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Digital Divides and Educational Inclusion: Perceptions from the Educational Community in Spain

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Abstract

ICT tools are fundamental for promoting educational inclusion, as they allow for flexible teaching practices adapted to the diversity of students. Their appropriate integration into teaching makes it easier to respond to different paces, styles, and needs, promoting the active and meaningful participation of all learners. However, this inclusive potential is only fulfilled if equitable access to and use of ICT is guaranteed, both at school and at home. This qualitative study explores the digital divide in its three main dimensions: access to technology, digital skills, and the meaningful use of ICT in educational settings. Through focus groups and semi-structured interviews, the study gathers the perceptions of different members of the educational community. The sample consists of 89 participants, including teachers, students, families, and school administrators from the Communities of Madrid and Castilla-La Mancha. The results reveal a common concern about inequalities in ICT access and use, related to economic, geographical, and educational factors. These findings emphasise the need for targeted public policies to bridge digital gaps and highlight the importance of promoting digital competence across the entire educational community to achieve true educational inclusion.

Keywords: ICT; educational inclusion; digital divide; perceptions; educational community

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1. Introduction

Inclusive education, conceived as a fundamental right of all children, poses the challenge of transforming education systems so that they are accessible, equitable, and of quality for all people throughout their lives, without anyone being excluded for reasons of origin, gender, health status, economic situation, ethnicity, or other personal characteristics (Simón & Echeita, 2013). Along these lines, Booth and Ainscow (2000) define inclusion as a set of actions and strategies aimed at ensuring that all students actively participate in the cultural, curricular, and social life of the school. Quintero (2020) stresses the urgency of building an education system that is flexible and sensitive to the needs of all students, as well as the rest of the members of the educational community. Therefore, moving towards true inclusion implies not only transforming education, but also promoting changes in society as a whole (Booth & Ainscow, 2015; Calvo, 2009).

Nowadays, the relevance of inclusion as an essential principle in any education system that aims to be equitable and truly democratic is unquestionable. Organic Law 3/2020, of 29 December, which amends Organic Law 2/2006, of 3 May, on Education, states that inclusion is one of the fundamental principles of the education system, promoting equitable and quality education. It aims to ensure that all students are guaranteed equal access, permanence, and learning. Its importance is such that the 2030 Agenda for Sustainable

Development (Organización de las Naciones Unidas, 2015) recognises it as one of its fundamental pillars in goal number 4, which states: 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'.

Information and Communication Technology (hereafter, ICT), understood as digital and pedagogical tools, resources, and approaches that support the educational process through access to information and improved communication, plays a fundamental role in education, transforming teaching and learning processes (Tello & Cáscales, 2015). The use of ICT has been gradually integrated into education systems, to the point that ICT tools have become indispensable, considered an essential element of the teaching process (Hernández, 2017).

Technology has opened the doors of knowledge to all, becoming a universal means of access to education (Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura, 2014). The integration of ICT into education can significantly enhance the quality of the teaching and learning process (Cuetos et al., 2020). ICT is used with the purpose of facilitating, enriching, and optimising the processes of teaching, learning, evaluating, and applying knowledge, and also constitutes one of the pillars of the education system, as its use is intended to improve educational quality through the effective integration of technology into teaching practices (Pérez, 2020). Its use in classrooms facilitates the creation of more flexible learning scenarios where students can work more autonomously (Espinoza et al., 2018).

Despite its many advantages, the integration of ICT into the education system has highlighted the existence of a digital divide. Sustainable Development Goal 4 explicitly addresses the digital divide as a critical barrier to universal learning (Organización de las Naciones Unidas, 2015). This goal underlines the need to reduce disparities in access to digital technologies (infrastructure, devices, and connectivity), especially for vulnerable populations, as digital literacy has become a fundamental requirement for exercising educational rights in the 21st century. It also emphasises the urgency of training teachers and students in technological skills, not only as a pedagogical tool, but also as a mechanism to prevent new forms of social exclusion. Target 4.4 specifies the obligation of states to 'substantially increase the number of young people and adults with relevant digital skills', recognising that the digital divide deepens pre-existing inequalities.

The Organisation for Economic Co-operation and Development (OECD, 2001) defines the digital divide as the disparity between individuals, households, and regions with different socio-economic levels, which conditions their access to ICT and their ability to use the internet in various daily activities. This phenomenon is characterised by its multidimensional nature, as it is not only limited to the availability of technological infrastructure. According to Cabero and Ruiz-Palmero (2017), the digital divide encompasses three interrelated dimensions: inequality in material access to devices and connectivity; differences in the digital skills required for effective use of technology; and disparities in the ability to convert these resources into meaningful educational opportunities. Along these lines, Álvarez-Arraque et al. (2019) distinguish three types of digital divide: access, use, and quality. The first one refers to the availability of technological devices and internet connectivity, fundamental elements for participating in digital environments. The second, also called the cognitive digital divide (Mora-Torrero, 2008), refers to the competences and skills needed by both teachers and students to use technologies effectively. Finally, the quality gap is related to the way in which ICT is integrated into pedagogical practices, which implies not only their technical incorporation, but also their didactic adaptation and alignment with educational objectives.

In recent years, and especially in the wake of the COVID-19 pandemic, the digital divide has become increasingly relevant in the academic sphere. Several studies have shown how inequalities in access to and the use and quality of digital technologies have a direct impact

on the education system (Aguilar-Martínez et al., 2024; Cancela, 2022; Martínez-Aranda & Lores-Gómez, 2025; Montenegro et al., 2020; Novella & Stigliano, 2023; Torrado, 2021).

Research carried out by Montenegro et al. (2020) with teachers in the Comunidad Foral de Navarra conclusively reveals the persistence of a significant digital divide, in terms of access and use, which stands as a fundamental obstacle to achieving educational equity and equal opportunities in the training system. Similar results were obtained by Torrado (2021) in his research with secondary education teachers during the pandemic, when educators expressed a clear concern about the marked inequalities generated by the lack of technological resources at home, thus demonstrating that the digital problem simultaneously encompasses infrastructural aspects and deficiencies in the techno-pedagogical training of both teachers and students.

The research by Cancela (2022) shows that existing disparities in access to devices and educational use of ICT have now become a structural problem in education, which requires the implementation of comprehensive measures to ensure true digital inclusion in all schools and family contexts. Finally, the study carried out by Morales (2017)—conducted with various educational agents in rural areas of Castilla y León—not only confirms the existence of these educational inequalities, but also underlines the need to consider not only material and connectivity factors, but also attitudinal and competence aspects of teachers and students in relation to the effective integration of these technologies into the teaching–learning processes.

In order to avoid such a digital divide, it is essential to create and implement public policies that ensure that all children and adolescents have the same opportunities to access and use the internet, regardless of the economic situation of their families or where they live (Fernández-Río et al., 2022). It is equally essential that teachers, through their pedagogical practices, help to create more inclusive educational environments and reduce inequalities (González-Rojas & Triana-Fierro, 2018), particularly through the use of ICT. In this way, any form of exclusion that arises from not being able to adapt to the new educational reality, in which digital technologies are a regular part of both the school environment and daily life, can be avoided (González-Benito et al., 2023; Vidal, 2021).

For all the above reasons, the general objective of this study is to examine the opinions and perceptions of different members of the educational community (in-service and trainee teachers in primary and secondary education, educational counsellors, and members of management teams in the same stages) regarding access to ICT in school contexts, with the aim of identifying and understanding the different types of digital divides that affect the teaching-learning processes and their impact on educational equity and inclusion.

2. Materials and Methods

2.1. Design

This study was carried out using a cross-sectional qualitative methodological approach. We chose to integrate qualitative techniques, such as semi-structured interviews and focus groups, which allow us to explore in greater detail the opinions and experiences that influence participants' responses (León & Montero, 2020), especially when dealing with social and educational issues.

2.2. Participants

The study had a sample of 89 participants from the Communities of Madrid and Castilla-La Mancha (59 women and 30 men), with a mean age of 32.7 years (SD = 12.3). The selected subjects represented different roles within the educational field, as follows: 43 in-service teachers in primary and secondary education; 39 trainee teachers for these stages; 5 educational counsellors; and 2 members of school management teams at both

educational levels. The sample was selected by means of non-probability purposive sampling. For the data collection, 13 focus groups (82 participants) were conducted, complemented by 7 semi-structured interviews (see Tables 1 and 2). According to Creswell and Creswell (2018), in qualitative research there is no fixed rule for determining sample size, as it depends on the specific research design and objectives. In this sense, the number of participants in this study was considered appropriate given the aim of exploring diverse perspectives within the educational community regarding digital inclusion and exclusion. The composition of the sample allowed for a broad range of viewpoints and experiences, thus contributing to the richness and depth of the data collected. The focus groups were formed by in-service and trainee teachers from both educational stages, while the interview participants were educational counsellors and members of the school management teams from both educational stages.

Table 1. Sample of Interview Participants.

Educational Counsellors Interviews	**Gender**	**Type of School**	**Educational Stage**
ECI. 1	Woman	State	Primary
ECI. 2	Woman	State	Secondary
ECI. 3	Woman	State	Secondary
ECI. 4	Man	State	Primary
ECI. 5	Man	Charter	Secondary
School Management TeamsInterviews	**Gender**	**Type of School**	**Educational Stage**
SMTI. 1	Woman	State	Primary
SMTI. 2	Man	Charter	Secondary

Note: ECI: interview with educational counsellor; SMTI: interview with member of school management team.

Table 2. Sample of Focus Group Participants.

Trainee Teachers Focus Group	**Gender**	**Educational Stage**	**Participants**
FG. 1	Mixed	Primary	8
FG. 2	Mixed	Primary	7
FG. 3	Mixed	Primary	6
FG. 4	Mixed	Secondary	6
FG. 5	Mixed	Secondary	6
FG. 6	Mixed	Secondary	6
In-Service Teachers Focus Group	**Gender**	**Educational Stage**	**Participants**
FG. 7	Mixed	Primary	7
FG. 8	Mixed	Primary	6
FG. 9	Mixed	Primary	5
FG. 10	Mixed	Secondary	8
FG. 11	Mixed	Secondary	5
GF. 12	Mixed	Secondary	7
Specialist Inclusion Teachers Focal Group	**Gender**	**Educational stage**	**Participants**
FG. 13	Mixed	Primary	5

Note: FG: focus group.

2.3. Instruments

The data collection in this research was carried out at a single point in time, using the interview and the focus group as data collection techniques. A script was designed based on thematic blocks, although neither the questions nor their sequence were rigidly established. The research team guided the conversations towards the relevant topics included in the script but allowed the participants to express themselves freely. The thematic blocks that structured both the interviews and focus group discussions were as follows: general perceptions of ICT in relation to educational inclusion; a critical analysis of whether ICT tools can reinforce exclusion; and the identification of current inequalities related to access to and the use of ICT in educational contexts. Specifically, guiding questions included "Do ICT promote educational inclusion?", "Can ICT generate or reinforce exclusion?", "Are there currently digital divides in the educational sphere?", and "What types of divides exist?", among others. On the one hand, focus groups allow for the identification and understanding of problems, opinions, and concerns of participants in relation to a specific topic, through the exchange of ideas and dialogical interaction (Barbour, 2013). Each focus group involved between 5 and 8 participants, a range that is adequate to ensure the effectiveness of the exchange (Porto & Ruiz, 2014). On the other hand, interviews are a key tool for collecting data when seeking subjective and in-depth perspectives of the actors involved (Hernández-Sampieri & Mendoza, 2018).

2.4. Procedure

The data collection phase was carried out virtually through the Zoom platform. The interviews were conducted between August and September 2024, while the focus groups took place between October 2024 and March 2025. Each session was video-recorded and then transcribed verbatim for analysis. Participation in the study was completely voluntary, guaranteeing the anonymity of those involved at all times. Informed consent was obtained digitally via a Google Forms link from all participants prior to the start of their collaboration.

In order to carry out this study, and in accordance with the ethical principles governing scientific research, prior approval was obtained from the Research and Teaching Ethics Committee of the Faculty of Education of the Universidad a Distancia de Madrid (code JL20240723). The formation of the focus groups was made possible thanks to the collaboration of the University of Alcalá de Henares and the Universidad a Distancia de Madrid, in relation to the trainee teachers.

2.5. Data Analysis

The analysis was conducted through an inductive process, enabling a progression from participants' thoughts, experiences, perceptions, and opinions toward the development of more abstract ideas and conceptual categories (Urzola, 2020). To support this process, qualitative data were transcribed verbatim and processed using the ATLAS.ti software (version 25), which facilitated systematic coding and subsequent content analysis. The use of verbatim transcription—where participants' words are reproduced exactly as spoken, without grammatical or stylistic adjustments—is a well-established practice in qualitative research. This approach preserves the authenticity and fidelity of participants' discourse and contributes to the credibility of the analysis by ensuring the most accurate possible representation of what was expressed during the interviews and focus group discussions (Amezcua, 2022; Poland, 1995).

The qualitative data, transcribed verbatim, were processed in the analysis programme ATLAS.ti (version 25), allowing for coding and subsequent content analysis. In order to preserve the fidelity and authenticity of participants' discourse, the transcripts included in this study were produced in a literal manner. This approach, known as verbatim,

involves the exact reproduction of participants' words, without grammatical or stylistic modifications. This practice, which is common in qualitative research, aims to ensure the credibility of the analysis by providing the most accurate possible representation of what was expressed during interviews or focus group discussions (Amezcua, 2022; Poland, 1995). Three main categories were considered: (1) digital divide due to the lack of access to devices; (2) digital divide due to the lack of connectivity; and (3) digital divide due to usability and quality. To maintain the participants' anonymity, a coding system was used for the verbatim transcriptions (see Table 1), in which each code specifies the interview or focus group number, the gender of the participant, and an identifying number that replaces the name (e.g., FG5.W.1, ECI.W.3, or SMTI.W.1). Moreover, the text placed in square brackets includes clarifications or additional notes made by the research team.

3. Results

3.1. Digital Divide Due to the Lack of Access to Devices

The data collected reveal a shared concern about the inequalities that emerge from the use of ICT in educational contexts. The participants recognise that, while these tools offer great potential for personalising learning, access to them is sometimes inequitable within and, above all, outside the school context. Therefore, if appropriate measures are not taken, their use may lead to exclusion among students.

Trainee teachers at both educational stages (primary and secondary) express particular concern about the need to ensure that all pupils have access to technological devices in the classroom. They fear that the lack of technological resources in certain sectors of the student body could lead to situations of exclusion, limiting their opportunities for learning and participation in school activities. In an increasingly digitalised educational environment, this technological gap could accentuate pre-existing social inequalities, negatively affecting both academic performance and the integration of students into the group.

> There is a digital divide, so the truth is that not everyone can afford it [devices]. FG2.W.5

> If the tablets are not provided by the school, it's as if you were excluding those who can't afford them. FG3.W.6

> If the school provides the devices, inclusion will be real, but the truth is that if there is inequality among the students, since some can have tablets and others cannot, then it does exclude and does not encourage inclusion. FG4.W.4

It is also recognised that the incorporation of digital resources should not only be limited to the school environment but should also be ensured outside school hours. Otherwise, there is a risk that existing inequalities will deepen even further, especially affecting those with fewer resources. It is therefore essential to promote policies that allow students to access and use ICT both inside and outside schools. This is the only way to move towards a truly inclusive and equitable education that is able to meet the diverse needs of all students.

> There are still students who do not have a computer or similar. The digital divide still exists. So, we have to be very careful here. It is in that sense that sometimes it can favour inclusion or exclusion. FG6.W.2

> It may be that the school provides technological devices, but if it doesn't, it is necessary to guarantee that their use does not exclude those who don't have access to them. FG5.M.3

> There are times when, for example, some children cannot afford a tablet or an application to do an activity that is proposed to them. So, it seems to me that in this context, it is not inclusive at all. FG2.W.1

> So, the fact that they use them [technological devices] in computer classes at school seems fine to me because everyone is provided with one, but at home it's a different matter. It depends a lot on the financial situation of each family and, consequently, in these cases the use of digital devices could create exclusion. FG6.M.1

The rest of the members of the educational community (in-service teachers at both educational stages, educational counsellors, and members of the school management teams) express a common concern about the inequalities that emerge from the use of ICT for inclusive purposes in educational contexts. The need for educational institutions to adopt a proactive role in the provision of technological devices is underlined, in order to prevent digitalisation processes from deepening socio-economic inequalities. It also raises the urgency of addressing the digital divide through access as a structural condition that directly affects educational equity and the possibility of building truly inclusive classrooms.

> Information and communication technologies are tools that can improve inclusion and can worsen it if they are not inclusive, in the sense of being accessible to all students. FG11.M.1

> We have to be careful with the digital divide. ICT is a very good tool, but I think it also separates us much more and differentiates us more from each other; this classmate can have access to it however another one cannot. Schools should take the digital divide into account. FG7.W.2

> And I have to think about what to do with the student who doesn't have access [to digital devices]. Well, there emerges a gap, a difficulty that schools have to take into account. What you can't do is that the lack of access to this technology deprives the pupil of some kind of useful resource. Once you solve that in the school, ICT favours inclusion. At home it would be a different matter. SMTI.M.2

> So, is using ICT inclusive? Well, there is the digital divide. Within the school environment, it does benefit inclusion, if the school gives each pupil access to the devices, but outside school we are excluding a part of minorities that do not have access to this technology. FG13.W.5

3.2. Digital Divide Due to Lack of Connectivity

Participants emphasised that the existence of technological resources in educational institutions and at home does not guarantee digital equity in itself. They underlined that inequalities can persist both outside and inside the school environment, especially in rural or vulnerable contexts where internet access is limited or non-existent.

With participants from two different autonomous communities, the results revealed contrasts in terms of the digital divide regarding internet access. While participants from Castilla-La Mancha expressed significant concern about the difficulties of connectivity, either because of a lack of connectivity or because connectivity was not good enough, largely attributed to the high proportion of rural areas, this problem was not equally emphasised by participants from the Community of Madrid.

> There are villages that don't have internet access. Here in Guadalajara, there are a lot of places. FG1.M.4

> In these areas, there may be pupils who don't have access to the internet, or the access is not good enough to work. FG4.W.1

> I mean, I can have a computer at home that works really well, that has the latest PowerPoint. However, there may not be a good connection where I live. FG2.M.6

> For example, in Guadalajara there are a lot of villages that don't have good internet access. FG1.W.3

The testimonies collected in the study reflect the economic limitations faced by some households in accessing an internet connection. This situation, associated with contexts of socio-economic vulnerability, represents a significant obstacle to guaranteeing equity in teaching and learning processes, as it restricts the continuity of digital access outside the school environment. The inability to afford basic connectivity services accentuates educational inequalities and reinforces the need to adopt institutional measures to ensure effective digital inclusion.

> I can have a school with a fabulous digital classroom, a cool Moodle, that works but I have to make sure that my students have access to that digital classroom when they get home. SMTI.M.2

> The fact is that a home that is not digitised in the 21st century is like a home without hot water or a gas cooker; it's almost like living in substandard housing. But the truth is that there are some homes without internet connection. FG8.M.2

> I have come across some cases where they have come to the guidance department to say I can't do my work because I don't have this, or I don't have a computer, or I don't have a connection. . . I do it from my mother's mobile phone and it does not work very well. FG13.W.1

> There are people who unfortunately have to choose between eating or buying a device or paying for a connection. So, if they use it in the IT class, I think it's fine because it supplies everyone, but at home it's a different matter, it depends a lot on the financial situation of each family. FG12.W.2

> I come from a very poor neighbourhood, my parents are poor [. . .]. And in that neighbourhood there are only one or two mobile phones for the whole house and there is no Wi-Fi. And sometimes the kids have to use those mobile phones to do their homework or study. FG5.M.2

3.3. Digital Divide Due to Usability and Quality

The results of this research show that the digital divide is not only expressed in terms of access to devices or connectivity, but also in the competencies necessary for effective and pedagogically meaningful use of technologies. The participants point out that there are marked inequalities in digital skills among both students and teachers.

In this regard, it is noted that some in-service teachers, particularly older teachers, face difficulties in integrating ICT smoothly into their teaching practice, which limits their inclusive potential. Furthermore, there is evidence of an inappropriate use of technology by some in-service teachers, who, despite implementing the latest generation of digital tools, do so without a clear didactic orientation. This situation not only prevents a real improvement in the teaching–learning processes, but also, in some cases, contributes to the exclusion of students who are unable to keep up with the pace imposed by activities that are excessively technified or poorly adapted to their needs. Thus, the importance of continuous teacher training that is not limited to the technical mastery of ICT, but which integrates a pedagogical dimension centred on equity and educational inclusion, is emphasised.

> Then you have the skills. For example, I can be very good at using that tablet, but you yourself may not have that skill. So, there is inequality. FG1.M.2

> Well, when it comes to using the tablet, I think we still lack training for teachers. I'm also talking about my experience in our schools here in Spain, where the younger generation may not have so many difficulties. But then, I worked with some colleagues who are a bit older, and I noticed that they had a lot of difficulty implementing technology. And the other group [younger teachers] did implement it. FG4.M.3

> Until ICT is not well mastered by teacher [. . .] it is like an exclusion tool, because teachers often, I have seen it and luckily, I don't think I have reproduced it, but I have seen it, teachers who go crazy with technology. They spend all day in the computer classroom, without considering students´ technological level and this makes students get lost. FG10.W.5

Some teachers, both in-service and trainee teachers, highlight an interesting contradiction: although students are familiar with the use of social networks and mobile devices, many lack basic digital skills applicable to the educational context. The lack of functional knowledge limits their autonomy and effective participation in digital activities.

> But it is also the case that students themselves, outside of social networks, are also lacking in computer literacy. At least what I see is that they don't know that control C, control V is for copying and pasting. Then the lessons, at least in my experience, slow down, they don't go as fast or as well as you would expect. FG10.W.1

> But I think that to state that ITC is a real help for inclusive education we [as students] would also need to have technological skills. I, for example, am terrible with technology, I mean, I've had trouble getting into Zoom, I mean, that's all I can say. FG3.W.7

4. Discussion

Attaining genuinely inclusive education entails providing equitable responses to the diverse needs of all students and ensuring their full participation in every dimension of school life (Booth & Ainscow, 2000; Simón & Echeita, 2013). Within this framework, the presence of ICT and inclusion in the educational sphere is currently unquestionable. They have consolidated as fundamental pillars of the education system and play an essential role in promoting quality education for all students (Calvo, 2009; Cuetos et al., 2020; Espinoza et al., 2018; Hernández, 2017; Pérez, 2020; Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura, 2014). The integration of ICT into the education system has opened up new possibilities for facilitating access to knowledge for all learners (Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura, 2014). However, as has been pointed out in the specialised literature, when addressing the use of ICT in education, the persistence of the digital divide cannot be ignored (OECD, 2001; Organización de las Naciones Unidas, 2015). For all these reasons, this paper has explored the opinions and perceptions of members of the educational community (active and trainee teachers, educational counsellors, and members of the schools' management teams) in relation to access to ICT in school environments, in order to identify the digital divides that affect equity and inclusion.

The existence of the digital divide materialises in inequalities that represent a major challenge (Vidal, 2021), as they can limit the learning opportunities of certain groups of students and, consequently, hinder the goals of educational equity and inclusion (González-Benito et al., 2023). While the use of ICT can favour inclusion, it can also deepen exclusion when equitable access is not guaranteed, especially for students from vulnerable socio-economic contexts. Therefore, public institutions must take into account the existence

of these digital divides and provide all educational centres with the necessary devices to avoid the exclusion they may generate (Fernández-Río et al., 2022), as well as design and implement policies that favour the effective and transversal integration of ICT within curricular plans and programmes (Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura, 2014).

The results obtained in this research show that members of the educational community are fully aware of the digital divide as a factor that can generate situations of exclusion within the school environment. The findings of this study reveal that members of the educational community recognise the digital divide as a structural factor that can contribute to exclusion within the school environment. This perception aligns with the observations made by the OECD (2001), which had already identified inequalities in access to and use of digital technologies as a significant challenge for education systems. It is particularly noteworthy that, more than two decades later, these concerns remain highly relevant, highlighting the persistence of the issue and the urgent need for more effective and sustained policies to ensure genuine and equitable digital inclusion. Along the same lines as the study carried out by González-Benito et al. (2023), it is evident that, at present, in the Spanish context, digital divides persist in relation to material access to technological devices or the internet and the lack of skills needed to use them effectively. These findings highlight the fact that teachers' concerns revolve around three digital divides: access to devices, access to the internet, and the ability to use them.

Regarding the first divide, trainee teachers, in both primary and secondary education, expressed the greatest concern about the digital divide affecting access to devices, pointing out that there are still students who lack access to computers, tablets, or the necessary applications to participate fully in school activities, especially outside school hours. The research carried out by Villao and Matamoros (2024) reaches similar results, noting that there are disparities in the perceptions of the educational community regarding access to devices, highlighting that while the vast majority have access to technological devices, it is important not to forget those who do not have these resources. Similarly, the study conducted by Rodicio-García et al. (2020) shows that, although most of the students stated that they had the necessary technological means available during the pandemic, a significant percentage indicated that they did not have the appropriate devices to follow classes during that period. Studies conducted in international contexts, such as the Czech Republic and South Africa, have yielded results that align with the findings of our study, highlighting the persistence of digital divides related to students' access to technological devices. In the research conducted by Mynaříková and Novotný (2021), 846 secondary school teachers were surveyed with the aim of identifying existing barriers related to ICT and their teaching practice. The majority of participants indicated that the lack of computers in schools represents a significant limitation to ensuring the inclusion of all students. Similarly, the study carried out by Chisango and Marongwe (2021) demonstrates that not all students have access to technological devices, which creates inequalities in access to ICT-mediated teaching and learning processes.

The existence of a gap in access to technologies should not be limited only to the lack of electronic devices; it should also include the lack of access to a proper internet connection or the lack of efficient connectivity. As evidenced by studies by Morales (2017) and Cancela (2022), it is not enough to have technological equipment; it is equally essential to have a stable and quality connection to ensure effective access to educational processes. The study conducted in Mexico by Baca-Pumarejo et al. (2018), based on a sample of 213 primary-school students, revealed that only 28% had access to a reliable internet connection, highlighting a significant limitation in access to digital learning environments. Similarly, Chisango and Marongwe (2021) reported that a considerable number of students

lack internet connectivity, particularly in certain regions, which exacerbates inequalities in access to ICT-mediated educational processes. Along the same lines, the members of the educational community interviewed in this research point out that, although it may seem surprising, at present many students still face serious difficulties in continuing their learning from home due to the lack of internet access or good connectivity. Given this reality, the urgent need to implement public policies and institutional interventions that guarantee real and sustainable digital inclusion through access to ICTs outside the school is emphasised (Gómez-Trigueros & Yáñez de Aldecoa, 2023).

As has been pointed out in the academic literature, both at the national and international levels (AlSadrani et al., 2020; Álvarez-Arraque et al., 2019; Cabero & Ruiz-Palmero, 2017; Vidal, 2021), the results of this research demonstrate the existence of a third dimension of the digital divide, linked to the training and technological skills of teachers and students. This form of inequality has been conceptualised as the quality gap or cognitive digital divide (Mora-Torrero, 2008), and highlights differences in the mastery and effective use of technologies for educational purposes. The participants' testimonies coincide in highlighting the importance of the appropriate use of ICT by both actors in the educational process: teachers and students. They point out that the mere availability of technological devices alone does not guarantee effective pedagogical use, given that significant differences persist in terms of individual digital competences. In this sense, full inclusion in technology-mediated educational environments cannot be limited to material access, but must also include sustained processes of training and educational support for the entire educational community.

The research provides relevant information on a topic of sustained interest in the educational field: digital divides and equitable access to ICT tools. Through the opinions expressed by the educational community, it highlights the importance of recognising and making visible the various existing digital divides, such as those related to access to devices, the internet, and quality of use. Identifying these inequalities is essential to promote policies and strategies aimed at eliminating them, in order to move towards a more inclusive and equitable education for all students. Moreover, this study holds particular national relevance, as it represents, to the best of our knowledge, the only research of its kind in Spain that comprehensively includes the majority of voices of the entire educational community: in-service teachers, pre-service teachers, school counsellors, and members of school leadership teams, from both primary and secondary education. This integrative perspective offers a more complete and representative understanding of the perceptions, concerns, and experiences surrounding the use of ICT within the Spanish educational system. The study also gathers contextualised testimonies that reflect a worrying educational reality that has persisted for decades (OECD, 2001), highlighting that, despite technological advances and the development of public policies in Spain, equitable access to ICT continues to be a current and urgent need for the educational community.

However, the research also has some limitations that should be considered: (1) the study's sampling is purposive and not representative; and (2) although it was emphasised that there would be no judgements on the participants' interventions and their sincere opinions were expressly requested, it is possible that these may have been influenced by social desirability bias. This potential bias is also connected to the limitations inherent in focus group dynamics, where the presence of others may discourage the open expression of dissenting or unpopular views. As a result, some participants might have withheld certain perspectives or adjusted their responses to align with perceived group norms; and (3) prior to the formation of the focus groups, participants were informed that the topic to be discussed would relate to inclusion. This may have influenced a self-selection process of participation in which individuals with more favourable views on the subject chose to

participate, thereby limiting the diversity of perspectives gathered and potentially biasing the study's findings. With a view to future research, and based on the results obtained in this study, it would be relevant to analyse, from a mixed approach, how students experience the digital divide and what it signifies to them in their everyday educational life. The results would make it possible to design protocols for the early detection of digital exclusion based on qualitative indicators, as well as to guide educational policies focused on digital justice beyond the provision of devices. Another future line of research could focus on deepening the analysis of the real impact of educational technologies on students with specific educational support needs. In particular, longitudinal research could analyse how the use of technological tools in the classroom influences their level of active participation, their academic performance, and their emotional and social well-being within the school environment.

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