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## Digital illiteracy and the myth of digital natives: unveiling realities and challenges

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### Abstract:

The rise of digital technologies has transformed society, but unevenly, creating a digital divide. Digital illiteracy persists, exacerbating inequalities and questioning the myth of 'digital natives', which assumes that young people naturally possess advanced digital skills. In reality, there are significant variations among young people in terms of digital skills. This is why it is crucial to reassess this concept and examine the barriers to accessing technology. This article highlights the need to put in place concrete strategies to improve the use of technology and prepare a workforce adapted to digital innovations. In this respect, education appears to be essential for building an equitable digital culture and developing the skills needed to prepare young people to use technologies competently and creatively, for both their personal and professional development.

**Keywords:** digital illiteracy, digital natives, digital divide, information and communication technologies, inequalities, education.

### Introduction

The advent of digital technologies has profoundly transformed contemporary society, changing our lifestyles, economic structures and social interactions. However, this evolution has not been uniform, leading to significant disparities often referred to as the digital divide. Moreover, digital illiteracy remains a persistent problem, exacerbating social, economic and sometimes even cultural inequalities. This calls into question the myth of the 'digital natives', which assumes that young people naturally possess advanced digital skills. This idea does not take into account the real disparities in digital skills and does not guarantee effective and innovative use of technologies.

It is therefore necessary to reassess these promising notions linked to the information society and to examine in depth the factors that may hinder access to new technologies. Similarly, it is crucial to develop concrete strategies to improve the use and appropriation of technologies, and prepare a workforce adapted to a labour market increasingly influenced by digital innovations. Enhancing digital skills is essential to avoid a worsening of economic inequalities, where those who master the technologies will have a considerable advantage, while others could find themselves at a disadvantage.

In this context, education is emerging as a key vector for building a solid and equitable digital culture and is the foundation on which to build and perfect digital skills, ranging from basic skills to more specialised knowledge such as cyber security or data management, while equipping them with the tools they need to adapt to the demands of an ever-changing labour market.

### Issues

The rise of digital technologies has significantly transformed modern society, but this transformation has not been uniform, leading to significant disparities known as the digital divide. The concept of 'digital natives' maintains that young people born in the digital age naturally possess advanced technological skills. However, this idea,

influenced by technological determinism, is being challenged by studies showing significant variations in the acquisition of digital skills among young people.

Manuel Castells, in "The Network Society" (1996), and Joel de Rosnay, in "The Macroscopic" (1975), highlight the transformative potential of information and communication technologies (ICT). Castells describes a society globalised by communication networks, restructuring social and economic relations. De Rosnay sees ICTs as tools for understanding and managing complex systems, amplifying human capacities. These perspectives highlight the impact of ICTs, but also raise questions about inequalities of access and use.

In this context, the digital divide reflects inequalities in technological access and skills, influenced by economic, geographical, educational and cultural factors (DiMaggio & Hargittai, 2001). For example, one study shows variations in access to and acquisition of digital skills among higher education students, limiting online learning, despite students' interest in ICT (Ikhlef, 2024).

In this respect, the idea that young people naturally possess digital skills can lead to inappropriate educational approaches. Indeed, although young people are often exposed to digital technologies, this exposure does not automatically translate into effective mastery of these tools, and students are mainly interested in using ICT for entertainment and social interaction, but on the other hand have limited skills in using ICT for learning and personal development.

It is also worth remembering that the myth of the "digital natives" is based on the belief that young people who have grown up with digital technologies have an intuitive and innate mastery of these tools. However, this perception is simplistic and does not take into account the significant variations in digital skills among young people. Indeed, Kirschner and De Bruyckere (2017) have shown that this homogenising view is flawed and that exposure to technologies does not guarantee a thorough mastery or ability to use these tools effectively and creatively. The consequences of this myth are particularly worrying in the field of education. By assuming that all young people have an innate digital competence, educators and educational policies risk neglecting the need to explicitly teach critical digital skills. This can lead to a gap between those who have learned to use technology productively and those who, despite frequent exposure, have not developed the skills needed to make full use of digital tools in an academic and professional context.

It is therefore crucial to recognise that exposure to technology does not automatically translate into effective proficiency, and to design educational programmes that explicitly incorporate the teaching of digital skills. By adopting this approach, we can better prepare young people to use technologies competently and creatively, not only for entertainment and social interaction, but also for their own learning and personal development. In addition, it will enable them to adapt to a labour market that is increasingly influenced by digital technologies, requiring a skilled workforce capable of navigating and taking advantage of technological innovations that are transforming labour markets and the skills required to succeed.

These global economic changes highlight the crucial importance of developing strong digital skills in young people. A gap in these skills can lead to increased economic inequality, where those who are technologically literate benefit from economic opportunities, while those who are not risk being left behind, further accentuating the digital divide.

It is therefore imperative that targeted educational initiatives are put in place to reduce the digital skills gap. This can include digital skills training courses from an early age, integrating technology into all areas of learning and promoting the responsible and critical use of technology. By doing this, we can prepare young people to integrate effectively into a digital world and promote a more equitable society where everyone can reap the benefits offered by modern technologies.

In this respect, education plays a crucial role in the acquisition of a solid digital culture, which is essential to prepare future generations to keep pace with technological transformations and reduce digital inequalities. It is therefore imperative to challenge the idea that young people are naturally competent in technology and to recognise that these skills need to be taught and developed systematically. On the basis of the above, this article aims to explore ways of combating digital illiteracy among young people and re-examining the concept of digital natives in order to prepare young people more effectively for future challenges and the digital economy.

## **Theoretical framework**

### **1. The concept of "digital natives": demystifying the myth... an absolute necessity**

The concept of 'digital natives' was introduced by Prensky (2001) to refer to people born after 1980 who are immersed in digital technologies and learn differently from previous generations. Prensky suggests that these individuals possess a culture of online connectivity and sharing, and that they are active, multitasking learners, preferring graphics to text. However, several researchers have challenged this idea, proposing a more nuanced analysis and emphasising the importance of education and other factors in understanding digital skills. Prensky's critics point to a lack of empirical evidence to support the idea that 'digital natives' inherently possess enhanced digital skills.

Indeed, Bennett, Maton, & Kervin (2008), Brown & Czerniewicz (2010), and Helsper & Eynon (2010) point out that age cannot be the only criterion for defining technological proficiency. In fact, factors such as technological availability, prior experience, self-efficacy and level of education play a crucial role in the acquisition of digital skills (Kennedy et al., 2008).

In order to analyse the concept of 'digital natives', it is essential to examine the research that highlights the gaps and misunderstandings surrounding this notion. The term 'digital native' is often used to refer to a generation born and raised in a digital environment, assuming that they naturally possess advanced technological skills. However, this simplistic idea does not do justice to the complexity of the interactions between technology and learning, or to the individual differences within this generation. As a reminder, Marc Prensky 2001 argued that young people born after the advent of the Internet have an intuitive understanding of technology. This idea led to the hypothesis that these individuals have an inborn digital competence. However, the use and appropriation of information technologies is not universal and depends essentially on socio-economic, educational and cultural factors.

By way of illustration, Helsper and Eynon (2010) showed that only a minority of students possessed advanced digital skills, while many needed significant help with basic technological tasks. On the other hand, studies show that access to technology and the ability to use it effectively are strongly influenced by socio-economic background. Young people from privileged backgrounds tend to have easier access to advanced technologies, as well as to digital learning opportunities, than those from less privileged backgrounds. This creates a digital divide that invalidates the idea of a homogenous generation of 'digital natives'.

Furthermore, Bennett, Maton and Kervin (2008) point out that young people are not necessarily critical and creative users of digital technologies. While they may be adept at browsing social networks and messaging applications, this does not mean that they have the skills to use technology productively and educationally. The myth of the 'digital native' ignores the need to teach critical digital skills and encourage the thoughtful use of technology. In this context, it seems clear that potential cognitive or behavioural changes can have negative as well as positive aspects, particularly in relation to learning. On the positive side, multitasking has been shown to improve multitasking performance on simple, repetitive tasks (Dux et al., 2009). However, multitasking has also been shown to have a negative impact on memory encoding and learning and to increase distractibility (Loh & Kanai, 2015; Moissala et al., 2016; Ophir, Nass, & Wagner, 2009; Trafton & Monk, 2007), leading to recommendations that students actively limit their multitasking during study (Judd, 2015; Rosen, Carrier, & Cheever, 2013).

For this reason, the misperception of young people as 'digital natives' has significant implications for education. By assuming that students already possess advanced digital skills, education systems may neglect the teaching of fundamental technological skills. This can lead to increased inequality, where only students with prior access to technology will reap the benefits of digital education (Ikhlef, 2023). A differentiated pedagogical approach is needed to ensure that all students acquire the necessary skills to succeed in a digital world. It is crucial to integrate digital education into the school curriculum in a systematic way, focusing on the critical and creative use of technology, rather than assuming inherent mastery. The myth of the 'digital native' simplifies the complex relationship between young people and technology. In reality, digital competence is not innate but is influenced by a multitude of social and economic factors. Electronic illiteracy thus becomes a reflection of the social and economic divide that persists in our societies, highlighting the fact that not all young people have the same opportunities to access and learn about technology.

## **2. Digital illiteracy: from the digital divide to the social divide**

Digital illiteracy, while appearing to be a relatively modern concept linked to the rise of digital technologies, is a subject that forms part of a much wider framework of social and economic inequalities. So, for a better understanding of this phenomenon, it is crucial to take into account all the socio-economic and cultural factors influencing digital illiteracy so that we can develop policies and strategies aimed at reducing existing gaps and promoting equitable digital inclusion (Billon et al, 2009).

In this respect, digital illiteracy is generally defined as the difficulty or inability to use digital technologies effectively, whether to access, understand, produce or evaluate information (Maroun, 2022). Thus, this phenomenon is not limited simply to a lack of access to the Internet, but also includes an inability to use digital technologies effectively. Basic digital skills, as defined by Eurostat (INSEE 2019), include finding information, communicating, solving problems and using software. Mastery of these skills remains uneven, especially among people without qualifications, which testifies to the complexity of the problem. According to Hargittai (2002), this notion (digital illiteracy) goes beyond the simple use of computers and the Internet to include the ability to navigate critically and productively in today's digital landscape. However, this skill is unevenly distributed across populations, a situation that can be explained by a combination of socio-economic, cultural and educational factors. Thus, digital illiteracy manifests itself in several complementary and overlapping dimensions, reflecting a diversity of skills and knowledge needed in today's digital society, which comprises three main dimensions:

#### **A. The technical dimension**

The technical dimension of the digital divide includes aspects such as the quality of the Internet infrastructure, the availability of digital devices, and the accessibility of software. Studies such as (Helsper, 2021) indicate that technical disparities play a crucial role in unequal access to digital resources. Similarly, complex user interfaces and the lack of content adapted to people with low literacy skills are significant barriers. It is therefore crucial to ensure that the design of applications is inclusive and accessible in order to overcome certain aspects of the digital divide and make them easier to use for people with low literacy skills. In this respect, Yardi et al (2010) remind us that the use of user-friendly technologies can improve digital inclusion and encourage the engagement of marginalised populations. In other words, this refers to the ability to use digital devices such as computers and smartphones, as well as basic software such as text processing and web browsing tools. This perception of illiteracy as a purely technical issue is reductive and needs to be broadened to include other critical aspects (Gonzales, 2015).

#### **B. The informational dimension**

Illiteracy poses significant barriers to accessing and using digital information. Illiterate people have difficulty understanding instructions, filling in online forms or using digital tools, which puts them at a disadvantage in a society where these skills are increasingly necessary. A study by Hargittai and Hinnant (2008) shows that people with limited literacy skills also have reduced digital skills, which prevents them from taking advantage of the opportunities offered by ICTs. This includes access to online education, digital health services and online employment, exacerbating existing inequalities. Indeed, according to Punie et al (2006), mastery of digital literacy is essential for full participation in modern society and for benefiting from the economic opportunities offered by digitalisation.

Also, the inability to access these opportunities exacerbates poverty and social exclusion, creating a vicious circle that is difficult to break. Finally, this dimension involves the ability to discern reliable information from false information, an increasingly crucial aspect in the age of fake news and disinformation. In addition, it is necessary to take into account the critical evaluation of online sources, which can mislead people, noting that many people, even those with a high level of formal education, have difficulty distinguishing credible sources (Wineburg & McGrew, 2017).

#### **C. The communication dimension**

Communication skills are crucial for interacting and collaborating effectively online. This includes not only the ability to use tools such as e-mail and instant messaging platforms, but also the ability to participate actively on social networks and other collaborative platforms. The creation and sharing of digital content have become essential skills for full engagement in the contemporary digital society (Walther, 1996), including the use of social media, which are now key tools for social and professional interaction. Active participation requires the competence to create and share content responsibly, to grasp the social dynamics specific to each digital platform, and to use them to develop personal and professional networks.

Thus, understanding the codes and implicit rules of social networks is therefore an essential skill for digital communication. For example, the ability to create digital content is fundamental to self-expression and active participation in our digital society (Jenkins et al., 2009), including the creation of blogs, videos, and other forms of media that enable people to influence and actively participate in digital discussions. Finally, understanding the

ethical implications of online communication is essential to using ICT responsibly, which manifests itself in understanding issues related to online privacy, security and identity.

## **2.1 Socio-economic factors: a pillar of unequal access to technologies**

In a world increasingly dominated by digital technologies, unequal access to these essential tools is a profound reflection of the socio-economic disparities that persist within modern societies (Darhouani, 2005). While information and communication technologies (ICTs) promise to connect people across borders and democratise access to information, the reality is often quite different. Socio-economic factors, such as income level, level of education and geographical location, continue to play a decisive role in whether an individual is able to take full advantage of the benefits offered by digital technology.

Those on the margins of this digital revolution risk being excluded not only from economic and educational opportunities, but also from the processes of civic participation and personal development (Wang, 2024). Thus, understanding how these socio-economic factors act as a pillar of unequal access to technologies is essential in order to develop effective policies aimed at reducing the digital divide and promoting equitable digital inclusion for all.

### **a. Economic factors: income and economic inequality**

One of the key determinants of digital illiteracy is economic income. Low-income households often have limited access to quality digital devices and a stable or high-speed Internet connection, which limits their ability to develop effective digital skills. According to Van Dijk (2005), the possession of digital technologies is directly linked to income level, with people on low incomes being significantly less equipped than those on higher incomes.

According to the report drawn up jointly by the International Telecommunication Union (ITU) and the UN (2022), the Internet penetration rate in low-income countries is 22%, compared with 91% in high-income countries. This gap is due to the economic conditions affecting access to digital connectivity, where the cost of data and devices remains prohibitive for many.

Then, the difference between urban and rural areas is marked by twice as much use in urban areas. Rural areas often lack adequate infrastructure, limiting access to stable connectivity. Efforts to improve rural connectivity are often hampered by logistical and economic challenges, leaving these areas lagging behind in terms of digital development. Another major divide concerns the gender gap. Overall, 62% of men use the Internet, compared with 57% of women. This gap is attributed to cultural, economic and educational barriers that limit women's access to technology. The generation gap is also notable. Young people aged 15-24 are more connected (71%) than the rest of the population (57%) (ITU, 2022).

Norris (2001) argues that unequal access to digital technologies exacerbates existing economic inequalities, creating a digital divide that not only reflects but also reinforces economic and social disparities. These inequalities can manifest themselves in different aspects of a country's development. For connectivity to be truly effective, it must be integrated into a broader framework encompassing several key areas. Firstly, governance is crucial; the establishment of equitable policies and appropriate regulations ensures responsible and beneficial use of technology. In terms of security, data protection and cyber security are essential to building trust in digital systems (Kirchner & Mé, 2019). In addition, the internet offers unprecedented opportunities for distance education and telemedicine, but it is essential to ensure that these services are accessible and of high quality. Digital connectivity can also act as a catalyst to improve transport infrastructures, facilitating mobility and access to resources. Finally, encouraging innovation and digital entrepreneurship is an effective way of stimulating economic and social development (Skouri & Aligod, 2022).

### **b. Cultural factors: Practices and beliefs influencing digital engagement**

Cultural factors play a key role in how individuals and groups access and use digital technologies. These factors include not only cultural practices and beliefs, but also cultural and social capital that influence digital engagement. These dynamics can create gaps in the way different social groups interact with the digital world (Ben Youssef, 2004).

The concept of cultural capital, developed by Pierre Bourdieu (1986), refers to the knowledge, skills and practices valued within a society. In the digital context, individuals from backgrounds where the use of technology is valued

are often more inclined to develop digital skills. This is because they have access to environments where digital learning is encouraged, such as well-equipped schools and homes where digital tools are frequently used.

In this respect, access to technology and the ability to use it are often shaped by families' cultural and economic capital. Those who grow up in a tech-savvy environment are more likely to develop an intuitive understanding of digital tools, giving them an advantage in today's digital economy (DiMaggio and Hargittai, 2001).

In this context, social capital, made up of networks and relationships, plays a crucial role in the acquisition of digital skills by facilitating access to information and resources. People with good social connections can obtain advice, support and resources from their networks, enabling them to navigate the digital world effectively. Individuals who are integrated into digital communities or actively participate in online forums often have a better understanding of digital tools and online practices (Ellison et al., 2007). Active engagement in these communities therefore improves digital skills. Social networks therefore appear to be important media and channels for collaborative learning, where users share their digital knowledge and experiences (Proulx, 2006).

According to Selwyn's (2004) observations on intergenerational perceptions of technology, younger generations who have grown up with digital technologies tend to be more comfortable with these tools, while older generations may have difficulty adapting. Adding that this generational difference can be seen in everyday situations, where young people are often called upon to help their elders use smartphones or computers, highlighting the gap in technology literacy.

In this context, Ollier-Malaterre (2018) introduces the concept of technological cultural capital, highlighting how class privilege and socio-economic factors influence this capital. These elements determine the ability of individuals to navigate digital environments effectively and safely. Finally, cultural factors also influence the adoption of collaborative technologies. Collectivist values, in particular, can encourage this adoption, thereby strengthening social ties.

### **3 Digital illiteracy: an economic and social barrier in a digital economy**

The impact of digital illiteracy on individuals is inextricably linked to global economic transformations and the rise of the digital economy. With globalisation and the increasing digitalisation of the economy, digital skills are no longer just an asset, but a fundamental necessity for active participation in the labour market. As Van Deursen and Van Dijk (2014) show, those who master digital technologies have access to better paid and more stable jobs, highlighting a direct relationship between digital skills and economic mobility. This is particularly relevant in a labour market where, according to Frey and Osborne (2017), automation and digitalisation are radically changing the requirements of modern jobs, exacerbating social fractures for those who fail to adapt. What's more, digital illiteracy goes beyond the economy and also affects the civic and social dimension. Access to digital information is essential for active civic participation (Mossberger et al., 2003). The absence of these skills can lead to political marginalisation, where individuals find themselves excluded from crucial discussions on public policy.

Finally, as discussed by Jaeger and Bertot (2010), the widespread adoption of e-government demonstrates that inability to use digital services restricts access to public services and reduces democratic participation. This underlines the fact that digital illiteracy is not only an economic barrier but also a barrier to social and political inclusion, creating a double exclusion: economic and civic.

#### **3.1 Digital illiteracy and economic exclusion**

Digital illiteracy has a direct impact on access to the labour market, as digitisation has changed the skills required in many economic sectors. Studies by Van Deursen and Van Dijk (2014) show that digital skills are essential for access to well-paid, stable jobs. Indeed, the lack of digital skills considerably limits the possibilities of accessing skilled jobs, thus increasing the risk of unemployment or underemployment among individuals affected by digital illiteracy.

The modern labour market increasingly requires basic digital skills, not only for jobs in the technology sector, but also in areas such as finance, healthcare, and even agriculture, which are adopting advanced technologies to improve efficiency and productivity.

In this specific context, Frey and Osborne (2017) studied the impact of automation on the labour market and concluded that the jobs most vulnerable to automation are those that require few digital skills, which has the effect of widening the social divide for individuals who do not have the means to develop these skills.

Digital transformation has profoundly altered the demands of the labour market in developed countries. According to the Organisation for Economic Co-operation and Development (OECD), around 55% of adults in these countries lack the basic digital skills needed to function effectively in a modern, digitally-driven economy. For example, a study in Europe found that individuals with high digital skills have an unemployment rate of only 3.5%, compared to 9.9% for those with low skills.

This underlines the extent to which mastery of digital tools is crucial to maintaining stable employment and avoiding unemployment. In the European Union, around 42% of workers lack these basic skills, meaning that a significant proportion of the workforce could be replaced by machines or automated processes, increasing the risk of unemployment. The wage gap between skilled and unskilled workers has also widened. In the US, for example, workers with advanced digital skills earn an average of \$22 per hour, compared to \$15 for those with only limited skills. Frey and Osborne (2017) estimate that 47% of jobs in the US are threatened by automation in the next two decades, affecting sectors such as logistics, administration and even healthcare, which could further exacerbate the social divide.

In developing countries, the impact of digital illiteracy is even more pronounced, reinforcing economic inequalities. Only 19% of people in low-income countries have access to the Internet, compared with 87% in high-income countries (Razafindrabe, 2023), and this disparity in access directly limits the economic opportunities available to a large proportion of the population. In emerging economies, the informal sector occupies an important place, which leads to a disengagement on the part of local populations in the acquisition of digital skills, which are generally not necessary, thus reducing their ability to migrate towards more formal and better paid jobs.

### **3.2 Digital illiteracy and social exclusion**

Beyond the economy, digital illiteracy also limits access to information and restricts civic participation. In a world where information is mainly disseminated via digital platforms, the inability to access this information leads to exclusion from crucial public debates, with direct implications for democratic life. Mossberger et al (2003) highlight the fundamental role of digital skills in active and informed citizen participation.

Many governments are adopting digital solutions to deliver more efficient and accessible services, but this can pose a problem for those who are not digitally literate. Jaeger and Bertot (2010) highlight the impact of e-government and warn of the inability to interact with these services, leading to unequal access to public services and exacerbating the social and political marginalisation of those who are not connected. These barriers reinforce existing inequalities; as digitally illiterate individuals are deprived of the benefits of full participation in society.

In developed countries, access to digital information has become an essential pillar of citizen participation and civic engagement (Greffet & Wojcik, 2014). According to a study conducted in the UK, 74% of citizens who use the Internet to find out about elections are more likely to vote, compared with only 48% of those who do not (British Election Study, 2020). Around 68% of EU citizens use online services to interact with public administrations, but 30% encounter difficulties due to a lack of digital skills. Online government services are used by 56% of citizens in the United States, but a report shows that 25% of older people and 15% of people on low incomes do not have the necessary skills to access these services (European Commission, 2020). An OECD study shows that 38% of adults lack the skills to identify reliable information online, which affects their ability to participate fully in public debates (OECD, 202019).

In developing countries, civic exclusion due to digital illiteracy is exacerbated by limited infrastructures and restricted access to education. Only 11% of the population in sub-Saharan Africa uses the Internet for civic activities, compared with 65% in North America (BCG Global, 2022).

This low rate of use restricts participation in democratic processes and political debates. A World Bank report (2022) indicates that 57% of citizens in low-income countries do not have access to online government services, exacerbating social and political exclusion. In developing countries, individuals who have access to digital media are 32% more likely to participate in community and political activities than those who do not. In countries such as India, where the government is pushing for greater digitisation of public services, 40% of the rural population remains unconnected, creating a gap in access to government resources and opportunities (World Bank, 2022). A UNESCO study (2018) reveals that digital illiteracy contributes to the exclusion of 23% of women from civic and political activities in developing countries, compared to 15% of men.



On the basis of the above, the two forms of exclusion caused by digital illiteracy - economic and civic - illustrate the profound inequalities between developed and developing countries. While in advanced economies a lack of digital skills can limit personal economic growth and civic inclusion, in developing countries it represents an even greater barrier to accessing information, education and economic opportunities.

The concept of "digital natives" cannot be true because of the complexity of the issues surrounding technological illiteracy. The latter is palpably evident in the statistics relating to the employment and employability of these young people. However, this idea has been challenged by several researchers, who stress the importance of education and other factors in understanding digital skills. Bennett, Maton, & Kervin (2008), Brown & Czerniewicz (2010), and Helsper & Eynon (2010) argue that age cannot be the only criterion for defining technological literacy. Factors such as technological availability, prior experience, self-efficacy and level of education play a crucial role in the acquisition of digital skills (Kennedy et al., 2008).

This simplistic idea does not do justice to the complexity of the interactions between technology and learning, or to the individual differences within this generation.

Furthermore, access to technology and the ability to use it effectively are strongly influenced by the socio-economic context.

Young people from privileged backgrounds tend to have easier access to advanced technologies and digital learning opportunities than those from less privileged backgrounds. This creates a digital divide that invalidates the idea of a homogenous generation of 'digital natives'. Also, the myth of the "digital native" ignores the need to teach critical digital skills and encourage thoughtful use of technology.

This misperception of young people as digital natives has significant implications for education. By assuming that students already possess advanced digital skills, education systems may neglect the teaching of fundamental technological skills, leading to increased inequality, where only students with prior access to technology will reap the benefits of digital education (Ikhlef, 2023).

Therefore, a differentiated pedagogical approach is needed to ensure that all students acquire the skills necessary to succeed in a digital world. It is crucial to integrate digital education into the school curriculum in a systematic way, to which end it is essential to implement specific educational schemes in the education sector.

#### **4. The role of education in combating digital illiteracy among young people**

Digital illiteracy is a major challenge in our increasingly connected society. This phenomenon is particularly worrying among young people, who mainly use social networks without fully exploiting the potential offered by digital tools. To remedy this situation, education plays a crucial role through specific educational approaches and inclusive policies.

First and foremost, schools need to include basic digital skills from an early age, including an understanding of word processing software, spreadsheets, presentation tools and search engines.

According to an OECD study (2015), students who have received training in basic digital skills are better prepared for the labour market. As students progress, they need to learn advanced skills such as programming, cybersecurity and data analysis. As an example, Estonia has integrated programming into its curriculum from primary school, and this has led to a significant increase in digital skills among young people (Tiigi, 2019).

Young people therefore need to be trained to use technology critically. This includes assessing the reliability of online sources and understanding the ethical and social implications of technology use. Helsper and Eynon (2010) highlighted that only a minority of students have critical technology skills, underlining the need for more robust education in this area. Encouraging young people to use technology creatively, for example through coding projects, graphic design, or the production of multimedia content, these initiatives have shown that teaching programming plays an active role in stimulating creativity and problem-solving (Resnick et al., 2009).

In this respect, governments must ensure that all pupils have access to modern technologies and a reliable Internet connection. For example, the "One Laptop per Child" programme has provided affordable laptops to millions of children in developing countries, reducing the digital divide (Kraemer, Dedrick & Sharma, 2009).

Adequate teacher training is essential for effective digital education. In Finland, a country often cited for its successful education system, teachers receive ongoing training in digital skills, resulting in effective use of technology in the classroom (Sahlberg, 2011).

In addition, the creation of community centres where young people can access digital resources and receive training can also help to reduce digital illiteracy. For example, with the aim of reducing digital illiteracy in Kenya, the

Kenyan government has set up centres called "iHubs". These centres offer a digital space for young people, encouraging technological entrepreneurship while stimulating innovation and learning (Gathege & Moraa, 2013). In the same context, a survey by the Association for Supervision and Curriculum Development (ASCD) (2021) found that schools with integrated digital skills programmes saw a 15% increase in student pass rates in science and technical subjects. In some education systems, the focus on digital learning can be unevenly distributed, with schools in more affluent areas often offering better digital learning programmes and more advanced teaching resources. This disparity creates a double exclusion, both economic and social, reinforcing digital illiteracy. Katz and Gonzalez (2016) have shown that integrating digital training into school curricula is essential for reducing this illiteracy.

However, other studies focus on the impact of inequalities in technological equipment on academic performance. Huang and Russell (2006) confirmed that individual differences in equipment had a direct impact on educational outcomes. Experimental research by Malamud, Cueto, Cristia and Beuermann (2019) found that Internet access had no significant impact on adolescents' maths and reading scores, which was consistent with the findings of Fairlie and Robinson (2013). However, Pearce (2020) found that teenagers from disadvantaged communities lagged significantly behind academically compared to those who could afford to buy and maintain the latest digital devices.

The complexity of the phenomenon of digital illiteracy has been the subject of numerous studies, which have focused on various indicators making up the concept of digital inequality proposed by DiMaggio et al (2004), which includes the environment, the family and the school.

These studies provide essential information for a deeper understanding of digital inequality in education (Hargittai & Hinnant, 2008; Mossberger, Tolbert, & Stansbury, 2003). These studies also highlight the complexity of the relationship between technology and academic performance. It shows that improving academic results cannot be limited to simple access to the Internet or technological equipment, and insists on the adoption of a more holistic approach, integrating the quality of equipment, the pedagogical use of technology and support for pupils in different contexts in order to remedy and combat digital illiteracy.

In this respect, education seems to be a fundamental catalyst in the fight against digital illiteracy, particularly among young people who mainly use social networks. This calls for education policies that take account of these multiple dimensions in order to reduce inequalities and improve learning.

#### **4.1 Combating digital inequalities in education: approaches and solutions for equitable learning**

The education system has the capacity to reduce digital inequalities by implementing targeted measures and creating an inclusive and technological learning environment. By tackling the various aspects of digital inequality, ranging from access to equipment to training and family support, schools can play a key role in ensuring that all pupils have the same opportunities to succeed in an increasingly digital world. These measures can take the following forms:

1. Providing schools with digital equipment, such as laptops or tablets, for pupils who do not have them. Providing free Wi-Fi access in schools and surrounding community spaces can help to reduce disparities in internet access.
2. Continuous training for teachers in the use of educational technologies to maximise their pedagogical potential, and to integrate digital literacy programmes into the school curriculum so that all pupils develop the skills needed to use digital technologies effectively.
3. Organising workshops to help parents understand and use technology, enabling them to better support their children's learning at home. Work with local organisations to provide technology resources and training for disadvantaged families.
4. Creating dedicated digital learning spaces in schools, equipped with modern technology and accessible to all pupils. Provide ongoing technical support to help students and teachers solve technological problems quickly.

5. Implementing digital libraries accessible to all pupils, offering a wide range of educational resources and software. Also, the implementation of online tutoring programmes to offer additional support to students with difficulties, using interactive digital platforms.
6. Mentoring programmes where older students or community volunteers help students develop their digital skills and navigate online resources.

### **Conclusion**

In conclusion, digital illiteracy is a major economic and social barrier in an increasingly digital society. Digital skills are now essential not only for access to well-paid, stable jobs, but also for active participation in civic life. In exploring the concept of 'digital natives', it has become clear that this remains a myth, as it fails to take account of the real disparities in digital skills among young people. Age alone is not enough to determine technological mastery; the acquisition of a digital culture capable of ensuring economic and civic integration depends on a multitude of factors, including the environment, the dominant culture and the family's socio-economic level.

In order to bridge this digital divide, it is essential to implement inclusive educational strategies that incorporate the explicit teaching of digital skills from an early age. This involves ongoing teacher training, equitable access to modern technologies and a differentiated pedagogical approach to ensure that all pupils can develop the necessary skills. Education must play a central role in enabling every individual to successfully navigate an increasingly digital world, thereby reducing economic and social inequalities.

Finally, by adopting appropriate educational policies and tackling the various aspects of digital inequality, we can create an equitable digital culture and prepare young people to use technologies competently and creatively for both their personal and professional development, contributing to a more inclusive society where everyone has the opportunity to participate fully in the digital economy and civic life.

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