are totally autonomous in the use of mobile phones, actively using them, not only to communicate and entertain themselves but also to search for information related to educational content.

The arguments found in the analyzed prohibition messages allude to distraction, lack of concentration, negative influence on creativity and academic performance, cyberbullying, predisposition to addiction to screens and/or social networks. These results are consistent with those of other research that collects the negative perceptions of teachers (Bellur et al., 2015; Gao et al., 2014), as well as the consumption and interaction with digital information habits in which minors expose their privacy (Hernández-Serrano et al., 2021).

On the other hand, the analysis of the profile of the main agents sending messages on Facebook and Twitter identifies seven main groups of users. The first of these is made up of teachers from any educational field, followed by the traditional press, institutions (administrations, politicians, government, and/or official centers), non-profit associations, individuals, public or private companies, and educational centers.

In this regard, it is worth highlighting the relationship found between the type of user and the type of message that they emit to confirm the relevance of the study when analyzing both the message and the sender together. Most of the analyzed messages are issued by profiles of education professionals in which promotion speeches predominate, although these are not the ones that generate the most debate or engagement. The arguments in favor in these speeches are committed to openness to change and connecting the reality of young people with the specific content that is worked on in the classroom, taking advantage of the potential access to information provided by mobile phones to integrate them as educational tools. These results are consistent, in part, with those of another recent research (Marcelo and Marcelo, 2021), which analyzes the topics most disseminated through Twitter by Spanish educational influencers and which highlights the exchange and dissemination of materials or digital resources, as well as training actions on innovative teaching methodologies that require the use of mobile phones in the classroom.

However, the messages with the greatest impact found on Facebook and Twitter are those that position themselves against the pedagogical use of mobile phones in the classroom. Most of the comments associated with the ban are generated in publications of journalistic media and/or institutional profiles. In this case, arguments with the capacity to create controversy or around controversial and current issues predominate, such as, for example, cyberbullying of students, the regulation by some educational administrations of the prohibition of the use of mobile phones in the classroom and educational spaces, or the negative effect that these devices can have on academic performance.

Other negative messages come from educational centers whose arguments are mainly educational: distraction, lack of concentration, etc. The genesis of this conception of the mobile phone as a distractor may be due to the research that confirms this effect but that, in any case, refers specifically to the fact of staying connected to a social network that, through its notifications, interrupts an intellectual activity that requires concentration (Abad et al., 2016), and whose evidence, in this sense, is transferred to hypothetical interferences in the intellectual work of the classroom, there being a generalized confusion between the use of the mobile phone and the use of social networks through it. The negative messages issued by the rest of the Internet community (individuals, associations, or companies) refer to cyberbullying, the need to educate students in the responsible use of social networks, or the lack of resources in some families to provide their children with these devices, among others.

The messages that do not opt for prohibition or promotion do not cause a high impact on social networks, this being a polarizing issue in the Internet community in which the defined positions generate greater engagement. These messages of indeterminacy come mostly from associations, official bodies, or families that point out the dilemma and preventive issues that should be kept in mind.

In conclusion, the study proposes to take advantage of the potential of Facebook and Twitter to reflect the plurality of positions and arguments that are part of the adult social debate in both social networks, regarding the educational use of mobile phones in the classroom. However, it would be advisable to carry out a more exhaustive analysis in which other social networks were included. Likewise, it would

be pertinent to integrate methodological strategies that contemplate in-depth interviews to carry out a detailed discourse analysis of the different user-profiles and incorporate the voice of young people.

In the analyzed sample, it stands out that, on numerous occasions, the use of social networks is confused with the use of mobile phones, referring to both concepts as if they were inexorably associated. Thus, criticism of social networks extends to the use of mobile devices in the classroom.

Although both on Facebook and Twitter there is a greater tendency to discourse in favor of the use of mobile phones, with the vast majority of teachers spreading these types of positive messages, the arguments in favor of promotion are not usually the ones that generate greater debate or engagement in these social networks. On the contrary, the type of discourse that is positioned against the pedagogical use of these devices is the one that obtains the greatest engagement, usually being a moralistic discourse issued by profiles linked to the press and institutions.

Finally, some limitations have been found in this research. The large amount of information that passes through the studied social networks makes it difficult to carry out an exhaustive and detailed search of the subject matter. Although other criteria could have been used for the analysis of the speeches and their issuers, the number of followers and the number of publications of the examined user profiles have not been taken into account, to focus the analysis on the capacity of the message to create and/or generate debate. Although this decision allows us to conclude which are the most successful speeches and what they consist of, it limits the ability to explain why they have been successful and what part of that success is attributable to the message and what to the sender for reasons of prestige.

Finally, it would be convenient to complete the conclusions of this study with the voice of the main people affected by policies on the use of mobile phones: young people. Although they use Facebook and Twitter, in this work it has not been possible to collect their opinion since this group publishes other types of content on both social networks. Moreover, as it is a cross-sectional descriptive study and the speeches issued by the different profiles are not followed up over time, the results obtained cannot be generalized or indicate whether they respond to conjunctural trends.

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