# CHALLENGES OF UNIVERSITY EDUCATION IN THE 21ST CENTURY: MEDIA LITERACY AND DIGITAL INCLUSION

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## 1 | INTRODUCTION

In the 21st century, higher education faces a series of challenges and opportunities in an increasingly digitalized and connected world. Digital education and media inclusion have become two key aspects to ensure a comprehensive and equitable education in this context. Therefore, university education in the 21st century must be disruptive and transformative. Its goal should focus on preparing students to face the challenges and opportunities of a digitalized world. It should help them develop skills and abilities to navigate a reality that is constantly changing and, to some extent, uncertain. In this regard, digital education and media inclusion become powerful tools to achieve this objective. Through comprehensive training that integrates technology, media literacy, and critical thinking, higher education institutions can cultivate informed, responsible, and participative citizens.

University education, by virtue of the role it plays as the culmination of personal preparation, holds substantial importance. It is considered empowering for a reason, providing the necessary foundation for personal and professional development. As a fundamental right, education not only carries its own intrinsic value but also activates other fundamental rights in society. Particularly when it comes to higher education, the responsibility intensifies, as it, like any human activity, is in constant transformation to adapt to the new paradigms presented by society.

Consequently, it is no surprise that higher education has undergone significant changes and evolutions in relation to the integration of information and communication technologies into its daily practice. Technological advancements, such as the use of Artificial Intelligence, new educational models like B-learning, and the widespread use of technological devices

(computers, mobile phones, tablets, smart TVs), present unprecedented challenges. These challenges are not only pedagogical and related to the formal curriculum but also involve fundamental aspects such as media literacy and digital inclusion.

## 2 | CURRENT PARADIGM OF UNIVERSITY EDUCATION.

In this context, it is essential for academia to understand and address these challenges appropriately. The implementation of digital education in higher education institutions is no longer just a matter of educational innovation; it has become a necessity. However, caution is required, as incorporating technology into teaching and learning processes involves a deep analysis of the purpose for doing so. It is not enough to simply use technology; we must define why and how to use it. I agree with Sánchez, Escamilla, and Moreno (2021) when they state:

"We must not be swayed by the mirage of current digital devices and the practically infinite amount of hardware and software to which teachers and administrators are exposed, without first engaging in a deep reflection on why we need these tools and how we can integrate them into the dynamic educational process."[1]

Knowledge and values are the two foundations on which the programs developed by and for digital education should be built. Similarly, technology should be used thoughtfully, as W.B. Arthur (2009) points out, current technology is in its third level of development. This level involves the accessibility of devices and engineering practices in society on an everyday, permanent basis. The first level refers to when technology is used to meet a basic need (e.g., iron, microwave, television). The second level occurs when technology is seen as a set of tools and components created and used for specific purposes (ICT). The third level, to which we now refer, views technology as a collective activity (integrated into daily life).

Digital education refers to the use of digital technologies in teaching and learning processes. In a world where information and knowledge are just a "click" away, higher education institutions must adapt to this change and leverage digital tools to enhance the educational experience. The incorporation of electronic devices, online platforms, multimedia resources, and interactive applications enables more dynamic, accessible, and collaborative learning. Thus, according to W.B. Arthur's theory, we stand at the threshold of the third stage and the consolidation of the second stage concerning technological development in education.

However, for digital education to be effective, media inclusion must be addressed (a key part of the previously mentioned third stage). Media inclusion refers to individuals' ability to access, evaluate, and critically use media and information. In a world saturated with information, it is crucial for students to develop skills to filter, analyze, and discern the

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1 Sanchez, Escamilla, Moreno (2021) La naturaleza de las innovaciones educativas. Innovación educativa en educación superior: Una mirada 360.

truth and relevance of the information they encounter online. Media literacy thus becomes a fundamental competency in forming critical, responsible, and participative citizens.

Digital inclusion, on the other hand, refers to ensuring equitable access to technology and the opportunities it offers. Both aspects are essential to ensuring that university students are prepared to face the challenges and seize the opportunities that this century presents.

Digital education and media inclusion must go hand in hand to guarantee a high-quality and equitable higher education. It is important for institutions to promote students' training in the responsible and ethical use of technology, as well as the development of critical thinking skills and media analysis. This involves encouraging conscious use of social media, identifying fake news, protecting personal data, and respecting intellectual property, while also promoting academic honesty and, consequently, ethical congruence.

Media inclusion is also linked to diversity and equity in access to and use of technology. It is essential for higher education institutions to work toward reducing the digital divide, ensuring that all students have access to digital resources and training in their use. Moreover, socioeconomic, cultural, and linguistic differences must be considered to guarantee inclusive and equitable education.

The hard data available worldwide is alarming in terms of digital exclusion, which compels us to propose solutions to foster digital inclusion and media literacy. In my opinion, this is the primary challenge for universities in this century. We must not only prepare young people with the knowledge related to the professions they wish to pursue but also equip them with the skills and abilities to navigate a world without digital borders. Additionally, we must create conditions that allow other members of society, who for various reasons are not part of the university community, to also benefit from this digital transformation.

## 3 I CHALLENGES: MEDIA LITERACY AND DIGITAL INCLUSION

One of the most pressing issues today is the digital divide, as it could lead to greater educational inequality, as we have unfortunately seen in other social areas, such as the workforce. The digital divide can be defined as the inequality in access to the Internet and the use of Information and Communication Technologies (ICT) among social groups. According to the Iberdrola S.A. website (a Spanish company), the digital divide affects 52% of women and 42% of men worldwide.[2]

The best way to minimize and eventually eradicate the impact of the digital divide is through digital literacy, which can be understood as:

"the learning process that enables a person to acquire the skills to understand and harness the educational, economic, and social potential of new technologies."[3]

In this regard, Marisol Flores Garrido, a professor at the National School of Higher Studies in Morelia, at the National Autonomous University of Mexico, notes that in order

2 Iberdrola (2023) La brecha digital en el mundo y porque provoca desigualdad.
3 Idem

to reduce the gaps in digital literacy, it is necessary to design programs that identify the specific needs and challenges different groups in society face with respect to technology.[4]

In line with this perspective, I must point out that I agree with this statement, and it is perfectly applicable to the educational field. Formal curricula (study plans and programs) must be designed based on the needs and challenges of students and support the learning process through informal curricula (society, media, and dissemination channels). This should take into consideration the real access students and teachers have to technology and its proper use (access to infrastructure, motivation, knowledge of various digital tools, and their ability to use them).

Flores Garrido (2023) emphasizes that "we should broaden our perspective of what is considered digital literacy. We need to think beyond mere familiarity with electronic devices and emphasize the need to critically evaluate technological tools, in a way that allows us to question and rethink their design, use, and potential in specific contexts."[5]

It is important to recognize that the digital divide has multiple facets, one of the main ones being the digital gender gap, which represents another significant challenge in media literacy and digital inclusion. Unfortunately, this gap is not only present in higher education.

The Spanish National Institute of Statistics defines the digital gender gap as the difference in the percentage of men and women using ICT indicators, expressed in points. The condition of being a woman (gender) is a limiting factor in accessing and benefiting from ICTs for various reasons.

The gender gap in ICT skills is evident, as reported by UNESCO. It is estimated that men are approximately four times more likely than women to possess these skills. In G20 countries, only 7% of ICT patents are generated by women, and globally, the average is even lower at just 2%. Additionally, in the workforce, the percentage of women applying for technical jobs in artificial intelligence (AI) and data science in Silicon Valley tech companies is less than 1% of the total.[6]

These statistics highlight the gender inequality in women's access to and participation in technological fields. For instance, in 2009, an estimated 2.5 million university-educated women were working in STEM (Science, Technology, Engineering, and Mathematics) fields, compared to 6.7 million men.

This brings us to the concept of the Digital Gender Divide, defined as the set of gender biases introduced into technological products, the tech sector, and digital and computing education (UNESCO). Both the digital gender gap and the digital gender divide are major obstacles to achieving digital inclusion.

These disparities are concerning and highlight the urgent need to promote gender equality in the technological field as well as in higher education. It is essential to implement

4 Marisol Flores Interview. Gaceta UNAM Universidad Nacional Autónoma de México. Published march 6, 2023
5 FLORES GARRIDO Marisol (2023) Alfabetización digital;  se debe diseñar programas para cada grupo de la sociedad. Gaceta UNAM
6 Shah, Huma; Warwick, Kevin (2016). Mitating Gender as a Measure for Artificial Intelligence: - Is It Necessary?

measures that encourage access, education, and the participation of women in these areas. Doing so will not only help close the gender gap but also enhance the diversity of talents and perspectives in technology, driving innovation and progress.

It is crucial to develop policies and programs that provide equitable opportunities for women, fostering education and empowerment in the fields of ICT and STEM. By doing this, we can build a more inclusive and equitable society where all individuals, regardless of gender, have the same opportunities to develop and use technological skills, thereby contributing to the sustainable advancement of our communities.

To achieve this, it is imperative that strategies for digital and media literacy eliminate all forms of digital divides (both gender and generational) and gender-based digital divisions. It is equally important to create motivation and ethical awareness for the appropriate use and full integration of Information and Communication Technologies (ICT) into university classrooms. This requires identifying the economic, social, and cultural factors tied to the digital era in which we live.

In this regard, UNESCO (2017) suggests the application of five laws of media and information literacy. These laws "are inspired by the Five Laws of Library Science proposed by S. R. Ranganathan in 1931. The Five Laws of MIL (Media and Information Literacy) aim to be guidelines, along with other UNESCO resources, for all stakeholders involved in the implementation of MIL in all forms of development." [7] The guidelines are:

> **1. First Law**: Information, communication, libraries, media, technology, the Internet, and other information providers are essential for critical civic participation and sustainable development. They are equally important, and none should be considered more relevant than the others.

> **2. Second Law**: Every citizen is a creator of information and knowledge and has a message to express. Everyone should have the power to access new information and express themselves. Media and information literacy is for everyone, regardless of gender, and is a key component of human rights.

> **3. Third Law**: Information, knowledge, and messages are not always neutral or free from bias. Any approach to media and information literacy must acknowledge and make this reality transparent to all citizens.

> **4. Fourth Law**: All citizens desire to know and understand new information, knowledge, and messages, and to communicate, even if they are unaware or do not admit it. However, their rights must never be compromised in the process.

> **5. Fifth Law**: Media and information literacy is not acquired instantly. It is a dynamic experience and process. It is completed when it encompasses knowledge, skills, and attitudes, covering access, evaluation, use, production, and communication of information, media, and technological content.

Reducing or eliminating the digital divide is not an easy task because it does not

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7 UNESCO (2017) Five Laws of Media and Information Literacy. Communication and Information.

arise solely from technology; it is tied to access to technology and information, as well as the motivation to use it. The objective of universities should be to minimize the negative impact of being excluded from digital technologies on individuals' lives, in two dimensions. The first is within the university itself, involving both students and faculty, and the second is at the societal level.

Another challenge closely related to digital inclusion is ethics, which plays a critical role in media literacy and digital inclusion. As mentioned, universities have the responsibility of preparing professionals who are valuable to society, with the knowledge, qualities, abilities, and skills that allow for both personal and societal growth. This preparation must include strong ethical foundations. Several aspects should be considered when implementing programs to achieve these goals:

- Responsibility and transparency; social commitment.

- Privacy and data security.

- Equity in access, use, and enjoyment of ICTs.

- Academic integrity and honesty within the university community.

- Regulation within the ethical codes of different academic entities or higher education institutions.

In this context, it is important to keep in mind what Sánchez, Escamilla, and Moreno (2021) highlight:

"The challenge of maintaining the deeply human aspects of the educational act, without irrationally overusing modern technology and striving to maximize the potential and enthusiasm of educational actors, is one of the formidable tasks of modern teaching." [8]

University education in the 21st century faces significant challenges regarding media literacy and digital inclusion. The responsibility is societal—it falls on all of us. Addressing the digital divide, promoting gender equality in access to ICTs, integrating media literacy into educational programs, and fostering an ethical culture in technology use are crucial. We must never lose sight of the fact that we, as humans, are at the center of these processes, and thus, we must approach our actions with a human-centered perspective. By doing so, we will be building a more inclusive, equitable society, prepared to face the challenges and seize the opportunities of a present and future digital world.

## 4 I CONCLUSIONS

University education, as the culmination of professional preparation, must adapt and respond to the changes and challenges emerging in contemporary society. Formal curricula must be restructured, adapted, or changed to incorporate digital education. The integration of information and communication technologies (ICTs), innovative educational models, and

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8 Sanchez, Escamilla, Moreno (2021) Opus cit.

digital inclusion presents a new landscape that requires careful attention and an appropriate response. As university members, it is our duty to understand and address these challenges ethically. University education is formative, not just informative. Both hard and soft skills must be strengthened, and future professionals should be encouraged to have a social commitment and the ability to be disruptive in their professional practice. They must first be able to understand, manage, and benefit from technological advances in the classroom and then transfer these skills and abilities into their professional work for the benefit of society.

The key to comprehensive higher education is the implementation of adequate media literacy and digital inclusion. Media literacy involves the ability to access, evaluate, and critically use media and information, while digital inclusion ensures equitable access to technology and its opportunities. Both aspects must be integrated into university educational programs. It is essential to consider socioeconomic, cultural, and linguistic diversity to ensure inclusive and equitable education that meets the needs of all students. This means adapting pedagogical strategies, resources, and technological tools to ensure that each individual has the opportunity to access, understand, and critically use information and media. (Personalized education is one of the great advantages that these digital education models offer.) By doing so, we promote equal opportunities and sustainably strengthen the social fabric.

To achieve true digital inclusion, we must reduce—and, where possible, eliminate—the digital divide, which is not an easy task because it is not only about technology itself but also access to it and the information available, as well as the motivation to use it. The digital divide, especially in terms of gender, poses a significant obstacle to digital inclusion. Data shows that women have less access and participation in ICT-related skills. It is essential to address this inequality and promote gender equality in the technological and higher education fields. To achieve this, measures must be implemented to promote equitable access to ICTs, training, and participation of women in these areas.

As previously discussed, the objective of universities should be to minimize the negative impact of being excluded from digital technologies on individuals' lives. I believe that two dimensions need to be addressed. The first is, of course, within the university classroom, with both students and faculty. The second is social, helping ensure that all individuals benefit from media literacy and digital inclusion. To achieve this, we must guarantee high-quality and equitable higher education for present and future generations. Current educational paradigms are no longer considered innovations; they have become the necessities of our era.

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