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The Use Of Technology In Higher Education. Pedagogical Orientations Within Education

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Abstract:

At the time of embarking on this examination of information and communication technologies in the higher education setting, a historical, pedagogical, psychological, sociological and educational approach was proposed. This served to join together a group of theories and ideas which enable the identification of both external and internal causes. This assists in understanding the increasingly rapid expansion of this prominent global phenomenon. The first aim considered in the present study was to determine, via an initial diagnostic study, the use and frequency of use of technology in higher education. The second aim was linked with pedagogical orientations within education. The methodological design employed pertained to a descriptive study. More specifically, the study administered a questionnaire made up of Likert scales to a representative sample of university students enrolled on different courses. The population comprised students from the Education Sciences faculty at the University of Granada. The sample was formed by 350 students who responded to the questionnaire. Outcomes from the completed instruments reveal that a high proportion of young people spend a large proportion of their time using the internet, games consoles and mobile phones. Finally, it was indicated that it is necessary for a set of recommendations and pedagogical orientations to be compiled, designed and implemented to enable the correct management of technological resources.

Keywords: dependence; nomophobia; addiction; technological resources; internet; games consoles; mobile phones.

1. Introduction

New technologies (NT, now from on) include technology linked to the internet, alongside that pertaining to mobile phones and computers, in addition to the television and video games. These new technologies, amongst others, compose one of the most important phenomena in contemporary society (Correa, 2019; Harris et al., 2017; Gezgin et al., 2018; Panova & Carbonell, 2018; Villadangos & Labrador, 2009). The emergence of NT has been associated with a progressive transformation that has impacted all dimensions relevant to human beings and means of production. Nonetheless, at the same time, this technology has crystallised a set of complex

relationships between individuals and the reality in which they live (Cotrina Aliaga et al., 2020; Hoffmann, 2017; Neverkovich et al., 2018).

In Spain, according to the National Statistics Institute (INE, 2020), 95.4% of homes have an internet connection and 99.5% of internet users possess a mobile device through which they can browse. These tools are used for different reasons, predominantly instant messaging, purchasing and social networks (Ruiz et al., 2021). With the almost universal accessibility achieved by the internet in recent decades, individuals have experienced progressive life changes which have influenced their habits and the way in which they access knowledge and interact with both other individuals and garnered information (Padilla-Hernández, et al. 2020; Ahmed & Cho, 2019; Estévez et al., 2019).

In particular, young people make up the age group that leads this change. In this regard, the first contact with NT takes place at increasingly early ages and use of these resources continues to progress until the beginning of adult life (Conde, 2018; Tsai et al., 2018). In the Western world, young people start to interact with these devices from 11 years onwards, at which point they acquire and increasing presence in their lives (Varguillas & Bravo, 2020; Sohn et al., 2019). Effectively, young adults constitute the broadest group of individuals using social networks, video games and the television (Gonçalves et al., 2020).

Likewise, during childhood, the population is more vulnerable to risks related with the use of NT. This makes up a setting in relation to which the education system must offer a response, taking into consideration the length of use (Daei et al., 2019). In this regard, studies such as that conducted by Bhattacharya et al. (2019), have demonstrated correlations between the length of time spent using NT and low grades, feelings of loneliness and isolation amongst young people and adolescents, and psychological anxiety. These aspects, according to Gonçalves et al. (2020), are the product of changes to the lifestyles of young people as a result of their coexistence with these devices and tools. In Spain, studies conducted by Estévez et al. (2017), Ruiz et al. (2021) and Verdugo (2018) have shown that NT use amongst university students suggests that they experience potentially pathological and symptomatic conditions linked with mental disorders. Such conditions emerge when their length of use and the behaviour they exhibit becomes addictive.

In this context, it is important to diagnose the use of new technology by young people, in consideration of important aspects such as length of time spent, frequency, potential issues detected due to its use, place of use, and differences in the employment of devices according to sex, age, academic year and level of study. Within the broad set of devices that make up new technology, the present article focuses on internet, mobile phone, video game and television use within a group of students from the Faculty of Education Sciences in the city of Granada.

2. Justification

2.1. Dependence, addiction and nomophobia

Personal mobile devices provide continuous access to the internet and open individuals up to the possibility of interacting with content in an unlimited way, providing numerous benefits such as interactivity, information and entertainment (Hoffmann, 2017; Panova & Carbonell, 2018).

The reach of technology into diverse basic spheres, particularly, of mobile phones, has meant that, in most situations, individuals can be observed interacting with devices. This has led to a transformation in social dynamics (Gonçalves et al., 2020). Panova & Carbonell (2018) underline that the use of mobile devices has been associated with social change characterised by the changing interests, attitudes, desires and values of

young people. All of which have evolved progressively, leading to the emergence of concerns linked with these dimensions.

As such practices have become ingrained in communities, over the last two decades, scientific literature has seen the emergence of a body of increasingly broad research into the concerns associated with technology use in young people and the impact of the internet in secondary school and university students (Daei et al., 2019). These studies have served to give visibility to the influence of NT in society and, in a similar sense, highlight the potential issues it can lead to. Such issues tend to be linked with the behavioural addiction associated with its use (Verdugo, 2018).

Amongst the challenges referred to in the research and that, therefore, pose inherent risk to the proliferation of NT within young people, dependence or addiction to these tools stand out. These were classified, for the first time, as disorders by the American Psychiatry Association (González Robles et al., 2021; Panova & Carbonell, 2018), as was the fear of being away from technological devices (Gurbuz & Ozkan, 2020; Olivencia et al., 2018). These disorders are characteristic in contemporary society and mainly affect the young population. Indeed, NT has been characterised as the main source of non-pharmacological addiction in the present day. This situation constitutes a paradox in which, on the one hand, such tools provide greater freedom but, on the other hand, chain individuals to the virtual setting (Bhattacharya et al., 2019).

Nonetheless, without downplaying the pathological issues associated with NT use, other risks and behavioural changes exist which are concerning due to the influence that exert on the daily lives of individuals. Such risks include transformation of the way in which individuals relate with each other, time management and sedentary behaviour (Ruiz et al., 2021).

2.2. Internet

The time spent using the internet is one of the dimensions of main concern in current society. The internet provides a large window that offers an immense amount of different activities, having evolved from being merely for exclusive use to being a completely public resource. Likewise, its ability to provide a rapid response, accompanied with interactivity, amongst other characteristics, means that internet use constitutes a pleasant and attractive activity for people of all ages and interests. Whilst its use is positive, it is also open to risk when this resource is preferred to the detriment of other activities of daily living (Tsai et al., 2019). In this sense, research conducted by Sohn et al. (2019) highlights that availability of the internet in itself is not an issue but its problematic use is. This is mediated by the behaviour enacted by individuals, with potential risk behaviour being represented by the loss of control with regards to their own behaviour.

When using the internet, individuals' loss of control over their actions, in addition to the exhibition of patterns of excessive use, are also related with other behavioural additions, including disorders such as depression and anxiety (Estévez et al., 2017; Martínez-Garcés & Garcés-Fuenmayor, 2020). Consequently, understanding that use is initiated by young people assists in seeing it as a powerful indicator of the potential risks they face. Along similar lines, better understanding will also enable lines of action to tackle these issues to de developed (Martínez et al., 2020; Morales Capilla et al., 2015).

2.3. Video games

Video games are another of the technological tools to stand out, whether used online (by connecting to the internet) or off-line (where it is not necessary to connect to an online network to play them). According to Ruiz et al. (2021), young people and adults spend around 6.7 hours a

week playing video games. Whilst this reflects lower engagement in this activity than the European average, it is necessary to bring attention to the effect of this inappropriate use on individuals. In this regard, the present research highlights that, following the COVID-19 pandemic, a latent risk has been encountered by the increase in the time spent by adolescents and young adults playing video games.

2.4. Television

The final of the NT groups to be examined in the present article pertains to the television. Television use by children has been an essential pillar within previous generations and it is still a device that is used to a large extent in the present day by adolescents and young adults.

Despite this, changes to current preferences have seen young people opt increasingly for other devices in place of the television. This may be explained by the fact that interactivity enables elements such as internet-based technologies (Tsai et al., 2018).

3. Method

The present research design comprises a quantitative approach that is descriptive, inferential and ex post facto in nature. This enables examination of a broad set of individuals and analysis of each one of the proposed variables both independently and as a set (García, González & Ballesteros, 2001). The present study is focused on the use of technology in higher education students in order to later construct a series of pedagogical orientations relevant to education.

The main aim of the present study was to conduct an initial diagnosis in order to determine use of and frequency of engagement with new technology in higher education students. This aim was extended to examine the potential behaviours that may constitute risk factors related with the abuse of technology and, potentially, the risk of dependence, addiction and nomophobia. In line with this purpose, a more specific objective was proposed which sought to identify pedagogical orientations that could be considered from an educational standpoint to respond to the challenges related with NT.

3.1. Participants

A sample of 350 students from the Faculty of Education Sciences at the University of Granada provided the data for the present study. Probabilistic and intentional sampling was used to recruit this sample. This enabled accessible cases who agreed to be included in the study to be selected.

The sample is made up of 84.9% females and 15.1% males. This sex difference corresponds to the high presence of females in the reference population. The average age of the sample was 20.26 years, with the youngest participant being 17 and the oldest being 44, producing a standard deviation of 2.911.

In consideration of the courses being undertaken by those surveyed, percentage were distributed as follows:

Table 1. Sample by degree.

Course	Frequency	Percentage	Accumulated percentage
Primary education	51	14.6	14.6
Early childhood education	47	13.4	28.0
Pedagogy	147	42.0	70.0
Social education	105	30.0	100.0

Total	350	100.0

3.2. Instrument

An ad hoc questionnaire was developed for data collection through the selection and adaptation of items from other previously standardised instruments. 14 items came from the instrument conceived by Labrador & Villadangos (2010), 9 came from the instrument designed by Ordóñez et al. (2013) and the remaining 12 items came from the instrument described by Bolaños (2015). Thus, the item used in the present study comprised a total of 35 items, of which only the 31 scale items will be considered for the validation process.

In order to examine content validity of the instrument, the opinion of a group of nine professionals was considered. All professionals were experts in research methodology and in the area of information and communication technology.

Given that nine expert judgements were used, a numeric scale that ranged from 1 to 4, with 1 being not at all and 4 being totally, was used to determine degree of agreement. Thus, the highest score that could be obtained for the items was 9x4= 36. A cut-point of 9x3= 27 was established, considering 1 and 2 as being negative, and 3 and 4 as being positive. Of the 31 items submitted to expert validation, 3 were eliminated, leaving 28 in the final version of the instrument. All final items must be responded to along a 4-point Likert scale: Never, sometimes, often and always.

Internal consistency of the questionnaire was calculated according to the Cronbach alpha coefficient of reliability, obtaining a value of $\sigma = .92$. It should be highlighted that the reliability coefficient value observed was sufficiently high in all cases to validate the inferences and conclusions reached in the present research.

Finally, items pertaining to four demographic variables were added to the instrument, namely, sex, age, academic year and course title.

3.3. Procedure

Participants were informed about the purpose of the present research, with participation being entirely voluntary. All participants were sent a Google docs link in order to complete the questionnaire online. Anonymity of all participants was respected at all times and the ethical principles of social scientific research were adhered to.

Was completed questionnaires were gathered and compiled, responses were coded, organised and recorded digitally in a database for later statistical handling. Following this, analysis of quantitative data was performed through the statistical analysis software SPSS.

4. Results

Generally speaking, with regards to the use of technological media by students, it was found that 99.4% of students used the internet, mobile devices, the television and videogame consoles every day. A total of 9.7% of participants reported playing video games on a mobile phone or on a videogame console every day, whilst 94.8% used a mobile telephone for leisure and/or to engage on social networks every day.

In the following tables, the percentage of students using certain technological devices every day can be observed as a function of course title, followed by the proportion of those not using such media ever.

Table 2. Percentage of students using media every day.

	Social education	Pedagogy	Early childhood education	Primary education
Internet use	100.0%	98.6%	100.0%	100.0%
Playing video games on a mobile phone or videogame console	6.7%	10.2%	6.4%	17.6%
Mobile phone use for leisure and to engage on social networks	96.2%	93.2%	97.9%	94.1%
Watching the television	46.2%	42.2%	57.4%	54.9%

Table 3. Percentage of students never using media.

	Social education	Pedagogy	Early childhood education	Primary education
Internet use	0.0%	0.0%	0.0%	0.0%
Playing video games on a mobile phone or videogame console	40.0%	37.4%	31.9%	7.8%
Mobile phone use for leisure and to engage on social networks	0.0%	2.1%	0.0%	0.0%
Watching the television	4.8%	1.4%	0.0%	0.0%

As can be seen in the tables presented above, the common type of media to be most used by students is the internet, followed by mobile telephones, for which daily use was reported by around 95% of participants. Mobile phones were also used to browse online.

When asked about the amount of time spent daily connected to the internet, 37.2% stated that they connected more than 6 hours a day, 28.7% and 28.4% stated connecting between 5-6 hours and between 3-4 hours a day, respectively, and only 5.7% reported connecting for 1 or 2 hours a day. More generally speaking, 88.8% confirmed that they connected to the internet for more than 6 hours a week.

When asked about the places in which they used the internet, the most common responses were at home and at university, with 32% and 47.3% of students, respectively, giving these responses. Other places included the house of friends or when walking down the street.

In the next table, certain behaviours and/or perceptions reported by students towards internet use are presented.

Table 4. Student behaviour in relation to internet use.

	Never	Sometimes	Often	Always
Do you spend more time using the internet than you think is needed?	7.8%	41.2%	23.5%	27.5%
Do you feel bad when you cannot use the internet for some reason and you want to use it?	33.3%	45.1%	11.8%	9.8%
Do you start thinking about connecting to the internet hours before doing so?	66.7%	25.5%	5.9%	2.0%

Do you argue with your friends about internet use?	80.4%	15.7%	2.0%	2.0%
Do you lie to your family or friends about the hours you spend using the internet?	86.3%	11.8%	0.0%	2.0%
Have you stopped doing any activity because of being connected to the internet? (going to the cinema, going out with friends…)	58.8%	39.2%	2.0%	0.0%
Have you ever tried to disconnect from the internet and not managed to do so?	64.0%	28.0%	6.0%	2.0%
Does browsing the internet relax you?	15.7%	51.0%	23.5%	9.8%
Do you feel nervous if a lot of time passes since the last time you were connected to the internet internet?	60.8%	33.3%	3.9%	2.0%

In general, 92.2% considered that they used the internet for longer than necessary, whilst only 7.8% did not believe this to be the case. It is notable that the majority of participants, at least sometimes, feel bad when they cannot connect to the internet for any reason, with this being stated by 66.7% or respondents. A total of 86.3% stated that they had never lied to those close to them about the time they spend connected to the internet, whilst 13.8% agreed that they had done so at some point. Similar outcomes were found when asking about whether students had argued with a friend over their internet use. In this case, it was found that 19.7% stated having argued at some point, whilst 80.4% stated never having argued.

In relation to the question posed to participating students about whether they had ever skipped class due to being connected to the internet, the significance value produced from chi-squared analysis was 0.027, this being lower than 0.05. This shows that significant differences exist with regards to this aspect between those undertaking Social Education degrees and those undertaking other courses.

Table 5. Chi-squared analysis corresponding to the "question posed to participating students about whether they had ever skipped class due to being connected to the internet" by Degrees.

	Value	df	Asymptotic significance (two-tailed)
Pearson chi-squared	18.836	9	.027
Likelihood ratio	17.325	9	.044
Linear-by-linear association	.850	1	.357
N of valid cases	349		

With regards to the question pertaining to whether students have ever used their mobile phones during class, the chi-squared value produced reached a significance level of 0.002, with this also being lower than 0.05. Thus, significant differences exist between the number of times respondents used their mobile phone during classes with, specifically, Pedagogy degree students mostly using their phone often or always during classes.

Table 6. Cross-tabs corresponding to the "pertaining to whether students have ever used their mobile phones during class" by Degrees.

	Social education	Pedagogy	Early childhood education	Primary education	Overall
Never	0.6%	2.9%	3.7%	4.6%	11.8%
Sometimes	7.5%	5.5%	13.8%	8.6%	35.3%
Often	2.9%	4.9%	15.5%	11.2%	34.5%
Always	3.7%	0.3%	8.9%	5.5%	18.4%
Overall	14.7%	13.5%	42.0%	29.9%	100.0%

Table 7. Chi-squared analysis corresponding to the "pertaining to whether students have ever used their mobile phones during class" by Degrees.

	Value	df	Asymptotic significance (two-tailed)
Pearson chi-squared	26.458	9	.002
Likelihood ratio	30.967	9	.000
Linear-by-linear association	.392	1	.531
N of valid cases	348		

With regards to the item "Do you find it easier to transmit feelings and emotions through emoticons than in front of the person to which you wish to express these them?", significant differences are observed given that the asymptotic significance value produced from chi-squared analysis was 0.002, this being lower than 0.05. It can be observed that 21.2% of Pedagogy students consider that they never use this media to transmit their emotions.

Table 8. Chi-squared analysis corresponding to the "Do you find it easier to transmit feelings and emotions through emoticons than in front of the person to which you wish to express these them?" by Degrees.

	Value	df	Asymptotic significance (two-tailed)
Pearson chi-squared	25.588	9	.002
Likelihood ratio	25.189	9	.003
Linear-by-linear association	.026	1	.872
N of valid cases	349		

With regards to the item "the first thing I pick up in the morning after getting up is my mobile phone", chi-squared analysis was observed to produce a significant asymptotic value of 0.003, this being lower than 0.05. Thus, it can be said that, in this case, significant differences also exist between those undertaking a Pedagogy degree and all

other students. Concretely, 40% of Pedagogy degree students confirmed that their mobile phone was the first thing they picked up in the morning. This same response was given by 24.9% of Social Education students, 14.6% Primary Education degree students and 12.6% of Early Childhood Education students.

Table 9. Chi-squared analysis corresponding to the "the first thing I pick up in the morning after getting up is my mobile phone" by Degrees.

	Value	df	Asymptotic significance (two-tailed)
Pearson chi-squared	25.440	9	.003
Likelihood ratio	27.312	9	.001
Linear-by-linear association	9.906	1	.002
N of valid cases	350		

When students were asked about mobile phone use when they are bored, chi-squared analysis produced a significance value of 0.05. In other words, significant differences exist between different degree subjects with, in this case, Social Education degree students being those to most report using their phone due to boredom.

Table 10. Chi-squared analysis corresponding to the "use when the students are bored" by Degrees.

	Value	df	Asymptotic significance (two-tailed)
Pearson chi-squared	20.474	9	.015
Likelihood ratio	20.331	9	.016
Linear-by-linear association	4.391	1	.036
N of valid cases	350		

Finally, with regards to the item "I start to panic when I think that I have lost my mobile phone", observation of chi-squared outcomes shows that the significance value was 0.00, this being lower than 0.05. In this case, 14.6% of students undertaking a Primary Education degree agreed with this item. With regards to Early Childhood Education, only 10% of students agreed with this item. Further, a total of 23.2% of Social Education students reported feeling panicked, whilst 38.3% of Pedagogy degree students reported experiencing this feeling.

Table 11. Chi-squared analysis corresponding to the "I start to panic when I think that I have lost my mobile phone" by Degrees.

	Value	df	Asymptotic significance (two-tailed)

Pearson chi-squared	42.022	9	.000
Likelihood ratio	46.884	9	.000
Linear-by-linear association	.656	1	.418
N of valid cases	350		

4. Discussion

The present study identified hugely extensive NT use by participants, with 99.4% using the internet, mobile devices, the television and videogame consoles every day and, of these, 9.7% stating playing games online every day and 94.8% using these resources to pass their leisure time or connect to social networks.

Internet use has become widespread amongst university students, being a daily resource for 100% of Social Education, Early Childhood Education and Primary Education students, and for 98.6% of Pedagogy students. Overall, the use of mobile phones during leisure time and to check social networks reached similar percentages, with more than 93% of students reporting this on all degree titles. With regards to length of daily use, 37.2% indicated spending more than 6 hours connected to the internet every day.

Of all of the examined resources, video game use, whether via mobile phones or videogame consoles, were the least engaged with by students participating in the present study. This outcome could highlight a current trend that is consistent with the preferential use of mobile devices. This conclusion has also been reported by Martínez et al. (2020). In accordance with the outcomes produced in the present study, young people are aware of the fact that they spend too much time using NT, with 92.2% considering that they spend more time than necessary using such technology. In line with this perception, it was detected that 13.8% have lied on at least one occasion about the time they spend on the internet, whilst 19.7% indicated having argued with someone at some point for this reason.

Effectively, young people live attached to NT in different contexts. This gives rise to underlying challenges when it comes to performing daily actions without the presence of these devices and technologies (Gonçalves et al., 2020). In this regard, although the length of use, per se, does not imply dependence, it is correlated with the likelihood of dependence emerging. At the same time, it is also associated with the likelihood that, when faced with separation from these devices, physical and psychological symptoms take hold that take on great importance. In a group of nursing students, Ayar et al. (2019) found that the time spent using NT was related with the likelihood of developing problematic use of technological devices. This was represented by dependence, social anxiety and worry about the image projected on social media. In the same sense, Kaviani et al. (2020) identified that problematic use was directly associated with the length of use. This highlights that potential risk exists in which greater NT exposure breeds dependence, addiction and nomophobia in young people.

In the present study, 66.7% of participants stated feeling bad when they could not use their devices. This suggests that adverse symptoms exist which arise due to separation from NT. These findings are consistent with those reported by Gurbuz and Ozkan (2020), who identified that 8.5% of young people suffered severe nomophobia whilst 71.5% and 20% suffered moderate and light nomophobia, respectively. In a similar sense, Ayar et al. (2019) revealed a positive correlation between problematic use and dependence with other mental health disorders, such as social anxiety. Gutiérrez et al. (2019) called attention to the extent of nomophobia seen amongst Spanish students, with levels of this

condition being higher than the European average. Moreno et al. (2020) associated dependence to using these tools with other variables. These variables are related with both physical health and musculoskeletal disorders or pain in the joints, eyes or ears, in addition to mental health related with sadness, anxiety, unbalanced sleep habits or eating disorders. Such outcomes should be considered without forgetting the social anxiety outcomes mentioned previously.

Findings identify statistically significant differences according to the course being studied with regards to having skipped a class to connect to the internet, with chi-squared analysis producing a value of 0.027 (in other words, lower than 0.05) in relation to those undertaking a Social Education degree. With regards to mobile phone use during class, this variable achieved a significance level of 0.002 (lower than 0.05) in students undertaking a Pedagogy degree. These findings demonstrate the difficulty faced by young people to put down their devices, even when they have other commitments, such as going to class. According to Gutiérrez et al. (2019), this constitutes an issue which must be tackled by the educational system, firstly, because it constitutes an indicator of dependence which, if left unattended, could solidify into future problems, such as the loss of quality professional attention once these students join the workforce. Secondly, because it can give rise to psychological issues in the individual. Effectively, according to a study conducted by Moreno et al. (2020) with students preparing for professions related with education, dependence and excessive use of mobile phones could lead individuals to display, in their professional engagement, behaviour characterised by the need for regular breaks in order to attend to their mobile phones.

Further, a study conducted by Kaviani et al. (2020) identified that mobile phone use was associated with a transformation in forms of expression and communication, in addition to the behaviour exhibited in the physical setting. Gonçalves et al. (2020) have suggested that mobile phones have a determining influence on the way in which young people interact in their in-person and virtual conversations. In this sense, it has been identified that young people experience challenges when it comes to maintaining conversations in physical settings and tend to use mobile phones during personal relationships. In addition, for some young people, the expression of feelings and emotions is made easier by digital tools. This could lead to a loss of interest in physical relationships due to the lack of communication skills and, consequently, social isolation (Gonçalves et al., 2020). In this regard, in the present study, 21.2% of Pedagogy students identified that they never used mobile phones to express their emotions and feelings.

For 40% of Pedagogy students, mobile phones are the first type of technology they use in the morning. This compares with 24.9% of Social Education students, 14.6% of Primary Education students and 12.6% of Early Education students. Mobile phone use due to boredom was more common in students undertaking a Social Education degree (chi-squared $p = 0.015$). In accordance with Olivencia et al. (2018), these differences may be explained by students' personal characteristics, in the sense that individual traits may exist which mediate NT use and impact the likelihood of this being excessive. Amongst the traits that may have an influence, reliance on rewards, personality, degree of social skills and life satisfaction have been identified to constitute risk factors and predict loss of control over the use of these tools (Cocoradă et al., 2018).

The existing link between NT use and its associated problems highlight that, from the perspective of the educational system, individuals must be equipped with high levels of digital competence, whilst also being aware of risks so that they can enact

rational and thoughtful behaviour in relation to devices. In this context, teachers must take on a leadership role, act as role models and, at the same time, engage directly with students in order to help them identify healthy and balanced use (Neverkovich et al., 2018). The design of intervention proposals to target the promotion of rational device use in young people would contribute to improving their quality of life, whilst also optimising the general health of the population.

5. Some pedagogical orientations

At all stages of the educational system, it is essential, on the one hand, to offer adequate digital skills training to students and, on the other hand, increase student awareness of the risks and opportunities associated with the use of digital tools. NT provides a broad array of opportunities to individuals in all walks of life. However, it is necessary to instil sufficient knowledge in order to ensure optimum use of these tools.

Future educational proposals should include approached through which NT forms part of teaching-learning dynamics, in the sense that these devices are used to disseminate knowledge and broaden skills in students. Likewise, the characteristics of university students make up a specific risk spectrum for this age group due to their social and psychological profile. A better understanding of the socioemotional needs of these individuals and identification of the mechanisms through which they can be satisfied, the promotion of socialisation opportunities in the physical ambit, and encouragement of the expansion of students' communication skills are some aspects to be developed. The development of these aspects could provide a route towards ensuring that social interaction via social networks and technological devices does not substitute in-person contact.

Overall, it is important to contribute towards the empowerment of students so that they are aware of adverse situations and risk, alongside the mechanisms that can be employed to address any of the negative and potentially harmful events that could arise. Thus, in order to tackle threats such as sex addiction, gambling and hyper connectivity, the educational system must establish a certain knowledge base within students and equip it to identify problematic dynamics. Finally, support systems or channels through which students can report issues could instil the trust required in students to safely navigate the digital space (Martínez et al., 2020).

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