Nomophobia. A study based on the opinions of future primary school teachers

Nomofobia. Un estudio sobre la opinión de un grupo de futuros maestros de primaria

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Abstract:

Nomophobia is the feeling of discomfort, anxiety or irrational fear that results from not having a mobile phone. In order to achieve the objective of revealing and analysing the feelings of university students, we have used a qualitative methodology based on the analysis, interpretation, and organisation of information provided by a forum that was part of a fourth-year subject in a primary education degree. Results have been drawn from the opinions of participants regarding diverse judgments of nomophobia linked to professional or personal issues. For this reason,

Resumen:

La nomofobia es la sensación de malestar, ansiedad o miedo irracional que se produce al estar sin el teléfono móvil. Para dar respuesta al objetivo de conocer y analizar el sentir del alumnado universitario nos valemos de la metodología cualitativa inspirada en el análisis, interpretación y ordenación de la información vertida en el foro de una asignatura de cuarto curso del grado de educación primaria. Los resultados se extraen a partir de la opinión de los participantes sobre diversos pareceres en relación con la nomofobia, vinculado a lo profesional o personal.

thematic blocks have been established according to various meanings that form part of the discourse. In conclusion, agreement was reached that the participants do not see themselves as addicts, but rather as individuals who are attracted to mobile phones, yet they are concerned about this circumstance and believe they will have to manage the situation in their role as future educational professionals.

Keywords:

University; education; Nomophobia; initial teacher training.

Para ello, se establecen bloques temáticos en torno a diferentes significados que forman parte del discurso. En las conclusiones cabría convenir que no se reconocen adictos, solo atraídos por los teléfonos móviles, además de ser una preocupación, para la que han de saber dar respuesta, como futuros profesionales de la educación.

Palabras clave:

Universidad; educación; Nomofobia; formación inicial del profesorado.

1. Introduction

People talk about phobias with regard to many aspects of life. In the same way, we could also speak about philias. However, this is not just a trend. It is also a way of relating to things, an example of which is the mobile phone. We are now confronting a reality that has emerged and developed within the realm of technology for some time. In fact, there is no doubt that there are two clearly differentiated environments with regard to the nuances involved in being in favour of, or against, the use of technology in everyday life: those of technophiles and those of technophobes. However, with regard to this particular issue, one might say that we have been experiencing a phenomenon that is nothing new, which is the strong imposition of English-speaking terms in everyday life.

In this sense, with regard to the field of technology, people talk about e-learning, e-mail, homepage, streaming, password, online, forward, and wireless, among a plethora of other terms. This alleged invasion shapes the way we feel and relate to technology (Marta-Lazo and Gabelas, 2016). Some even believe there is English jargon that is considered instrumental in the use of technology, programmes, and applications. It is safe to say that there are people who only know these concepts in English. Moreover, abbreviations emanate from this language as well, such as nomophobia ("no-mobile-phone-phobia"), which is also the subject of this article. Furthermore, prestigious studies have been carried out over the past decade that have paved the way for the research herein (León et al., 2021; Rey et al., 2010), the former of which have addressed the issue from the viewpoint of addiction (Pascual and Castelló, 2020), or even education itself (Colomo et al., 2020).

In general terms, nomophobia could be defined as the feeling of discomfort or anxiety caused by being without a mobile phone. It can become an irrational fear of not being able to interact with this wireless device, either because one has forgotten to take it with them, or the battery is dead, or there is simply no coverage. With the technological revolution, or evolution, this situation has been extended to smartphones, which have the unique feature of functioning like a computer. In other words, there are people who are highly dependent on these wireless devices, which could be considered an addiction (Skarupová et al., 2016). Therefore, a more appropriate term would be *techno-addiction*, which is sometimes considered a dependence, or simply a way of taking refuge in one thing when something else is missing.

This can become a problem when the smartphone controls its owner, rather than the other way around. The dependence of users is such that they are unable to live their lives or feel good without their phone, as they believe they are missing out on something by not being connected to reality, or in other words, to their technological reality. The user lacks his or her dose of immediacy, or their hyper-simplification pill, which can open windows with a simple click and allow them to see, understand, and participate in their

world (Cabero, 2016; Sacristán, 2018; Cabero and Marín, 2019). In short, it allows them to stay connected with their surroundings (Aparici and García, 2017).

Of course, anxiety caused by not having a mobile phone has some variants, as this feeling of lack is not only generated when the device is left at home, as the person knows they will have access to it later. Instead, it can also occur when the phone has been left somewhere, when the battery or credit has run out (in the case of prepaid phones), or in other circumstances, such as a lack of coverage. In these cases, anxiety occurs, and the fact of not being connected makes the user feel uncomfortable. To a large extent, the user is unhappy when she or he does not have their phone in their hands and cannot freely access their content or relationships. Moreover, from that moment on, "the lack of communication" (Alonso-Fernández, 2003: 63), or the feeling of isolation, takes hold of the user, while non-communication, interpreted as solitude, extends to the rest of their contacts.

The nomophobic person displays anxiety when they are unable to connect to their reality through the smartphone. They live in a way that is dependent and constrained; their desire or habit is to be permanently online, or at least to be assured that they can connect at any time. Apparently, this is a pathology caused by the abuse or overuse of the mobile phone, producing stress, bad moods, anxiety, and despair (González et al., 2020). The daily lives of users are limited by what we interpret as misuse of a device that is utilised for communication, information, and relationships (Garrido et al., 2016).

Excessive use of mobile phones exists and manifests itself in various ways (Besoli et al., 2018; Santana et al., 2019). For example, *phubbing* is the act of ignoring a person, and even one's own immediate surroundings, by focusing on technology, as well as the mobile phone and its content (Ríos Ariza et al., 2021). Moreover, if this activity is interrupted, the user may become restless, annoyed, or even violent on some occasions. However, nomophobia might be related to *monophobia*, or the fear of being alone. When someone does not want to be alone, they need connection with others, at least with their circle of friends or acquaintances. To a certain extent, this explains their haste in giving their contact information to other people.

Similarly, we are confronted with a unique way of experiencing *demophobia*, or the fear of crowds, which has been replaced by mobile screens. In other words, the user has the sensation of being with others, but not physically.

After all, what more does a person need? There is no doubt that everything a person needs can be accessed through their mobile phone. In other words, the user can work, order food, find companionship, watch a film, or find whatever information they need…

The person is so closely attached to their mobile phone that not having it near can cause discomfort. Clearly, we are facing a situation with a social impact (García-Umaña, 2017), an addiction (Muñoz-Rivas and Agustín, 2005), or even a trend (Sánchez-Carbonell et al., 2008). Furthermore, at the present time, we see this as a relevant object of study with regard to the students of the university that was used to develop this paper. To this end, we have established a general objective of gaining knowledge and furthering our understanding in this area, which we have combined as two specific aims: a) to reveal the feelings of a group of university students who have participated in a forum related to the subject entitled, "Communication and information technology in education", as part of the primary education degree at a Spanish university; and b) to understand why they have certain opinions about nomophobia. Likewise, following the teachings of Decuir-Gunby and Schutz (2017: 33), we propose the following research questions, based on the maxim, *What do I want to know?*

– What is the general reason students give to support their opinions?
– What encourages certain views on nomophobia?

– What have these decisions involved, and what will they entail for the professional development of these future primary school teachers?

– Where might all of this lead?

– Are the students prepared to face a multi-faceted, professional reality?

– What possible obstacles will they face?

– What effects will they encounter in their personal and professional development?

2. Methodology

2.1. General information and interviewees

Qualitative research can be a sound way of analysing and gaining knowledge about a situation that currently looms over university students. In fact, qualitative research has certainly "come of age" (Flick, 2014: 19). Mejía describes qualitative research as "the methodological procedure that uses words, text, discourse, drawings, graphs and images, in order to understand social life through meanings from a comprehensive perspective" (2004: 278). In this sense, the present research has been carried out following the guidelines of a design that is qualitative and interpretative in nature (Denzin and Lincoln, 2005; Hernández et al. 2006), of the documentary type, which has determined the selection process and access to the documentary sample: the class forum of a subject in communication and educational technology.

Likewise, the instrument we used to address the students' feelings were the comments made in the forum of the optional subject entitled, "Communication and information technology in education", which is part of the final year of the primary education degree at this Spanish university. We started with the topic question, "Do you know what nomophobia is?" The discussion went on for 10 days, during which time the forum was active until the next topic was introduced, which was entitled, "The risks of Fortnite".

By using a documentary design, we addressed the forum comments. Authors such as Montagud (2020) point out that documentary research obtains, selects, organises, interprets, compiles, and analyses information through diverse documentary sources, such as books, hemerography, and audio-visual registers, among others.

Of a total of 149 students enrolled in the course, the number of responses was 94, with 51 students participating, as some of them responded more than once to the other participants in the forum. The rest did not reply, although we know that they participated by reading the comments of their classmates, yet without leaving a record of their presence at the forum. The activity was not for assessment.

The anonymity of the participants has been completely protected. It should also be noted that they all agreed to take part in the research. This was communicated to them in class, days before the forum was opened. However, the professor preferred to stay in the background and not participate with replies or counter-replies, feeling that it might disrupt the flow of conversation, the participative dynamics, or even "adulterate" the students' opinions.

We have also acknowledged the diversity of viewpoints as well. This will benefit us by broadening our points of view, as their interaction with each other will lead to a better understanding of this phenomenon with mobile phones. Likewise, we will not lose

sight of the possible influence that this phobia might have on the classroom, relationships with students, and school performance, once the participants become teachers.

The event began on Friday, 15 March 2019, and the forum opened with the following words:

> Hello.
>
> I am posting a topic of debate...
>
> But first, please read this small article from the magazine, *Muy Interesante*...
>
> https://www.muyinteresante.es/curiosidades/preguntas-respuestas/que-es-la-nomofobia-151392813381
>
> Later, we will discuss it in the class forum.
>
> Kind regards, your professor.

The first message was written on Sunday, 17 March 2019, and the last one was sent on Sunday, 26 March 2019, on which date the class forum was closed, and another one was started the following day. This activity continued with various topics of debate until the end of the course.

Forums are highly valid instruments for information and analysis, which we have used in a conversation style. According to Kvale (2011: 23), conversation "is a fundamental mode of human interaction. Humans talk to each other, interact, ask questions, and give answers. Through conversation, we get to know other people, learn about their experiences, feelings and hopes, and learn about the world they live in".

2.2. Phases and procedures

This research was carried out in several phases. Nevertheless, following the ideas of Álvarez-Gayou (2005), a methodological sequence and order was established. In this regard, the phases of the research were as follows: Phase 1; Plan the documentary research. Select, propose, and delimit the topic. Develop a plan and organise the work. Action a) Provide relevant information about the research in which the interviewees would take part. Action b) Establish the research topic and specify the opening and closing dates of the discussion forum. Phase 2: Gather and select information. Read documents as well as collect and organise information. Action a) Gather and organise the information. Phase 3: Analyse, interpret, and classify the information. Action a) Codify the information and carry out triangulation. Phase 4: Write the research paper. Structure and write the paper. Action a) Integrate the information and write the report. Action b) Adapt it to article format and carry out the final writing.

Likewise, the decision was made to establish core topics in order to help "shape meaning (...) In this way, it moves away from conceptual categories, or from the attempt to describe, and instead attempts to shape meaning" (Misischia, 2020: 72). Such meaning, in turn, includes the factors that "structure the narrative, are connected, and form part of the discourse" (Ayala, 2017: 92).

Most certainly, as pointed out by Flick (2004: 15), "Qualitative research has specific relevance for the study of social relations, due to the fact that life situations are pluralistic". Our choice of using a qualitative methodology resulted from the need to carry out a study on a current topic that is very close to human and social relations. Moreover, the boundaries that encompass the topic are in continual transformation. As pointed out by Pérez Serrano, "A qualitative methodology refers in its broadest sense to research that

produces descriptive data: people's own words, spoken or written, and observable behaviour" (2001: 29). Thus, we have chosen to work with university students and the mobile phone, under the pretext of nomophobia.

Moreover, the qualitative research inspired by the documentary design is a proposal for analysing the writings of a class activity, based on the subject forum. In line with Ruiz (2012), documentary analysis is based on the use of reading as a technique for collecting information, and must be carried out in a way that is methodical, objective, inquisitive, and valid, which is how we intend to clarify our work. With this in mind, the texts are the subject of analysis and triangulation, the intention of which is to understand the students' contributions. In short, "Discourse analysis constitutes a methodological framework for documentary analysis, with the understanding that documents are discourses expressed through texts" (Peña Vera; Pirela Morillo, 2007: 63). We concur with Rivas (2009: 29) that the aim is "To better understand the society in which we live based on the actions of each and every one of those who are part of it".

In this regard, it should be pointed out that "the task of research is to bring to light the implicit assumptions and premises of social life that are subject to transformation, as well as the propositions that remain unchanged" (Popkewitz, 1998: 77). Furthermore, this is our methodological slogan, through the use of discourse analysis as a technique, without forgetting that everything is interpretable, and that we are interested in establishing a climate of reflection on nomophobia in order to understand it.

2.3. Ethical commitment

In research of this nature, it is essential to establish guidelines that endorse an ethical commitment. As opposed to an *extractivist* approach, the responsibility was placed on the group of participants in order to keep them informed through comments in class with clear reference to the results and existence of a previous report. Among the ethical principles taken into account for this research, we have considered informed consent to be a basic principle that guarantees the autonomy and right to privacy of the participants' data. This consists of ensuring that the participants are aware of the risks, benefits and consequences that may arise during the development of the research in which they are involved (Vargas et al., 2007). People who participate in research must be aware of the entire process and "must receive information about the objectives of the research, the type of participation required or expected, as well as the use that will be made of the results obtained" (Abad, 2015: 105).

Likewise, our work is based on three ethical principles (Denzin, 2008: 189): "respect for others"; "knowing how to listen"; and "caution and humility". Finally, the ethical responsibility to which we have been committed in this research is based on what has been explicitly stated by Roth and Unger (2018). These authors subscribe to such elementary aspects as anonymity, or even co-responsibility in qualitative research, linked to gaining knowledge and disclosing it.

To finalise this sub-section on ethical commitment, we concur with the words of Ricouer (2006: 20-21), who maintains that "life can only be understood through the stories we tell about it, so one might say that a life examined is a life narrated". For this reason, our intention is to learn from the opinion of the students themselves. They are the ones that we consider to be the future professionals with epistemological value. Moreover, this entire endeavour has had a common denominator, which is honesty in research, in relation to the comments made by the participants and the value of their contributions (Cerillo, 2009; Abad, 2016).

3. Results

3.1. Core topic I: Introductory aspects

It is interesting that most of the students who participated in this forum showed a lack of knowledge about the concept of nomophobia, yet according to Katya, "In spite of this situation, on many occasions I have been able to comment about this issue with those in my surroundings, or personally reflect on the dependence that society currently has on mobile devices". In other words, it is something that looms over their daily lives, yet they have not taken the time to reflect on it sufficiently. Moreover, Mónica considers it to be a current, yet "undeclared illness", and another classmate, Pablo, says, "the problem is present in more people than we think". In spite of the entire situation, most of the students who took part in the research do not see themselves as abusers of the mobile phone, or at least they do not openly display themselves as dependent or addicted to the use of this wireless device. However, Jesús makes his views very clear when he says, "I like to have my mobile phone close to me, but I don't see myself as an addict".

Furthermore, according to Javier, "The disorder will become so widespread in the future that it will have irreversible consequences on people's health, because it will be very difficult to cope with its disadvantages".

(Analysis) Is nomophobia more than just a health issue? Students admit that a certain type of addiction to mobile phones exists, yet curiously, it is projected onto others. Though not a disease, it is an ailment that haunts the daily life of the classroom and the people who regularly attend school. However, as future teachers, the participants are aware of the disadvantages, even in relation to the health of the people involved. The importance of talking about the disadvantages or risks of overuse and abuse is clear. At the end of the day, the participants must keep these concepts in mind as professionals who will be educating children.

3.2. Core topic II. Regarding possible addiction

From the beginning, we have seen that the participants consider nomophobia to be an illness. However, they do not include themselves as patients. The next point of our research focuses on time use, and once again Pablo comments, "It is difficult to find someone in their 20s and 30s who takes more than half an hour to respond to a WhatsApp message, and I include myself in that group as well". Somehow, they are subjected to the pressure of immediacy. They cannot imagine being cut off from their surroundings. They experience disconnection as a lack of communication; in short, being disconnected means having a lower quality of human relationships. They experience disconnection as something negative in their lives. Moreover, in response to the comment made by Pablo, his colleague Óscar does not hesitate to add that "the line separating the enjoyment of technology from addiction is becoming thinner and thinner". In this sense, all of them initially agree with the concept of addiction, which Katya describes as dependence, and Pablo attributes to pressure. However, none of them include themselves as possible victims.

Sara makes an exception to this aspect of alleged addiction among the youngest people, by pointing out that "older people are not as addicted as the youngest to the compulsive use of mobile phones". She argues that older people are exempt from this turmoil because they have other communication habits, and in most cases, "they just answer calls, and I don't think they are as concerned about text or audio-visual messages". In this vein, Sara sees a dividing line between the young and the not-so-young, with the former using the mobile phone as a versatile tool, whereas the latter use it simply as a telephone. This is echoed by Pablo, who says

he uses the mobile phone to "talk, write, take a photograph, and even pay for things". Even Amalia refers to it "as a way to watch YouTube videos". Juan José also gets involved in the conversation by adding that he prefers to use it for "voice messaging, because I write less and less every day". In other words, we are faced with the broadening of our daily lives that involves coexistence with the mobile phone. Moreover, perhaps the activity they do the least is talk, as the mobile phone has become diversified and transcended the exclusive use of telephones of the past.

Nevertheless, the concern expressed by Juan Carlos focuses on the desperation many people feel when they are not connected to their smartphone, and he believes this might have its origins "in the fact that young people have a phone at such an early age". Once this situation has been recognised, the solution is not to prohibit the mobile phone, as this same student sees it as a tool that helps us "become socialised", but he also believes that the "abuse of this device is atrocious". In other words, the continuous use of mobile phones from the time children are pre-adolescents means that children grow up with this subtle combination related to technology. They go through maturity with a device, or a kind of organ that fits in the palm of their hand, which possesses and offers them what they need: relationships, communication, and information, all of which they receive rapidly, and most of all, in a hyper-simplified way.

(Analysis) Is it possible that nomophobia could be a disease that is seen in others rather than in oneself? The measure of impertinence can be seen in the time it takes a mobile phone user to respond to a message, for example. Moreover, once the topic of addiction is introduced into the subject matter of the students through reading and discussion in the classroom, the problem becomes obvious, and they start to question the issue from a professional point of view. However, there is a preference among the youngest people compared to those who are older, which reveals a subtle difference: the mobile phone is an indispensable part of the lives of the former group and a multifaceted tool that seduces users with its many features. However, the opinion of future teachers is that prohibition should be the last resort. Training and awareness-raising programmes are preferable in order to encourage proper use, as the mobile phone is part of people's everyday life for relationships, education, communication, and information.

3.3. Core topic III. Nuances regarding addiction

Addiction to mobile phones is a strong statement. It is not fully accepted by this group of students. Perhaps they see the smartphone as something that belongs to them and is part of their daily life, as a way of doing and feeling so close to their contacts that relying on them is not the result of an addiction, but rather an habitual gesture. Yet curiously, they project their own misuse onto others. In this sense, Rocío states emphatically, "We're not hooked"; Katya says it is a problem of "society"; while Helena claims that "this happens to most people". In this regard, they associate the mobile phone with their everyday lives. José says the device is useful in daily life, "when we need to check the time, bus schedules, move around with google maps, use the GPS, download an application to play games, and even more". They also say it is useful in their education, for example "to search for content, look up a word we don't know, use it as a translator, send an email, do a task, use the calculator, or check our diary".

In short, these students do not believe they are addicted. It has no negative effect on their personality, and they use it for fun as well. One might say they have an extreme predilection for their mobiles based on its functionalities in the area of communication, information, relationships, and games. However, research for a class activity is less important. According to Rosalía, "I do everything with my mobile phone, but I prefer to use my computer to look for information".

For the participants, the mobile phone is a tool for fun and entertainment as well. They do not see it as something negative that can lead to dependence. They know that others might fall into this trap, but they honestly do not see themselves in that situation. However, there is always a doubt, because in Marina's words, "Everyone likes new things, because it's something that catches our attention. We want to be innovative and know how to handle all the new updates we have at our disposal". She goes on to say, "We have to learn how to control our interest in something, because later it can become an addiction".

(Analysis) How is the mobile phone commonly used? We are formulating questions based on potential answers that will refer to the issue and encourage discussion. The disproportionate use of mobile phones is either believed to be a social problem, or is simply seen as related to the majority of the socio-educational community. What is certain is that the multiple features are highly attractive. This problem is far less serious than addiction, because proper use of the mobile phone for fun and entertainment mitigates excessive use or abuse. Likewise, what is new seduces, and what seduces is suggestive, or in other words, it intensely lures one's attention. However, judging from the discourse of the future teachers, we have observed the need to learn about these modern tools and have seen that 21st century pupils must be taught using the resources of their era, which are also technological, without necessarily creating addiction.

3.4. Core topic IV. Understanding the situation

The opinion of Juan Carlos might enhance the discourse. He points out an approach that will help us understand the situation, as "it makes our lives much easier and allows us to be connected to the Internet at all times, and to be in contact with the entire world". However, Sonia is the one who sheds light on the issue, stating that this benefit is tinged with a sombre interest that leads us to "depend on these devices for almost everything, which means that we don't control the mobile; instead, the mobile controls us". Perhaps the truth of Sonia's words will make her take action to guide her own destiny. Likewise, Cristina does not want to admit to such a high level of dependence either, although she ends up admitting that in the "social sphere, the mobile has changed interpersonal relationships" and comments that this even includes "romantic relationships".

We are faced with a contemporary tool that we use in everyday life that has taken over our lives. We have been subjected to it in such a way that we are nearly prisoners of its beguiling power. For this reason, Ana goes so far as to say that "we have lost our awareness of who we are". She speaks of the mobile phone as being continually present in our lives, and even in class, "we respond to WhatsApp messages". In this regard, more than half the students mentioned this practice, and if the other person does not respond, according to Julia, "I become restless, and after a while I end up answering". In other words, the participants believe they are not unrealistic when they speak of others as being dependent, yet in their case, as in the case of Julia, they interpret it as a "necessity that they must have".

(Analysis) What is the limit of the relationship with the mobile phone? Connection to the entire world can be pernicious in the sense that control by this technological instrument can become inappropriate. In other words, instead of the user controlling the tool, the tool controls the user. The best solution for this problem is to acquire skills for responsible use. Moreover, the relationship with the school becomes elusive in the sense that the communication channels between the educational and social spheres are permeable. Moreover, users become nervous when they cannot respond to the messages they receive, or when they are not allowed access to certain resources. This is when education must take action with regard to technology.

3.5. Core topic V. A shared reality

Though unable to explain it, several students have found it necessary to look at their mobiles on various occasions. Moreover, Eva says it is contagious, "when I see one of my classmates doing it". Then she immediately checks her phone. This happens to Blanca as well, so she ends up looking at her phone, even though sometimes the message is just "nonsense, or someone from the class sending something". In response to Eva, Blanca comments that she is worried that they have become accustomed to this habit, and that "we find it difficult to communicate or establish contact with people". In the case of Pablo, he claims that he "he prefers in-person contact".

Nevertheless, Eva continues the dialogue with Blanca, when she points out the teacher's obligation to educate pupils in these matters as well, to which Blanca responds, "This social knowledge we are talking about can be converted into dialogue and learning". At this point, the concern of these future primary school teachers focuses on the role of the educator in light of these facts. They are worried about the relationship with pupils and school performance. According to Blanca, "We are responsible not only for teaching mathematics, but also for the mental health of our pupils", and she goes on to say, "Mobile phones don't really change their lives and school performance so much".

(Analysis) Is it possible to develop co-responsibility for the appropriate use of mobile phones by pupils, both in and out of the classroom? The mobile phone has an important aspect with regard to relationships with others. Thus, the synergy between education and communication can be developed to an advantage. The debate is not about in-person or virtual, but rather about how to make the most of this tool for educational purposes. This is where the role of the teacher comes into play. It is now important to be involved in and concerned with making dialogue-based social learning possible and valid. This is a good strategy for these future educational professionals, especially when mental health is a priority, or when the absence of such a strategy might harm the academic performance of their future pupils.

3.6. Core topic VI. Discussing education

Mobile phones are easy to use, small, and have a multitude of features that make the participants' work as students easier. To a certain extent, these devices also eliminate uncertainty and are able to carry out research tasks without making a great effort in the search for information. In other words, this is what Eva calls "comfort".

Based on the cartoon by Argentinian humourist Sergio Langer, Amelia expresses herself in such terms, and says that "it totally represents today's society", and she concludes by saying, "Even when a person is in the same bed with their partner, they are sometimes on their mobile or computer, and prefer to communicate with the person next to them through social networks rather than by talking directly to the person".

Drawing 1

In response to the high demand and prevalence of mobile phones in everyday life, Paula is aware that possible solutions need to be proposed, including those that are educational in nature. She argues that mobile phones "can be of great help to us if we use them properly". To this end, she recommends "organising informative talks for parents, warning them of possible dangers and addictions", especially when "there are children at the age of 11 or 12 who already have a mobile phone". Miguel calls for common sense, and he insists on the need to work with family members, because "in most cases, families are not aware of the issue, or do not have deep knowledge about the subject, which is another factor that allows this to happen, or continue to happen".

Formal education can be an incentive to mitigate the excesses of mobile phone use. Before turning it into a threat, it should be seen as an incentive for education. Sonia argues that "before rejecting it, we should ally ourselves with it". Meanwhile, Miguel once again points out that "we need to teach with the tools of the present day".

(Analysis) Are we faced with giving schools yet another responsibility? Strategies must be implemented in order to avoid falling into a trap, which could end in a confrontation between mobile phones and the priorities of their users. The solution may lie in offering education for technology and communication. However, it is important not to lose sight of the fact that the phone is a part of students' lives. Moreover, many parents have the same concerns. It is therefore a sensible gesture to work with family members in order to alleviate possible misunderstandings and to improve pro-educational action with regard to mobile phones. For this reason, informative talks, seminars, round tables, case studies, and courses for parents have been proposed.

3.7. Core topic VII. With regard to the family

None of the participants takes the position of banning mobile phones. All of them, and we want to emphasise that this includes every single person in the group, talk about responsibility rather than prohibition. Furthermore, Sara is the one who argues for the need to encourage proper use of this device. Ángela adds to Sara's comment, saying that "rational use must be encouraged, but improved use as well". At this point, some very interesting issues are raised regarding educational purposes, such as dialogue and learning, avoiding an outright ban by providing the proper incentive, and something we believe stands out as a concern of these future teachers: not looking the other way when faced with this emerging situation, which could affect their pupils and the quality of education in one way or another.

Most of the students who took part in the research also stressed the need to work with the family, and it was Julián who warned that it was vital to be engaged with the family, and he proposed "the creation of a type of school for parents". The discussion sparked by this interesting proposal continued with Rosa, when she commented, "What we need to do is work with the family, from time to time, on the topic of dependency". Eva and Cristina are also worried about another problem, which is paedophilia. Meanwhile, Tomás, Jesús and Pablo are concerned about the issue of bullying. In this sense, it is striking that the women are concerned about issues related to sexual matters, while the men appear to more alarmed by physical and psychological bullying.

Once again, the dual issue of school and family is brought up, and everyone agrees about the need for harmony and the need to speak in the same terms. The problem is exacerbated when no importance is given to the situation of extreme dependence on mobile phones, or when they look the other way, perhaps because they do not know how to deal with the problem or, as Susana points out, "because there are parents who are worse than their children".

(Analysis) Is the mobile phone really such a bad device? Prohibition is not advisable. In fact, banning the use of mobile phones would imply a significant impediment, and students might feel the need to break the rules. The best solution of all would be to educate students in the proper use of this technological device, and improved use as well. Future teachers are concerned with the way pupils are educated, and they may believe there is no difference between learning and having fun. Moreover, in this educational process, the family must be present. We need to find ways to teach both inside and outside the classroom about the possible harm that could result from improper mobile phone use. Nevertheless, one truth that stands out: "There are some parents who are worse than their children". Moreover, it is not a question of schools having to take responsibility for the shortcomings of the students. Instead, they have to act as witnesses and intermediaries to take action for improvement.

3.8. Core topic VIII. Other considerations

Another aspect of the debate that started from the discussion opened by María del Carmen is that "we are becoming extremely individualistic". Jesús responded to this comment by emphasising solitude, when he said, "It's isolation; in fact, in the end we are building a wall around ourselves with all these mobile phones". A similar issue arises once again, and according to Tomás, even though we are surrounded by people, "we take refuge in technology". Óscar adds to the conversation by saying that he is less concerned about isolation or non-communication than about the bad manners of mobile phone users. He explains that the basic rules of common courtesy are not followed, starting with greetings and goodbyes. The information is launched and requires a response, nothing more. Antonio comments that all of this is a reflection of today's society, and "we don't talk about this at home".

Moreover, Óscar enters the conversation again, offering an idea that is very close to his heart: "A good example is my younger brother, who isolates himself from everyone and everything by putting on his headphones, and he ends up enclosing himself in his own world".

In another vein, participants in the forum said they are now more observant of other mobile phone users. They seem to have learned their lesson and now observe how others act. Nomophobia seems to have taken hold, and as asserted by Jesús, "It's hanging over our heads". Raquel stresses that mobile telephony is "so much a part of our lives that we check our phones without even realising it". Julián adds a nuance to Raquel's comment, reminding us that more than "consulting our phones, what we do is play with them".

(Analysis) Is the mobile phone truly so deeply rooted in the lives of students? The mobile phone is a tool that ends up minimising and enclosing the user in its restricted framework. Instead of serving as a means of opening horizons, it ends up closing the field of vision. However, students who are studying to be primary school teachers have learned from this situation, and now they are more sensitive and aware of the risks of the mobile phone, which is a multifaceted reality with many sharp edges. These students live in this reality, so they have to know how to educate pupils in the proper use of the mobile phone, while at the same time using it to impart such knowledge. To achieve this goal, learning by playing should be encouraged in order to avoid possible risks. These phones are more than just a toy in the hands of users. In short, what could be interpreted as a dependency by some might be seen as a game by others, without any major repercussions. This is a subtle, yet interesting nuance, which brings us to the final conclusions.

4. Conclusions

It is interesting to note that continuously checking the mobile phone is not seen as a dependency, but instead is considered a routine. Most of the participants say they are not worried about the number of times they check their mobiles. It is something they do without much thought.

As for addiction, they do not see it as something to worry about. Rather than dependency, they consider the mobile to be a tool that they may be using improperly, and on occasion, even continuously and intensively, which encourages excessive use (Grock, 2015). However, they do not consider their use to be addictive.

The university students who took part in this research are aware of the following assessment: "The areas affected by mobile phone addiction, or Nomophobia, are education, family, and society, and its transcendental progress will be influenced by responsible, objective use" (García-Umaña, 2018: 124). The participants have reiterated this statement, and it has arisen in the conversations held in the forum that was part of an academic subject. Nevertheless, they always have the incentive that through education they can change the behaviour and feelings of their pupils (Gallego and Rasposo, 2016), even if they must overcome obstacles (De la Herrán and Fortunato, 2019).

They foresee a possible change in the way of dealing with the self-esteem and insecurity of minors. Moreover, they talk about the role of the educator, also in cases of addiction or dependency. They even comment that these matters should be addressed in diverse subjects in a way that is cross-disciplinary, given the importance of this issue and everything that emerges from technology in general. In this way, issues such as cyberbullying, sexting, sextortion, and grooming could be avoided, in addition to all the variants that are either emerging or have already surfaced, which are considered to be related to techno-addiction.

The mobile phone is part of the participants' daily lives, and they see it as an ally (Avello-Martínez; Marín, 2016). It is a faithful companion they consider to be harmless by most standards. Moreover, they see the smartphone as just another tool in their lives, or as an enhancement device they use to talk, look for information, write, have a video conference with their peers, or resolve class matters. It offers clarification when they have questions, allows them to stay in touch with friends when necessary, and thanks to its features, they can even take a photo or video that includes them in the group to which they belong. It is a resource they can use both in and out of the classroom, which is most likely part of the reason for its excessive use.

The mobile phone is an everyday enhancement device in a small, easy-to-use, hyper-simplified format. The students' phones have countless programmes in Spanish, and the downloads do not require any commitment or payment, at least the ones they obtain, Therefore, they use certain applications on their phones, and once they no longer serve any purpose, they uninstall them. In that sense, they are not imprisoned by the mobile phone. They see themselves as users of wireless devices without being dependent. Moreover, they believe they are capable of rejecting them when they consider they are no longer useful. This is temporary, however, because the subjugation resurfaces once they need a new application or have to make a personal or educational consultation to satisfy their needs. For example, to be part of one's peer group, a photo has to be retouched, because a mere image is not enough, as it has to be fine-tuned by using a certain programme, or a response to a message has to be almost immediate, etc. Dependencies emerge in other ways as well.

Nowadays, there is a lack of communication and people are isolated. The mobile phone can be a means of building bridges and breaking down the lack of spontaneity in human relationships. Yet there is also a concern about images of paedophilia that might circulate on mobile phones. This is something that worries the women who were involved in the research, while the men are more concerned about possible physical or psychological bullying among peers in the primary school classroom. The women are aware of the repugnance of child sexual abuse, whereas the men, although repelled by paedophilia as well, are more attuned to implicit or explicit violence.

Finally, they believe that an outright ban is not the best way to educate their future pupils, as it might foment a possible contradiction between the inclusive nature of the educational system and the exclusionary practice of restricting mobile phones (Ramos, 2014). They plan to rely on dialogue and knowledge as tools to reduce the risk of addiction or excessive use. Moreover, from this perspective, abuse or misuse can be mitigated through education. Based on all of the foregoing information, as hopeful professionals, they see education as a way to lessen mobile phone addiction.

In the end, talking to the participants about nomophobia has been a justification for analysis and knowledge enhancement. It has enabled them to think about the possible risks their future pupils might experience through improper use of the mobile phone. In a way, this research is a pretext of "a reflective, systematic, controlled, critical process that enables the discovery of new facts, data, relations, and laws in any field of human knowledge" (Sequeira and Cruz, 1997: 3).

By using an outline format, we have established indications based on the most relevant conclusions presented in the different thematic blocks. Core topic I, Introductory aspects; university students, in general, were unaware of the concept of nomophobia, although it is a widespread phenomenon. Core topic II, Regarding possible addiction; nomophobia is not something of great importance in the participants' lives, nor do they interpret it as an addiction, despite its compulsive nature and negative implications for young people, bearing in mind that pre-adolescents already have a mobile phone. Older adults possibly use it

simply as telephone. Core topic III, Nuances regarding addiction; as the mobile phone is part of their daily lives, they see it as an ally that provides assistance in their relationships and educational work, and it also provides part of their entertainment. As future teachers, they promote the desire to learn about these resources for 21st century students. Core topic IV, Understanding the situation; they describe the mobile phone as a tool that makes life easier for them (even in the interpersonal and emotional realm). Sometimes, however, they find it overpowering. Curiously, they project their own misuse onto others. Core topic V, A shared reality; they frequently check their mobile phones, and nearly all of them sometimes neglect their closest, personal, face-to-face relationships. As future teachers, they see opportunities for dialogue and learning without neglecting the mental health of their pupils. Core topic VI, Discussing education; they use it to look for information, or even to organise an educational course with their pupils' families. This is a potential resource that needs to be used appropriately. Core topic VII, With regard to the family; the participants are against banning mobile phones, and they are also concerned as future teachers. Along these lines, they propose creating a type of school or course for parents for the purpose of dealing with current issues, addiction, and bullying. Core topic VIII, Other considerations; they describe the mobile phone as a technological refuge in an era defined by individualism. As a result of this communicative, educational, and group class experience, the participants have stopped for a moment to reflect on technological addiction, or nomophobia, which is something present in our daily lives.

The mobile phone is portrayed as a kind of portable, versatile computer with features that allure us, which can eventually lead to addiction. What is clear is that addiction is not caused by the technological device itself, but rather by people's excessive and irresponsible use. Regarding this point, these future teachers should have a voice in the matter, and should participate in the issue as well. These students are attracted to mobile phones, yet at times they are concerned about their own use, misuse, overuse, and even abuse, and they must learn how to respond to this situation as future education professionals.

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6. Specific contributions from each author

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Concept and design of the work	Víctor Amar
Methodology	Víctor Amar
Data collection and analysis	Begoña Sánchez
Discussion and conclusions	Víctor Amar and Begoña Sánchez
Writing, formatting, revision and approval of versions	Víctor Amar and Begoña Sánchez

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