


MEDIA & INFORMATION LITERACY
NEW TRENDS AND CHALLENGES

Adapting to the Changing Tides



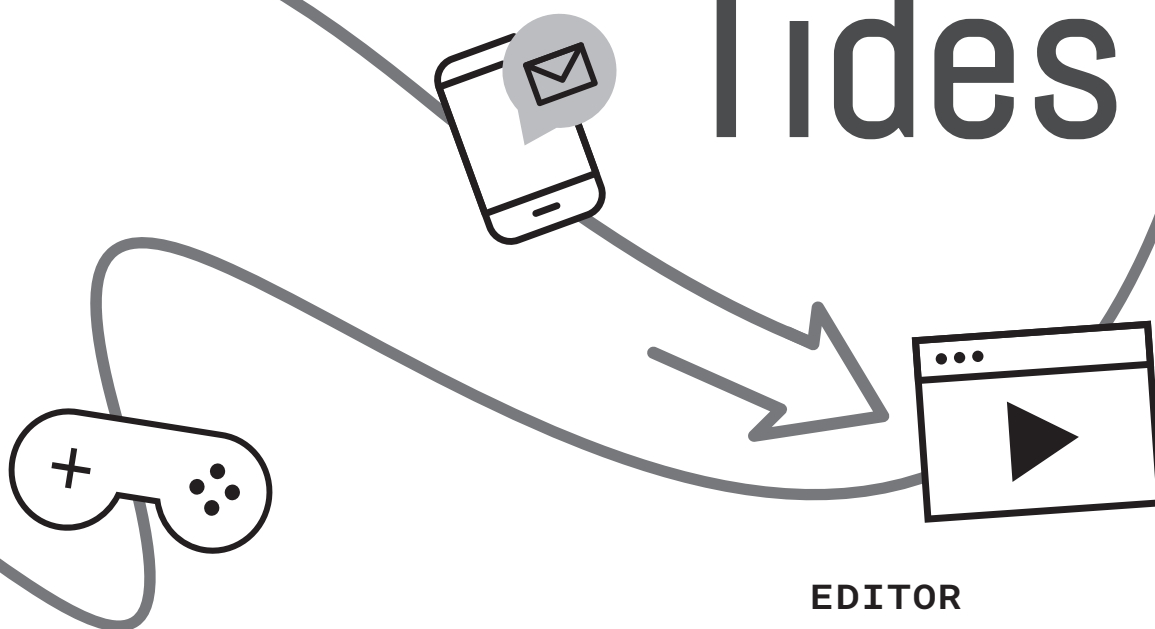
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Kostas Karpouzis

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The final edition is enriched and edited under the scientific supervision of Prof. K. Karpouzis, with the contribution of the following EKOME members:

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PREFACE

AS WE NAVIGATE the dynamic currents of the sea of media, the National Centre of Audiovisual Media and Communication - EKOME presents with keen excitement a collection of articles by scholars from around the globe, with the title “Adapting to the Changing Tides: Media & Information Literacy New Trends and Challenges”.

All of us in the National Centre of Audiovisual Media and Communication, committed to the purpose of supporting audiovisual production, promoting audiovisual education, and safeguarding audiovisual heritage, assign a high priority to further encouraging the discourse on media literacy that spans borders and transcends cultural boundaries. In today’s rapidly changing world, media education plays a fundamental role in advancing ideas and in contributing to fields such as digital literacy, informed citizenship, social cohesion, intercultural understanding, and democratic dialogue.

It is, therefore, a great privilege to invite academics, researchers, and media enthusiasts to explore the diverse and crucial perspectives presented within the pages of this anthology. The articles included unravel the numerous and multifaceted aspects of contemporary media and information literacy, such as the dissemination and accessibility of film education, the digital citizenship connected to social justice issues, the educational role of television, the post-covid media challenges and cyber dangers.

Finally, I would like to express my gratitude to all the contributors whose insightful research enriches this book.

May this volume serve as a resource for critical thinking and an inspiration for constructive conversation and advancement while enabling organizations and individuals to adapt to the ever-changing tides of a media-rich world.

Leonidas Christopoulos

President and CEO, EKOME



INTRODUCTION

Media and Information Literacy as a Fundamental Human Right

Prof. Kostas Karpouzis

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In the last few decades, we have witnessed an unprecedented transformation in the way information is created, disseminated, and consumed. The advent of the digital age has revolutionized not only our access to information but also the very fabric of our social, political, and cultural lives. Digital media, a term encompassing everything from online news portals and social media platforms to streaming services and mobile applications, now forms an integral part of the daily lives of billions of individuals worldwide.

Consider these staggering statistics: As of 2023, almost $\frac{2}{3}$ (65.7%) of the global population has internet access, with a significant portion spending an average of 6.4 hours per day on social media platforms (Source: Statista). This digital immersion has far-reaching implications. It shapes public opinion, influences consumer behavior, and even redefines interpersonal relationships. The sheer volume of information available at our fingertips is both empowering and overwhelming.

The digital landscape has become the primary arena for cultural exchange and the formation of public opinion. Social media platforms, in particular, play a pivotal role in this dynamic. They have democratized content creation, allowing anyone with an internet connection to share their thoughts, experiences, and perspectives with a global audience. This has led to a more diverse and pluralistic public sphere but has also introduced challenges such as the spread of misinformation and the polarization of societal discourse.

Moreover, the digital age has redefined concepts of identity and community. Online communities based on shared interests, beliefs, or experiences transcend geographical boundaries, creating new forms of social organization and interaction. This virtual connectivity, while fostering a sense of global community, also raises questions about the nature of identity and belonging in a digitally mediated world.

As we delve deeper into the 21st century, it's clear that the digital age has not just changed how we access information; it has transformed how we perceive and interact with the world around us. Understanding this transformation is crucial, not just for media and information literacy but for navigating the complexities of contemporary society. The following sections of this book will explore these transformations in greater depth, particularly in the context of the rise of Artificial Intelligence (AI) and Generative AI, and their profound implications for media and information literacy.

THE RISE OF AI AND GENERATIVE AI

In the tapestry of the digital age, one of the most significant threads is the development and advancement of AI. AI, once a subject of science fiction, has now become an integral part of our daily lives. From simple algorithms that recommend what we should watch next on streaming platforms to complex systems capable of performing tasks that were traditionally thought to require human intelligence, AI's presence is ubiquitous and growing.

A particularly noteworthy development in the realm of AI is the emergence of Generative AI. This subset of AI involves machines not just analyzing data but creating new content, be it text, images, or even music. The introduction of models like GPT-3 by OpenAI marks a significant milestone in this field. These models,

powered by deep learning algorithms and vast amounts of data, can generate human-like text, answer questions, write poetry, or even generate computer code, blurring the lines between human and machine-generated content.

The implications of these advancements are profound and multifaceted. On one hand, they present incredible opportunities for efficiency, creativity, and technological progress. For instance, AI-driven personal assistants, predictive analytics in healthcare, and automated financial advisors have the potential to enhance productivity and decision-making.

On the other hand, the rapid advancement of AI, particularly Generative AI, raises critical questions and challenges. Issues such as the potential for deep-fakes, the ethical considerations around AI-generated content, and the impact on job markets demand urgent attention and discourse. There is also the challenge of ensuring these technologies are developed and used in ways that are ethical, transparent, and beneficial for society as a whole.

In the context of media and information, the rise of AI and Generative AI has significant implications. These technologies are not only changing how content is created and disseminated but also how it is consumed and perceived. The ability of AI to generate convincing and coherent content raises questions about authenticity, trust, and the very nature of human creativity. As we continue to explore the vast potential of AI and Generative AI, it's crucial to consider both their transformative capabilities and the challenges they present. Understanding these technologies, their evolution, and their societal impact is essential for Media and Information Literacy (MIL) in the digital age. The next sections will delve into the specific challenges posed by the information era, emphasizing the importance of MIL in navigating these challenges.

CHALLENGES POSED BY THE INFORMATION ERA

In the digital age, one of the most daunting challenges is managing the sheer volume and velocity of information that flows through digital channels. The internet, social media, and 24-hour news cycles have created an environment where information is abundant and constantly available. This abundance, while beneficial in many ways, also makes it increasingly difficult to discern valuable and accurate information from misinformation and disinformation.

Misinformation (false or misleading information shared without harmful intent) and disinformation (deliberately deceptive information) have become pervasive in the digital landscape. The spread of false information can have serious consequences, from influencing public opinion and election outcomes to endangering public health, as seen in the misinformation around the COVID-19 pandemic. The ease with which such content can be created and disseminated, especially with the aid of AI and social media algorithms, exacerbates the problem.

Another significant challenge is the digital divide – the gap between those who have or do not have access to modern information and communication technology. This divide is not just technical but also involves disparities in the ability to critically evaluate and use information effectively. In a world increasingly reliant on digital technologies, those without adequate access or skills are at a significant disadvantage, further exacerbating social and economic inequalities.

The digital age has also heightened concerns around privacy and data security. With vast amounts of personal data being collected and processed by various entities, the risk of data breaches and misuse is a constant worry. Additionally, the use of this data by AI algorithms for profiling and targeted advertising raises ethical questions about surveillance and autonomy.

The integration of AI into various aspects of the information ecosystem presents its own set of ethical challenges. These include biases in AI algorithms, the potential misuse of AI for manipulative purposes, and the broader societal implications of increasingly autonomous AI systems. Ensuring that AI development and deployment are aligned with ethical standards and societal values is a complex but essential task.

The challenges of the information era – from the spread of misinformation to ethical concerns surrounding AI – highlight the critical need for robust media and information literacy. Understanding these challenges is the first step in equipping individuals with the skills necessary to navigate the complex digital landscape. The next sections will delve into the importance of MIL in contemporary society and its evolving role in the context of AI and Generative AI.

THE IMPORTANCE OF MIL IN CONTEMPORARY SOCIETY

In an era characterized by an unprecedented flow of information, the concept of Media and Information Literacy (MIL) has never been more vital. MIL encompasses a range of skills and competencies that enable individuals to effectively access, analyze, evaluate, and create information and media. It's not just about being able to read and write but about being literate in the language of images, sounds, and multimedia, and understanding the various contexts in which information is disseminated and consumed.

One of the core purposes of MIL is to foster critical thinking and analytical skills. In a world where information can be both empowering and misleading, the ability to scrutinize the source, understand the context, and assess the veracity of information is crucial. MIL helps individuals distinguish between fact and opinion, identify biases and propaganda, and develop a reflective understanding of the media they consume.

MIL plays a pivotal role in enabling informed and active citizenship. In democratic societies, the ability to engage with media critically is essential for participation in civic life. This includes understanding the role of media and information in shaping public opinion and political processes, recognizing the influence of media ownership and commercial interests, and contributing to societal discourse through informed dialogue and decision-making.

MIL also addresses the challenges posed by the digital divide. By equipping individuals with the skills to navigate the digital world, MIL contributes to bridging the gap between those who have access to digital technologies and those who do not. It ensures that the benefits of the digital age are more equitably distributed, promoting social inclusion and reducing inequalities.

The rapid evolution of media technologies, particularly with the advent of AI and digital platforms, requires an adaptive approach to MIL. Traditional notions of media literacy are being stretched as AI-generated content becomes more prevalent. MIL in the contemporary context must therefore encompass not only the critical analysis of content but also an understanding of the underlying technologies and their societal implications.

The importance of MIL in contemporary society cannot be overstated. It is a foundational skill for navigating the complexities of the modern information

landscape, essential for critical thinking, informed citizenship, and social empowerment. As we delve further into the implications of AI and digital technologies on media and information, the evolving role of MIL becomes even more apparent. The subsequent sections will explore MIL in the context of AI and Generative AI, underscoring its significance in the face of these technological advancements.

MIL IN THE CONTEXT OF AI AND GENERATIVE AI

In an era where artificial intelligence (AI) is increasingly prevalent, the traditional scope of Media and Information Literacy (MIL) needs to be expanded and adapted. AI and its subset, Generative AI, are not only changing how information is produced and disseminated but also challenging our understanding of authenticity and reliability. MIL, therefore, must evolve to equip individuals with the skills necessary to navigate this new landscape.

One of the most pressing challenges in the context of AI is discerning AI-generated content. With technologies like GPT-3 producing human-like text, the ability to distinguish between what is created by humans and what is generated by machines becomes crucial. MIL in the age of AI must include an understanding of how these technologies work, their capabilities, and their limitations. This knowledge is essential not only for identifying AI-generated content but also for understanding the ethical implications and biases that may be inherent in such content.

MIL should also encompass a critical engagement with the use of AI in media production and consumption. This includes understanding the role of algorithms in shaping what information is presented to us on digital platforms, how these algorithms can create echo chambers, and the implications for diversity of perspectives and information. It's about questioning not just the content but the systems that curate and present this content.

The integration of AI in media and information spheres brings to the forefront several ethical considerations. MIL in the context of AI involves understanding these ethical dimensions, such as data privacy, algorithmic transparency, and the potential for manipulation. Furthermore, there is a growing need

for AI literacy – an understanding of the principles of AI operation, the data it uses, and its broader societal impacts.

As AI continues to advance and become more integrated into our media and information ecosystems, MIL must prepare individuals for an AI-driven future. This involves not only being consumers of AI-generated content but also understanding how to interact with, respond to, and possibly even create such content. It's about fostering a sense of digital empowerment and responsibility in the face of rapidly evolving technologies.

Incorporating AI and Generative AI into the framework of MIL presents both challenges and opportunities. It requires a nuanced understanding of the intersection between technology, media, and society. As AI continues to reshape our information landscape, MIL becomes an essential tool for ensuring that individuals can navigate this landscape thoughtfully, critically, and ethically. The next sections will explore real-world case studies and examples that highlight the practical applications and implications of MIL in our increasingly AI-driven world.

CASE STUDIES AND EXAMPLES

In understanding the practical applications and implications of Media and Information Literacy (MIL) in the digital age, particularly in the context of AI and Generative AI, real-world case studies and examples offer invaluable insights. These scenarios not only illustrate the challenges and opportunities presented by the digital and AI-driven media landscape but also showcase how MIL skills can be effectively applied and why they are crucial.

Case Study 1: Elections and Political Campaigns

One prominent example is the role of MIL in the context of elections and political campaigns. The 2016 U.S. presidential election and subsequent elections around the world have shown how social media and AI-driven algorithms can significantly influence public opinion. In these scenarios, MIL skills help individuals critically assess political messages, differentiate between legitimate news and propaganda, and understand the role of AI in micro-targeting and

spreading misinformation. Analyzing these cases helps highlight the importance of MIL in maintaining the integrity of democratic processes.

Case Study 2: Public Health Information during the COVID-19 Pandemic

The COVID-19 pandemic offers another critical case study in MIL. During the pandemic, the world witnessed an “infodemic” – an overabundance of information, both accurate and false. MIL skills were crucial in helping individuals navigate this flood of information, discern reliable sources, and make informed decisions about health and safety. This case also illustrates the role of AI in both spreading and combating misinformation, emphasizing the need for MIL in understanding and critically engaging with AI-generated content.

Case Study 3: The Rise of Deepfakes

The emergence of deepfakes – hyper-realistic AI-generated videos or audio – presents a new frontier in the discussion of MIL. Deepfakes pose significant challenges in terms of verifying the authenticity of media content. Understanding and identifying deepfakes require a sophisticated level of MIL, combining media literacy with an understanding of AI technologies. Examining case studies where deepfakes have been used in various contexts, from politics to entertainment, underscores the need for heightened MIL in an era where seeing is no longer believing.

These case studies demonstrate the real-world relevance and application of MIL. They show that MIL is not just an academic concept but a necessary skillset for navigating the complexities of the modern information landscape. The lessons drawn from these examples provide a foundation for further discussion on the importance of MIL in an increasingly digital and AI-influenced world. The final sections of the book will draw conclusions from these case studies and offer a forward-looking perspective on the future of MIL.

THIS BOOK

This book covers a wide range of applications and contexts illustrating the importance of MIL in the post-pandemic era.

The chapter, titled **“Building Civic Resilience through Digital Verification Skills: Media Literacy Evidence from a Small State”** by the *Prof. Auksė Balčytienė*, discusses the timely and thorny issue of MIL in the context of democratic capacity and civic resilience. They focus on a pilot study on digital media usage strategies in diverse groups of population (adults, university students, and high schoolers) and their attitudes, perceptions, and assessments towards disinformation, professional journalism, and the quest to find trustful sources and verified information.

Dr. Daniela Costa, in the chapter titled **“Promoting digital citizenship and social justice through the implementation of MIL in Basic Education schools”**, discusses Media and Information Literacy (MIL) programs assessing the impacts of platformisation, datafication, and automation of society. The focus of this chapter is on a nation-wide survey in Brazil and the results from data collected between 2020 and 2022 from principals and teachers from public and private basic education schools.

Dr. Tsampika Karakiza et al., in their chapter titled **“New challenges for media education: Towards an innovative programme of digital self-awareness and resilience”**, elaborate on the need to link MIL-related practices inside the school curriculum with those students spontaneously engage with, e.g., when online, in programs across all education levels. Their analysis originates from the fact that media have become extensions of the individual, hence a media education program should consider them as an integral element of modern life.

Prof. Claudia Prioste et al. discuss how the pandemic increased the need for interdisciplinary and multicultural actions for Media and Information Literacy. Their chapter, titled **“Digital hospitality lab: empowering educators through digital literacy – a case study from Guatemala”**, also discusses the value of training the trainers using highly skilled instructors, especially when this is combined with practical activities.

The chapter titled “Challenges in Media & Information Literacy in the Post-Pandemic Era: The role of Educational Radiotelevision”, authored by *Dr. Sofia Papadimitriou*, discusses how a traditional medium such as television can be enhanced with innovative and creative storytelling elements to enrich teaching and learning. Papadimitriou presents the Educational Television program developed by the Greek Public Broadcaster (ERT) and how it was utilized during the pandemic in the context of courses taught in school, but also with soft skills and MIL concepts.

The chapter, titled “Relocating media literacy through aural perception: The concept of digital ‘sound map’ and its impact during the (post-)pandemic era” by *Dr. Nick Poulakis* and *Zoi-Danai Tzamtzi*, considers theories of acoustic ecology and anthropology of sound to discuss a series of COVID-19 projects based on the concept of “sound maps”. The authors build on this experience to emphasize the importance of multisensory media awareness in the context of interpersonal communication in the post-pandemic era.

Dr. Dimitris Papacharalampous and *Stamatia Papadimitriou*’s chapter titled “Cine-inclusion in Class: Fostering Inclusive Film Literacy” discusses a study model developed by the National Centre of Audiovisual Media and Communication (EKOME); this model, among others, introduces accessible features for individuals with disabilities to integrate films into curricula, and employs standard pedagogy principles to increase the reach of Film Literacy activities. The authors discuss the different aspects of the model, highlighting its adoption and received from diverse educational partners.

Maria Leonida, in her chapter titled “A Suitcase of Images and Sounds”, describes the digital transformation of a media education organization, starting before and being accelerated by the pandemic. Their blended learning toolbox, Leonida claims, answers the need to include information, ideas, and feelings in the learning process in a playful and self-directed manner, while their experience from deploying the material reflects two current trends: the constantly increasing formation of distance learning content, and the widespread interest for a creative further education in audiovisual production.

Dr. Katerina Chryssanthopoulou's chapter, titled “**Media literacy pedagogies: the COVID-19 distance education disruption and the way ahead**”, examines the positive effects of MIL interventions such as source and content evaluation, message comprehension, and media assessment on the students' ability to rationally judge information, leading to improved political discourse and youth community engagement. The chapter also discusses policies in the same context, focusing on EU-wide frameworks.

The paper titled “**Reading in the Digital Era: Trends in the Post-Pandemic Landscape**” by *Dr. Evgenia Pagani* focuses on the shift in reading habits and preferences towards digital formats, particularly in the context of the COVID-19 pandemic. Pagani explores the relationship between students and different reading media (print and digital) before and during school or university closures caused by the pandemic. The study highlights the increasing importance of digital literacy in understanding multimodal messages and the varied preferences for digital versus printed texts. It also examines the attitudes and practices of students towards digital reading and the need for further research in this area to better inform educators about the benefits and challenges of different reading modes. Finally, the author underscores the role of technology in shaping reading habits and the critical need for effective digital literacy among both educators and students.

Finally, *Vasiliki Michailidou's* chapter on “**UnTwining Cyberbullying**” discusses an approach to raise active critical thinking and awareness regarding cyberbullying in teenagers. In her approach, Michailidou employs “Twine”, an online game authoring platform, to build and utilize digital narratives to assist students' perceptions of related incidents and train them on how to respond to them.

A common “thread” across all chapters is the emergence of Media and Information Literacy (MIL) not just as a skill or competency, but as a fundamental human right. The ability to access, analyze, evaluate, and create information is intrinsic to the exercise of free expression, informed citizenship, and personal empowerment. In an era where information is as vital as any traditional resource, ensuring equitable access to and understanding of this information

becomes a matter of social justice and human dignity. MIL, in its essence, equips individuals with the tools to engage critically with the media and information they encounter, fostering not only personal enlightenment but also the health of democratic societies. It underpins the ability to make informed decisions, participate in public life, and navigate the complexities of an increasingly digital world. This is particularly crucial in an age where AI-driven technologies can obscure the lines between fact and fiction, underscoring the need for critical media consumption and production skills.

Recognizing MIL as a human right emphasizes the obligation of governments, educational institutions, and society at large to ensure that everyone, regardless of their background or circumstances, has the opportunity to develop these essential skills. It calls for the integration of MIL into education systems, the promotion of public awareness campaigns, and the development of policies that support an informed and media-literate populace. In this light, MIL transcends its role as an educational objective and becomes a cornerstone of a fair, informed, and democratic society. It is a right that enables individuals to not only consume information but also to contribute to the information ecosystem, ensuring a diverse, pluralistic, and healthy public discourse. As the digital and AI realms continue to evolve, affirming MIL as a human right is crucial in safeguarding the principles of freedom, equality, and participation in the digital age.



Building Civic Resilience with Digital Verification Skills: Media Literacy lessons from Lithuania

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ABSTRACT

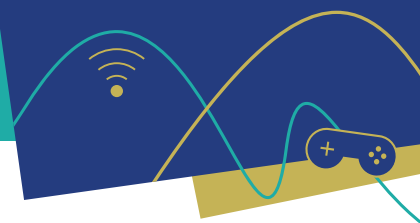
The rapidly evolving digital media ecosystem requires people to be aware of how their digital information choices are shaped by both individual capabilities and digital platform logics. The paper seeks to expand current understanding of democratic capacity and civic resilience in the face of the negative impacts of manipulative content. The presented experience is based on the multi-level pilot study conducted within DIGIRES/BECID initiative. Initially, 89 journalism students were instructed in learning source verification techniques, with the assignment to develop media literacy lessons for 575 high schoolers. The reflections on the gained experience were interpreted in the broader context of digital media use and perspectives on dysfunctional content among various population groups (339 adults). As revealed, specially tailored learning conditions can significantly impact the development of an individual's overarching sense of self, a crucial element in both an individual's sense of personal and professional identity.

Keywords: media and information literacy; democratic capacity; civic resilience; information verification; fact-checking; information disruptions

INTRODUCTION

While digital platforms, known as Tech Giants or GAFAM¹, have revolutionized the way people access information, communicate and form opinions, the abundance of manipulative content and increased engagement with it

1. Big Tech refers to the five largest American companies such as Google (Alphabet), Amazon, Facebook (Meta), Apple, Microsoft. These companies are referred as the Big Five or GAFAM.



has affected people's understanding of news media in general and the role of journalism. Digital media offer many opportunities for democratic participation and self-expression, but they can also lead to dysfunctional patterns of communication, such as disinformation and hate speech, and thus become a driver of social and political polarization. The latter implication, namely the uncertainty surrounding the credibility of content, is one of the most recent developments in Platform Society (van Dijck, 2018), challenging established ways of organizing social and democratic life.

Broadly defined as "information disruptions" (Wardle & Derakshan, 2017), information manipulations refer to the growing circulation of disinformation, artificial facts, radicalization, and other forms of dysfunctional content. Various types of information distortion are not only confusing. They can be especially harmful as they are based on strategic aims to deceive and manipulate, which leads to the feelings of insecurity and helplessness. The unsettling feelings of suspicion, disbelief and distrust are of exceptional damage to democracy and sustainability of everyday life.

Research shows that initially, it was the pandemic, followed by the Russian aggression and war in Ukraine and related geo-political challenges, that had a significant impact on media and information consumption practices. These events led to an increase in social media use and consumption of "unmoderated content" (circulating in such platforms as "Telegram") across all demographic groups. Due to increased uncertainty regarding source credibility, the accessibility of reliable and accurate information, along with one's self-assurance in responsible information use, has become critically important.

In such a context, the role of conventional news media and journalism, along with the public's self-conscious awareness of various forms of dysfunctional content (such as disinformation, radicalism, hate speech), must be considered as **indispensable tools for self-protection and building resilience** against a multitude of information disruptions (Boulliane et al., 2022; Tenove, 2020).

How do different groups of people perceive journalism and news media and its role in combatting disinformation? What do people think of their own responsibility in becoming informed and civically equipped users of digital

information? What role should journalism training anticipate in educating digital literacy professionals?

These questions will be explored by examining the self-efficacy aspects of human agency (Bandura, 2006) and how they get transformed in the context of platforms-driven communication and online information disruptions. This discussion will offer insights into experiences from Lithuania, specifically examining public responses towards changed communications environment. Following that, a practical study centred on digital source verification training for journalism students and its implications for **professional resiliency development** will be discussed.

RESILIENT SENSE-MAKING IN UNSETTLING CONDITIONS: CONCEPTUAL FRAMEWORK

To gain a more comprehensive understanding of resilience against information disruptions, conceptual refinements and empirical testings are required. Although there is a growing body of research on MIL in times of digital transformation, there is less evidence on civic resilience. Development of **civic – or citizen – resilience** is influenced by socio-cultural factors, such as values and traditions, and media-awareness skills of people (McDougall, 2019). It thrives under certain contextual conditions determined by infrastructural factors, such as information accessibility and media viability, and also institutional trust (Humprecht et al., 2020, 2021).

In general terms, resilience discussions often focus on the **democratic capacity** to respond to potential threats and harms, which require both structural and individual (agentive) capabilities (Tenove, 2020). Gaining access to and acquiring information in digital environments necessitate user actions, emphasizing the role of human agency. More precisely, the algorithmic logic of the platforms relies on audience input; digital information circulates in social media based on “digital footprints”, i.e., data that is implicitly provided by users. Likewise, user’s attention is emotionally triggered, leading platforms to algorithmically prioritize content that boosts user engagement. Therefore, it is important to consider that in digital information ecosystems, there are technological (infrastructural)

constraints that might influence the human capabilities to adequately respond to potential threats and harms, such as an influx of disinformation.

To address all these specificities, a conceptual framework based on three interrelated characteristics required in **informed decision making and self-conscious awareness development** must be constructed. These characteristics that contribute to the development of civic resilience (see Figure 1) include: (a) communication rights, i.e., access to global infrastructures and availability of diverse content, (b) media literacy, i.e., the ability to use digital media, and (c) the perception of civic value in digital content, i.e. public views towards journalism and its status, including trust in media.

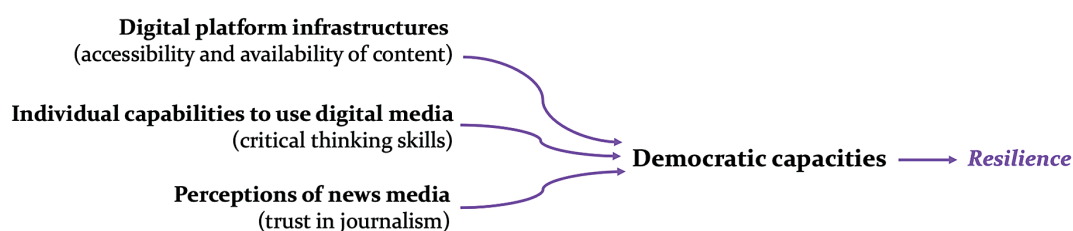


Figure 1. Communication rights (accessibility and availability of information), media literacy and trust in media as determinants of democratic capacities and resilience.

Though not explicitly defined, there is one aspect, particularly that of human agency, which permeates all these three dimensions. Broadly speaking, human agency (Bandura, 2006) refers to **individual self-efficacy and intentionality to make informed decisions** based on the available information. It is also regarded as an individual's willingness and readiness to trust in the accuracy and reliability of information. In situations involving responsible information use, we can refer to examples of "epistemic agency", which is cultivated through diverse individual capabilities. For example, accessing and critically evaluating information is a cognitive as well as motivational and emotional process, that involves verifying, judging, and making decisions based on received information. Moreover, the use of information is a social process that necessitates individuals to engage and interact with other users and sources to obtain reliable information. Engaging in the process of utilizing socially relevant information contributes to building trust and feelings of security, which are essential components of democratic capacities for civic resilience development.

MEDIA AND THE DEVELOPMENT OF DEMOCRATIC CAPACITIES: LESSONS FROM A SMALL COUNTRY

Country-specific political, economic, and media settings have a significant impact on the capabilities of citizens to deal with and resist information disruptions. Increasing polarization of society and rising populism, as well as low confidence in news media, a weak public service broadcaster, and more fragmented audiences, are among the key factors limiting citizens' resilience to disinformation (Humprecht et al., 2020, 2021).

In the following sections, a brief overview of the media-related situation in Lithuania is provided.

Lithuania is a small country, located in the northeastern coast of the Baltic Sea, with a population of 2.8 million. While the media in Lithuania remains free and economically viable, the industry and the profession face diverse risks associated with digital changes (Jastramskis et al., 2017; Balčytienė & Juraitė, 2022). Lithuania's media policy demonstrates a high level of awareness of the risks associated with disruptive communication: various regulatory and governance solutions have been developed to counteract detrimental effects. State institutions actively promote interinstitutional cooperation, news media invest in fact checking operations, media literacy is incorporated into formal education, and media education is practiced in informal settings. Moreover, online media "fractionalization" is minimal, indicating that radicalist narratives have hard time gaining traction in the public sphere (Balčytienė & Aslama-Horowitz, 2023).

In recent years, the need for media education and fact-checking training has become more than apparent. To address this need, many high schools in Lithuania have started to offer such types of lessons or sessions of informal trainings in MIL. Despite good intentions and support from the Government programs, the utmost challenge that schools face – is the lack of adequate knowledge of teachers and lack of suitable teaching materials (Balčytienė & Wadbring, 2017; Juraitė & Balčytienė, 2023). And this is understandable – the field of digital media education (technologies, tools, and instructional applications) is evolving very rapidly, as well as the problems (information manipulations, disinformation, hate speech, digital ethics issues, etc.) faced by all stakeholders who

can be teachers, students, librarians or policymakers (Frau-Meigs, 2022; Jolls, 2022; Bennett et al., 2020; Stix & Jolls, 2020; Carlsson, 2019).

Despite the growing concern of online disinformation and manipulations in the country, the perceptions of the general population regarding their ability to spot and verify online sources yield some worrisome results. One of the recent Eurostat surveys shows (Chart 1) that only 1 out of 10 Lithuanians opted to check suspicious online information².

Furthermore, Eurobarometer surveys suggest that people in the Baltics are more often confronted with disinformation than in other European countries and close to 60% of respondents boldly acknowledge that they are confident in their ability to recognize disinformation (see Chart 2)³. Conversely, many of them have had experience of sharing misleading online content – what is more, as the DIGIRES⁴ pilot survey reveals, it is often done not only out of ignorance, but also for fun (see Chart 3).



Chart 1. How many people verified online information in 2021? (Eurostat, 2021).

2. Eurostat (2021). How many people verified online information in 2021? <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20211216-3>
3. Flash Eurobarometer (2022). News & Media Survey 2022. European Parliament. <https://europa.eu/eurobarometer/surveys/detail/2832>
4. DIGIRES (<http://digires.it>) is an Association with founders in academic, media and education fields. The activities performed center around media literacy trainings, raising public awareness of and alertness towards the growth of digital harms.

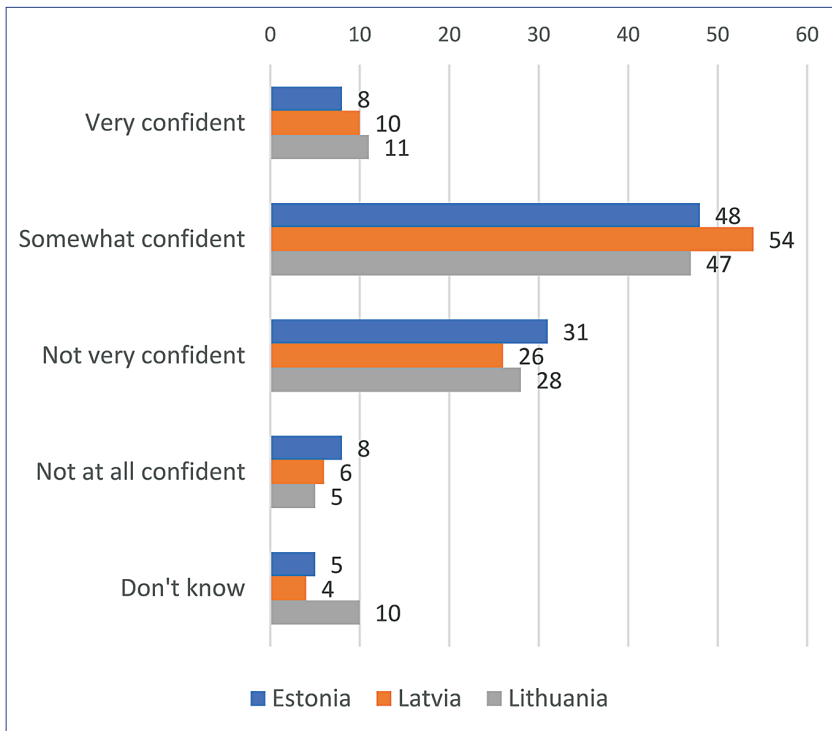


Chart 2. Confidence to recognize disinformation, % (Eurobarometer, 2022).

In the framework of the DIGIRES project, a pilot survey was conducted in April-May 2022 (DIGIRES, 2022). Using quota sampling technique and face-to-face interviews, a sample of 339 respondents was collected and analyzed. The vast majority of the survey participants are Lithuanians (98%), majority of them are women (55%), people with higher education (57%), employed and living in cities (respectively, 69% and 69%). Even though the quota sampling does not provide with the representative results, the profile of survey respondents enables us to gain insight into the risks associated with relevant capacities.

The survey included questions on media use, perceptions of journalism and awareness of risks and challenges related to disinformation. Even though respondents demonstrated their concern about disinformation being an important national problem (78%), as well as high confidence in their ability to distinguish between the truth and lie (66%) (see Chart 4), 40% of them admitted that they had shared fake news online because of different reasons.

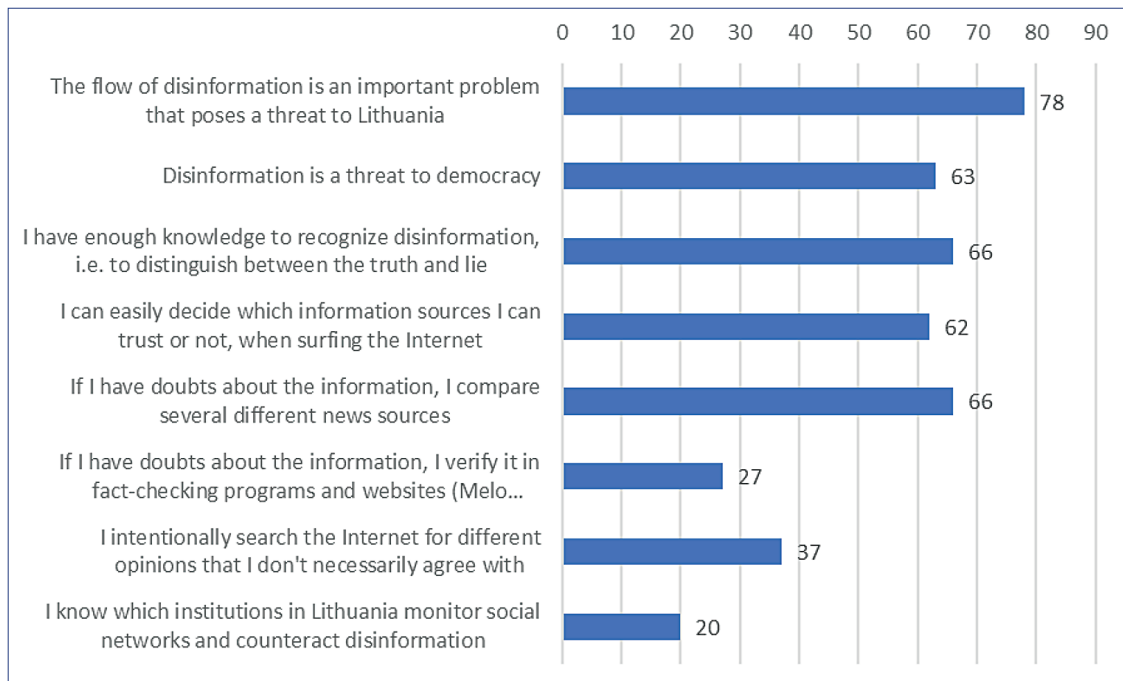


Chart 3. Perceptions of disinformation (%). Results from DIGIRES pilot survey (DIGIRES MIL report, 2022).

On the other hand, we can observe a **growing demand for high-quality information** during periods of profound uncertainties and crises. Majority of the respondents (around 80%) appreciate quality journalism because of its key role in sustaining democracy and as a source of reliable news, extremely important in the times of crises (see Chart 4).

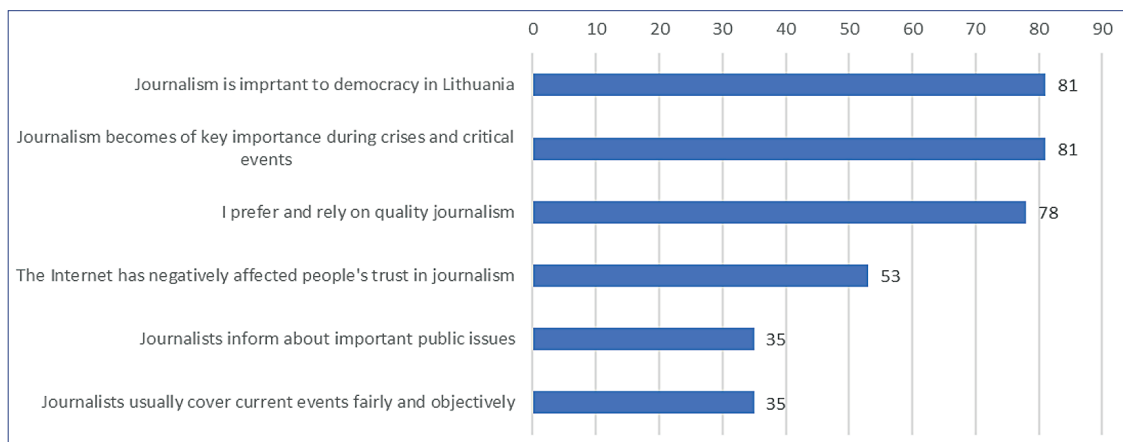
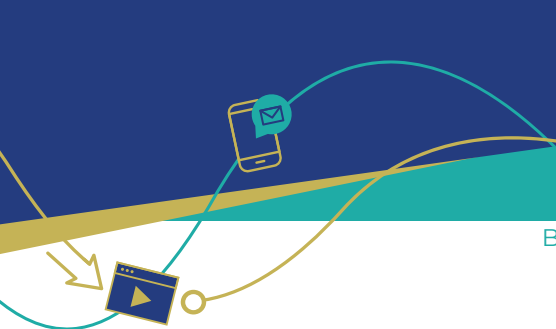


Chart 4. Perceptions of journalism (%). Results from DIGIRES pilot survey (DIGIRES MIL report, 2022).



Looking at different categories across the national population, the most significant differences are seen in relationship to age, education, and social status. Younger and more educated audiences tend to be more active users of online news channels with more diversity in their general media repertoires, that include TV and radio, social networks, news portals, official information sites, international news sources and audiovisual media platforms. As digital natives, they are also more critical about the power of information manipulations and the scope of disinformation in the online media environment. However, even if these groups of people demonstrate higher confidence in their abilities to discern truth and identify lies, their resilience to information disruptions is limited and their capabilities (e.g. debunking skills, source verification techniques) are inadequate to prevent spread of malicious content.

To sum up, the urgency of media and information literacy (MIL) becoming a strategic guideline for all communication agents, not just for media and education sectors, remains a matter of high concern in Lithuania.

FACT-CHECKING TRAININGS FOR SOURCE VERIFICATION: THE DIGIRES/BECID APPROACH TO DIGITAL MEDIA LITERACY AND CIVIC RESILIENCE

In digitally mediated environments, everyone has a responsibility to be aware of the growing risks associated with information abundance, competing interests and manipulative content. Therefore, the **active role of individuals** and their informed response to the rising challenges of information disruptions is an important dimension of civic resilience (Stix & Jolls, 2020; McDougall, 2019).

As noted earlier, building civic resilience requires taking into account both structural conditions, such as economic viability and status of news media and epistemic communities, and individual capabilities, including support to democratic values, expressions of trust, and democratic experience. Following this line of thinking, the development of civic resilience is a communicative, i.e. “discursive”, process and should be understood as a specific **“social mindset” for countering disinformation**. This mindset encompasses the skills and resources available to individuals to identify risks, possess knowledge, and have the intention to respond responsibly to disinformation and malicious content.

To be properly informed and to participate in meaningful information exchanges, citizens must be trained not only in the critical assessments of content (Jolls, 2022; Moreno-Gil, V. et al., 2021; McDougal, 2019). They need to know the **techniques and open-access web tools** of fact-checking; so they need to be digitally advanced and **self-efficacious users**. All these requirements imply that media literacy must be viewed as a strategic guideline towards becoming a digitally competent and resilient digital citizen.

In this section, media literacy training focussed on information verification approach in digital media literacy education as well as MIL competences, is presented.

In Autumn 2022, the DIGIRES/BECID team, consisting of journalism professors and disinformation specialists collaborated on the design of MIL training materials. The focus was specifically on teaching young people about journalism, responsible media use and developing capabilities of information checking that foster development of individual self-efficacy and social trust.

In October-November 2022, eighty-nine VMU students in Public Communication and 575 high schoolers of 9-10 grades from Kaunas city high schools (including S. Darius and S. Girėnas Gymnasium, VMU Ugnės Karvelis Gymnasium) participated in the series of trainings that focused on learning about different tools, techniques and strategies of verification. The main evaluation tool applied – an online questionnaire with closed and open questions – was specially designed for these trainings. When preparing the questionnaire, the objectives of the training, the content, the target group of trainees and the resources available for evaluation were taken into account. The questionnaire assessed media literacy and critical thinking competencies of the training participants.

Table 1. Target groups and participating organizations in fact-checking trainings.

NO.	GROUPS OF PEOPLE AND PARTICIPATING ORGANIZATIONS	FACTS
1.	University (Vytautas Magnus University, Kaunas)	1 (VMU is a founding member of the DIGIRES association)
2.	High-schools in Kaunas: VMU partner High-schools – S. Dariaus ir S. Girėno gimnazija (https://dgg.lt), Ugnės Karvelis gimnazija (https://ukg.vdu.lt)	2

NO.	GROUPS OF PEOPLE AND PARTICIPATING ORGANIZATIONS	FACTS
3.	VMU students studying Public Communication (3rd year of BA studies with tracks in journalism, communication, and media designs)	89 students have formed 23 groups (of 4-5 students per group)
4.	Teachers: the DIGIRES (http://digires.lt) Training team working collaboratively and sharing professional expertise to develop joint knowledge	9 experts and specialists with expertise in audience reception studies, disinformation, media literacy, information operations, fact-checking, groupwork and classroom organization
5.	Supervisors and teachers from partner High-schools	3 supervisors and assistants
6.	Lesson “Media literacy for civic resilience: Learning source verification with fact-checking” (two parts, each 45 min)	2
7.	High schoolers (grades 9-10) from two schools in Kaunas attending classes on “Media literacy for civic resilience: Learning source verification with fact-checking” taught by VMU student groups	575

The core idea behind the training sessions of the Module, which included lectures, questionnaires, consultations, “lateral reading” strategies, scenarios of fact-checking and source verification, and many more of the activities, was to propose a comprehensive yet focused approach to media literacy education. At the center of all activities was the aim to engage in learning and testing source verification strategies. Such an **approach is multilayered** as it covers complexities of the digital environment defined by platform-logic, types of disinformation narratives and information manipulations, the effects of disinformation on people (such as why disinformation is so persuasive), fact-checking tools, and design and presentation strategies for delivering checked and verified content to other users.

Students attended lectures focused on reporting skills, propaganda and disinformation, media development, and digital media literacy education. Students also received intensive training on fact-checking instruments, as well as the “lateral reading” method and its practical applications.

At the end of the training, the students worked in groups and prepared lesson plans to be conducted during their two visits to Kaunas' High-schools.

Finally, students produced media products with the tips on how to check digital information. These products and reflections on trainings were presented at the improvised conference, which took place at VMU in December 2022.

PERCEPTIONS OF JOURNALISM: A STARTING GROUND FOR PRACTICING MEDIA LITERACY

Evaluation results of VMU students and highschoolers, compared with the responses of the cohort of 18-29 year olds in the earlier presented DIGIRES pilot survey, are presented in Charts 6-7. As seen, all three groups of young people are similar by their use of social media as the main source of information. Also, perceptions of disinformation threats to Lithuania and democracy are very similar in these three groups.

The evaluation of journalism stood out the most among schoolchildren, of whom barely every second appreciates quality journalism and considers it as important for democracy. The greatest support for journalism was expressed by VMU students in Public Communication (see Chart 5).

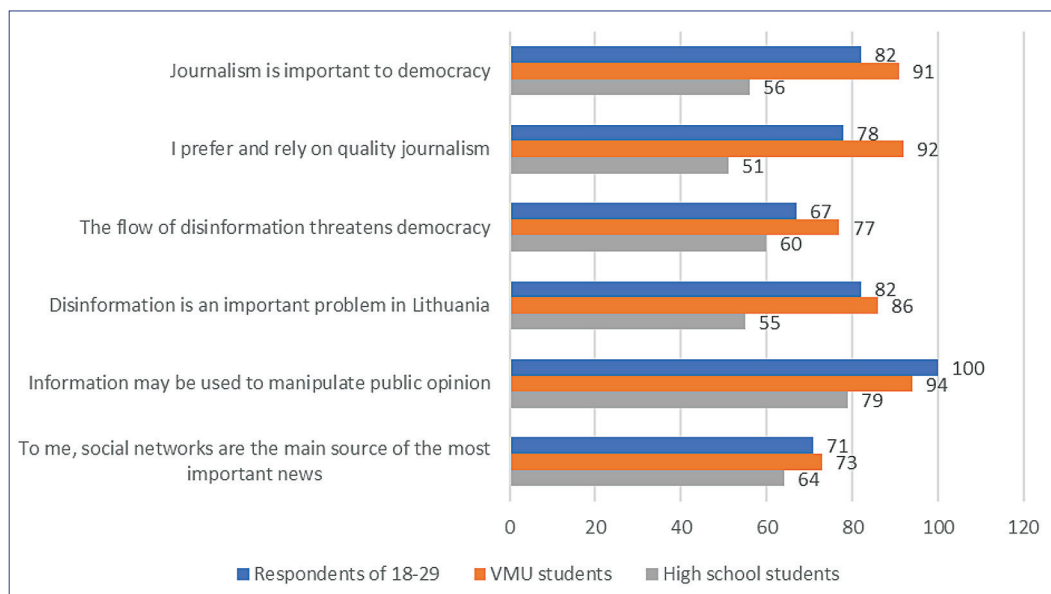


Chart 5. Assessment of information sources and threats (%). Comparing responses between different groups of young users (DIGIRES MIL report, 2022).

Despite growing concern about informational threats, high self-confidence and self-conscious awareness is demonstrated among the young people who believe that they have sufficient knowledge and are able to recognize disinformation, select reliable sources of information and compare them to distinguish between false and truth. In this case, high school students rely a little less on their knowledge. However, despite certain differences in relation to information verification methods, and fact-checking programs, only one in three young people use them (see Chart 6). An even smaller number of youth could point to specific examples of fact-checking systems, programs, and information verification carried out by various organizations.

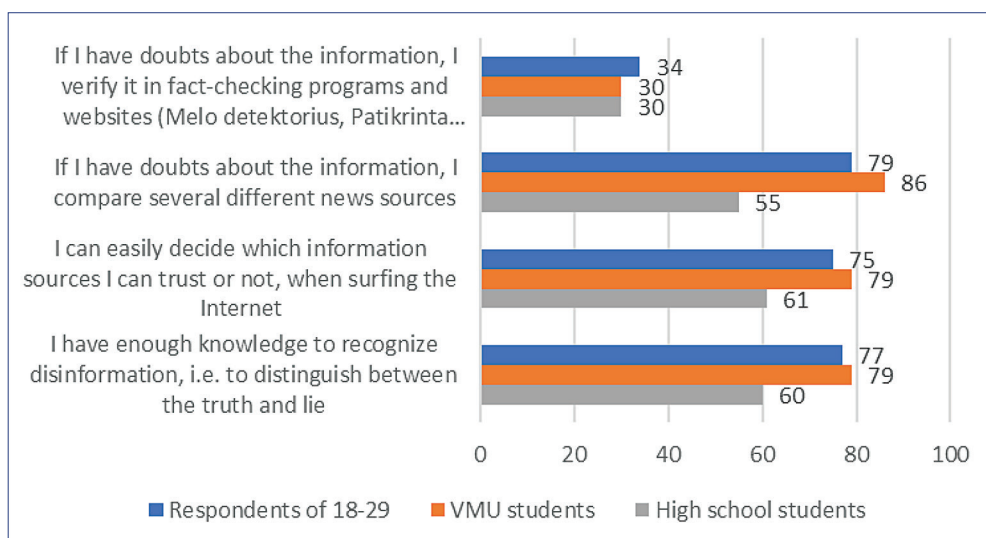


Chart 6. Capacity to recognize disinformation (%). Comparing responses between different groups of young users (DIGIRES MIL report, 2022).

As noted above, developing civic resilience requires **self-directed learning**. In addition to standardized testing instruments, self-reflection was used in the training program. These provided feedback on students’ learning experiences, their self-assessment on knowledge gained, and provided a better understanding of self-efficacy assessments for the digital challenges faced by the young generation. The open-ended reflections made it possible to supplement structured tests with in-depth questions and, accordingly, to expand the assessment results with authentic insights and comments. The answers

shared by the trainees also revealed their digital media literacy and critical thinking skills, knowledge and perceptions of the information ecosystem. Here are some student comments about the importance of quality journalism and fact-checking skills:

*“The **lateral reading method** has become my main fact-checking tool that I have to use in practice when I encounter potential cases of misinformation on the Internet or in the media. In the past, even before I studied this subject, I even intuitively had to do something similar - when reading a news story that seemed to present inaccurate information, I would look for alternative sources, try to track down the authors and cited sources. In this case, we managed to **define this concept**, this mode as a real, existing anti-disinformation tool.” (Andrius)*

*“At school, I showed the children a fake story I had created and even 70% of the students believed it. I realized that it is very easy to create and spread lies, but it is more difficult to **convince a person with arguments and facts** when he has already believed misleading information. <...> The spread and quantity of disinformation and false information is not decreasing, it is important to learn to distinguish lies from the truth. In order for us to be as little confused and lost as possible and for no one else to deceive us, **we must be constantly alert.**” (Bernadeta)*

As a result of the media literacy training campaign, educational resource “Media literacy without Myths: How to Recognize the Truth and Resist Lies?”⁵ was developed by the DIGIRES team. Combining different knowledge and expertise, it is a universal Toolkit, easily adaptable for different potential MIL education multipliers, including youth workers and librarians, university and high school teachers, youth leaders and other active members of the educational and creative industries community.

5. https://digires.lt/wp-content/uploads/2023/04/Metodologinis_leidinys.pdf

DISCUSSION

In digital environments, having a critical perspective on how one's information choices and learning are influenced by digital platform logics, as well as being aware of how individual actions can impact others (such as by sharing untrustworthy content), becomes of paramount significance.

However, upholding digital rights and acting responsibly requires more than just self-confidence and familiarity with verification tools and fact-checking techniques. It involves acquiring self-efficacy, engaging in responsible information use, and practicing ethical communication.

These competencies are in the realm of democratic capacities and MIL. Democratic capacities encompass principles of trust, security and equality. **Examples of good journalism can be utilized to study such democratic capacities.** Whereas MIL provides individuals with the skills and capabilities to combat various information disruptions, such as disinformation and manipulation, which are pervasive in today's society.

Our study revealed that specially tailored learning conditions can significantly impact the development of an individual's overarching sense of self, a crucial element in both an individual's sense of personal and professional identity. Therefore, we may suggest that there is a need for better functioning conditions and collaboratively working infrastructures (such as partnerships between news media and other knowledge communities), as well as media literacy capabilities of individuals and resources to sustain civic resilience against disinformation and other types of information manipulations over extended periods.

In conclusion, the collaboratively designed and implemented MIL approach advocated by the DIGIRES team proves to be valuable in addressing the new calls of the Digital Age, which are characterized by challenges to facticity, ethics, and accountability. The good practices of DIGIRES/BECID will be further used to develop customized media literacy campaigns for different vulnerable groups, also in the training activities of other EDMO⁶ Hubs.

6. EDMO – European Digital Media Observatory. <https://edmo.eu>



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Promoting Digital Citizenship and Social Justice Through the Implementation of MIL in Basic Education Schools

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ABSTRACT

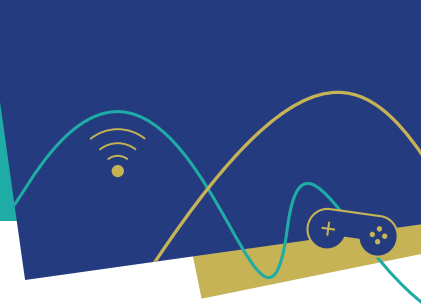
The objective of this article is to reflect on the relevance of comprehensive Media and Information Literacy (MIL) programs in addressing the impacts of platformisation, datafication, and automation of society. In a way, the main strategies adopted by society to respond to such challenges (technical strategies and digital activism, regulation of applications and platforms, and promotion of social participation) can be more effective with the support of critical digital education initiatives. At the same time, throughout the article, it will be possible to observe how policies, especially public ones, focused on social justice and serving the most vulnerable populations, are necessary to promote critical education adequately and fully for students, educators, and the population. In addition to the bibliography used, the topics discussed in the article are based on data collected between 2020 and 2022 through the ICT in Education survey with principals and teachers from public and private basic education schools in Brazil. ICT in Education is a national sample survey conducted annually by the Regional Center for Studies on the Development of the Information Society (Cetic.br | NIC.br).

Keywords: Media and Information Literacy; Artificial Intelligence; platformisation; datafication; ICT in Education; critical digital education

INTRODUCTION

At the end of 2022, the company OpenAI announced the release of a new version of ChatGPT¹, a conversational agent based on the Generative Pre-Trained Transformer Artificial Intelligence model, capable of interacting with users

1. More information: <https://openai.com/chatgpt>



through text. Due to its potential for natural language conversation, ChatGPT quickly became one of the main topics of discussion in academic, journalistic, and business circles. The system was also quickly adopted by the public: in just over four months, over 120 million users had already registered on the platform. Although discussions around ChatGPT have helped spread information related to Artificial Intelligence, many people are still unaware that such systems are already present in a large part of the platforms and applications they interact with daily. It's possible that many people do not know that the use of Artificial Intelligence (AI) agents by public and private institutions has been responsible for many of the decisions that have affected their lives. Credit assessment for a financial loan, selection of beneficiaries for participation in social programs, calculation of health insurance costs, or assessment of merit to enjoy a scholarship are some examples of decisions that are increasingly automated by organizations with the support of AI-based systems.

In the educational field, it is already possible to list a series of tasks related to the management of educational systems and schools, or related to teaching and learning processes, that are supported by the use of AI agents, many of which are not visible or perceptible to students and educators. When analyzing the role played by AI agents in education, Gulson, Sellar, and Webb (2022) draw attention precisely to the characteristics of omnipresence and invisibility of these systems as a potential to radically alter society.

A large part of the activities carried out by students, educators, and school administrators are mediated by systems, applications, and digital platforms based on the collection of various types of data, such as texts, numbers, symbols, images, sounds, electromagnetic waves, information collected by sensors, among others. Such data may be related to both the school community – students, educators, and families – and the educational institution and the teaching and learning processes [van der Hof, 2016; Livingstone et al., 2019; Organization for Economic Co-operation and Development (OECD), 2020]. The collection, processing, and analysis of data are the basis for the functioning of AI systems, such as machine learning-based systems.

Quantification, that is, the valuation of statistical techniques and the conversion of phenomena into numbers, metrics, patterns, and quantifiable data, has



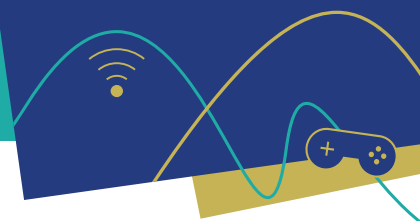
long been at work in society as a way to monitor trends, identify points of attention, and in some cases, control populations. However, with the widespread use of digital technologies in all social sectors and the growth of the digital economy based on the intense flow of information, this process of quantification, or rather, the “datafication” of society, has become even more intense. In the digital economy, datafication is a variable of power that defines the capacity of companies to operate in the digital ecosystem, with impacts that are also perceived in society, both online and offline.

Van Dijck, Poell, and Waal (2018) refer to this society mediated by systems, applications, and digital platforms as a “platform society” or “platformisation” (Poell, Nieborg, van Dijck, 2019). In their considerations, the authors analyze how platforms use the values inherent in society – such as justice, equality, solidarity, responsibility, transparency, and democratic control – as well as those related to the common good in each sector (health, education, transportation, hospitality) to act as mediators of economic and social processes, conflicting private gain versus public benefit in the context of the digital ecosystem and interactions mediated by digital technologies.

When used ethically and critically, data analysis can help map students’ needs in order to propose activities that best suit their social, cognitive, and cultural context. With the use of digital systems, it is also possible to understand aspects that interfere with equity in access to education, the promotion of well-being, and the guarantee of the effectiveness of their rights.

However, this process of platformisation and datafication of education has increasingly drawn the attention of representatives of society concerned about the risks of the widespread use of such systems for the privacy, security, identity formation, and physical and mental health of students and educators.

The commercialization of student data is the basis of business models aimed at disseminating advertisements to children and their families, as well as inducing consumption by this audience (Human Rights Watch, 2022). Student data can be used to optimize their performance and manage the risks of school dropout, emotional problems, and difficulties in social interaction, but they can also generate new school logics based on the surveillance of teachers and students [Henriques & Hartung, 2021; Laterça, et al., 2021; United Nations



Educational, Scientific and Cultural Organization (UNESCO), 2022a]. The generation of data and the creation of profiles in education can also impact the pedagogical practice of educators, who begin to develop teaching and learning strategies based on the educational standards disseminated by platforms and applications (Høvsgaard, 2019; Selwyn, 2021).

The uncritical use of data can exacerbate existing inequalities in society, such as when biases in databases harm certain social groups or when individuals are deprived of access to services and having their rights guaranteed due to a lack of connectivity or skills to engage with the digital ecosystem (UNESCO, 2022a). These risks are not merely technical issues but primarily political, with implications for decision-making, governance, and power in civil society (Pangrazio & Sefton-Green, 2022).

Based on these concerns, society has increasingly been discussing ways to ensure the digital rights of the population, prevent harm to social and democratic processes, and provide individuals with opportunities to develop resilience to face potential threats. Initiatives to address platformisation, datafication, and automation can be summarized into four main approaches: the adoption of technical strategies and digital activism, regulation of systems and activities carried out by platforms and applications, promotion of public participation in decision-making regarding systems, and the promotion of critical education. The aim of this article is to highlight the role of critical education as an essential aspect for the effectiveness of the other three mentioned initiatives and as a means to promote digital rights and social justice (Sen, 1995; Rawls, 2020).

INITIATIVES TO ADDRESS AND DEVELOP RESILIENCE TOWARDS PLATFORMISATION, DATAFICATION, AND AUTOMATION

The adoption of technical strategies is a way to empower individuals with agency over their data and online choices. The use of technological solutions such as anti-spam tools, pop-up blockers, software that allows for obfuscation, anonymization, and encryption of personal information, filters, or extensions to protect against unwanted contacts and content, child content blockers, among other tools, are some examples of tactics used by users.



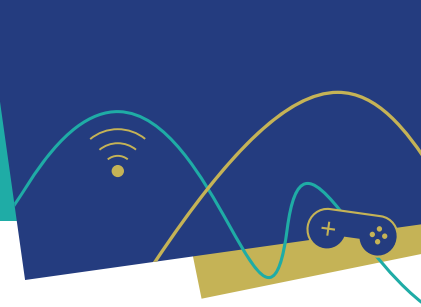
The development of alternative systems, applications, and platforms to the resources offered by major technology companies is also part of the technical strategies adopted to disrupt the flow of data and the power of platforms. Platform cooperativism is one example of creating alternative pathways to the business models adopted in the digital economy, especially as an alternative to the so-called gig economy (Zhu & Marjanovic, 2021; Peuter, Verteuil, & Machaka, 2022).

As Pangrazio and Sefton-Green (2022) state, technical tactics and strategies constitute an active approach towards individuals, as they are seen as subjects with the capacity and agency to promote the necessary changes to ensure their rights and the rights of their social group. However, the authors contrast the emphasis given by such initiatives to individual knowledge and action with regulatory responses, which tend to be more comprehensive in collective terms, as they encompass society, and may be more effective in terms of longevity and sustainability of the initiatives. Moreover, the adoption of technical strategies requires individuals to acquire appropriate skills and competencies to deal with systems, applications, and platforms. Such skills are not widespread among a significant portion of the population.

Regulation, on the other hand, is based on the principle that the challenges posed by the entanglement of digital platforms in social processes, especially those of large commercial conglomerates, require actions that go beyond the scope of individual agency by users. This calls for the development of legal solutions to rebalance the concentration of power and promote social justice and the defense of digital rights.

Concerns about the impact of the spread of misinformation in digital media, the growing power of such actions in democratic processes, and access to information and knowledge have also led governments and organizations to seek effective models for regulating platforms and the content disseminated through their portals and services.

From the perspective of social justice, regulation is an extremely relevant means to promote a more ethical, critical, and contextually appropriate digital ecosystem in environmental, social, cultural, and economic terms. However, regulation alone may not be sufficient to promote equal opportunities and changes in the criteria for occupying social spaces within the digital ecosystem



by individuals from certain social groups, as dynamics of social exclusion are related to the level of tolerance of a given society towards inequalities (Sen, 2010; Govender, 2016).

According to Pangrazio and Sefton-Green (2022), although regulation is a tool for defending digital rights, its individual or collective effectiveness depends on individuals taking action to ensure that their rights are respected and to challenge possible forms of violation. This requires individuals to have knowledge and technical and critical capacity to understand the systems and how they operate in society.

Van Dijck, Poell, and Waal (2018), when addressing the effectiveness of policies regulating digital platforms, argue that understanding the technical, economic, and social dimensions that underpin the platform ecosystem, as well as comprehending their mechanisms and how they shape society, must involve society itself in platform governance. According to the authors, regulation cannot be left solely in the hands of self-proclaimed operators and users; civil society and citizens themselves are relevant actors with significant interests in the formation of a fair, democratic, and responsible platform society.

The argument put forth by van Dijck, Poell, and Waal (2018) aligns with that of other researchers, who emphasize the importance of individual participation in all processes of development, implementation, and use of digital systems, applications, and platforms as a way to make these resources more ethical and aligned with individuals' digital rights.

This is an innovative approach but requires the creation of solutions to be effectively implemented, especially regarding the creation of participation opportunities for marginalized populations. Analyses of inequalities and social justice demand an understanding not only of the factors impacting choice and opportunities but also an understanding of possibilities for addressing them, particularly when reflecting on social contexts marked by enduring and profound disparities, such as gender and race issues. Often, the underrepresentation of individuals from certain groups in social spaces is not only the result of existing inequalities but also the cause of such inequalities (Araújo, 2016; Scalon & Salata, 2016).

The lack of significant connectivity and digital skills among vulnerable populations can hinder their full participation in the development of tools and

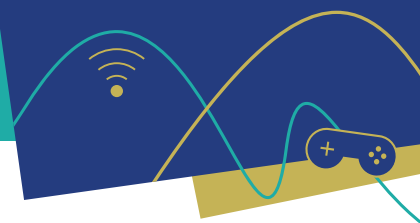
resources that are better suited to digital rights. The lack of digital skills can even be a factor that alienates certain groups from participation initiatives.

PROMOTION OF CRITICAL EDUCATION

Datafication, platformisation, automation, and many other topics related to the digital ecosystem represent a new scenario for society. Understanding how these systems operate and how they influence decisions in various social sectors is essential for the well-being and holistic, sustainable, and healthy development of society.

In this context, education emerges to provide individuals with opportunities to use these resources critically, to know their rights and act in defense of them, and to actively participate in the use, development, and application of such technologies in society. The development of technical strategies to intervene in the dynamics of data-driven economies and platform societies, the regulation of companies responsible for applications, platforms, and systems, and the creation of spaces for social participation in the development and decision-making processes related to the use of these digital resources, to some extent, depend on the promotion of educational opportunities for the population, as they are rooted in individuals' capacity to take action (Pangrazio & Julian Sefton-Green, 2022).

Regarding basic education, the promotion of education for critical, responsible, safe, and conscious use of digital technologies has taken on various forms, depending on the interpretation of policymakers and educators. In some contexts, the curriculum focuses more on teaching programming and coding in schools as a way to raise awareness among individuals about the dynamics of the digital ecosystem, its functioning, and how to navigate this digital world (*Computational Thinking*) (Blikstein & Moghadam, 2019; Raabe, Zorzo, & Blikstein, 2020). Awareness initiatives also include critical reading of data and online content genres, strategies that would help students better interpret messages and discern possible disinformation, hate speech, incitement to adopt violent and biased attitudes (*AI, data, and media literacy*) [Data-Pop Alliance, 2015; Polizzi, 2021; UNESCO, 2021; United Nations Children's Fund (UNICEF), 2021]. In this sense, there are also initiatives aimed at equipping students with essential skills for participation in digital environments, as well as resilience to deal



with online dangers and, through knowledge of socio-emotional attitudes, to adopt respectful and ethical behaviors (*Digital Citizenship Education*) (Mossberger, Tolbert, & McNeal, 2008; Carmi, Yates, Lockley, & Pawluczuk, 2020; Carmi & Yates, 2021; Livingstone, Stoilova, & Nandagiri, 2021; Crelinstein, 2022).

More recently, considering the recognition of the effects of human actions and their technologies on the environment, as well as the widespread presence of AI-based systems and agents in society, an educational approach has emerged that understands the relationship between humans and non-human beings as a form of mutual growth. According to this line of thought, education should empower students to perceive this relationship in a less anthropocentric and more holistic way, which would also help build digital environments and intelligent systems that are more aligned with the public interest and the sustainability (*Education for coexistence and sustainable development*) (Facer, K & Selwyn, N. 2021; UNESCO, 2022b).

Media and Information Literacy (MIL) aims to bring together these various approaches to critical education – media literacy, information literacy, and digital literacy – and prepare students to navigate the digital ecosystem while consciously contributing to the realization of human rights and sustainable development of life on the planet (Singh, Kerr, & Hamburger, 2016; Grizzle, Wilson, & Gordon, 2022). Beyond programming or media production disciplines, MIL encourages the creation of comprehensive curricula that combine the practice of using technologies with reflection on their social impacts, ensuring that such knowledge is offered to the entire school community, involving not only students and educators but also other school staff and parents or guardians.

MIL IN BASIC EDUCATION SCHOOLS: THE BRAZILIAN CASE

For MIL to effectively provide individuals with resources to navigate a society mediated by digital technologies and promote social justice, what aspects should be considered, particularly in terms of policies, especially public policies? This section aims to reflect on such aspects based on data regarding the adoption of digital education policies in Brazil's Basic Education schools.

Brazil has relatively robust legislation regarding Internet governance (Law No. 12.965/2014) and the protection of privacy and personal data (Law No. 13.709, 2018).

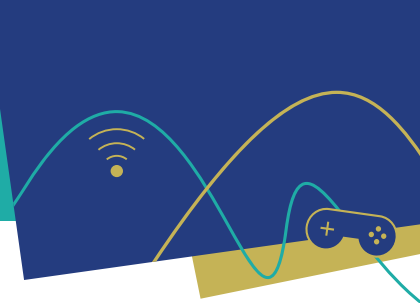
There are also ongoing initiatives to develop regulatory guidelines for digital platforms and combat the spread of disinformation. In 2023, a new national digital education policy (Law No. 14.533, 2023) was launched in Brazil, aiming to disseminate opportunities for developing digital skills and access to critical education among students, educators, and the general population.

Brazil also has a solid theoretical foundation regarding critical education, especially due to the contributions of Paulo Freire (2019; 2021) to the understanding of education as a means to strengthen individuals' capacity for social participation, particularly for vulnerable populations. The National Common Curricular Base [Ministry of Education (MEC), 2018], which defines the competencies, dimensions, and themes to be addressed at each stage of education, from Early Childhood Education to Secondary Education, includes critical education through three aspects: *computational thinking*, which involves problem-solving abilities through the application of computational methods and solutions; the *digital world*, which relates to the competencies of producing, disseminating, and decoding information in a secure, ethical, and responsible manner; and *digital culture*, which encompasses the necessary learning for full, conscious, and democratic participation in digital environments.

Such documents are essential for advancing the defense of human rights and digital rights in the country. However, the implementation of these guidelines, laws, and policies still faces challenges related to social inequalities, low educational indicators, and the challenges of digital disparities. These inequalities became even more evident during the COVID-19 pandemic when children from socioeconomically vulnerable groups faced significant difficulties accessing educational activities.

According to data from the ICT in Education survey² [Brazilian Internet Steering Committee (CGI.br), 2020], up until 2019, in the period before the pandemic,

2. Since 2010, Regional Center for Studies on the Development of the Information Society (Cetic.br | NIC.br) has been conducting the annual ICT in Education survey in public and private Basic Education schools, in urban and rural areas of Brazil. The survey is administered to principals, director of studies, teachers, and students in a sample-based methodology, using structured questionnaires. Because of the health measures adopted by schools to contain the spread of the COVID-19 pandemic during this period, the 2020 and 2021 editions of the ICT in Education survey had to be conducted remotely through Computer-Assisted Telephone Interviewing (CATI), only with principals and teachers. In 2020, 3,678 principals were interviewed. In 2021, 1,865 teachers were interviewed. The survey sample is designed to be representative of the 127,000 primary and secondary education schools in Brazil.



33% of primary and secondary schools located in urban areas had conducted lectures, debates, or courses on the critical and responsible use of the Internet. Among teachers in private schools located in urban areas, 75% reported having undergone some form of training on how to guide students in the use of technologies in the 12 months prior to the survey, while this percentage was 57% among teachers in public schools. Among students, 60% stated that their teachers had provided guidance on which websites they should use for schoolwork (60%) and had asked them to compare information from different websites (52%). However, such guidance was more frequently mentioned by older students, such as grade K-11 level (70% and 66% respectively), than by younger students, such as grade K-5 level (47% and 36% respectively).

The need to find alternative forms of education to ensure students' right to access education has driven the use of technology in teaching and learning processes. In the data collected from teachers by the ICT in Education survey (CGI.br, 2022), the percentage of educators who had received assignments or lessons from students via the Internet reached 81%, while 84% had answered students' questions via the Internet, and 83% had made content available on the Internet for students. However, the connectivity challenge persisted, with the lack of access to the Internet and digital devices in students' households, a difficulty mentioned by 86% of principals and 86% of teachers in primary and secondary schools between 2020 and 2022.

Difficulties related to connectivity in schools and the provision of training for teachers were also among the main challenges mentioned by educators for the development of educational activities using digital technologies. While 98% of schools located in urban areas had internet access, this percentage among schools in rural areas was 52%.

Regarding the dissemination of critical education (CGI.br, 2021), 81% of principals stated that such topics were included in the school curriculum. However, these initiatives occurred more frequently in larger schools and those with higher levels of connectivity, as shown in the charts below, which represent the topics of activities for students included in the school curriculum (Charts 1 and 2).

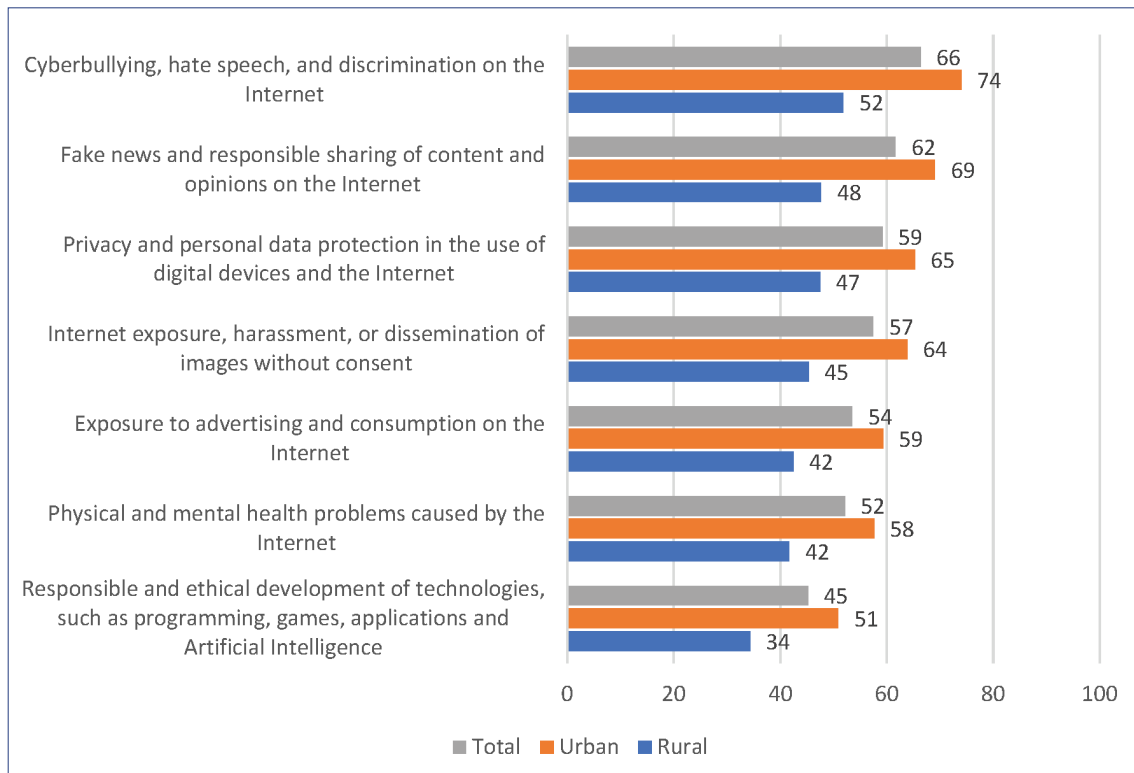


Chart 1. Schools by activity themes for students on safe, responsible and critical use of the internet included in the curricula, by location: Total number of Brazilian primary and secondary education schools

In the data collected from teachers, 49% of them mentioned that they had supported students in dealing with sensitive situations that occurred on the internet in the 12 months prior to the survey. Among the most mentioned topics by teachers were excessive use of digital games and technologies by students (32%), situations of discrimination (22%), and cyberbullying (22%).

Chart 3 also shows teachers' perception of their students' knowledge about evaluating information found on the internet. The data reveal that a significant portion of teachers perceived that their students lacked adequate skills to deal with online information, and this perception was more pronounced among teachers in public schools, particularly in institutions that served students from more vulnerable groups.

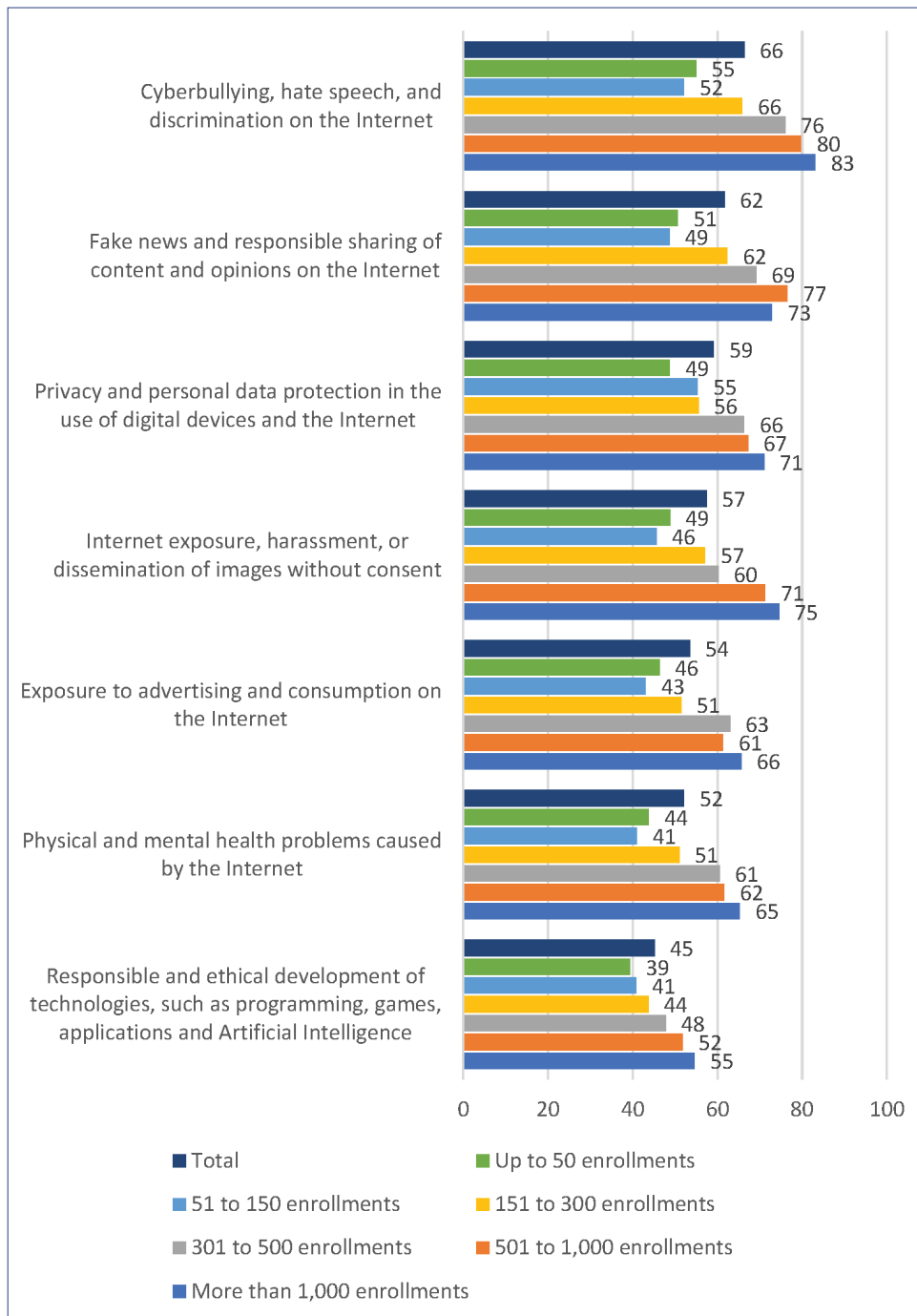
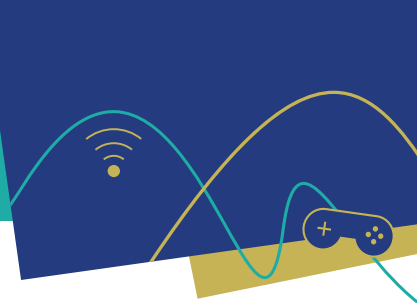


Chart 2. Schools by activity themes for students on safe, responsible and critical use of the internet included in the curricula, by size: Total number of Brazilian primary and secondary education schools

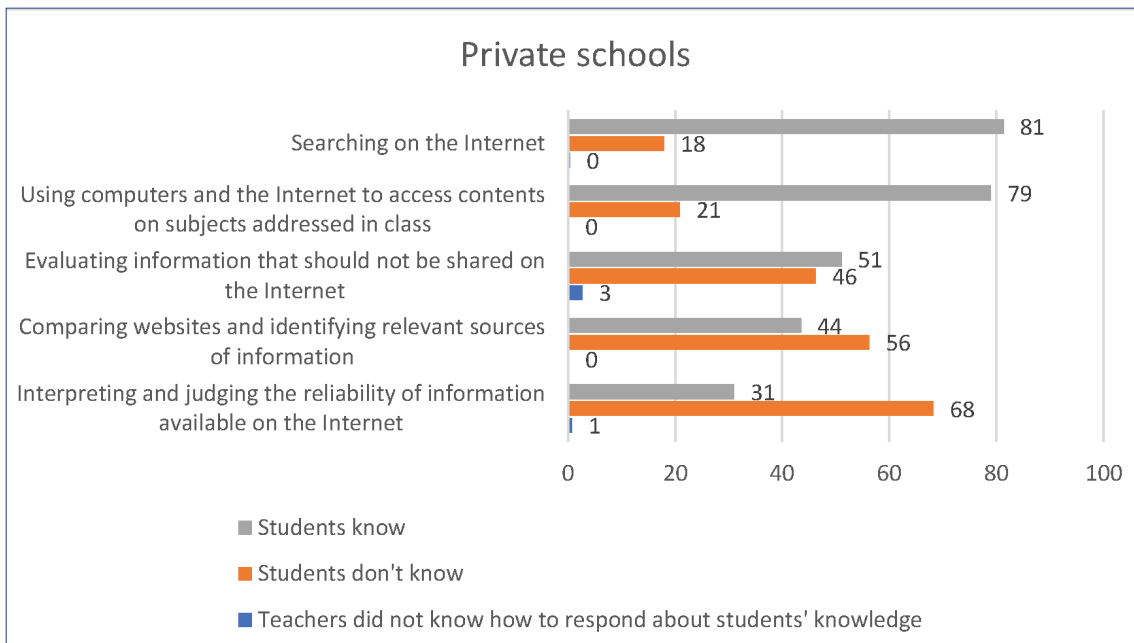
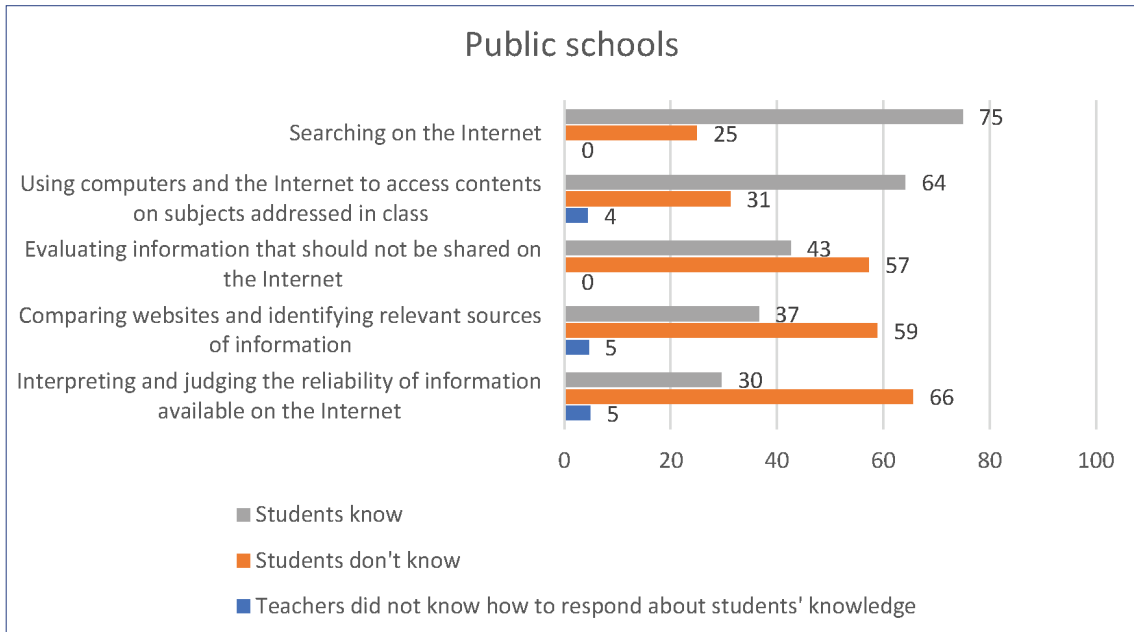


Chart 3. Teachers by perceptions of students' knowledge of internet use, by school administrative jurisdiction: Total number of Brazilian primary and secondary education teachers

Conducting conversations and debates in the classroom was the most mentioned initiative by teachers to disseminate critical education activities to students (64%). Possibly due to the sensitive situations experienced by students on the internet and observed by teachers, as well as the educators' perception of students' competencies in dealing with the accuracy of online content, a large portion of them stated that they addressed topics related to cyberbullying, hate speech, and discrimination on the internet (57%), as well as misinformation and responsible sharing of content and opinions on the internet (58%) during such initiatives of critical education in the classroom (Chart 4).

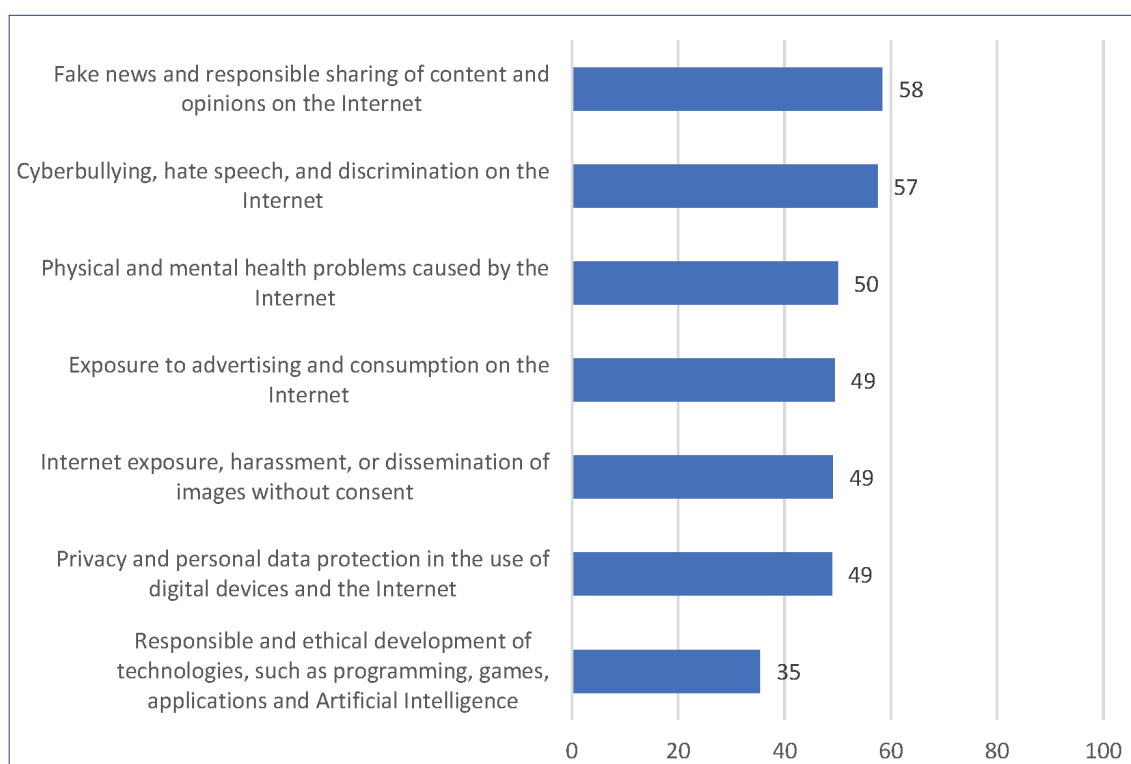


Chart 4. Teachers by themes of activities carried out with students regarding safe, responsible and critical use of the internet in the 12 months prior to the survey: Total number of Brazilian primary and secondary education teachers

The fact that 75% of teachers mentioned the implementation of at least one critical education activity demonstrates the educators' concern in addressing these topics with students. However, just over 30% stated that they had received training to develop these activities: 38% had participated in activities on privacy and protection of personal data on the internet; 37% in training

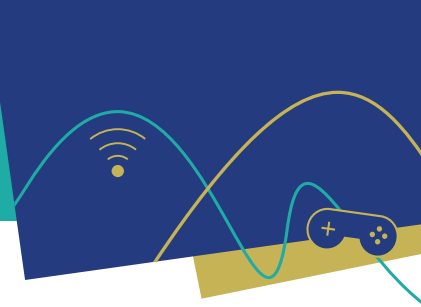
activities on guiding students in the safe use of technology, and 32% had participated in training initiatives on misinformation and responsible sharing of content and opinions on the internet.

The need to expand training opportunities for educators is also evident in the data. While 92% of educators stated that they inform themselves about the use of technology in their pedagogical practice through online videos and tutorials, and 86% of teachers learned about these topics from other educators, only 48% mentioned education authorities as a source of information on these subjects. This may indicate a lack of support and training provided by institutional bodies and an emphasis on informal training, often through the educators' own initiatives.

DISCUSSION AND CONCLUSION

Digital critical education is essential for understanding, acting, and participating in a society mediated by digital technologies, especially in the face of the advancement of platformisation, datification, and automation processes in social sectors. However, for education, especially through schools, to play this role as a promoter of MIL actions, care must be taken to ensure that such information, knowledge, and opportunities are not restricted to educational institutions that already have resources and means to appropriate them, as observed in the data from Brazilian schools. It is important that such initiatives reach students from more vulnerable groups so as to amplify the voice and participation of these students and educators in online and offline spaces.

Although education is an important avenue for the effectiveness of digital activism, digital system regulation, and social participation initiatives, it should not be seen as a strategy isolated from other social policies. Overemphasizing education alone can burden educational institutions and educators as the sole responsible agents for social change within educational environments. This is why it is important for MIL to be part of a comprehensive program for society as a whole, which also requires capacity-building for policy-makers and the creation of multisectoral networks to collect individuals' perceptions of their reality and disseminate MIL actions across various social contexts. It may be necessary to adapt policies to individuals, unlike the usual approach where



individuals are expected to adapt to the required standards of skills or knowledge in the digital society. This becomes evident, for example, in rural school contexts.

Another challenge lies in the ineffectiveness of ensuring access to education in many societies. The pandemic was an example of how the right to education is not always fully and effectively fulfilled. Despite schools and educators playing an extremely relevant role in ensuring education could continue even after the closure of educational institutions, inequalities in opportunities among students and, in some cases, the inefficiency of certain educational systems led to a lack of access or unequal access to educational activities and, consequently, non-participation in MIL initiatives.

These are issues that go beyond the digital ecosystem but often intersect with the various inequalities experienced by students. Such inequalities are mirrored in digital environments. Therefore, it is important to create programs and policies with a focus on social justice. To achieve this, careful attention must be paid to promoting equality and “fair inequality” (Sen, 2010), meaning that specific actions may be necessary for certain groups to promote their inclusion.

Above all, MIL needs to be understood as a social commitment with state policies rather than just government initiatives, and the dissemination of digital education should be recognized as a right for all in both formal and informal education. Only then can we have a more equitable, accessible, inclusive, and diverse digital ecosystem.



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New Challenges for Media Education: towards an innovative programme of digital self-awareness and resilience

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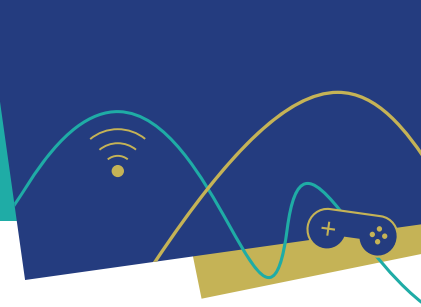
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ABSTRACT

This chapter investigates and assesses the current contribution of educational systems to media education with a focus on the Greek education system, starting with an examination of key terms and a review of theoretical approaches to media education/literacy during the last fifteen years, focusing on its application in several countries. First, we document comparative perspectives on theoretical approaches and practical educational applications, then we present basic principles of media education that have been theoretically established and applied as best practices over time. Then, we highlight some crucial issues in media education as has been applied in practice, as for example a tendency to identify media education with the daily consumption of media and their utilization as teaching tools, or limited focus on cultivating critical thinking and persistence in disinformation and fake news, detached from the general framework of an integrated approach. Finally, we reflect on implementing media education in the Greek educational system, focusing on the need for policies and teacher training. The ultimate purpose is, by cultivating pupil's digital self-awareness and resilience within the school environment, to prepare citizens with critical thinking skills and democratic participation.

Keywords: digital education; digital self-awareness; resilience; educational programs; digitality



INTRODUCTION

In April 2022, in a time span of one single minute, 231,400,000 emails were sent worldwide, 5,900,000 Google searches were made, 66,000 photos were uploaded to Instagram, and 500 hours of video footage were uploaded to YouTube (Statista, 2022). Multiple conclusions and concerns emerge from this description of endless digital activity. What is the impact of digital connectivity on human relationships? How does Google's digital library reshape cognitive processes and learning? How does involvement in digital social networks affect the construction of an individual's sense of self? How has the everyday experience of digital natives, for whom smart devices are fully integrated into their lives as extended body parts, changed? Alongside these concerns, the need for new curricula in digital literacy and media education –which has interested policy makers and media experts since the 1990s, even before the expansion of the internet (Buckingham, 2019)– is growing.

Through approaches that viewed media mainly as technological tools, first attempts concerned the development of information literacy programs, to provide all citizens with the necessary skills to use the media, as well as programs that prioritized the consumption of media messages, particularly by children. These programs, under the umbrella title “media education”, aimed to teach children to resist media influences, by critically analyzing their messages (Buckingham, 2019). With the rapid growth of the internet and the pervasiveness of digital activities in every aspect of social and personal life, the focus of media education programs shifted towards children's self-protection and self-regulation in using technology, i.e., a protectionist approach, which historically, emerges whenever a new technology is introduced (Buckingham, 2002). Nowadays, beyond protectionism, and in addition to technological literacy (i.e., learning to use the media, which now automatically develops at an early age), the challenge is for citizens –including children– to develop a critical awareness of their relationship with the new media and their contents. In other words, to use media, rather than being “used” by them.

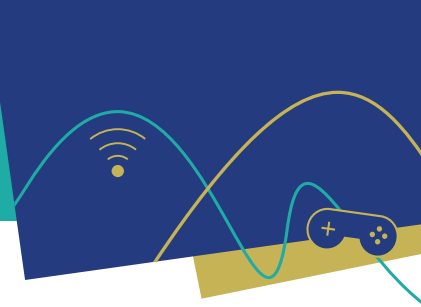
Media education is a necessary pillar of education in the 21st century, to cope with large and complex social issues emerging from continuous connectivity, the reduction of live interpersonal contacts, and the generally rapid

development of artificial intelligence (Lemish, 2015). And it should include, apart from media literacy, the development of the ability to stand critically to media contents and use, from very early in life.

TRANSFORMATIONS BROUGHT ABOUT BY DIGITALITY

Exposure to the contents of modern media and the use of digital devices from toddler and preschool years (Calvert et al., 2014; Deloache et al., 2010; Richert et al., 2010; Zack et al., 2013) bring about significant alterations in critical aspects of development, such as the sense of self, the building and maintaining of interpersonal relationships, information processing and learning. Participation in digital social networks and the use of modern communication platforms have been linked to a sense of social connection (McClure et al., 2015), increased social capital (Ellison et al., 2007) and enhancement of cognitive processes [e.g., engagement with video games is associated with reduced response inhibition and with improvements in working memory (Chaarani et al., 2022)]. However, in order to gain these benefits, it is important for the user to be aware (themselves or their caregivers, in the case of very young children) of regulations and boundaries, and to behave within what has been defined as the reality “between two extremes” (Bryant et al., 2006); that is, neither technophobic avoidance nor the use of technology as a lifeboat against social isolation and other personal or social problems. It is also important to build digital resilience, that is the ability to manage a negative experience that takes place in the digital environment, through the development of appropriate strategies that protect the user from potential injury (Vandoninck et al., 2013).

Nowadays, aspects of the self are interwoven with digital threads of the continuing flow of information and stimuli. Sense of self and the perception of the “other” are shaped through contacts with a remote, impersonal audience, within a context of potentially unlimited choices – which in practice are predetermined by algorithms that maximise corporate profit (De Vos, 2018). Sensory content is shrunk to visual and auditory stimuli, and social comparisons exceed locality and synchronicity, giving rise to phenomena of digital anxiety, such as the Fear of Missing Out (FoMO, Bosker et al., 2011), i.e., a new type of social anxiety stemming from a need for recognition from innumerable, heterogenous



others, and from the fear that the person is missing out on aspects of experience as compared to their digital friends.

The internet established itself as a limitless and constantly available library that fascinated its users, especially those whose contact with the internet was a new experience. However, now it seems to have a catalytic effect on memory processing and knowledge acquisition. Knowledge, typically acquired through laborious and time-consuming cognitive processes, tends to be replaced by fragments of information which invoke a superficial, passive approach to online data that does not allow for meaning-making and in-depth understanding of events and phenomena (Davou, 2005). Early exposure to media content is associated with attention difficulties later in life (Christakis et al., 2011). And although research indicates that the human mind adapts to computer operations by adjusting procedural memory processes to the way software and hardware operate, this is effective only if the person is constantly connected (Sparrow et al., 2011). Similarly, studies on attention orientation (Bavelier et al., 2012; Dye & Bavelier, 2010) indicate that video game players locate objects faster, and more efficiently, and are capable of more accurately filtering useful from useless objects in a digital environment, but these skills do not transfer to non-digital environments. On the contrary, high processing speeds required by video games do not allow for the development of reflective thinking, which is the basis of meaning-making (Harley et al., 2018).

The need for speed and alertness often extends to the individual's more private hours and spaces, where even moments of rest are linked to a screen. Countless studies (e.g., Alonzo et al., 2021; Pirdehghan et al., 2021; Tandon et al., 2020) demonstrate the impact of screens on sleep quality, especially of children and adolescents. In addition, using screens to escape from unpleasant individual thoughts and feelings, diminishes the individual's potential for thinking, reflecting, daydreaming, and engaging in the divergent thinking necessary for contemplation and personal development (Sidiropoulou & Davou, 2020).

Systematic exposure to violent media has been associated with desensitization to violence, increased apathy, and reduced empathy, long before digitality (Buckingham, 1996; 1998). The spread of the internet has reinforced interactivity with content and has transformed users to producers, increasing the

possibility of engaging in violent acts. Provocative games and forms of bullying are now circulated to an impersonal, enlarged audience, and games of identities now escape the closed community of protagonists, become a spectacle for many, and remain in digital memory forever.

The above is only a brief, indicative description of the psychological and social changes brought about by digitality in the last twenty years, that highlights the necessity for media education, integrated in the school curricula from kindergarten and primary school levels. Beyond simple “literacy”, it should include the development of a critical approach to media contents and media use, self-awareness of how digitality transforms thought processes, emotions, relationships, and behavior, as well as the development of digital resilience. Below are four suggestions for a media education program that would meet contemporary challenges.

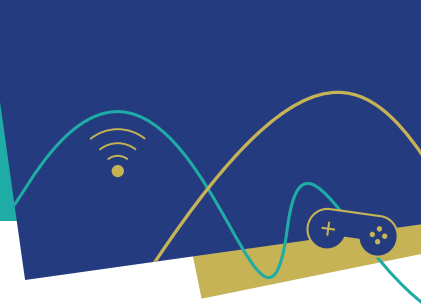
SUGGESTIONS FOR AN INNOVATIVE MEDIA EDUCATION PROGRAM

1. Autonomous course at all educational levels

In Greece, media education activities exist as small thematic units within the curricula and specifically in courses on modern Greek, civic education, computer science or as units in soft skills workshops, health education or culture education programs, but in a fragmented way and focused mainly on the language used in the media and in fake news. To date, media education has not been introduced as an autonomous course, either because there is not such specialization for educators and/or because educational systems in general resist social change (Alam, 2022; Fullan, 2020). However, to develop digital resilience and self-awareness, it is necessary for media education to be introduced as an autonomous course at all educational levels, in a spiral approach (Kellner & Share, 2019), with content and teaching methods adjusted to respective age groups.

2. Two-dimensional curriculum

A modern media education curriculum incorporates two dimensions: cognitive and socio-emotional (McDougall et al., 2018). The first relates to the student’s knowledge of the role and function of information and media, the competence



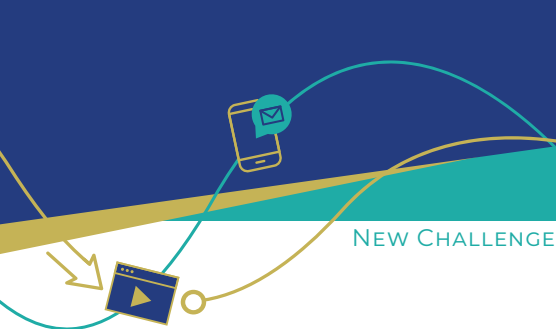
to acquire reliable information, to critically evaluate it in terms of validity and purpose, to synthesize and communicate in a context of social responsibility, and to assume the role of an active citizen. The second dimension refers to the student's stance within the media environment, the formation of his/her digital identity and online behavior, the emotional consequences of constant connectivity, and every aspect of personal and social life in the digital environment. And since the media are dynamic in nature and are in direct interaction with society, the program must be characterized by flexibility and adaptability (Frohlich & Magolis, 2020).

3. Adapted teaching techniques

From the outset, media education followed a student-centered approach and techniques of active learning (Davou & Nika, 2007), which engage the learner, provide opportunities for personal expression, offer context specific choices based on student interests and experience, and ensure space and support for communication, emotional expression, exploration, dialogue, and creativity (Duignan, 2020). Some indicative techniques are text and context analysis, role-playing, case studies, storytelling, inductive method, simulations, content production, project method, and the flipped classroom. These techniques allow students to develop not only technical and critical skills, but also skills of self-expression, self-observation, communication, reflection, and metacognition (Tommasi et.al., 2023), i.e., the skills necessary for digital self-awareness. The focus is on the students' works which have personal meaning, so that the knowledge and experience they acquire emerge from their own needs and from the response of the recipients to whom they are addressed (Tsortanidou et al, 2019).

4. Joint continuing media education for students and teachers

In Greece there exists no special training for media educators. Graduates of Communication Departments have a specialized background in media and journalism, but not the necessary pedagogical competence. Teachers are considered digitally literate, i.e., they know how to use the media -mainly as technological tools in teaching- but they tend to disregard their students' experiences



with media outside the school. Although students are not a socially homogeneous group, they are nevertheless a digitally skilled group with high demands, with almost homogeneous ways of using media and with a pre-existing experience that hampers their ability to “unlearn” in order to learn new more critical stance (Varga & Egervári, 2022).

One way to overcome the lack of specialized media educators, is through a different model of “joint continuing education”, where teachers together with their students, in parallel times and processes, learn and “unlearn”, in constant interaction with each other, in a course integrated in the curriculum. Visiting qualified professionals (e.g., graduates of interdisciplinary postgraduate programs of Communication and Pedagogy, qualified journalists, content producers, and psychologists) will approach media education issues with a long-term holistic direction and with reflective processes, thus contributing to a continuous development of digital self-awareness and resilience of both students and their teachers. This continuing media education will evolve in parallel with digital developments.

CONCLUSION

Media are inextricably linked to everyday life and have become extensions of the individual, both mentally and physically (Sidiropoulou & Davou, 2018); hence a continuing media education program should approach them not as a harmful environment, but as a key and integral element of modern life. Media education is an addendum to the educational process, that is necessary due to changing social conditions (and technology is among them). The content of education is evolving, as are its techniques, to serve life. The key issue, therefore, is to link the practices of media education inside the school with those in which students spontaneously engage outside the school, and to follow the needs and concerns of each age group, in a program that runs through all levels of education. And since students always return home from school, their new knowledge should find a fertile ground to thrive. Therefore, media education, as with all innovative programs, must expand from the school to the community with programs developed specifically for adults, or for adults and children together, by appropriate community organizations (Jenkins et al., 2009).




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Digital Hospitality Lab: empowering educators through digital literacy – a case study from Guatemala

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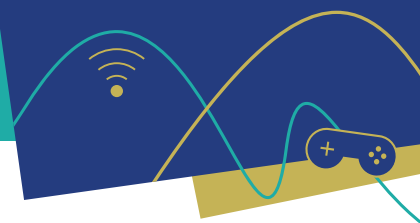
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ABSTRACT

Digital Hospitality Lab is an educational association created in 2020 during the COVID-19 pandemic by a multidisciplinary group from Brazil, Chile, and Uruguay with the aim to implement actions to improve digital literacy and reduce educational inequalities. In 2021, the group started a collaborative work, invited by the Comparte Onlus foundation (Italy), to develop digital skills and innovative pedagogical practices with professors who train teachers at San Carlos University in Petén, Guatemala. Initially, the focus of actions were workshops on digital tools to overcome the obstacles of social distancing and promote more student engagement. In 2022, the training process focused on creating, transforming, and applying lesson plans using digital competences. The training design elaborated by the members of the laboratory provided a cascade effect beyond the transfer of technical-pedagogical knowledge, providing empowerment in active, critical, and inclusive learning strategies. These experiences have indicated some trends: i) the strength of interdisciplinary and multicultural actions for Media and Information Literacy (MIL); ii) the value of supporting university professors who train teachers; iii) the importance of practical activities combine with mentoring; iv) the empowerment of teacher by MIL has repercussions on creative and critical actions in their students.

Keywords: Media Information Literacy; Digital training teacher; Digital Hospitality; Higher Education; COVID-19 pandemic



INTRODUCTION

“Teaching demands confidence, professional competence and generosity”

*Paulo Freire*¹

During the Covid-19 pandemic, teacher training challenges in the use of digital technologies in their pedagogical practices became more evident and urgent. Connectivity and digital skills have emerged as major barriers in various dimensions of the educational process: from basic schooling to higher education. According to the “Global Connectivity Report 2022”, published by International Communication Union (ITU), the pandemic crisis has exacerbated the effects of digital exclusion. Access to education, work, health care, purchasing, entertainment, and social life during the lockdown period was possible for those with fast connectivity and some specific digital skills. However, for others, many aspects of their lives were substantially affected, particularly for children and youth who have been deprived of essential educational services because of school closure (ITU, 2023).

Latin America was the region where schools were closed, totally or partially, for the longest time during the pandemic crisis. According to a report published by the *Comisión Económica para América Latina y el Caribe* (CEPAL), this was about 56 weeks. As a result, almost 15.000.000 students were deprived of their right of learning (CEPAL, 2022). In 2020, concerned about the global and local state of education, a group of professionals from diverse fields started working together, to address the challenges in their respective countries. This multi-disciplinary group inspired by the concept of Digital Hospitality developed by Henríquez (2021) has created the Digital Hospitality Education Lab. The lab is a collective space and virtual learning community to implement initiatives to improve digital literacy and reduce educational inequalities.

The meetings to share experiences of the Covid-19 pandemic challenges in the field of education in Latin America gradually evolved into structured collaborative efforts that combined knowledge, skills, and experiences from disciplines such as psychology, communication, informatics, computational

1. Freire, P. (1996, p. 102)

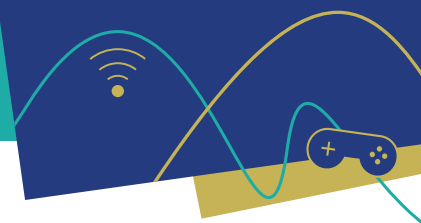
science, pedagogy, and philosophy. Furthermore, since the same year of its foundation, the Digital Hospitality Education Lab is part of the UNESCO Media and Information Alliance.

The concept of digital hospitality is initially understood, as “[a] reflective approach based on hermeneutics and as a philosophical-educational proposal that allows to address the various categories that arise in the context of an advanced digital era and to reduce the current digital divide and one of its main effects, digital illiteracy, which brings other consequences in society, such as those experienced dramatically in the context of the pandemic.” (Henríguez, 2021, p.64)

The promotion of competencies for the use of communication technologies and critical understanding of information disseminated by the media has been part of UNESCO’s initiatives over the last 40 years. During this period, several terms were present in their statements and documents. In the 1950s, the expression “media literacy” emerged because of the expansion of television sets and the concerns about media manipulation. In the 1970s, the term “information literacy” amplified the previous notions. In the 1990s, with people’s increasing access to personal computers, mobile phones, and the internet, expressions such as “computer literacy” and “digital literacy” gained prominence (UNESCO, 2021). However, since 2008, to unify and create an umbrella concept, UNESCO has adopted the term media and information literacy (MIL) “which covers interdependent and convergent competencies for engaging with communications and content via institutions such as libraries, the media and internet companies” (UNESCO, 2021, p. 7)

DIGITAL LITERACY AND DIGITAL SKILLS

Although digital literacy has various interpretations, the most common is Gilster’s (1997) which indicates the ability of people to understand and use information from digital sources in problem-solving (Reyes & Avello-Martínez, 2021). This definition has traditionally been linked to education. Currently, a person is considered digitally literate when he or she is able to interface with technological devices, interacting in virtual spaces (Reyes, 2020). It should be noted that the definition is expanding to some specific skills in the educational field,



becoming a referred competency, such as designing technology-based activities and network collaboration, among others. These have been defined by different frameworks for the educational use of technology, such as the European Framework (Reis et al., 2019).

For the systematic development of this digital competency in teaching, various frameworks have been created, with the most widely used being Dig-ComEdu (European framework for digital competency of teachers), while a theoretical model for teachers' digital competence development is TPACK (Technological Pedagogical Content Knowledge). By establishing different intersections in the way technology can support pedagogical and disciplinary aspects, the TPACK model refers to the relationships between the content knowledge associated with what is taught, the pedagogical knowledge associated with how it is taught, and the technological knowledge describing the digital skills required by teachers (Cabero Almenara et al., 2015).

The European framework for teachers' digital competences is articulated through 6 competencies that they should have in the digital field: professional commitment, digital resources, digital pedagogy, evaluation and feedback, students' empowerment, and facilitation of students' digital competences (Cabero-Almenara et al., 2020). In the Latin American context, it has been generally evidenced that teachers possess a technical use of technology, especially for accessing information, but they lack the ability to innovate with it, making it necessary to generate inter-university spaces (e.g., in virtual mode, Tobar & Lozado, 2021), to train and share experiences.

Even though internet connectivity rates have increased in the last decade, from 29 percent in 2010 to 63 percent in 2021 (ITU, 2022), the low level of Information Communication Technology (ICT) skills has been a barrier to socially meaningful and beneficial connectivity. Information collected from 78 countries based on five categories of skills (communication/ collaboration; problem-solving; safety; content creation; information literacy) has identified that a significant portion of the population uses the Internet without social benefits and without knowing how to avoid risks (ITU, 2022). The lack of educational benefits is linked to the low ICT skills, especially in information data literacy and critical competencies.

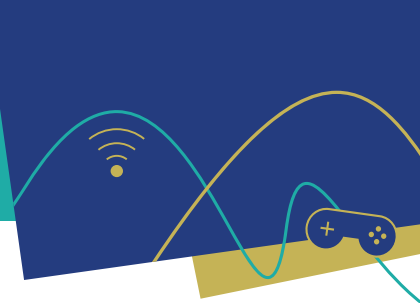
For this reason, it is important to overcome the myth that digital natives develop technological competencies on their own. The systematic teaching of ICT is ever more necessary to prevent children and youth from becoming mere passive consumers of the entertainment industry. In this sense, innovative teacher training that promotes the digital youth protagonist with critical awareness and digital civility is essential for the new democratic future (Prioste, 2019).

Therefore, the aim of this article is to describe an experience of digital skills development and innovative pedagogical practices with university professors in Guatemala who train future teachers. These professors faced difficulties in conducting their classes in the pandemic and post-pandemic context, mainly due to the lack of digital competencies and the digital divide in this country.

CASE DESCRIPTION AND METHODOLOGY

Guatemala has structural and historical problems of inequalities when it comes to access to education, which have worsened during the pandemic period. This divide does not only have to do with access but includes student permanence and quality of education. These problems affect especially the rural and indigenous populations, and communities in situations of poverty and social vulnerabilities. Access to basic education reaches almost 100% of the 7-year-old population; however, starting from the age of 13, many adolescents drop out of school. At the age of 16, only 54,1% attend school, at 17, the number drops to 43,7%, and at 18, only 26,5% are still in school. The pandemic crisis has deepened these difficulties, while, at the same time, illustrated the necessity to universalize access and support the use of the Internet, computers, and ICT devices in Guatemala. Furthermore, the pandemic period reveals the importance of access to ICT to be supported by training and guidance strategies for teachers (Lovo, 2022).

This case study was carried out in Petén, the largest of Guatemala's 22 Departments (about one third of the country's surface area). In the north of Petén, in the municipality of Santa Elena, is located the CUDEP centre, one of the 18 college campuses of the Universidad de San Carlos de Guatemala (USAC). USAC is the fourth oldest university in America, having been founded



in 1676 and is the only public university of the country. The three times centenary Universidad de San Carlos has gone through several stages: it currently serves 146.299 students facing many challenges. During the pandemic, many processes have been technology-enabled (e.g., tuition payments can now be made online), but if the USAC campus in the capital was able to offer free wireless internet access, the situation is quite different in rural areas. According to the data of the Ministry of Education (MINEDUC): between Q.10.00 and Q.30.00 is spent daily to connect to the internet for educational purposes, when a high percentage of Guatemalans live with Q.28.00 per day (COPADEF, 2022). Furthermore, according to Johnson y Gálvez-Sobra's (2020) study, more than 70% of teachers in the country were not sufficiently competent to integrate technology into the teaching-learning process.

The idea of a faculties' workshop, promoted by *Hospitalidad Digital* and *Comparte Onlus*, addressed the need to develop teachers' digital skills. Besides the importance that mastering digital skills is an essential requirement for teaching (UNESCO, 2011), faculty of the University San Carlos of Guatemala in Petén had the urgent necessity of handling some digital resources to keep teaching in a pandemic condition of social isolation. The initiative is part of the *Comparte Universidad* project that *Comparte Onlus* has been developing for 4 years in collaboration with CUDEP, in Guatemala. Indeed, *Comparte* is a cultural association (ONLUS stands for Non-Profit Organisation of Social Utility) that since 2018 has been supporting the quality of education in the rural areas of Guatemala through the *Comparte Universidad* project, which is based on an exchange and training network between Europe and Latin America (Culcasi et al., 2021).

The period 2021-2022 was considered for this study: the workshop was divided into two modules: the first one was focused on distance education strategies and technological tools, with 62 participants (Table 1); the second one was focused on hybrid education with 14 participants who achieved their pedagogical plans (Table 2). Both had a practical approach with a theoretical baseline that guided all the 8 synchronous meetings led by the multidisciplinary group of Digital Hospitality.

Table 1. Module 1: content and approach (2021)

Content	Approach
Education strategies for virtual environments	Theoretical
Digital Hospitality and the digital gap	Theoretical
Designing digital interactive presentations	Hands-on
Designing digital interactive presentations	Hands-on
Designing virtual learning environment	Hands-on
Designing virtual learning environment	Hands-on
Evaluating groups in a virtual environment	Theoretical
Individual evaluation in a virtual environment	Theoretical

The main goal of the workshop was to develop specific competences: the creation of digital learning objects (DLOs) and digital lesson planning, digital self-learning autonomy. For this goal, the definition adopted for DLOs is “learning activities in digital form, which teachers can use to introduce Information and Communication Technologies (ICT) in the educational process.” (Poultsakis et al. 2021).

To develop these competences, the sessions were organised starting with content about the theoretical definition and framework of digital hospitality, learning distance, and hybrid education, followed by practical digital tools exercises. The training concluded with the participants designing and implementing a technology-based lesson plan, with mentoring led by Digital Hospitality members.

The methodology was based on mentoring, developed through virtual workshops and webinars, as well as virtual work through a platform to review the participants’ work proposals. In this sense, mentoring is considered an appropriate strategy for peer work because it allows the teaching and learning process to be personalised, adapting to the possibilities of each participant (Sánchez Cabezas et al., 2019), also producing learning and socio-emotional results cooperatively, in a supportive and trustworthy environment (Gradaille

Ramas & Gradaille Martín, 2020). Mentorships provide a space for mutual trust and more personalised support, helping professors to integrate their prior knowledge with confidence to create new ways of teaching.

Table 2. Module 2 content and approach (2022)

What is hybrid education	Theoretical
Education strategies for hybrid education	Theoretical
Creating digital learning objects	Hands-on
Creating digital learning objects	Hands-on
Creating a lesson plan	Mentoring
Applying the lesson plan	Mentoring
Evaluating the lesson plan	Mentoring
Results presentation	Mentoring

In 2022, the training process focused on creating, transforming, and applying lesson plans using digital competences. Detailed pedagogical planning and the choice of digital resources suited to the objectives and profile of the students is a fundamental stage of that work. At the beginning of the process, teachers received a guide for planning and evaluating their hybrid pedagogical activities. The worksheet had the following topics: i) objectives: teachers were asked to explain the purposes of the activities and what would be the final results expected after execution by their students; ii) step-by-step description of each activity; iii) online, hybrid, or face-to-face modality; iv) specification of the digital resources used and explanation of the reasons for this choice; v) evaluation of the process including a description of the evaluation modality (co-evaluation, hetero-evaluation, self-evaluation), type of instruments used, pedagogical results achieved and the effectiveness of the digital resources used. All teachers stated that they were able to implement the activity plans with their students.

RESULTS AND DISCUSSIONS

In this article, the analysis was based on the data obtained in the second module from both: the lesson plans prepared by the faculty, and their answers to the final evaluation forms. The results highlight an increase in teachers' and students' digital skills and the improvement of MIL, in accordance with the hypotheses indicated in the UNESCO guiding documents (2011, 2019). Thus, a pertinence of the training strategies adopted by the Digital Hospitality group is revealed, suggesting some innovations in the pedagogical practices. The didactics plans elaborated by the professors through mentorships present a varied repertoire of activities that are relevant to MIL and linked with global and regional problems. Analysing the objectives of the didactic plans, three categories of skills developed by both educators and students emerge: i) communication, learning, and collaboration competences; ii) digital literacy and content creation; iii) socio-cultural problems and media-information literacy.

Examples of objectives concerning communication and collaboration competences are stimulating the ability to innovate, collaborate, and communicate using technologies; expanding prior knowledge and access to new knowledge; encouraging team teaching-learning; strengthening the understanding of topics covered in the curriculum.

Regarding digital literacy and content creation or the development of abilities to handle technical tools, we highlight: the creation of animated videos; the use of learning platforms such as Moodle; the access and manipulation of research databases; the use of open code software; the preparation of spreadsheets; the use of applications for diagramming documents; the use of learning resources for disseminating videos and educational content through social networks.

Concerning socio-cultural and media-informational literacy goals, educators developed: activities to raise awareness of the environment; logical thinking; popular education; the history of Guatemala; creation and dissemination of educational content; and development of critical skills for analysing information disseminated in digital environments.

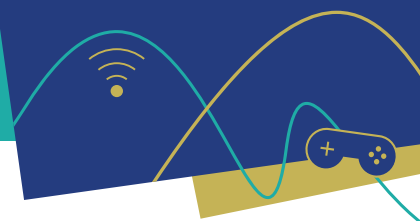
digital applications, but they frequently ignore different resources, and they don't know how to use them for pedagogical purposes. Another participant said: "The workshop motivated me to implement digital tools with my students that I only used to build presentations, but not in activities that involve them". Regarding digital literacy, another participant highlighted that the workshop "was interesting, because they could publish important information on social networks, making their classes a massive education channel".

All participants in the second module could develop competence in digital lesson planning, as all of them proposed a sequence of digital activities to apply with their students. For some of these lessons, 8 educators created their own DLOs, indicating that 57% could develop the competence of creating digital learning objects. In addition, 10 professors proposed that their students create their DLOs as a pedagogical activity, showing a positive outcome impacting not only the participants but also their students.

The assessments of the second module indicated that all training sessions were useful, nevertheless, some of these were most relevant to teachers' practice as seen in table 3. The meetings that proposed practical activities for creation of digital objects were cited by 86% of the participants, followed by the theoretical session about hybrid education (79%) and strategies for hybrid education (64%). Mentoring sessions were also mentioned by faculty, especially the one regarding the presentation of the pedagogical plan.

Table 3. Evaluation form filled by participants about the most relevant thematic in their work

Creating digital learning objects	86 %
What is hybrid education?	79 %
Strategies for a hybrid education	64 %
Mentoring: presentation of lesson plans	64 %
Mentoring: thinking about the pedagogical objective	43 %
Evaluating the lesson plan	36 %



These results reveal the importance for teachers to obtain practical and theoretical knowledge that provides new teaching-learning resources with the use of digital technologies, as evidenced by the TPACK model (Cabero Almenara et al., 2015). Moreover, we conclude that technical competence is just one of the aspects that must be integrated into the mastery of socially relevant content and the professors' ability to establish a trusting and learning relationship with their students.

Teachers' and student's empowerment, in Paulo Freire's perspective, is a process resulting from dialogic activities, critical reflection on teaching practices, respect for ideas interchange and, finally, the recognition of historical-cultural forces that limit social transformations (Freire, 1996). The assessment of the second module demonstrated that the professors had the opportunity to reflect on their practices and transform them, creating communities of learning with their students, and expanding the transmission of scientific and cultural information beyond the walls of the university. On top of that, the work's follow-up suggests more digital self-learning autonomy whereby some students became agents of the creation and dissemination of educational relevant content.

CONCLUSIONS

What have we learned from this experience? At first, we identified the strength of interdisciplinary and multicultural actions for Media and Information Literacy (MIL). The variety of knowledge from different fields and cultures is crucial to solve complex problems. Secondly, the value of supporting university professors who train teachers, because when they improve the quality of teaching it can produce beneficial results on other generations, as a cascade effect. Thirdly, the importance of practical activities combined with mentoring in teacher training. Mentorship in small groups can promote more personal support, the sharing of ideas for solving problems and above all, helping professors in self-confidence. Finally, the empowerment of future teachers by MIL can have repercussions on creative and critical actions in their students.

Importantly, it was the strengthening of teaching-learning bonds during the training sessions rather than digital objects per se that stimulated the teachers' empowerment. Briefly, the key to this training process was the opportunity to improve relationships by sharing different expertise and transmission of some relevant knowledge between the team of trainers, professors and their students. This approach, in an interdisciplinary and multicultural perspective, was made possible thanks to internet connectivity and digital tools, but also to the sum of the skills and collaboration of the lab members and the support of institutions such as Comparte Onlus.



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Challenges in Media & Information Literacy in the Post-Pandemic Era: the role of Educational Radiotelevision

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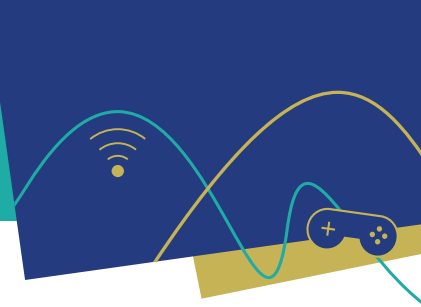
ABSTRACT

The development and penetration of New Media in the contemporary social and educational environment, where schools are not just consuming content but they also creating their own, has inspired and motivated *Greek Educational RadioTelevision (EduTV)* to meet the students of the Digital Generation in their own space and become part of their community. The vision of EduTV is to empower students as creators, researchers and global citizens reconnecting with young audiences and moving on from traditional Media in the digital era.

EduTV today develops and supports *Media Information Literacy (MIL)* projects in all three key-dimensions of access the content of the Media, their critical approach and creative production. Projects encourage students' participation in Media-based learning environments, which can inspire and offer opportunities of collaborative creativity and empowerment of 21st century skills.

The COVID-19 pandemic brought changes in the Greek education system. The challenging project of "Emergency Remote Teaching" started using both synchronous, asynchronous teaching methods and TV broadcasts. The paper studies the dynamic perspective that EduTV developed during the COVID-19 pandemic with the design, production and distribution of video-lessons, accessible by students with hearing problems. Furthermore, it focuses on the contribution of EduTV to enhance MIL skills and concludes with the reflections and proposals for the future transformation of the MIL in the post-pandemic era.

Keywords: Educational Radiotelevision; video-lessons; production; creativity; collaboration; 21st century skills



INTRODUCTION

The penetration of *Digital Audiovisual (A/V)* Media into the daily routine of students raises the need of their integration in the learning process. Using A/V Media in the teaching process implies the acquisition of new knowledge, the cultivation of new skills and attitudes that are indispensable in the differentiated Media ecosystem of 21st century society.

The COVID-19 pandemic introduced dynamically new teaching methods in the Greek schools in the form of “*Emergency Remote Teaching*” (ERT) at a very large scale. Educational Television emerged as an important dimension, whose new role is being shaped in the midst of new educational technologies.

This paper will focus on this role and the challenges emerged in MIL in the Post-Pandemic Era. In the following units, we are going to explore:

- The respond of EduTV to the pandemic emergency
- Assessment and take-aways of its initiatives
- Emerging trends and patterns in the Post-Pandemic Era
- Transmedia MIL & Challenges
- Reflections for the future transformation of MIL.

The first unit of the paper presents the key concepts of MIL and the great need to build relevant competences in the digital era. The second unit highlights the role of EduTV to promote MIL in Greece and the third focuses on its special initiatives to respond to the pandemic emergency. Next, the fourth unit presents MIL in the Post-Pandemic Era based on assessment and take-aways of the previous experience and the challenges of Transmedia MIL. The paper is completed with discussion about the future transformation of the field.

MEDIA AND INFORMATION LITERACY

The emergence of digital Media has changed the way students live, communicate, and learn. Providing them with a key set of competences is important for their education and work prospects, as well as personal wellbeing (Papadimitriou & Valsamidou, 2022). In that sense, digital and social Media are powerful tools to help people develop better MIL skills (UNESCO, 2022).



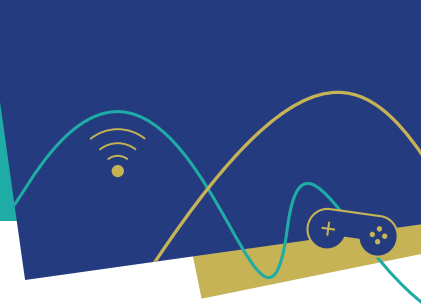
According to UNESCO (2022), MIL is an interrelated set of competences that help people to maximize advantages and minimize harm in the new information, digital and communication landscapes. MIL covers competences that enable people to critically and effectively engage with information, other forms of content, institutions that facilitate information and diverse types of content, and the discerning use of digital technologies.

Vital elements of the MIL concept are freedom of expression, digital fluency or research skills mainly in the sense of accessing, analyzing, using, and producing quality information that are critical for citizens/students to be fully engaged in our digital and connected society (EKOME, 2021). Access includes the competences required to discover the content of the Media, using available technologies and corresponding software. Critical approach includes the competences to decode, criticize or interpret Media content, and acquire the knowledge of production processes. The third axis of Creation includes the competences to use communication Media either to construct and communicate messages for self-expression either to influence or interact with others.

Media offer opportunities for discovery, participation and creative production within the framework of educational activities. When participating in MIL activities, students work in original learning environments, benefit from teamwork, creativity and social interaction. The incorporation of Media in teaching along with the creation of new content by teachers and students brings changes in modern education and puts emphasis on critical and active approaches and on collaborative effort (Iordanidou, Papadimitriou, Valsamidou, 2019).

EDUCATIONAL RADIOTELEVISION: PROMOTING MIL

The vision of EduTV is to empower students as creators, researchers and global citizens reconnecting with young audiences and moving on from traditional Media in the digital era, where “*We, (are) the Media*” (Mac Luhan, 1964). EduTV has dynamically entered the digital era and it has connected with communities of young people. Recognizing that knowledge is a process in constant evolution, it expects to be both part of and a catalyst in this process. An important vehicle in this effort is the continually upgraded website at the URL address



<http://www.edutv.gr>. High-quality videos relevant to class curricula are available for streaming or delivery on demand as digital archives.

The second generation of EduTV is a multimedia platform offering students and teachers the environment and the tools to design and create their own multimedia projects. Taking an active role in connecting school communities and contributing to the development of audiovisual culture, EduTV motivates and enables students to create User Generated Video/Content (UGV/UGC) reusing and remixing the available videos and newly documented digital content.

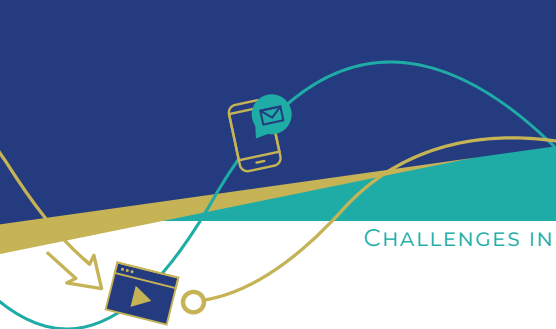
In this context, EduTV has developed an open collaborative learning environment of youth creation at the URL address <http://www.i-create.gr>, supporting experimentation, creativity, exchange and production of ideas and promoting school communities' projects. Videos, blogs, Web2.0 applications are developed and submitted through contests of digital Media creation and also social responsibility and awareness-raising campaigns in partnership with schools, universities and various organizations. Students actively participate as digital media storytellers, content curators, not consumers but rather *pro-sumers* (both producers and consumers), becoming active and responsible citizens. EduTV has developed a large variety of educational projects aiming to motivate, activate and engage students in collaborative projects and fostering an alternative learning philosophy.

The i-create platform was evaluated within the 10 best practices for education and learning 2.0 in the framework of innovative initiatives of the *Research Institute of Applied Communication of the Department of Communication and Media of the University of Athens* (Mathisi 2.0, 2012).

EDUTV DURING THE COVID-19 PANDEMIC

EduTV responds to the pandemic emergency

The pandemic impacted new data: due to extraordinary circumstances, the ERT started in many countries, dealing with an unprecedented situation with remote teaching methods (Motiejūnaitė-Schulmeister & Crosier, 2020). The necessity to cover the problem of “urgent” education was met with the enormous voluntary contribution from universities, education structures, diverse preparation groups, learning communities often exceeding the formal authorities of each body. At the same time, many mutual support initiatives were



developed at the level of informal learning. Educators created Social Media groups to interact and learn from each other about best practices, consulting on technical issues, and manage different online teaching environments.

In Greece, the *Ministry of Education, Religious Affairs and Sports (MoE)* proceeded to organize distance education in three levels of synchronous, asynchronous distance teaching in the context of formal education, and utilizing Educational Television. *Television (TV)* is one of the most powerful mass Media since the broadcasts reach all households, so they have a great impact in the general population. Furthermore, teachers of primary education have used video-lessons in asynchronous teaching environments after their broadcast on the Greek national television.

Designing the series “Learning at Home”

In the unprecedented conditions of the pandemic, Educational Television had a special role in the context of the support of distance learning, with the production of video-lessons and the broadcast of the series “Learning at Home” (Ministry of Education, 2020a; 2020b). In the framework of the design of repetition video-lessons for all classes, the *Institute of Educational Policy (IEP)* invited primary education teachers who have already produced educational materials in digital format and are interested in participating in the production of video-lessons. The invitation had a great response by teachers, resulting in the diversity of the video-lessons despite the inherent difficulties involved in the absence of students during the video recording of a lesson.

Then, teachers certified in *Greek Sign Language interpretation (GSL)* of all educational levels, were invited to participate in the GSL interpretation in the video recordings of the EduTV lessons, aiming at the accessibility of students with hearing problems. The presence of interpreters raises awareness and familiarizes in GSL both students and parents.

Producing video-lessons and developing accessibility

A number of 400 video-lessons were totally broadcasted (Ministry of Education, 2020c) in all cognitive subjects to keep the students’ connection stable with the educational process. After their broadcast, they are available on

demand on the EduTV website per class at the URL address: <http://edutv.gr/index.php/matainoume-sto-spiti>. The video-lessons were broadcasted in two phases: March to May 2020 and October 2020 to March 2021.

The video-lessons started with lectures in the subjects of Language, Mathematics, Physics and History during the first phase. They then expanded to more subject matters as Geography, Environmental Studies, Foreign Languages (English, French, and German), Social and Political Education, Drama Education, Music and Visual Arts. Finally, Religious, ICT, Physical Education, cross-curricular projects and Flexible Zone. Therefore, video-lessons produced and broadcasted during the second phase covering the entire curriculum.

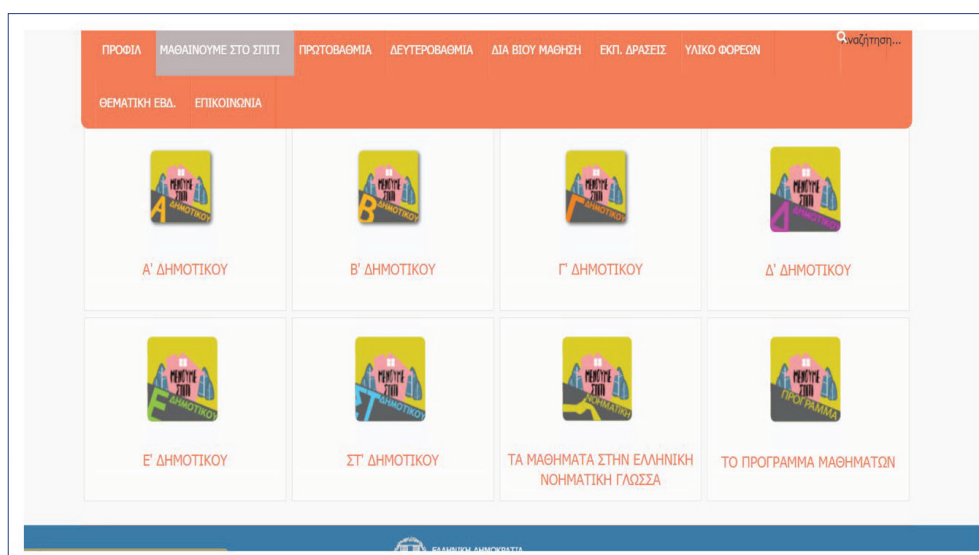
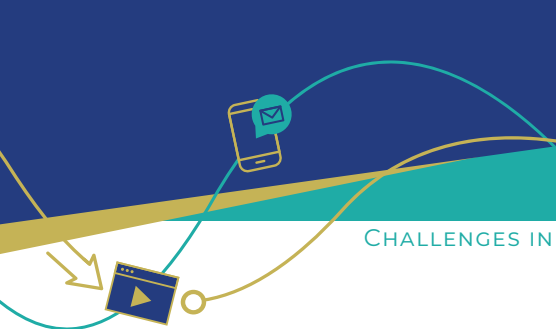


Figure 1. The series “Learning at Home” on demand

The lectures were characterized by the personality of each teacher. They were enriched with audio-visual archival material, experiments and suggested learning activities. Simple teacher lectures are ranked last in the ranking of “Uses of Video in Education– A ‘top ten’ Approach to the pedagogical value of video” (Category Talking head lectures and tutorials) according to “The Video-Aktiv project”, (2006). However, the complete absence of face-to-face teaching and the gradual enrichment of lectures with authentic archival material and activities suggestions led to the student positive response. The school communities’ impact exceeded all expectations.



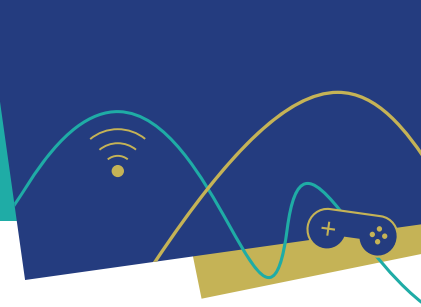
The video-lessons of the series are also accessible to students with hearing problems by their interpretation in GSL. The purpose is to provide support to students with hearing problems in an optimal mode so that they can attend distance-learning courses. A number of 67 teachers, 12 GSL interpreters, 2 deaf signers and 27 technicians participated in the first phase of the implementation of an ambitious project.

A number of 222 video-lessons were broadcasted (Ministry of Education, 2020c) during the first phase, with the following distribution per grade: A' 48, B' 53, C' 56, D' 72, E' 88 and F' 105 and 152 of them were in sign language. A number of 400 videos in total during both phases were produced, broadcasted and provided on demand via the web sites and digital repositories of EduTV. All video-lessons were also provided and broadcasted on the RIK channel (*Cyprus Radio Foundation*) in April 2020 following the cooperation of the Greek and Cypriot Ministries of Education.

Assessment and take-aways

The first broadcast on the public television had high viewership rates (51.2%). More than 125,000 primary school pupils responded to the “first bell” of the daily educational show (Ministry of Education, 2020d). Their comments were extremely positive and many parents asked for the extension of the series in additional frameworks of time and subjects.

The series was attended not only by students, but also by thousands of parents, with the average share among the public reaching 11.2% (Ministry of Education, 2020d). According to Nielsen's official figures (report 4/5/2020), among children aged 4-14 years, the viewing percentage reached 51.2%, while the percentages of parents -mainly fathers- who watched with their children the first TV lessons of Language, History and Physics. Indicatively among men aged 25-44, the average viewership reached 28.7% and among women 15.5%, while 588,313 citizens watched the educational program – even for one minute. 150,000 TV viewers attended the courses every day, while the average viewing percentage among the 4-14-year-old exceeded 35%.



The comments sent by parents and teachers via email are categorized regarding their first impression of the broadcasts and their related suggestions in terms of the mode, the timing, the content and the expansion of the target audience:

A. General comments

- You are making a very serious effort under difficult circumstances.
- Edu TV's video-lessons help children and other teachers a lot by giving them ideas on how they can do their lesson more effectively.
- I must say that a worthy effort is being made.
- Watched EduTV - great. I travelled many years back.

B. Mode of delivery

- Teachers will be able to teach (at least the basic Language and Mathematics) either from their home or from the computer labs of the schools. If they need help, the ICT teachers can provide it.
- Congratulations on the TV training broadcasts that started today. It was immediate, very interesting and not boring at all. I have a son in Grade 5 and he was very impressed. I would suggest expanding the broadcasts during all year long and especially in the summer for a valuable approach to knowledge.
- I would suggest that educational television should start broadcasting programs from 8 am to 1 pm to keep the children busy. There are many audiovisual archives available in the national television that could be used.

C. Content

- Could you show a "Learning Time" video for the 2nd grade?

D. Expanding the target audience

- Take advantage of all national TV channels for high school courses. E.g., Monday 8-10 a.m. Mathematics, 10-12 History, 12.00-2.00 p.m., Ancient Greek, Tuesday, etc.
- Many households have not internet connections at home, or mobile phones but they all have television.
- After each video lesson, the children can send messages with suggestions and comments to improve or even develop the lessons' structure or content. Essentially, you will need a few teachers who can instead of coming to a studio, they can record the lessons from their home using flipcharts or blackboard.
- It would perhaps be good having lessons from the beginning in the summer and each afternoon, for all educational levels. Maybe inequalities will be elimin-

ated by this way and there will be something of quality for the children - Even Foreign Languages.

- We would like to suggest you to present educational TV program for kindergartens as well as this way a large part of the educational and entertainment needs of the toddlers would be met.

MIL IN THE POST-PANDEMIC ERA

Emerging trends and patterns

The COVID-19 pandemic had a significant impact on both students and teachers' MIL competences. With the rise of misinformation and disinformation related to the pandemic, Media literacy has become more important than ever before. During the pandemic, people have been relying heavily on the Internet and Social Media for information about the virus, and this has led to a proliferation of false and misleading information. The pandemic highlighted the need to build MIL skills for all citizens, such as the ability to critically evaluate sources of information and to distinguish between fact and opinion.

Furthermore, the pandemic has also led to an increase in online learning and communication via Social Media, which has further emphasized the importance of Media literacy skills regarding the axes of access and creation. Students and teachers had to rely on digital resources to continue their education, so they required to develop a greater understanding of how to evaluate online information sources. EduTV contributed to the production and broadcast of video-lessons as well as their availability with open licensing for access, view and reuse by teachers and students.

The video-lectures are available under open licenses as “public goods” and teachers could integrate them into online learning environments in asynchronous distance education. Their integration and further use in class follows the three axes of MIL:

Access

- Selecting video-lectures from the “Learning at Home” series or other high-quality videos relevant to class curricula from the website edutv.gr.
- Integration into the asynchronous distance-learning environment (open e-class, e-me, Moodle, LAMS, other Learning Management Systems etc.).

- Students study at their own pace, watching as many times as they want; they can stop the flow and repeat sections of the video-lectures.

Critical

- Video-lectures and interactive videos promote discussions and debates in both classes and online forums. They ignite individual or group learning activities designed by teachers such as brainstorming, role-playing etc. which help students to build critical thinking skills.

Create

- If the learning environments include the Interactive Video option (for example the e-me platform), teachers can add interaction elements such as quizzes, multiple-choice questions, etc. In this context, video-lectures become powerful interactive tools oriented towards differentiated teaching and learning goals.
- Contests of digital Media creation on the website i-create.gr aiming to cultivate 21st century skills and enhance students as informed, critical and active citizens.

MIL key axes	EduTV during the COVID-19 pandemic	EduTV in the post pandemic era
Access	Video-lectures for primary education on edutv.gr Integration into schools' online learning environments	Video-lectures and high-quality videos relevant to class curricula on edutv.gr Integration into schools' online learning environments
Critical	Interactions with videos promote discussions and debates on online forums	Interactions with videos promote collaborative learning in both classes and online forums
Creation	Interactive videos on online learning environments	Interactive videos in both classes and online learning environments Contests of digital Media creation on i-create.gr aiming to enhance collaboration, creativity and 21st century skills.

Table 1. Video-lectures integration and further use according the three axes of MIL

Transmedia MIL & Challenges

Transmedia occurred through the digitalization of Media and we can define them as “a phenomenon or system of different forms of Media converging” (Futurelearn, nd).

The progress of broadband connections allows the transfer of large amounts of data; the Television signal is “encoded” in new Media. In the context of the convergence of the Television and the Internet technologies, hybrid distribution platforms such as IPTV, Smart TV, Web TV, HbbTV-Hybrid Broadcast Broadband TV (HbbTV, nd) are emerging. New television devices are connected to the Internet and new online platforms offer increased capabilities for interaction and access to diverse Web services.

New Audiovisual Media are emerging at a rapid pace nowadays. The digital convergence of the Television and the Internet technologies drives to the emergence of even newer Audiovisual Media. A/V Media became “accessible” and an integral element of students’ daily lives, through digital technologies in terms of both access and production. Their potential of interaction and integration into online learning environments enhance their educational role.

In Europe HbbTV technology is already provided to the citizens of 16 countries and the map of countries with hybrid TV services constantly expands. The viewer gains the ability to navigate on-demand shows through the use of Catch-up TV and video-on-demand services (Kretsos, 2017).

The convergence of Internet and TV technologies reinforces the three axes of MIL. Transmedia transform the education and literacies in the Post-Pandemic Era and the role of MIL face new challenges.

It seems that the pandemic has accelerated the trend towards the use of transmedia, as people increasingly consume content across multiple platforms while spending more time at home. With the rise of streaming services and social Media, there are more opportunities than ever to engage with audiences across multiple platforms and create immersive, multi-faceted narratives.

Transmedia in education refer to the techniques of using across multiple Media platforms and formats, such as books, e-books, films, Television series, video games, and Social Media. This approach has the potential to change MIL in several ways.

Firstly, transmedia projects require a high degree of Media literacy, as consumers must be able to navigate and understand multiple Media platforms and formats to fully engage with them. Secondly, the use of transmedia encourages a more active and participatory form of Media consumption, as consumers are invited to engage across multiple platforms, analyze and interpret different aspects developing by that critical thinking skills. Thirdly, transmedia expose consumers to a wider range of Media content and perspectives, therefore, it helps to broaden consumers' understanding of Media and increase their ability to critically evaluate Media content. All aforementioned ways lead to an increased emphasis on MIL.

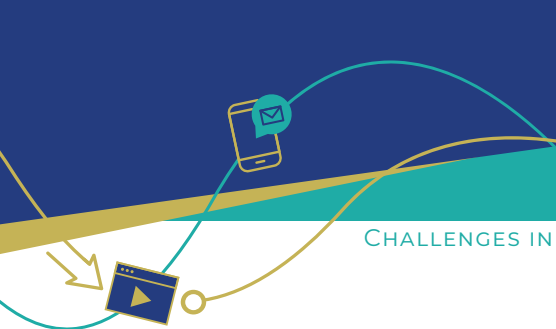
REFLECTIONS AND DISCUSSION ON THE FUTURE TRANSFORMATION OF MIL

TV is a traditional medium and still had a great impact during the COVID-19 pandemic. The potential of the dissemination of the video-series by digital Media enhances the degrees of teacher and student's access and engagement.

Combining audiovisual storytelling with the development of virtual learning environments is a challenge for education. An additional challenge for educators is also to recognize the value and opportunities of digital AV Media and to understand that they are powerful, innovative and creative elements that enrich teaching and learning (Bijnens et al., 2004). Responding positively to this challenge, educators are "invited" to dare changing their teaching practices by leveraging the wealth of available open resources, learning scenarios and methodologies.

Projects of the EdutTV encourage students' participation in Media-based learning environments, which can inspire and offer opportunities of collaborative creativity and empowerment of 21st century skills.

During the pandemic era, a wealth of A/V Media was produced accessible to both students and teachers. The potential of integration and interaction on online learning environments enhance their educational role. Teachers accessing A/V resources from open repositories, organized by collections or thematic areas can integrate them into online learning environments.



Going further, teachers familiarize with pedagogical methods, which activate students to interact with the Media. Students, teachers and parents started to apply and familiarized themselves with new methods, cultivating by that new MIL skills.

The video-lessons of the EdutTV have the following advantages:

- reliable and accurate content,
- flexible use,
- mass consumption/mass penetration,
- their target group concern the majority of students,
- utilization in the family environment,
- utilization by teachers in asynchronous distance learning,
- different design from that in the school classroom.

The urgent implementation of the ERT highlighted the need for better preparation of teachers in terms of digital skills and guidelines for online tutoring. The experience gained during the pandemic should not be lost.

Overall, the COVID-19 pandemic has underscored the critical need for strong Media literacy skills, and has led to an increased awareness of the importance of MIL in today's Media and Information landscape. With the widespread dissemination of information about the virus and its impact, it has become more important than ever, that citizens need strong Media literacy skills to distinguish between accurate and reliable information.

The COVID-19 pandemic has also highlighted the importance of critical thinking skills when evaluating Media messages, particularly about public health information. This includes the ability to evaluate the credibility of sources, identify biases and agendas, and recognize the potential impact of misinformation on public health and safety. Furthermore, the pandemic has led to an increase in online activity and digital communication, which has resulted in an increase in exposure to information and the need for individuals to be able to critically evaluate online content.

Furthermore, transmedia have the potential to change MIL by promoting a more active and engaged form of Media consumption and exposing citizens to broader Media forms and content.

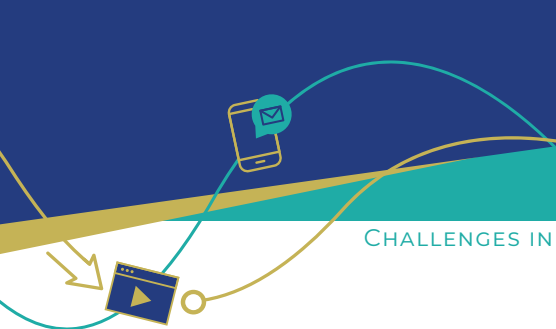
Overall, the COVID-19 pandemic has emphasized the importance of MIL competences and the great need for citizens to develop such skills in order to make informed decisions and navigate the increasingly complex Media landscape.

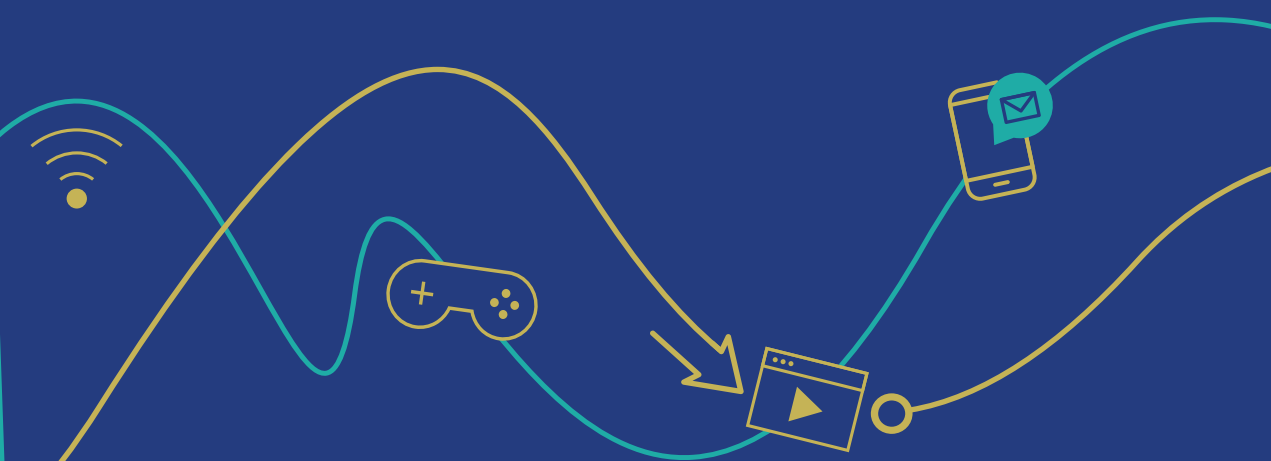
In the post-pandemic era, MIL and digital literacies should penetrate deeply in schools aiming students to be fully engaged in our digital and connected society. The preposition to achieve this goal is teacher's systematic awareness and training in MIL with concrete priorities and methods.



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Relocating Media Literacy Through Aural Perception: the concept of digital “sound map” and its impact during the (post-)pandemic era

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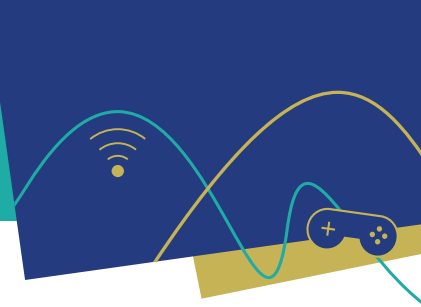
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ABSTRACT

Individuals deal with messages of digital channels daily, following specific criteria, methods and modes of perception. Media literacy does not only refer to the content of information but also reflects how individuals activate and use their senses to evaluate and manipulate this content. Our proposal adopts a broader meaning of modern media literacy which includes not only the visuals but also the aural sensory of multimodal perception. As sound identifies with human communication and expression, people have developed their own practices of producing, collecting and decoding sounds in respect of their sociocultural system. During the COVID-19 pandemic, the environment inside and outside urban areas was modified due to the differentiated rhythms of everyday life. People tried to represent this transformation via auditory modes by creating online digital platforms, capturing the soundscape of specific places during the lockdowns. Taking into account recent theories of acoustic ecology and the anthropology of sound, this article will present a series of COVID-19 projects based on the concept of “sound maps” by investigating why it is important for us to develop a multisensory media awareness and how this could help people communicate each other and express themselves through sound in the digital world of post-pandemic era.

Keywords: media literacy; urban soundscape; acoustic ecology; anthropology of music; covid-19 pandemic; sound map



INTRODUCTION: MEDIA LITERACY AND AUDIOVISUAL PERCEPTION

Digital media literacy is a multidimensional concept (Park 2012) that introduces four dimensions (the cognitive, the emotional, the aesthetic, and the moral) of approaching modern media, each focusing on a different domain of understanding. Media literacy is a set of perspectives actively used to expose, process, and interpret the meaning of messages encountered in our world. It is not a fixed category but a continuum, where individuals occupy different positions based on their divergent skills and experiences. Audiovisual literacy concentrates on the acoustic and optical construction and perception of media. It analyzes their visual and aural techniques and aesthetics, as well as by what means images and sounds contribute to the overall meaning, mood, and impact of media products. It also explores their narrative, plot, and storytelling strategies through in-depth viewing and listening, empowering individuals to critically engage with and derive meaning from the vast array of audiovisual media content encountered in various contexts (Camarero, Fedorov & Levitskaya 2019).

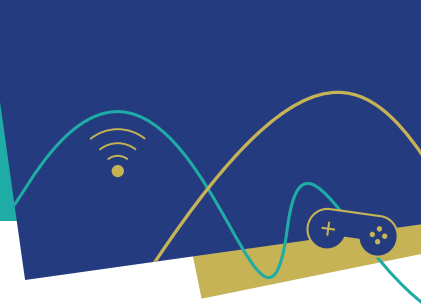
MEDIASCAPES, CARTOGRAPHY, AND THE SONIC WORLD OF THE COVID-19 PANDEMIC

Mediascapes, a coinage introduced by Arjun Appadurai (1990), is a term used to describe the broad milieu of contemporary print, electronic, and digital media that surround us and affect our everyday lives. It refers to the production and distribution of mediated information through global cultural flows, as well as to the representation and interpretation of the world created by modern media. Mediascapes provide a vast gamut of audiovisual content to individuals, although the focus has been traditionally placed on visual narratives and the use of sounds in audiovisual representations as a mode of contemporary literacy has not been widely acknowledged.

However, there are two subject areas that address the interconnection between living organisms and their “sonosphere” – i.e., the sonorous or sonic envelope of the earth (Oliveros, 2011). The fields of acoustic ecology and sound anthropology share a close relationship, as both disciplines focus on the study of acoustic phenomena with regard to their cultural, social, and physical contexts. While deriving from different viewpoints, they complement each other

in understanding the intricate association between humans, sound, and the environment. On the one hand, acoustic ecologists explore the sonic milieu in which we live, and how it influences and is influenced by human activities. They examine the quality, character, and overall construction of soundscapes (i.e., the acoustic environments of particular regions, habitats, or ecosystems), paying attention to natural and human-generated sounds, as well as their impact on biological communities and human well-being (Wrightson 2000). On the other hand, an anthropologist of sound brings an ethnographic lens to the study of sonic experiences, striving to deeper understand the ways in which they formulate personal or collective identities. Auditory anthropologists explore the role of sound within human societies, studying the ways in which sound shapes and, at the same time, is shaped by cultural practices, beliefs, and social interactions (Feld & Brenneis 2004). From the above, it is evident that acoustic ecology and sound anthropology find common expression in the linkage between sound and place.

Mapping a place has been for a long time the subject field of cartography, a practice of creating symbolic –in most cases, visual and static– depiction of spaces, regions, and objects. In recent years, this process has turned increasingly to the use of web-based multimedia as a way of representing places. Among other sensory modes of communication, sound has a multimodal character and stands as an essential part of the production and perception processes of cybercartography. In his article about sound and music in cartography, Paul Théberge (2005) claims that, especially in the western world, we do not directly associate sound maps with sound because there is strong tension to rely more on our eyes than on our ears for navigating and charting spatial relationships. He features the need to include sound as an integral part of mapping places, not only as a transformation of visual information but as an independent narrative structure. He also stresses that it is necessary to develop a more cultural-based approach to sound and move forward from cybercartography to sound design as a thematic and narrative structure; not as something like an addition or synchronization to the visual part. Furthermore, Théberge (2005, p. 392) poses some questions related to sound design and cybercartography: “How can a map be designed for sound? Is it possible



to conceive of a map where the visual components do not take precedence over sonic components?” Then, Theberge points out the multimodal character of sound which includes different forms of voice, environmental sounds and soundscapes, music elements, silent moments etc., all connected with distinct cultural modes of expression and reception, producing complex associations both with each other and in conjunction with images and narration.

Defined as “geographic collections of individual sonic impressions of place normally involving geo-tagged audio recordings” (Droumeva 2017, p. 337), digital sound maps could perform multiple functions and serve for diverse preservation, documentation, exploration, appreciation, assessment, planning, expression, as well as education and engaging purposes. As audiovisual impressions of a specific place at a given moment, they could easily capture and reflect changes in sonic environments during particular periods of time. The present study focuses on the COVID-19 pandemic (2020-2023) as a major global crisis of our days, when many cities, regions, and countries had been forced to implement various public health and sociopolitical measurements to efficiently handle the danger of virus dissemination. These restrictions –referred to as “lockdowns” or “confinements”– ranged from light to harsh and induced a general turbulence to peoples’ everyday lives. One of the commonly implemented restraints was the prefixed time permitted to move around public spaces, especially in urban centers. For example, people were allowed to go out of their homes during specific time schedules, there was a limitation in the permitted number of people gathered in public (even in private) places, almost all shops were closed (especially bars, coffee places, and restaurants) etc. In many urban areas, people were isolated in their private residence not only because of obeying the measures but also because of their general fear and anxiety to confront the hostile virus (Harper, Satchell, Fido & Latzman 2021).

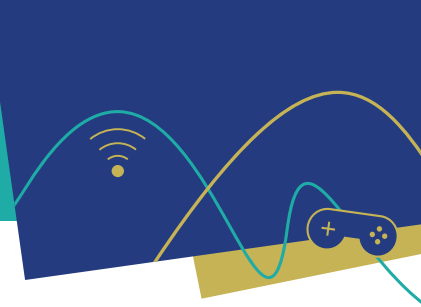
The restrictions during the COVID-19 pandemic had a direct effect basically on the different types of transportation on ground, on air, and on water (Asensio, Pavon and Arcas 2022). This three-level pause in transportation, in conjunction with the general absence of human behavior due to the people’s confinement in their homes, caused vital environmental changes as well as obvious acoustic effects, mainly in the cities. According to Asensio, Pavon & Arcas (2022,

p. 336), “our neighborhoods became quieter, which did not necessarily translate into an improvement in the perception of pleasantness. The suppression of sounds in our environment makes the soundscapes more muffled, but this is only perceived as an improvement regarding the absence of unwanted noise sources, such as traffic noise”. In addition to the above changes, there was also significant alteration in the way people gave meaning to the process of listening. COVID-19 pandemic confinements had profoundly changed what audiences were hearing during their everyday life. The sounds or quietness of the pandemic through the forms of silence, noise, and music “offered new horizons for resilience, foregrounding human flux and change” (Cecchetto & MacDonald 2022, p. 40).

During the COVID-19 pandemic, the soundscapes of residential areas changed abruptly, silence covered many cityscapes around the world, and almost all sounds produced mainly by human activity in the municipal districts disappeared. The “sonic ecology” (Atkinson 2007) of urban space has been deformed. This quietness amplified a general feeling of “emptiness” in public space and, at the same time, a feeling of stress. This was a new kind of silence, unexpected and enforced, denoting a lack of control, a routine rupture, and an alteration in the auditory setting. However, this “aural emptiness” was not a complete absence of sounds, but rather an opening for other sounds to be heard for the first time.

SOUND MAPS IN (POST-)PANDEMIC TIMES: THREE CASE STUDIES OF SOUND CARTOGRAPHY PROJECTS DURING THE COVID-19 ERA

The COVID-19 pandemic has led to the development of miscellaneous artistic and research projects based on the way sound is perceived. As indicated above, sound is not only about physical phenomena; it also encompasses complicated and mediated cultural associations. As a result, it was kind of anticipated that, during this crisis, people would need and desire to redefine their space –either private or public– and “navigate” themselves in this new sociocultural reality under the consequences of the pandemic. Subsequently, we will describe three internet-based projects that share a common approach in connecting sound



and space. These are flourishing attempts at sound mapping during the lockdown of COVID-19. The first example was hosted in an already existing sound cartography platform (albeit incorporating Google Maps for representing sonic locations), while the second and third paradigms were created from scratch in Google's GIS digital environments. For each case, we present a couple of archival soundscapes from particular locations, giving prominence to sounds deriving from Greece.

Case Study I: Sounds from the Global COVID-19 Lockdown (#StayHomeSounds)

"#StayHomeSounds" was established as a branch of the "Cities and Memory" project – one of the largest sound projects of the world. Founded by sound artist and recordist Stuart Fowkes, "Cities and Memory" combines field recordings, soundscape creation, and sound mapping to formulate a unique auditory experience. Each location on the "Cities and Memory" map features two correlated sounds: the original field recording that captures the essence of the specific place, and a reimagined sound that transports the listener to a completely new environment. A noteworthy project under the "Cities and Memory" umbrella is "#StayHomeSounds", which began in March 2020 and has become a wide-ranging collection of sounds from COVID-19 lockdowns. Throughout the pandemic restraints, our acoustic surroundings and audio perception experienced several alterations. This project emphasizes the role of sound during these hard times, acknowledging the unique auditory experiences as a result of the unusual absence of traffic, the amplified presence of birdsongs and wildlife, as well as the unifying power of people joining together through songs, music, and clapping hands for applause.



Figure 1. An overview of the “Sounds from the Global COVID-19 Lockdown (#StayHomeSounds)” project’s sound map

The creators of this idea encouraged people from all over the world not only to submit their sound stories but also to share an accompanying short text and an optional visual aspect, by uploading an image of the recording location. Digital visitors can surf the platform that hosts this sound map and through an online tour can listen to the sounds and read the stories which had been submitted during the lockdown. Following the pins on the map, one can click on a point to listen to the sound and hit the “info” symbol to read the story behind it.

Zooming in the area of Greece, one can identify four pins in different regions of the country (north, central, and south). These four examples share a common approach in highlighting the radical changes of the environmental sounds caused by the pandemic and the new sociocultural circumstances that emerged, as well as the way people correspond to them.

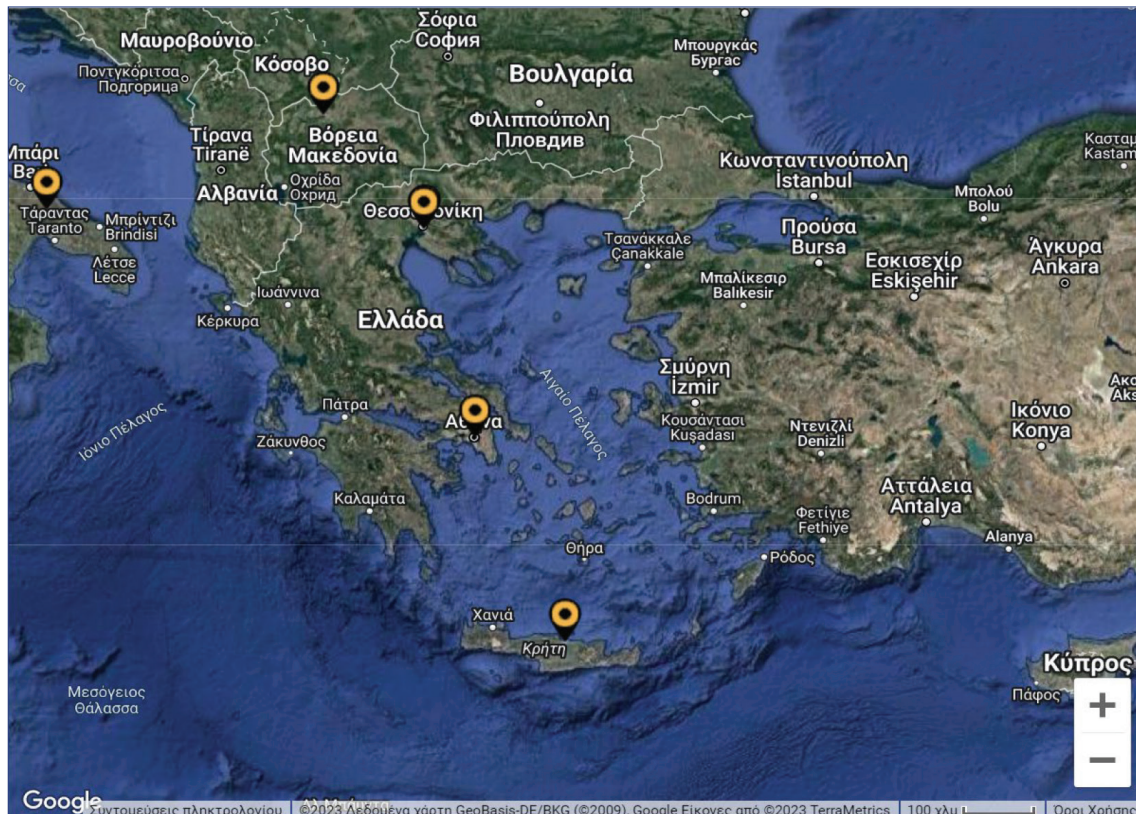


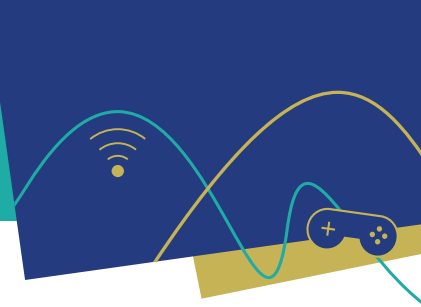
Figure 2. Locating Greek soundscapes on the “Sounds from the Global COVID-19 Lockdown (#StayHomeSounds)” project’s sound map

The first sound clip (“Scops owl call in the city”) originates in the city of Thessaloniki and was recorded by Chrysoula Athanasiou, who states: “I do not know if the scops owl was there before, and we could not hear it due to the noise of the city! In the silence of coronavirus, we discover new things!” The second example (“Sounds from the lockdown in Thessaloniki”), made by Sophia Tolika, is from the same city. In her description of the sound recording, Sophia writes that “[a]mong the sounds that I recorded were also the celebrations during the evening of Resurrection at Easter and the day of the Orthodox Easter which all took place at the balconies of the flats. As I live by a very noisy and busy avenue, I recorded this huge change of soundscape, as the sounds of cars and horns gradually were replaced by the songs of the birds and an extended silence. The busy urban soundscape of my neighborhood started reminding me of a tropical forest”.

The third recording (“The song of the blackbird”) was uploaded by Stamatis Mitrou from Athens. Stamatis notes: “From my balcony in the city center, new sounds are emerging. I wonder what the normal rhythm of life is, the one we live in now or the frenetic pace we lived in before”. The last one, titled “The island of birdsong”, was recorded by Eleni Br. and originated from the island of Crete. The accompanying text gives a sense of her experience: “[A]fter a heavy rain last night, the chirping of the birds woke me up this morning. It was such a powerful sound, like waking up from a sweet dream or a bad nightmare. I think that due to quarantine measures, nature’s sounds are clearer than ever before. In addition, one of these days I went out for a walk, everything was so silent, and I met only cats and dogs in the streets whereas I could hear crystal clear the birds’ songs or how the leaves of the trees were dancing in the cold breeze. I believe that the current pandemic crisis is highly alarming, and it consists of a great warning as it’s time to re-discover the equilibrium between humanity and the environment. It’s really up to us...”.

“Cities and Memory” and, consequently, “#StayHomeSounds” projects have a fundamental perspective of “a global participatory artwork, yet curated portal for real and imagined soundscapes” (Droumeva 2017, p. 10). Under the theme of aural response to the lockdown during the pandemic, the participants were called to share their reimagined field recordings to the wider community, consisting especially of other sound artists. Emphasizing a subjective point of view of the urban spaces during that time, people were encouraged to approach the newborn reality through a different, more sensorial, and less rationalized, approach. All the above-mentioned examples share a common denominator of addressing the absence of noises in the cities and their replacement with the sounds of nature like the birdsong, the wind rustling, the dogs’ barking etc. Furthermore, all the contributors mention the intense presence of silence –in contrast to the noise and the bustle of previous times– as a positive aspect in those unprecedented circumstances.

These samples from Greece highlight the urgent need for a novel urban soundscape of serenity and tranquility, as opposed to the stressful aural rhythms of earlier daily life. People reimagine sounds and redefine the acoustic landscape of their cities, while at the same time paying much attention to



sustainability and environmental awareness. Moreover, considering that “Cities and Memory” project is present on social media by maintaining a globally active connection not only with general networked publics but also with open communities like Soundcloud, Facebook, and Twitter, its subsection “#Stay-HomeSounds” provided a space for communication and interaction during the pandemic. The sense of bonding with each other through an online community was very important and quite vital if one considers the general feeling of anxiety caused by the isolation and the fearfulness of an unknown virus. As audibly stated by Droumeva (2017, p. 11), “Cities and Memory” project prolongs “active presence on the more popular social networks [...] rather than existing only on a custom engine [and this] is a testament to the collective’s commitment to serve as a public knowledge resource, an awareness campaign of sonic environments and a literacy-building initiative”. The main intent of this project was not only to motivate people to perceive a place in the sense of its sounds but also to provide sonic reactions and audible feedback to their experiences during the pandemic.

Case study II: COVID-19 Sound Map (created by Pete Stollery)

“COVID-19 Sound Map” is a synergetic initiative designed by composer and sound artist Pete Stollery that seeks to seize the changes of sounds in everyday life caused by the lockdowns during the pandemic all around the world. Those who participated in the project were invited to contribute to the sound map by identifying how their surrounding audio environment had been transformed due to the pandemic-related constraints. The primary goal of the project was to record and maintain the sounds of this unprecedented time on an online Google Earth map, which would serve as a sonic (place-based archival) memory for future generations. The sound map would remain accessible indefinitely, enabling people to listen to these recordings and revisit this distinct period in history. As Grant (2021, p. 62) reveals, “histories and memories [...] can be shared through making and experiencing field recordings and sound walks”, which “provide a valuable (if subjective) take on historical events, and

can draw attention to political, environmental, and social issues”. Actually, this is the case of Pete Stollery’s “COVID-19 Sound Map”.

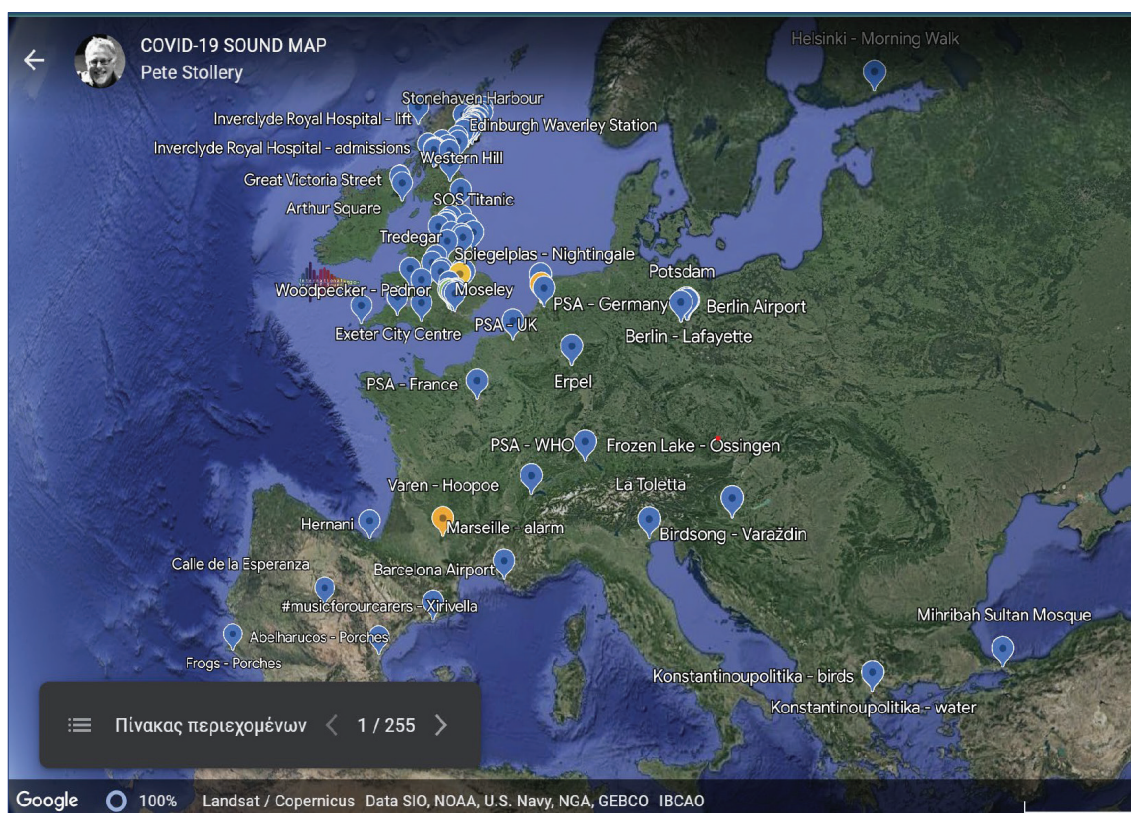


Figure 3. An overview of the “COVID-19 Sound Map (created by Pete Stollery)” project’s sound map

Contributors to this venture were asked to submit a short passage to accompany their sound recordings, describing the alterations in the soundscape and how these changes affected them. This reflective process was especially important for the project, given the difficulty of reflecting on sound and the expanded time for introspection during the quiescent times of the quarantine experience. The resulting sound map offers a valuable collection of sounds and texts from various regions around the globe. In particular, as of July 2021, 284 sounds originating from 24 different countries had been contributed to the project. Of these, 160 came from the UK, 34 from mainland Europe, and 90 from other parts of the world. Two recordings had been posted from Greece, both from the same person. The first one “Konstantinoupolitika - birds” is a recording during the first evening of the curfew in Greece. As its creator (Theodoros) observes, although

this is “a lo-fi soundscape due to the cars passing-by”, we can still “listen to some signs of nature, such as magpies and crows scolding”. The second clip is titled “Konstantinoupolitika - water” and has been recorded the night of the fifth day of the lockdown. There was a limited number of cars and other vehicles in the streets, so one could clearly listen to the drops of rain on a glass and a wooden roof. It is worth noting that Konstantinoupolitika is a neighborhood, also located in Northern Greece, within the urban area of Thessaloniki.

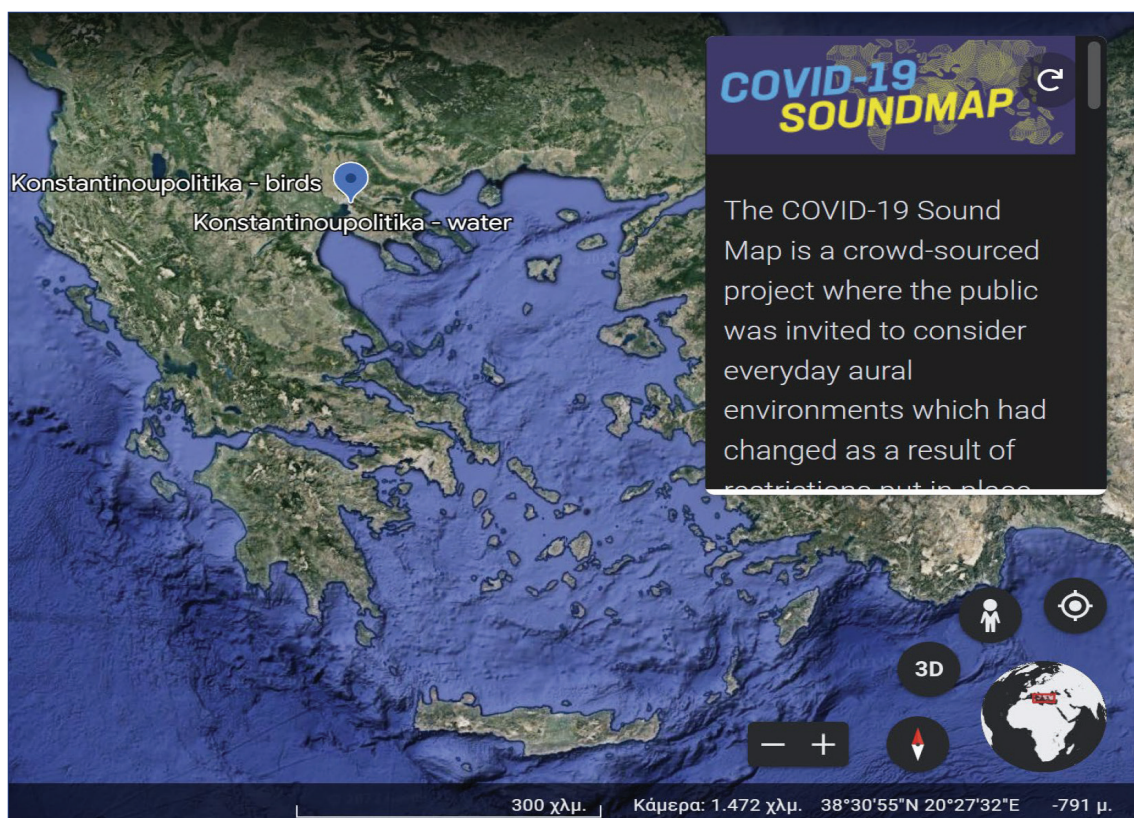


Figure 4. Locating Greek soundscapes on the “COVID-19 Sound Map (created by Pete Stollery)” project’s sound map

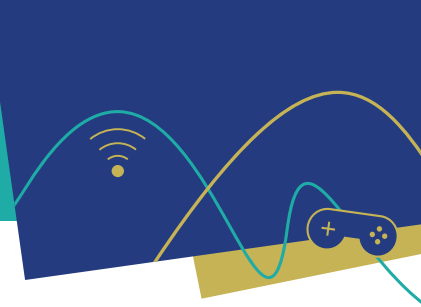
There are two supplementary projects based on Stollery’s initial idea of COVID-19 quarantine sound maps, both created between 2020 and 2021 – i.e., the “Soundmap: People and Place” and the “Lockdown Sound Walk”. These soundscape collections had been produced mostly by natives, had been incorporated into online digital maps and virtual routes, and were used to portray the sonic domain of local communities when many people were looking for activities to undertake both indoors and outdoors. It was an indirect way for

those who –for any reason– could not take a “real” walk during the lockdown; by this means, they could still follow the circuit and listen to the voices and sounds even from a distance. In their quasi-ethnographic report, Levesque & Levesque (2022, pp. 10-12) describe: “Sound and music are some of the material evidences of existence [...] that we record in the individual and communal spaces of everyday life. They shape how we imagine, listen to, and perform our connections to others. [...] Listening well is a profoundly embodied, emplaced, and emotional experience. It is also a relational practice. [...] Similar to the artistic resistance and spontaneous performances that emerged during the first few months of the COVID-19 pandemic, we discovered different ways of shaping and sounding our relationship through the recognition and engagement with improvisatory practices including listening”.

Case study III: The Sound Outside – Listening to the World at COVID-19 Time

Following an open call from sound/music designer Valeria Caputo and art practitioner Sara Lenzi, 118 recordings have been collected and presented online for “The Sound Outside – Listening to the World at COVID-19 Time” project which aimed at seizing the transformation of the acoustic world during the international lockdown due to the pandemic restrictions. The call was initially open until the 20th of April 2020, but was later extended to further soundscape submissions as long as they were recorded during the COVID-19 quarantine.

The submission process was geared toward artists, sound designers, field recordists, music producers, and other sound practitioners who were requested to assemble audio files that encapsulate a 5-minute sonic snapshot from the individuals’ windows. Each contribution includes metadata of specific details, such as the precise location of the recording, the author’s credentials, and the exact date and time of the recording. These audio samples are also described by a distinctive catchphrase that assumes the role of a slogan title and skillfully accentuates the most notable auditory facets of the sonic environment presented. All contributors were invited to share their pertinent social media channels (Facebook or Twitter), their brief biographical statement as well as a landscape-oriented cover image sourced from the same window where



the recording took place. This extra material was intended to accompany the online soundscapes. In particular, the sounds and images had been afterwards combined to create a YouTube video for every single submission.

As noted in the project's website, its goal was to accumulate and disseminate a shared soundscape account from as many places in the world as possible, in the strange days of the COVID-19 lockdown. This was a period when new sounds emerged, and others were retrieved or completely disappeared. Sound documentation was a major support to reflect on a reality that was totally invisible at that time due to the pandemic forced reclusion. The project's curators had also produced a series of supplementary podcasts which include interviews with some of the soundscape contributors, giving an all-over recapitulation of their endeavor and sharing their perspectives on the significance of sound for humans, the pandemic's impact on urban settings, as well as how our efforts can be directed towards designing refined sound environs for the future. "The Sound Outside – Listening to the World at COVID-19 Time" is hosted by *soundDesign*, an online publication focused on business, innovation, and trends in the realm of sound communication.

The project includes two examples documented in Greece. The first sample ("Birds of purr") was inscribed on the afternoon of March 29, 2020 in the metropolis of Athens by Marilu Theologiti – an MA student in Sonic Arts and Audio Technologies at the Ionian University and also a music performer interested in composition, sound design and improvisation. The second one, titled "The spring cannot be stopped", was recorded in Volos (Central Greece) by Vasilis Ferfiris – a sound design enthusiast – one morning during the first days of the lockdown (7th April 2020). Both soundscapes put emphasis on birdsongs and other environmental sounds of the surrounding nature but, unluckily, they do not give any further context on the recordings and the conditions of their field collection. As Derryberry, Phillips, Derryberry, Blum, and Luther (2020, p. 577) have shown, research on birds' reactions to these unusual circumstances "would also provide exciting opportunities to develop a more integrated understanding of how animals respond to reduced human activity, including how and why animals move back into otherwise occupied landscapes and soundscapes".



Figure 5. An overview of “The Sound Outside – Listening to the World at COVID-19 Time” project’s sound map

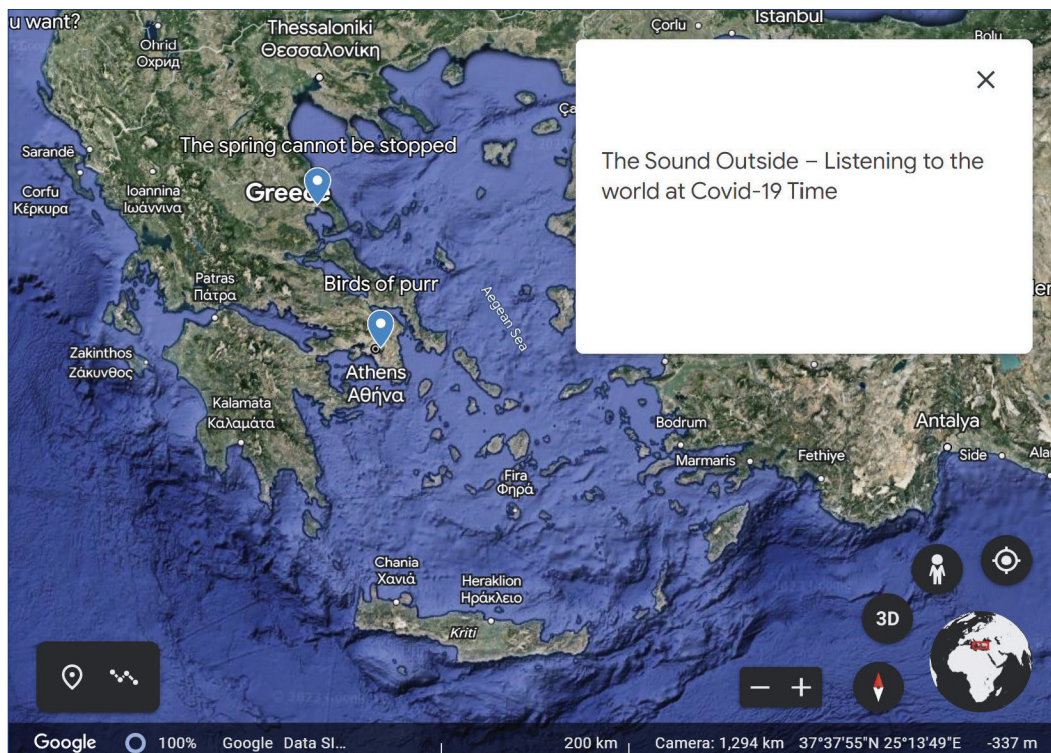
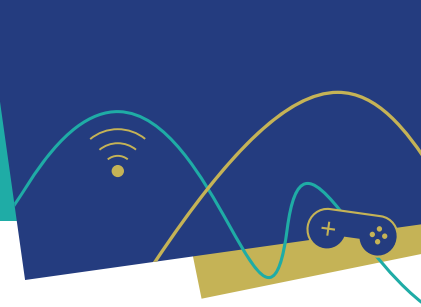


Figure 6. Locating Greek soundscapes on “The Sound Outside – Listening to the World at COVID-19 Time” project’s sound map



CONCLUSIONS

COVID-19 pandemic was a major crisis for humanity, being a global health exigency that continues to impact the world either directly or indirectly. The pandemic caused widespread illness, loss of life, and unprecedented disruptions across all aspects of society. While most countries implemented restricting measures such as lockdowns, travel limitations, and physical distancing, this unprecedented situation highlighted the importance of international collaboration, the significance of accurate information, and the request for social solidarity in overcoming complex challenges. As a crucial worldwide condition, COVID-19 pandemic could then be considered as a “collective distress” and, more specifically, as a “cultural trauma” (Demertzis & Eyerma 2020) in which presupposed standards of individual and shared identities break down, thus people try to regain their earlier personal and social stability. This ambivalent process implies both anxiety and suffering, but also opportunity and resilience.

Coronavirus pandemic was a highly mediated event, not only in terms of informing and guiding the public. Communicating through mass media also served as a means of liberation in times of suppression and fear. Nonetheless, while most of these practices usually focus on the visual perception of the world, the creation and use of digital sound maps during the COVID-19 lockdowns has brought forward new modes of listening and experiencing. Sound maps featured sound as a substantial component of constructing mediascapes by expanding our channels of responding to the changes of the surrounding ecosystems with all our senses. In addition, their symbolic and collaborative character helped people to overcome the shock of COVID-19 isolation by facilitating community engagement, collective participation, and local involvement in the process of gathering and supplying sound recordings. They provided a platform for individuals to share their personal sonic experiences and contribute to a communal multimodal sense of place using soundmarks as spatial reflections of their region and to preserve and document their aural heritage. Digital sound maps capture the unique soundscape of a location at a particular point of time, creating an auditory record that can be accessed and studied in the future; in that case, they help preserve disappearing or endangered sounds and compare soundscapes from different places or timings.

Sound maps –especially during the COVID-19 pandemic period– provided a platform for individuals to explore and engage with the auditory aspects of different locations as an immersive and interactive experience that allowed users to listen to the recorded sounds or even to contribute their own audio recordings. In this respect, sound maps enhanced sensory awareness, fostering a deeper understanding and appreciation of our sonic environment. Besides that, sound maps became a terrace for creative expression, allowing artists, sound designers and amateurs to produce sonic compositions inspired by specific locations. Finally, a perspective that has not been extensively applied is that they could be utilized as educational resources for teaching and learning about sound anthropology, acoustic ecology, cultural heritage, as well as human or physical geography in connection with the historical context in which the soundscapes were recorded. They might be used in classrooms for engaging students in the exploration of different sonic environments and promoting a deeper understanding of the interplay between sound, culture, and the environment through critical media literacy (Kellner 1998).



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Cine-Inclusion in Class: fostering inclusive Film Literacy

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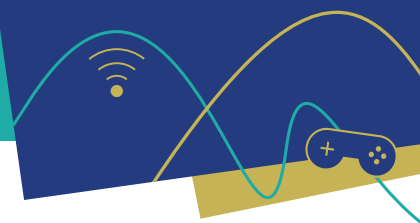
ABSTRACT

This article introduces the *Cine-inclusion in Class* film study guide model. Focused on inclusivity, the model integrates a short film into curricula, addressing themes such as school life, disability, and other social issues. The film comes with subtitles and audio description, ensuring accessibility for those with sensory impairments. Inspired by Freinet Pedagogy, the guide offers various activities promoting critical thinking, creativity, and socio-emotional development. Its digital and freely accessible format encourages collaborative contributions from both educators and students. The model, apart from contributing to the acquisition of fundamental film literacy knowledge and of basic audiovisual skills, aspires to create an engaging, joyful, and inclusive cinematic experience. It aims to foster a sense of community among teachers, students, and their social environment society in general, while aligning with contemporary educational needs and values.

Keywords: film literacy; accessibility; inclusion; collaborative learning; Freinet pedagogy; audiovisual and digital skills

INTRODUCTION

In recent years, there has been a noteworthy expansion of Film Literacy on a global scale, marking a significant paradigm shift in educational methodologies. Within this prevailing trend, considerable emphasis has been placed in recognizing the central role of the moving image within the educational



process, particularly in shaping the psycho-emotional evolution of children and in influencing social interaction dynamics.

Film Literacy is fundamentally driven by the dual objective of promoting cinematic aesthetics and of advancing the capacity to critically comprehend and analyze visual, narrative, ideological, and technical elements of films. Additionally, it seeks to cultivate creative artistic and filmmaking skills (Fedorov, 2015; Hobbs, Deslauriers & Steager, 2019). It is also linked to supporting identity awareness, augmenting empathetic inclinations, promoting cooperative behaviors, shaping individuals into responsible and active citizens, and to contributing significantly to the facilitation of social integration and cohesion (Bazalgette, 2009). Therefore, Film Literacy stands as a transformative force; not only does it enrich the understanding of cinematic language, but it also cultivates an array of skills and qualities that are essential for contemporary citizens navigating a complex socio-cultural landscape. (Andrew & Reid, 2012; Parry, 2013)

Moreover, the emergence of inclusive policies within the sphere of Education, and across diverse sectors, has underscored the imperative to extend Film Literacy to minorities, to individuals on the social margins and to people with disabilities (Reid, 2008; Friesem, 2017). This necessitates the implementation of specialized policies, targeted initiatives and access tools designed to diminish social exclusion. It should be noted that the cinema has been proposed as an advantageous educational instrument promoting inclusive, learner-centered, democratic, and solidarity-based educational paradigms. (Schedin, 2019)

Contemporary research within the field of Education Sciences affirms the augmented significance of Film Literacy for people with disabilities. Film Literacy acts as a substantive facilitator in skill acquisition, contributes to psycho-emotional empowerment, and even assumes a therapeutic role (Smieszek, 2019; Peake, 2004; Goodwin et al., 2023). These developments accentuate the nuanced and multi-faceted contributions that Film Literacy can make to the educational landscape, particularly for individuals facing diverse physical, sensory, or mental challenges.

In today's digital era, Film Literacy gains importance as a dynamic and versatile educational tool that adapts to the evolving landscape of learning. In addition, the pandemic has caused a shift in education, emphasizing the need for flexible, engaging, and inclusive approaches (Tianran, 2022). Film Literacy

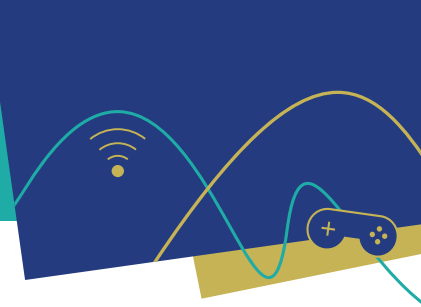
excels in the context of hybrid learning environments, where a combination of in-person and remote education is prevalent. The flexibility of film allows educators to incorporate cinematic narratives into both traditional classrooms and digital spaces, ensuring continuity in the learning experience. This digital inclusivity ensures that students, regardless their physical location, can actively participate in film-centered educational activities, creating a more accessible and equitable pedagogic environment. Through films, students can explore diverse cultures, perspectives, as well as global issues. The transcendent nature of film enables educators to bridge geographical gaps, exposing students to a broad spectrum of human experiences and cultivating a global perspective (Cicha et al., 2021, Baker et al., 2021; Shcherbak et al., 2022).

“CINE-INCLUSION IN CLASS” FILM STUDY GUIDE MODEL

One of the most important objectives of the National Centre of Audiovisual Media and Communication (EKOME) is to advocate and to advance Media and Audiovisual Literacy for a broad audience and to promote more inclusive Audiovisual Literacy policies (EKOME,2018). In pursuit of this objective, EKOME chose a short documentary film which was created during the educational workshops of the Chania Film Festival, with which it maintains close cooperation. The film, titled *One School Two Worlds*, is about the educational integration of a deaf pupil in a primary school of a small village in Crete. In a concerted effort to enhance accessibility and inclusivity, EKOME has undertaken the creation of complementary accessibility features for the movie, such as subtitles for the deaf and hard of hearing (SDH) and audio description for blind or visually impaired. SDH, apart from the dialogues, include important audio information like speaker identification, natural and artificial sounds and musical scoring. Audio description is the narrative, audio representation of visual elements of the film (the action, the places, the costumes, the facial expressions, etc.) during the sound pauses between the dialogues¹.

Accessibility of films for students with disabilities -particularly those with hearing and visual impairments- is not merely a technological necessity but a

1. The film –in its original version and accompanied by the accessibility features (SDH and AD)– is freely available on Youtube.



fundamental prerequisite for educational equity. Equipping films with closed captions, audio descriptions and other assistive technologies is necessary for creating an inclusive educational environment. Closed captions are essential for students with hearing impairments, bridging gaps in understanding audio content and significantly enhancing comprehension and retention (Graham & Loysen, 1980; Tyler et al., 2009). For visual impairments, audio descriptions are vital, providing spoken explanations for visual elements, enabling a comprehensive mental image (Snyder, 2014; Hättich & Schweizer, 2020). As we strive for a more inclusive educational landscape, the transformative potential of film accessibility emerges as a driving force for dismantling barriers, encouraging autonomy and advancing social justice in education (Kleege & Wallin, 2015). We should add that, as silent films (of the past and of the present) and radio films help us understand, SDH and Audio Description do not merely provide a substitute for the cinematographic experience, but they offer a different, enriching and in no way inferior version of the cinematographic art (Thompson, 2018).

The integration of short-length documentaries into film literacy programs significantly enhances the educational experience. Films distill real-world narratives into brief –yet impactful– visual stories, offering a unique way for engaging learners and providing with a nuanced understanding of various subjects. Short-length documentaries efficiently introduce students to diverse topics, therefore they become suitable for time-sensitive classroom settings. Capturing attention and creating opportunities for focused discussions, short docs can integrate into lesson plans, workshops, or collaborative projects, allowing educators to address specific curricular goals and to meet students' interests. Moreover, the adaptability of short-length documentaries serves in differentiated learning by accommodating various styles and preferences. These films enhance media literacy skills, empowering students to navigate the intersection of information and visual storytelling. Ultimately, short-length documentaries enhance active learning and critical thinking within film literacy education, thus offering educators valuable tools to create engaging and inclusive learning environments.

Following this initiative, we also developed a study guide entitled: *Cine-inclusion in Class* –based on the film *One school, two worlds*– that is especially designed for both General and Special Education, aiming to address the needs

of children with or without sensory disabilities, including conditions such as Deafness and Blindness. By combining accessibility features with an inclusive study guide, the initiative seeks to not only broaden cinematic engagement, but also to promote equal audiovisual and learning experiences for students with diverse sensory needs.

Film study guides play a crucial role in promoting Film Literacy, serving as structured frameworks that facilitate the comprehension and critical analysis of cinematic elements. These guides are fundamental in enhancing viewers' understanding of visual, narrative, ideological, and technical aspects. Existing models vary, with some emphasizing thematic exploration and others focusing on cinematic language. Notable examples include thematic guides that delve into socio-cultural issues and technical guides that dissect cinematographic elements (BFI, 2015; Papadopoulos, 2021).

Our goal was to propose a study guide model that includes the main features of study guides in general and, in addition, to be accessible to people with sensory disabilities, to promote inclusive, democratic and solidary education, to connect film literacy with the primary and secondary school curriculum, as well as to enhance and develop audiovisual and digital skills. In this approach, the film is placed at the center of the educational process, the educational community, the curriculum, as well as in both school and social life. Educational actions are organized around the film, involving all subjects and disciplines, addressing academic and social issues. In this context, teachers, students, parents and other agents from the local or the broader community participate on equal terms, offering a sense of equality and freedom. The film serves as a cohesive axis for lessons, the classroom and the school community.

More analytically, embedding film as a central component of the school curriculum creates an engaging learning experience. By selecting films that resonate with different subjects, educators can weave cinematic narratives into lessons, creating an interdisciplinary approach that enriches students' understanding on various topics. This engages all students and allows them to have a cohesive experience that transcends individual subjects and supports a holistic understanding of the material. By incorporating a variety of activities, such as discussions, creative projects and hands-on exercises, we try to ensure

that students with different abilities and preferences can actively participate in class. Collaborative film projects, group discussions and community events encourage students to work together, to share ideas, and to support each other. Films often depict diverse characters and perspectives, motivating the discussion on issues such as acceptance, equality, or diversity, and prompting critical reflections on societal norms, stereotypes and biases. Conclusively, we envisioned a film study guide model that transcends the boundaries of traditional film literacy, evolving into a dynamic tool that shapes a holistic and interconnected educational experience. Integrating films into the core of school life, not only prepares students academically, but also cultivates a socially conscious and empathetic generation, ready to engage with the broader world.

Cine-inclusion in Class incorporates numerous ideas and suggested activities, including exercises in creative writing, oral expression/narration, storytelling, observation, kinesthetic, art and audiovisual creativity, role playing, games, etc. These activities can be used by teachers of various disciplines before and after watching the film with their students. The objective is to provide an easy-to-use, enjoyable, and flexible pedagogical tool – a reservoir of ideas from which teachers can choose and implement (or adapt) those that fit with their classroom context, the pupils' specific interests, their pedagogical objectives, the cultural capital and the age of the pupils, the time available, as well as the social and historical context in which they teach. Moreover, it serves as a source of inspiration, while it encourages teachers to develop their own ideas and activities and contributes to a variety of school actions throughout the academic year and across different subject areas. It is addressed to children 10-15 years old and it is graded to meet their cognitive and learning needs and abilities. In accordance with the curricula, it spans across as many subjects as possible, including Language, Literature², Civic Education, Art, Music, IT etc.

The activities draw inspiration from and align with the Freinet Pedagogy, encompassing fundamental principles such as non-violence, student initiative, responsible citizenship, communal organization of school life, and free expression and communication, all grounded in experience-based learning.

2. The guide contains suggestions for parallel studying of relevant literature texts chosen from the corresponding books taught during Primary and Secondary School.

Additionally, they incorporate essential Freinet pedagogical techniques and tools, including free text pen pals, cinema, radio and digital storytelling. Freinet pedagogy, named after French educator Célestin Freinet, is an innovative approach emphasizing student-centered learning, collaboration, and the integration of real-life experiences (Badikian, 2017; Lahlou et al., 2017). Combined with film literacy, it offers a dynamic framework to engage students in cinematic exploration and critical thinking. That is the reason why Freinet was one of the first to integrate film literacy into pedagogy.

At its core, Freinet pedagogy values students' autonomy and active participation. When applied to film literacy, it encourages students not just to consume, but to actively engage with films as meaningful texts. Documentaries are totally compatible with Freinet's principles. They present students with an opportunity to engage with non-fictional content, they encourage them to question, to analyze and to draw connections between the visual narrative and their own lived realities. The authenticity found in documentaries resonates with Freinet's emphasis on experiential learning. Through genuine, unscripted narratives, students explore complexities mirroring the world they live in.

The study guide is available in three versions:

- a) one for children without sensory problems,
 - b) one for children with hearing problems, and
 - c) one for children with visual impairments,
- featuring specialized adapted proposals for the last two categories.

It includes:

- Ice-breaking and warm-up games that can be played at the beginning or at any other time deemed as appropriate, in order to enhance team dynamics and cooperation. In film literacy programs, icebreaking games are crucial to building rapport, breaking initial barriers and creating camaraderie among participants – a crucial aspect of film literacy where open communication and collaboration are paramount (Yeganehpour, 2017). These activities set a welcoming tone and encourage students to express their thoughts and to actively engage with the content. Similarly, warm-up games are vital for initiating educational programs. Serving as dynamic tools, they facilitate engagement, enhance concentration and ensure a positive entrance to the learning experience. By physically pre-

paring participants and stimulating mental alertness, warm-up games ensure active participation and create a powerful strategy for cultivating a collaborative and supportive learning environment (Flowers, 2017).

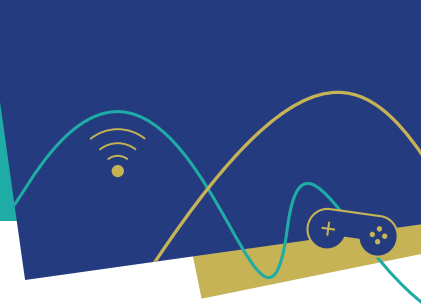
- Motivational and preparatory activities spark curiosity, stimulate interest and establish a context for understanding the film's main themes. Motivation ensures active engagement, making students receptive to the film's nuances. Preparatory exercises, whether these are discussions, research or related readings, provide a foundation for comprehension. They equip participants with the necessary background knowledge and they enhance their ability to analyze and interpret cinematic elements. Through motivation and preparation, film literacy programs not only enrich viewing experiences, but also they empower individuals to navigate and appreciate the diverse facets of visual storytelling (Awner, 2019).
- Comprehension activities. The film is treated as a multimodal text to be read and to be explored in terms of its meaning, the motives for its creation, the conscious or unconscious messages, the overt or subliminal intertextual relations with other films-texts, the historical, social, ideological parameters, the actions and the ideas of fictional or non-fictional heroes. Discussions, reflective writing and interactive exercises encourage students to attempt interpretations. These activities not only enhance analytical skills, but also facilitate effective communication, while promoting collaborative learning and a diverse exchange of ideas (Eddy, 2008; Steckmest, 2021; Crisp, 2021).
- Activities for understanding and mastering the basic principles and skills of film literacy, the basic elements of cinematic language: direction, shot types, editing, music, acting, lighting, sound, script. Hands-on exercises, like shot analyses or film editing projects, deepen comprehension and allow practical implementation. Engaging in these activities, transforms students into discerning viewers that can decode the audiovisual cues in films and active contributors to the cinematic discourse. They also form the backbone of an enriched educational experience, since they prepare students for actively participating in the dynamic world of visual storytelling (BFI, 2003).
- Activities for reflection, awareness-raising, expression of opinions and feelings. Reflection activities prompt students to contemplate and analyze their responses to films. Awareness-raising activities explore diverse cultural contexts and cultivate global awareness. Expressing opinions empowers students to openly exchange thoughts and to develop useful communication skills, and it creates a collaborative environment. Following democratic educational principles, these activities encourage constructive dialogue, value diverse opinions, and shape an intellectually stimulating, emotionally evocative and socially aware educational environment.
- Empathy activities. Students are required to step into the shoes of various characters with different backgrounds, cultures, or historical contexts, immersing

themselves in on-screen experiences, bridging the gap between students' realities and those depicted in films. Additionally, empathy activities contribute to social skill development and help appreciate diverse perspectives. Ultimately, integrating empathy into film literacy programs creates global citizens who are attuned to the complexities of the human nature, enriched with emotional intelligence, and prepared for a diverse, interconnected world with understanding and compassion (Kozloff, 2013; Lemieux, 2017).

- Feedback and evaluation activities that serve as a valuable tool for participants to articulate their experiences and perceptions and offer crucial insights into the program's strengths and areas for improvement. Closing with a feedback session not only empowers participants, but also allows us to assess the program's impact and effectiveness. Constructive critical analysis during evaluations contributes to future program improvement. This feedback cycle shapes a dynamic learning environment that enriches the film literacy experience. (Pitt and Carless, 2021)

The study guide is in digital form, so as to facilitate a multimodal approach, making it more accessible and appealing to all users. It includes audiovisual stimuli and data that utilize digital reality, interconnectivity and accessibility to free online resources and tools. The guide focuses on proposing the use of open access digital educational and artistic tools and applications. This satisfies both the development of digital literacy and the development of students' creative skills. It is accompanied by an online evaluation and feedback form. It is **free** and available on the website of EKOME and it has been included in the list of film study guides proposed by the European's Children Film Association (ECFA).

The guide has been developed under the scientific supervision of the Department of Early Childhood Education (DECE) of the National and Kapodistrian University of Athens (NKUA). It has already been implemented during a pilot project in both general and special education schools, as well as in university undergraduate and postgraduate courses. These courses include "Production and Development of Educational Material", "Qualitative Approaches in Special Education", within the postgraduate program "Special Education" of DECE, and "Special Education", "Inclusive Education" of the M.A program "Special Education" of the University of Nicosia and the University of Patras. It has also been included in the curricula of large-scale training programs, such as the "Introductory Training of Teachers" by the Institute of Educational Policy, the program "Teach4Integration" by NKUA in collaboration with UNICEF



and the human rights training program “You and I Together” by Amnesty International.

The guide proposes numerous activities to teachers. At the same time, a great number of experiential workshops have been conducted by EKOME for hundreds of students and teachers. The workshops took place in schools, in one-day conferences and seminars organized by the National Network of Schools “Media Literacy: television, internet, cinema, the Pedagogical Group “Σκασιαρχείο” [Truancy] and Cyprus Pedagogical Institute, as well as within the educational programs of the following film festivals: **a)** Beyond Borders: Kastellorizo International Documentary Festival, **b)** Drama International Short Film Festival, **c)** Chania Film Festival, **d)** Animasyros: International Animation Festival, **e)** Artfools: International Film Festival of Larissa, **f)** Olympia International Film Festival for Children and Young People.

CONCLUSIONS

Film Literacy has an important impact in contemporary education, by shaping socio-emotional development, advancing inclusivity and adapting to the evolving educational landscape, especially in the post-COVID era. The *Cine-inclusion in Class* film study guide model, developed by the National Centre of Audiovisual Media and Communication, exemplifies a comprehensive and inclusive approach. By incorporating accessible features for individuals with disabilities, integrating films into curricula and employing Freinet pedagogy principles, the guide enhances Film Literacy’s reach and effectiveness. Not only does it prepare students academically, but also cultivates a socially conscious and empathetic generation, fostering a collaborative and supportive learning environment. The digital, free and multimodal nature of the guide aligns with contemporary educational trends, and emphasizes accessibility, creativity and interactive learning experiences. EKOME continues the efforts to promote accessible Audiovisual Literacy and works towards strengthening its collaboration with the educational community, within the framework of its initiative to promote Media Literacy in general.



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A Suitcase of Images and Sounds

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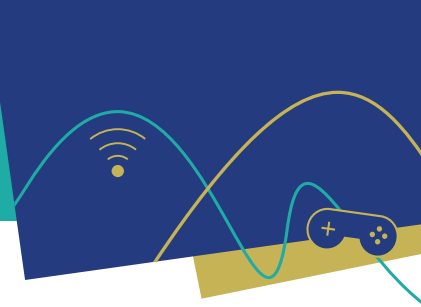
ABSTRACT

Teenagers, students and professionals from various fields are looking to learn how movies are made and how they could create short videos themselves. The possibilities of distance education and the contact with new technologies open ways for structured, experiential, digital, learning experiences. Based on the pilot, award-winning platform “A Suitcase of Images and Sounds”, which aims to introduce the adult audience in the world of filmmaking, the article investigates the necessity of creating such a seminar, presents questions and challenges of informal, online learning and the possibilities of optimal didactic for cinema language and audiovisual production in such a digital environment. The “Suitcase of Images and Sounds” reflects two contemporary trends: on the one hand, the ever-increasing compilation of distance learning materials, and on the other hand, the expanded interest in training in film and audio-visual production from a wide audience. The article presents how “the Suitcase” develops some general principles on which the creation of online filmmaking courses can be based.

Keywords: online seminar; film education; e-learning; creativity; user experience; training; audiovisual language

INTRODUCTION

Karpos, Centre for Education and Intercultural Communication is an expert in Media Education methodologies, hands on learning practices for youth and adults as well as film education curriculum design. In 2020 we were already active for more than 12 years in Greece. As Director of the company, when the pandemic started I felt that the challenge was not far from our recent concerns:



since 2019 we were planning a gradual digitisation of our teaching materials and the introduction of interactivity in a digital space in order to achieve a wider access and dissemination of our methods who support media creativity.

A certain level of digital practice had been achieved through the use of apps since 2015 in some new training modules. Aspects of media awareness such as image capture and synthesis, storytelling and multiple point of views were re-investigated and a considerable number of free of charge or cheap apps were tested for that purpose. The audience response (both adult educators and teenagers) was very positive but it was not possible to deal with transferring the whole of our philosophy of “learning by playing with media” in a unified space.

Surprisingly the resources for that goal were released due the worldwide enclosure in 2020 which brought an awareness about new needs and changes in life practices. As far as we were concerned, it focused our work towards an online platform which would incarnate our visual, hands on, friendly and inter-generational approach. Due to the pandemic, people wishing to learn digitally became more visible and within reach even for a small organisation.

THE NEW ECOSYSTEM OF AUDIENCES

The introduction to film language and the production of audiovisual works is a desired aim for many different groups of people nowadays. Students and professionals from various fields seek to learn how movies are made and how they could make short videos themselves. The emotional value that film narratives create to enthusiasts has been a constant reason for that endeavor. But the propagation of digital video in the broader sphere of social media as well as the connection of various professional areas nowadays with using video as visual testimony has created a considerable audience development. On the one hand the personal managing of digital images through portable devices has offered the possibility to a wide number of interested users to produce audiovisual narratives themselves. On the other hand, the moving image medium, in the form of videos of different forms and durations, has been connected more and more with cognitive or communicative sectors: as a research tool to narrate, present or advertise, or as an autonomous means of expression (Hesmondhalgh, 2010).

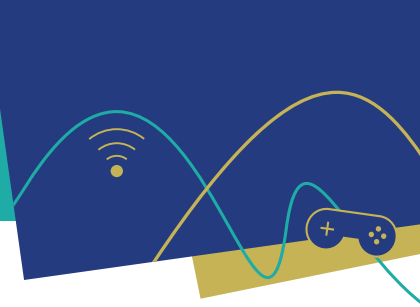
Social media in particular, have been dominated by video clips within a very short period of time. In 2016 the first video was posted on Instagram and M. Zuckerberg declared the intentional primacy of the video on Facebook (“video comes first”). In just seven years from that day, 30,000 hours of new videos are posted per hour. In the meantime, Video On Demand platforms cultivate a huge mass of television film audiences forming a new kind of “home cinephile”. They discuss and exchange preferences on scripts, plots, characters, heroes, cinematography locations, actors’ performances, cinematography, rhythm, etc. All the above, cultivate an approach of cinematic language unpretentiously, without specialized knowledge, or the frame of mind of a group of intellectuals.

These dynamics create an ecosystem of production of visual messages which surpass the vertical structure of large corporations and has introduced a parallel horizontal axis where we can finally talk about “mass self communication” (Castells, 2019, p.89). The notion of “creativity” and that of the “Creator” are constantly met in the area of cultural and television industry (Hesmondhalgh, 2010) as well as in the area of the new self-made producers (Youtubers, bloggers, etc.).

A variety of everyday activities of modern man is linked to video: communication, projection, study, entertainment. Thus the exposure to new technologies and the opportunities of distance learning have opened the way for structured, experiential, digital learning experiences.

CONTENT AND FORM

Various seminars cover this request for the development of skills in film production. There are several courses presenting the experiential or technological side of film production, but there is not extended literature or research about the variety, the structure and the impact of the design of online learning tools in such an expressive medium. Platforms such as Filmlearn.com and Coursera.org for example, offer online courses by various universities and schools abroad. Usually, however, they are specialized in a certain area of the film process such as script writing, lighting a scene or learning a film editing program. One of the few studies taking under consideration curriculum design issues as well as content, is focused on the process of post-production editing. But It exclusively



pertains to the study of prototypes -and not the complete implementation of an application/software (Raïke et al, 2013).

The original Greek platform “A Suitcase of Images and Sounds” aiming at an Introduction to Film making (<https://www.mediasuitcase.gr/>) is one such attempt. Our main objective was to inspire users about film language and to raise their interest in the characteristic qualities of media by using and advancing their own digital skills. It is a pilot project which focused on how face to face learning may be transferred to distance learning. Originally, the “Suitcase” existed as a 32 hour, autonomous, hands on training scheme addressing Youth workers and educators working in NGO’s or with vulnerable groups. It included several aspects of our prior learning modules as well as an implementation phase for each trainee with distance support from our side. The whole process was monitored and evaluated (see an infographic).

Our method of in-person teaching in non-formal environments of learning are based on the principles of Audiovisual Education as those are expressed by theoretical and empirical thinkers such as D. Buckingham, C. Bazalgette, M. Theodorides, and R. Hobbes, J. Delaunay, J. Potter and A. Burn.

Audiovisual education deals with audiovisual production as a construction and reception of messages and an indivisible part of communication, and focuses on the perception that analysis and creation of audiovisual messages is a key to the skills that are required by this world that is fraught with media, pop culture, and digital images. We ought to equip young people so as to be able to manage the messages surrounding them for reasons of expression, claim, representation and their further education (Hobbs, R. and Jensen, 2019, p. 9).

Through the practical familiarization with film language and by extension with the audiovisual media, they can comprehend the basic principles that rule every audiovisual text either it is about a televised product, an online short video or an entire film: the producer’s (creator’s) role, the technology behind, the representations, the style selected and the relation build between the audience and the work (Buckingham, 2003).

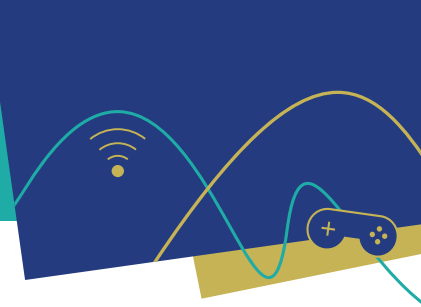
The question during the pandemic was how to transform all these ideas and our experience in practical media awareness to an online learning platform. The platform, which was launched in Greece in March 2022, in a pilot phase, is one of

the few audiovisual courses in Greek, giving the opportunity to anyone over 15 years old to practice and develop media awareness and basic filmmaking skills. It combines theory and practical exercises based on original materials, visual resources produced or selected especially for the platform. It is composed of 6 chapters. Each chapter consists of: **A.** Theory, **B.** Video Tutorials and relevant selected links, **C.** Quizzes/Tasks and **D.** Small-scale audiovisual projects.

1. Shots & Frames
2. Storytelling & Fiction
3. Documentary
4. Editing
5. Animation
6. Sound

The users can complete the course in their own time. All they need is their computer and a cellphone or a digital camera. Prior experience is not a prerequisite, aiding amateur creators to uncover their talents in simple, feasible ways. Learners make gradual use of various media (still image, composition and juxtaposition of images, video extracts, lots of focused viewing of selected tutorials or film extracts, sound recordings, etc.). They get into the shoes of the photographer, filmmaker, editor and sound recordist as they are asked to both analyze and create media materials. Although it is an audiovisual online course, our aim was to give it the feeling of a face to face in-person seminar, so the aspect of “mentoring” was added. During each chapter, the users try out some closed end activities/ games but also upload some short scale projects and get written feedback in their personal Profile section from a mentor (a professional in the audiovisual sector).

The suitcase curriculum reveals hidden aspects of the language of images and sound in a simple way. Users are introduced to basic Media Literacy concepts (e.g. framing and controlling information in and outside the frame, juxtaposition in editing, building storytelling and narratives in multiple ways) through a variety of resources (text, photos, video extracts, tutorials, graphics) and a variety of genres or fields of audiovisual language.



Hands on experience is divided in segments to engage participants in short understandable activities or tasks which will finally assist them to become media literate by building skills of observation, proposition, experimentation and reflection. While face to face trainings are based on group work, collaboration and sharing, in the platform we had to adjust the approach: these values are approached through short challenges and discovery of competencies with oneself. Dialogue and negotiation develop around investigating our own available equipment, observing the home environment through a new perspective and developing a personal point of view media expression. Oneself, the task and the idea meet and become the “other” collaborator.

The platform curriculum investigates in this way patterns of autonomous digital tasks, hands on activities which lead to a digital outcome which we finally frame these by remote guidance. Patterns of self education are connected to guided learning. A professional facilitator offers reflection and comments for each final chapter project and this is a major asset of the Suitcase. It delves into the balance of self awareness and the need for reflection and feedback.

Based on the above, the Suitcase pursues an extended introduction in film production a. by deconstructing film language in separate expressive, concise units, b. by combining theory and practice, and c. by providing feedback through systemic processes, to empower the trainee in both the comprehension and creation of short narratives.

CONTEMPORARY VALUES AND OUTCOMES

The Suitcase is closely connected to current trends of international notions of learning and Media Literacy. From the [Council of Europe pages about MIL](#) we find notions such as “meaningful engagement”, “critical evaluation of all types of content”, “discern what is of value, what is real and what is not” and “the ability to process and interpret information”. In addition the keywords: further education, self learning, digital literacy, exploration of digital interaction in learning, learn by playing, fostering creativity, understanding media and multiple point of views are pertinent.

All these concepts are crucial in the way the “Suitcase” chapters were developed and are necessary for critical thinking, analysis, self-expression and creativity – all necessary skills for citizens in a democratic society.

The audience welcomed this experiment in its inauguration during early 2022 (85 participants in the opening season). Later we supported quality engagement of a focus group (15 dedicated registrations, some of which were from abroad, (meaning that the users did not have Greek language as a mother tongue, but explored the Seminar by direct Google translation with success). This group followed the course with a high standard of creativity, productions and comments. A young French journalist stated that it was a necessary and good introduction to the media production world for her. An amateur video maker, who enrolled due to his involvement with Oral History groups, reflected: The “suitcase” carries in its trunks useful & easy-to-read material, which teaches the cinematic alphabet to a person who is taking his first steps in this art. Through this route, new horizons of creation are opened, such as documentary & animation as a way of expression, but also the use of the mobile / camera in our daily life to tell a simple story”.

We are currently assessing user experience, fine tuning programming issues and impact in open interviews as well as by students’ online comments. It should be mentioned though that in 2022 the Suitcase was shortlisted by the international jury of the [Medea Awards 2022](#) as one of the 8 best Educational projects in 2021-2 .


As face to face experiences are now again in demand, recent live trainings, prove that there is still a great need for basic visual awareness. As the media and digital skills development is still quite low in ages above 45, some mature professionals would need further training. In addition, not many younger users have the chance to study systematically the potential of images. Information, ideas and feelings can be processed and dealt via media language in a creative manner through activities. These activities can be either pattern based or open ended. Learning through play and self-directed technology generally meets these requirements, and therefore can result in creative outcomes.

The “Suitcase of Images and Sounds” answers these needs and reflects two current trends: the constantly increasing formation of distance learning materials and on the other hand the widespread interest for a creative further education in audiovisual production. In addition, such a platform became a tool to enrich our live trainings with intermediary online sessions developing thus areas of blended learning.



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Media Literacy Pedagogies: the Covid-19 distance education disruption and the way ahead

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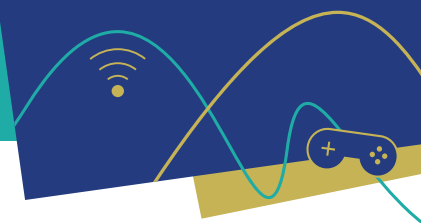
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ABSTRACT

Media Literacy during COVID-19 pandemic proved vital both as an educational tool and as a “vaccine” against public health misinformation (Gerosa et. al., 2021; Koltay, 2022; McDougall et. al., 2021). Remote learning modalities established as emergency response to lockdowns have disrupted education, demanded immediate MIL skills’ upgrades and urged for new pedagogies (Livingstone et. al., 2014; Rukmi, 2021; Tully & Vraga, 2018). For the last 20 years research systematically has shown that MIL interventions (critical thinking, source and content evaluation, message comprehension, media assessment, etc.) have positive effects on the students’ ability to rationally judge information (Hobbs & Frost, 2003; Sobers, 2008; Vraga et al. 2009, 2020). Pedagogical frameworks combining MIL, computational and algorithmic thinking (Lee & Soep, 2016; Valtonen et al., 2019) and activities employing more cognitive engagement (evidence checking, assessment, etc.) seem to yield more effective and longer-lasting results (Rapp & Salovich, 2018). Moreover, MIL can stimulate learning in non-media related areas (Sobers, 2008), while interventions based on deep reasoning (Kahneman, 2011) seem to be more effective in content management skills (Edwards et al., 2021); further, research also shows that news literacy training leads to improved political discourse and youth community engagement (Mihailidis, 2018).

Keywords: media literacy; health disinformation; remote learning; news literacy; critical thinking



INTRODUCTION

Remote learning modalities established as emergency response to lockdowns during COVID-19 pandemic have disrupted education, demanding immediate MIL skills' upgrades. MIL proved vital both as an educational tool and as a “vaccine” against public health misinformation (Gerosa et. al., 2021; Koltay, 2022; McDougall et. al., 2021). This crisis revealed that in order to ensure continuity of meaningful education we need -obviously- telecom systems and skills, but also the pedagogies for managing different modes of teaching and learning, considering variable learning and teaching needs, aspirations, circumstances and contexts (Livingstone et. al., 2014; Rukmi, 2021; Tully & Vraga, 2018).

Distant learning modes implemented during the pandemic revealed how obsolete the organization of our educational system is; while content is abundant today, schools still organize their curricula as if information were scarce. Students need to be able to find reliable information, of many different types or categories; MIL could serve as a unifying, interdisciplinary framework for a new way of teaching and learning.

1. TOWARDS A MEDIA LITERACY PEDAGOGY

Digital skills alone, or simply knowing how digital content and/or relevant media are produced, or knowing how to post on Twitter, does not necessarily make us “media/information literate” or capable to recognize whether the information that we “consume” is factual or fictional or perhaps just an opinion of another user of the same medium. MIL is more than a matter of understanding; it concerns the form and breadth of this understanding.

In education, if MIL can be considered as functional literacy, in the meaning of transforming media messages into knowledge in order “to manage daily living and employment tasks that require reading skills beyond a basic level”, it is necessary to explore how this set of functional skills are correlated with the ability to learn, teach and communicate in online and offline communities.

The first step to develop a MIL Pedagogy is establishing clear objectives. Major challenges here relate to the lack of learning theories and the general

1. <https://unesdoc.unesco.org/ark:/48223/pf0000114032>

ambiguity in the definitions and assessments of new literacies' concepts² in various fragmented training interventions in different countries (Ashley et al., 2010), where practical examples of ad hoc applications are labeled as MIL "best practices". In other words, having many short-term project-based interventions on one hand records a volume of relevant content, and sheds light to the different aspects of MIL, but in no case can this agglomeration establish the basis for a framework or a "standardization" of a pedagogy (Frau-Meigs, 2019).

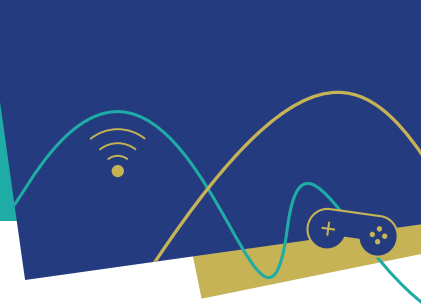
2. EDUCATION

The world is ready for a paradigm shift in education. The need to teach and facilitate critical analysis of all kinds of discourse in the new digital media is urgent. This means focusing on the social, political and economic environments that shape and influence the content and products of media. In this context, we can also emphasize the correlation of MIL with civic engagement and active democratic citizenship and with the need for a combination of knowledge and skills (Potter, 2004). According to Frau-Meigs, et al. (2017) digital citizenship is framed within ten main domains, namely, access and inclusion, learning and creativity, media and information literacy, ethics and empathy, health and wellbeing, e-presence and communication, active participation, rights and responsibilities, privacy/security, and consumer awareness.

The COVID crisis has revealed to the broader public what media literacy educators and researchers have been emphasizing for some time now: most information online is not structured, prioritized, or checked; thus, accessing and using it requires specific skills. With the overproduction of information about the virus and the unprecedented circumstances humanity went through, the COVID-19 pandemic magnified this problem into the form of the "infodemic" that we experience during the lock downs.

In most countries worldwide, there is no official syllabus or curricula for formal, informal and lifelong learning MIL programs, nor -even a more serious challenge- enough trained people to teach media and news literacy at schools, since MIL is not included in teacher education programs. This has started

2. https://en.unesco.org/sites/default/files/gmw2019_understanding_mil_ulla_carlsson.pdf



changing in some European countries and American States, which pave the path for us to follow.

3. NEWS LITERACY AS AN EDUCATIONAL TOOL

The ease of online navigation, though, is proportionate to the high volumes of online disinformation. Addressing widespread and influential misinformation online is a major challenge for educators. On the one hand, they need skills and knowledge to spot misinformation before students; on the other hand, “info-pollution” undermines the value of evidence used as an educational tool (McDougall et. al., 2018).

According to the well-known 2016 research by Stanford History Group³, students seem to be ill equipped to successfully differentiate news (facts) from sponsored content in online content. Traditional news readers had been trained to trust sources; no democracy can survive if citizens lack belief in institutions or if the latter are impartial. News consumers decided where to look for facts and which sources to trust, always seeking to find the “truth” behind the events and formulate convictions about the world (often, though, interpreting factual evidence through the filter of their values, feelings, tastes, and past experiences). But young readers seem to have lost their confidence compass.

The root of the problem can be sought within the educational system, which has been designed based on models of knowledge organization and sets of skills that are now inadequate for our brave new digital world. Should Media and News Literacy be included in public schools’ curricula? According to the Rand Study by Kavanagh & Rich (2018: xiv)⁴ “students need exactly this type of knowledge and these skills to effectively evaluate information sources, identify biases, and separate fact from opinion and falsehood. This gap between the challenges of the information system and the training provided to students drives and perpetuates “truth decay” by contributing to the creation of an electorate that is susceptible to consuming and disseminating disinformation, misinformation, and information that blur the line between fact and opinion”.

3. <https://ed.stanford.edu/news/stanford-researchers-find-students-have-trouble-judging-credibility-information-online>

4. https://www.rand.org/content/dam/rand/pubs/research_reports/RR2300/RR2314/RAND_RR2314.pdf

News Media Literacy bridges the gap between reality and media messages (Hobbs R., Jensen A., 2009; Shoemaker, P. 2009). As a special category of literacy (learn how to consume and produce reliable, relevant and informative content) it needs special implementation in the education systems due to the role it plays in democracy and civic engagement and the configuration of self-governing citizens (Mihailidis, 2012).

4. STUDENTS AND ONLINE LEARNING

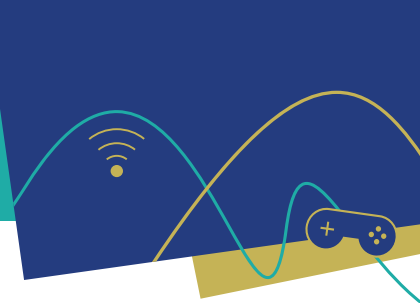
Students are required to use a range of digital tools and media to participate in online learning and have specific skills:

- **Digital literacy:** know how to use digital tools and media effectively, navigate online platforms, create and share content, and communicate online
- **Critical analysis:** be taught how to critically analyze media, including how to identify bias, evaluate sources, and assess the credibility of information
- **Media creation:** create their own media, including videos, podcasts, and social media posts, to develop creative skills while also promoting media literacy
- **Social and emotional learning:** learn how to navigate the emotional and social aspects of media use, including how to manage online relationships, deal with cyberbullying, and maintain a positive digital footprint.

According to research, the inclusion of digital technologies in education increases socialization and collaborative work (Baker, 2000). However, the rapid access to abundant information distracts them from creativity. The increased likelihood of plagiarism (Scanlon & Neumann, 2002) is also among the negatives of the digital environment, especially with the development of AI tools.

However, not all students have access to these technologies, and the digital divide is obvious in many communities. This can cause a disparity in learning opportunities. Furthermore, students who do have access to technology may experience difficulties in navigating digital tools and platforms, which can create barriers to learning.

Also, the lack of socialization and face-to-face interactions with peers and teachers can negatively impact students, who could find it challenging to stay motivated and engaged or to build and maintain relationships with peers in a virtual environment, which can limit opportunities for collaboration and



teamwork; the lack of face-to-face interaction with teachers can limit opportunities for seeking clarification and asking questions. Maintaining concentration, with distractions at home, can distract them from their studies, leading to decreased productivity and difficulty in retaining information. On the other hand, learning can be facilitated for physically challenged students in online settings.

5. EDUCATORS AND ONLINE TEACHING

As of July 2020, 98.6% of learners worldwide were affected by the pandemic, representing 1.725 billion children and youth, from pre-primary to higher education, in 200 countries (Pokhrel & Chhetri, 2021). With the closure of schools in the pandemic, teachers had to find innovative ways to ensure that students continued to receive the necessary education, indicatively, creating and managing virtual classrooms, using various digital tools and platforms, developing engaging content, and providing support to students. As MIL is not included in the curricula of tertiary education, so there are no MIL trainers or consultants to guide and manage the change, teachers needed to voluntarily follow professional development programs and online resources.

Also they needed to adapt their teaching methods to suit the online environment, extensively investing time and resources to ensure that they could guide students to the digital world. The use of digital media in the classroom enriches the learning process, makes it more democratic and enjoyable and motivates emotional responses, enjoyment and cultural expressions (Buckingham, 2008); thus teachers had to develop new teaching materials, such as videos and interactive quizzes. Furthermore, to ensure that students were engaged in learning, they had to adjust their methods develop new ways to communicate, provide feedback, maintain engagement, facilitate virtual class discussions, and provide personalized feedback on assignments. In addition, they had to adjust assessment methods and guidelines: traditional forms such as exams were replaced by alternative methods, such as assignments, quizzes, and online discussions - or specially constructed online exams.

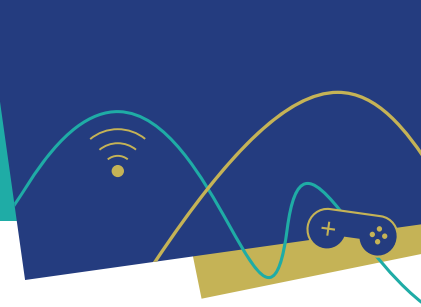
There is no one-size-fits-all pedagogy for online learning. Different subjects and age groups require different approaches to online learning (Doucet et. al., 2020). Some of the technologies used by teachers during this period include

- Video conferencing tools (Zoom, Microsoft Teams, Google Meet, etc) to conduct virtual classroom sessions, facilitate discussions, and provide support
- Learning management systems (Moodle, Blackboard, Canvas, etc) to manage virtual classrooms, distribute assignments, and provide access to resources
- Online collaboration tools (Google Drive, Dropbox, OneDrive) to collaborate with students, share documents, and provide feedback on assignments
- Educational apps and software (Kahoot, Quizlet, Edpuzzle, etc) to create engaging content, deliver interactive quizzes, and gamify learning
- Social media platforms (Facebook, Twitter, YouTube, Instagram, etc) to communicate with students, share resources, and promote engagement
- The flipped classroom strategy for providing learning resources and then use the online classroom time to deepen understanding through discussion with teachers and peers.

6. MIL TRAINING INTERVENTIONS

MIL interventions (promoting critical thinking, source and content evaluation, message comprehension, media assessment, etc.) have positive effects on the students' ability to rationally judge information (Kahne & Bowyer, 2017). However, efforts to educate the school audiences and the general public in the various MIL skills are currently fragmented in ad hoc actions in various contexts, such as for example in EU-funded programs, platform-specific initiatives or initiatives in specific media or services, rendering their impact unclear, if not arbitrary. On the other hand, research shows that MIL interventions in formal curricula (for example, in second language) can aim at specific goals (Lazou et al. 2021). Also, as the media often replace the family and school, representations, norms, values, preferences and behaviors are shaped faster than in traditional institutions of education (Livingstone, 2009).

Transforming MIL skills into appropriate lasting behaviors is another challenge. Current approaches tend to be biased by focusing mainly on the development of critical thinking rather than change of behavior (Bulger & Davison, 2018), and there is no comprehensive evaluation of initiatives. The lack



of standardized assessment, inconsistent definitions and the particularity of many interventions limit the lessons that can be learned about the relationship between MIL, learning and behavior.

7. BENEFITS FROM MIL EDUCATION

As the importance of MIL grows in the digital age, it is essential that educational institutions incorporate MIL education into their curricula to ensure that students have the necessary skills and knowledge to navigate the complex media landscape and become informed, active citizens. In addition, by incorporating MIL education into teacher training programs, educational institutions can prepare teachers enhance teaching and learning experiences for their students.

Pedagogical frameworks combining MIL, computational and algorithmic thinking and activities employing more cognitive engagement (evidence checking, assessment, etc.) seem to yield more effective and longer-lasting results (Rapp & Salovich, 2018). Activities such as data analysis, algorithmic thinking, and media production require students to engage with media content in a more creative and analytical way. Studies have shown that incorporating activities that require more cognitive engagement, such as evidence checking and assessment, can lead to more effective and longer-lasting results (Valtonen et al., 2019).

Moreover, MIL can stimulate learning in non-media related areas (Sobers, 2008), while interventions based on deep reasoning (Kahneman, 2011) seem to be more effective in content management skills. Edwards et al. (2021) found that interventions based on deep reasoning were more effective in promoting content management skills among students. Further, research also shows that news literacy training leads to improved political discourse, better news consumption behaviors and youth community engagement (Mihailidis, 2018).

8. POLICIES

Obviously, in order to implement MIL pedagogies we need relevant policies. We want individuals to achieve empowerment and responsibility with MIL, and citizens to become digitally literate and know how to communicate, create and share content responsibly and how to protect themselves from risks. However, if this responsibility falls on individuals then is unevenly distributed among

different social groups. At the same time, due to the rapid spread of digital media use, a wider shift from models of external control (for example, by governments) to models of “remote regulation” of interaction with digital environments, for example by self-regulation or through parents, at the level of the family (Livingstone, 2009), combined with the urgent paradigm shift in formal education.

The Eurydice European Commission Report (Motiejunaite-Schulmeister et al. 2019) suggests that one of the main curriculum approaches to digital competences building in primary and secondary education is “a cross-curricular theme: digital competences are understood to be transversal and are therefore taught across all subjects in the curriculum. All teachers share the responsibility for developing digital competences.” (p. 28). According to the Digital Competence Framework (Ferrari, 2013), there are five main areas of digital competences, namely, Information, Communication, Content-creation, Safety, and Problem-solving that focus on a) complexity of tasks, b) autonomy and c) cognitive domain at the intermediate, advanced, and highly specialized level. Policymakers must recognize the importance of media literacy in education and provide the necessary resources to support MIL initiatives in all the above dimensions.

Suitable and effective pedagogy for secondary and primary education for online teaching and learning is an area for further research. After the COVID-19 pandemic, teachers and learners should be encouraged to continue using online tools to enhance teaching and learning. This will require funding for professional development programs, access to digital tools and media, and support for research into effective media literacy pedagogies.



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Reading in the Digital Era: trends in the post-pandemic landscape

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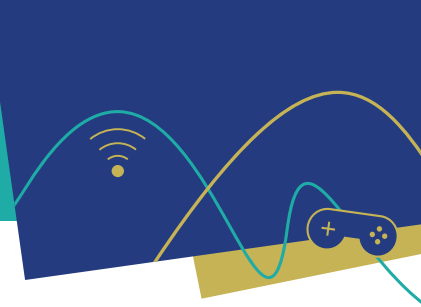
ABSTRACT

Digital reading is a process that requires appropriate literacy to achieve its purpose, i.e., understanding, information, or entertainment. This article aims to validate the theory of reading, document trends in digital reading, and reading behaviors after the COVID-19 pandemic. The article examines the literature and presents the responses of undergraduate students regarding their daily experience with reading devices, but also the results of studies conducted in different regions of the world that showed the relationship of students with print and digital media before and during school or university closures after COVID-19. A particularly interesting aspect that emerged from the analysis is that students who liked to read tended to read more and, in fact, read more on paper and digital formats during school closure. In view of constant technological changes, further research is also needed to monitor the attitudes and practices of students toward digital reading in relation to analogous reading to better inform teachers about the benefits and challenges of both reading modes.

Keywords: digital reading; media literacy; printed books; e-books; COVID-19

1. INTRODUCTION

Technology has made way for the emergence of new forms of communication that have subsequently altered the relationship between readers and text (Fischer, 2019, p. 74; Mills, 2010). Furthermore, modern multimodal messages cannot be decoded using only traditional reading and writing skills. *Digital literacy* requires the ability to decipher a multimodal meaning that



individuals can acquire by using digital technologies. However, the increasing use of digital media across all ages reveals a major change in the emerging or acquired literacy of the modern population (Pagani, 2021, p. 212).

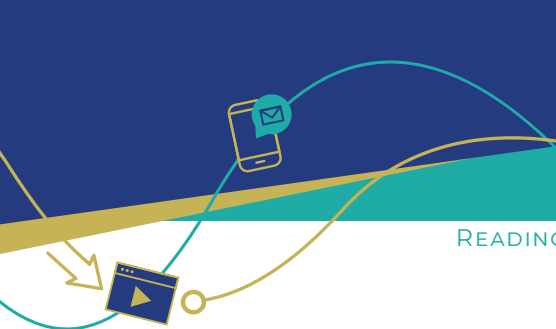
In the 21st century, illiterate people understand the information presented to them in any form. Lanham (1995) believed that illiteracy meant “[...] familiarity with a changing combination of words, images, and sounds,” thus familiarity with more complex communication systems and codes (Guernsey & Levine, 2015, pp. 81-82; Pantidou & Paparoussi, 2011). In the Internet era, modern people read text on the screen every day. However, digital reading is a process that requires adequate literacy to achieve its purpose, that is, understanding, information, or entertainment.

Digital culture has attracted even older people. Inevitably, their ‘migration’ to the digital environment occurs while maintaining the behavior of the analog world, which significantly contributes to the formation of ideologies around digital technology. In fact, the transition from print to digital content presents new cognitive challenges for readers. On the contrary, *digital natives* have been influenced by *digital migrants’* reading habits, although they were born at the age of technology and had significant technological capabilities at an early age. However, while digital natives use technology more effectively than their parents, many people remain skeptical about technology. Digital texts are preferred only when they are practical to the reader, such as transportation, storage, or access. (Houston, 2011)

2. ANALOGOUS VERSUS DIGITAL READING

To date, the area of digital reading has not been explored in depth, and there are conflicting views on the implications and opportunities it can offer. On the one hand, fears are echoed that technology may dilute other important activities, while on the other hand, its potential to provide rich cognitive and literacy experiences is highlighted. Furthermore, the coexistence of analog and digital worlds often leads to the digital reading of texts designed to be read on paper and vice versa (Stichnothe, 2014; Eshet-Alkalai & Geri, 2010).

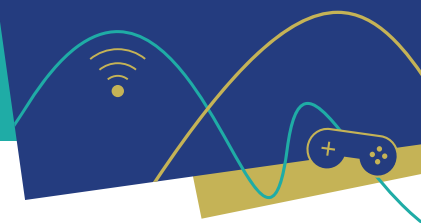
A *congruent* or *harmonic* reading mode emerges when the text is read in the form for which it was designed. Text designed to be read analogously is read on paper (“Print-to-Print”), and text designed to be read digitally is read



on the screen (“Digital-to-Digital”). *Incongruent* or *disharmonic* reading occurs when the text is read in a different form from the intended one. Text designed to be read analogously is read on screen (“Print-to-Digital”), and text designed to be read digitally is printed and read on paper (“Digital-to-Print”).

The use of technology and interactive media to support learning is an effective tool, if appropriate. Children’s use of the digital format of a book can potentially provide a source of interaction, a trigger for further activities and discussion (Technology and Interactive Media as Tools in Early Childhood Programs Serving Children from Birth through Age 8: a position statement, 2012; Frye, 2014). Any potential and imminent dangers to the young child due to modern media should not be focused on the medium itself, but on its inappropriate use and content, in particular, overexposure to it and non-parental involvement (Campbell Naidoo & Park Dahlen, 2014). However, new multimedia experiences can cause parents and teachers discourage them from buying e-books. However, the new reading possibilities offered by the e-book should not be approached rigidly, but with the necessary knowledge and appropriate critical thinking.

Today, children who come across electronic books can experience reading from an early age, without prejudice. The digital environment has increased the potential for children and adolescents to use various electronic devices, highlighting the potential of future generations to prepare participation, interaction, and effective decoding of new means of meaning construction (Gillen & et al., 2018). However, in order to integrate technology and new media into daily life, adults must have digital literacy and recognize and limit the negative impact of technology. In addition, adults must establish boundaries and use technology to promote interaction with children and to support language development and learning in multiple ways. Teachers must recognize that that the nature of reading and of the books have changed radically. Furthermore, they should use and understand modern media for educational purposes and guide children in exploring modern technologies (Patsiou & Kalogirou, 2013, p. 13).



3. READING TRENDS

Recently, the Greek Organization for the Collective Management of Literary Works - OSDEL has noted that non-readers are often those who did not have intensive readers in their childhood environment; this proportion has reached 44%. However, 51% of people who do not read books are cited for time as the main reason for not reading. 22% of the respondents said they did not like to read. They reported that they had not found anything interesting (16%) to read, that they had not read due to health problems (13%), due to spending time on the Internet or due to lack of interest (11%), and that only 1% of them were not skilled readers. Based on reading habits, in 2010, the most frequent reading period during the year was holidays (44%). In 2021, 31% report reading books almost every day when they have no other activities, and 22% during holidays. (Panagiotopoulos, 2022, pp. 29, 70)

Concerning the intention of reading books the following year in different formats (printed books, e-books, and audiobooks), audiobooks seem to be the least popular among Greeks, with 84% of respondents responding that they listen only to a few or none. The results confirm that printed books still dominate in Greece, favored by 65% of readers, but digital books are beginning to establish themselves – with a quarter of respondents saying that they are likely to read e-books (Panagiotopoulos, 2022, p. 32).

E-books offer some 'hedonic' benefits, such as faster access to new books, a broader connection to other readers in on-line communities, and richer colors for children's books. At the same time, the physical bookstore environment, the ability to keep and display favorite books, the strong connection with the story, the tangibility of books that are cherished, and the rich experiences of reading books to children are all advantages of printed books. In summary, although e-books provide functional benefits, printed books play a significant role in self-concept. (Ketron & Naletelich, 2016)

Instead of replacing printed books, electronic books fill a niche in people's leisure reading practices based on paper. When choosing technologies (including books) to read, people can create specific reading experiences using the features offered by content, application, device, and infrastructure ecosystems. Hupfield, Sellen, et al. (2013) suggest avoiding interpreting e-books as artifacts and focusing on reading activities and experiences, including acquisition, organization, and sharing.

3.1 Digital reading in everyday life

The theme of the **12th UNESCO Global MIL Week** (Global Media and Information Literacy Week 2023, 2023), celebrated from 24 to 31 October 2023, was “Media and Information Literacy in Digital Space: A Collective Global Agenda”. EKOME is an active member of the UNESCO MIL Alliance and coordinator of its European Mediterranean Sub-Chapter Group, proud to participate every year in the commemoration of the UNESCO Global MIL Week 2023 and promotes its initiatives and activities in the fields of digital and audio literacy and related materials (12th UNESCO Global MIL Week: Celebrate with EKOME!, 2023).

In the context of the celebration of the 12th Global MIL Week, EKOME organized two lectures in collaboration with the Department of Pedagogy and Primary Education of the National and Kapodistrian University of Athens: “Digital Reading as a Skill of the 21st Century: good practices and challenges in the internet era” (Monday, October 23, 2023) and “The E-Book in Education: the role of the teacher and the student in the modern digital environment” (Monday, October 30, 2023). These lectures occurred during the course of Dr. Tzina Kalogirou, Professor of Modern Greek Literature and Literature Teaching, and the audience was undergraduate students of the Department of Pedagogy and Primary Education. The focus is on the habits of future primary school teachers, as they will soon be asked to lead children to reading environments where they will feel at home, regardless of the medium and form of the text.

Within the framework of the lectures, the undergraduate students had the opportunity to explore the history and evolution of reading, as well as the different text carriers and reading media from the discovery of writing to the present day. The technology and characteristics of the e-book were analyzed, while the file formats and contribution of each to a harmonious reading function were explained. Using the latest and most advanced digital reading devices, the focus was on the advantages of electronic ink screen technology –over backlit screens– to enhance the reading experience in the digital environment.

During the lectures, students engaged in discussions and participated in live polls to provide instant feedback on their digital reading habits and activities. Students were asked to scan the QR code presented on the projection

screen with their mobile phones and choose the answers that best represented their preferences or daily activities on digital media. A total of twenty-six (n=26) undergraduate students participated in this study.

3.1.1 Daily activities with electronic devices

Future teachers use electronic devices (PCs, mobile phones, tablets, and e-readers) in their daily lives to perform various tasks that are important for communication, entertainment, and creation. Table and Chart 3.1 clearly show that in the absolute percentage of 100% of the respondents, digital media are used to connect students with friends and families through popular social networks. Then there are daily recreational activities, such as listening to music and watching movies, series, and videos. It is remarkable that only 27% of the respondents reported reading or writing digital texts, while 65% said they spoke daily by email and 50% said they were on the go on the Internet to stay up to date with news.

Table 3.1. “What activities do you do daily with your electronic devices (PCs, mobile phones, tablets, e-readers)?”

Daily Activities with Electronic Devices (n=26)	n _i
Social networks with friends/family (<i>Facebook, Instagram, Twitter, Skype, etc.</i>)	26
Listening to music	24
Watching movies/series/videos	22
Reading and/or authoring e-mails	17
Searching and/or shopping online	13
Reading news reports	13
Using creative applications (<i>image editing, video creation, etc.</i>)	7
Reading and/or writing digital texts	7
Participation in games	5
Other	0

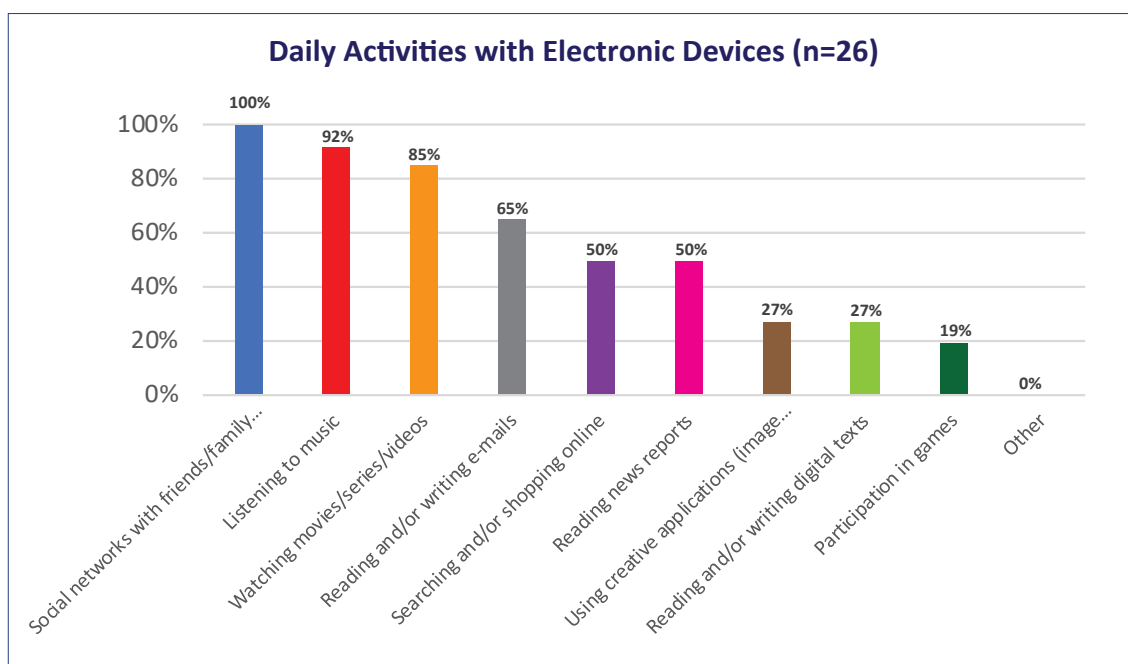


Chart 3.1. “What activities do you do daily with your electronic devices (PCs, mobile phones, tablets, e-readers)?”

3.1.2 Hours consumed on social media

Students were asked to record their daily activities in digital spaces, especially social networks. All students reported having at least one social media account and spending more than an hour a day on it. In fact, 69% of the respondents reported spending more than three hours a day on social networks. (Table and Chart 3.2)

Table 3.2. “How many hours a day do you consume on social media?”

Hours Consumed on Social Media? (n=26)	n _i
I do not use any social networks	0
< 1 hour	0
1-2 hours	8
> 3 hours	18

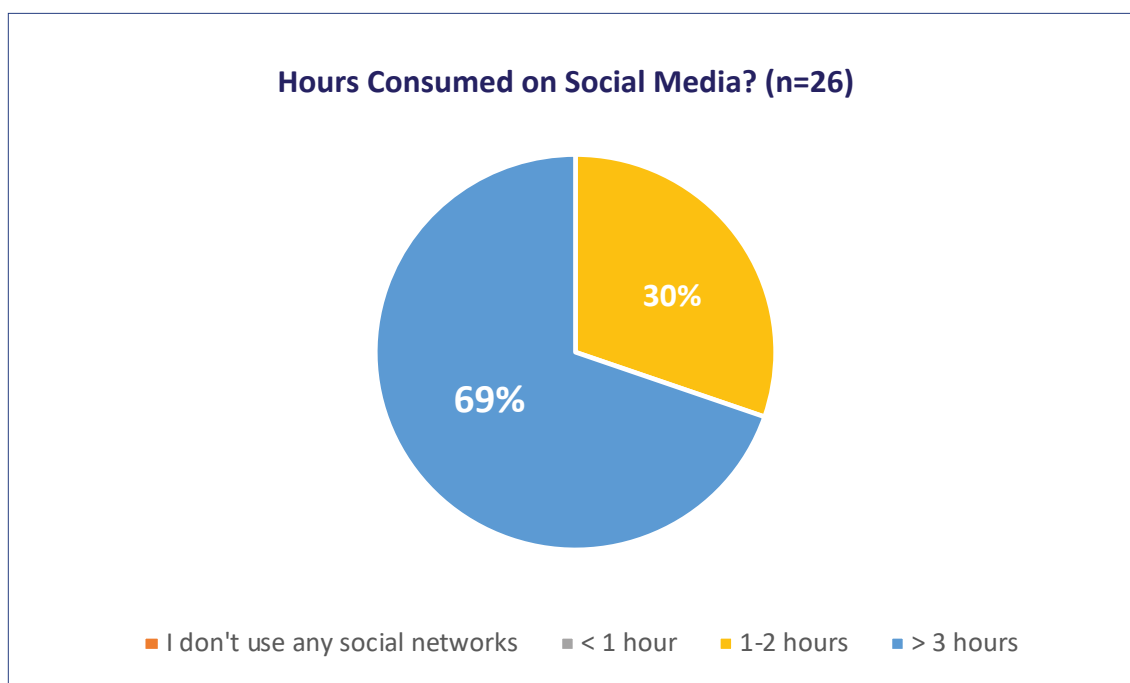


Chart 3.2. “How many hours a day do you consume on social media?”

3.1.3 Preferred book format for each reading activity

Undergraduate students from the Department of Pedagogy and Primary Education were asked to indicate their preference for printed or digital book formats according to the type of text or reading activity. All students indicated that they would only read a literary book in printed form (100%). Subsequently, the most preferable activities are reading with children (85%) and reading picture books (75%). Only for the immediate need to read essays or monographs (60%) or book purchases (60%) and the possibility to search for the linguistic origin of words (85%), electronic versions are preferred over printed versions. (Table and Chart 3.3)

Table 3.3. “What book format would you prefer for each activity or type of book?”

Preferred Book format for Each Reading Activity (n=26)	Printed Book (n _i)	Digital Book (n _{ii})
Literary book	26	0
Reading with a child	22	4
Picture book	20	6
Lending to a friend	18	8
Import notes	18	8
Travel/Holiday	17	9
Reading at night	14	12
Essay/monograph	10	16
Direct purchase/acquisition	10	16
Word Etymology	4	22

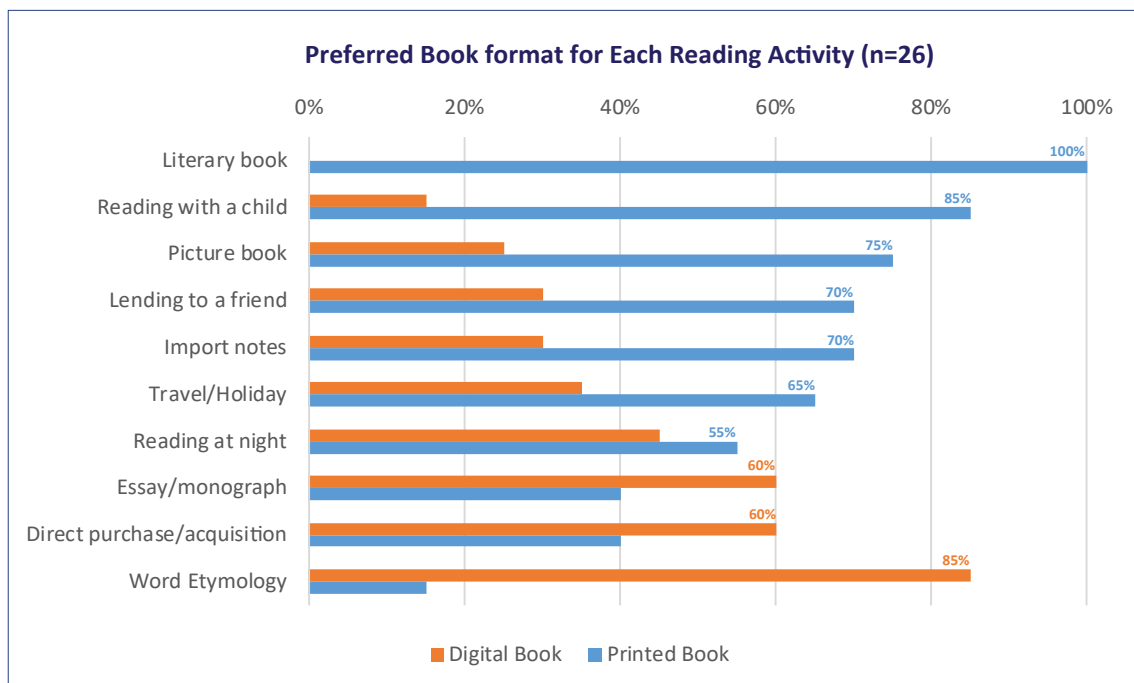
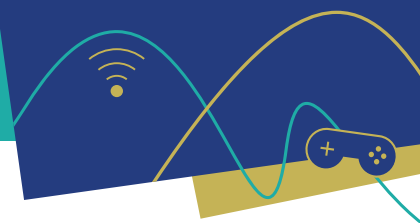


Chart 3.3. “What book format would you prefer for each activity or type of book?”



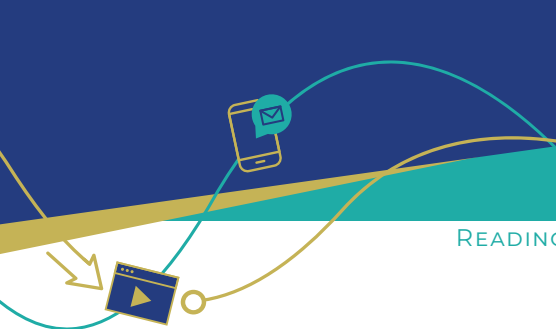
In general, most undergraduate students have long-term and daily contact with the electronic devices they own. They use digital media primarily to maintain social networks and access entertainment content. They clearly prefer to read literary printed books, and only a small percentage of them claim to read digital texts.

A particularly interesting aspect that emerged from the analysis is that digital reading does not appear to be noticed when reading emails, making online purchases, or browsing social networks. The analog world is associated with the relationship of university students with the reading process that requires deeper understanding. They choose to read only printed texts and consider reading in the digital space as more superficial and requires less time commitment. The choice and need to obtain scientific texts immediately connect students to digital reading as a practical and fast alternative.

3.2 Reading before and after COVID-19 pandemic

Recent studies conducted in different regions of the world [Greece (Panagiotopoulos, 2022); UK (Ciampa, 2016; Clark & Picton, 2020; The Reading Agency, 2020); US (McVicker, 2019); Singapore (Sun, Loh, & Nie, 2021); Australia (Merga & Roni, 2017);] have examined the relationship of students with print and digital media before and during school or university closures after COVID-19.

In Greece, the pandemic boosted reading behavior, in general, especially among young and intensive readers. By 2021, 44% of the readers say that they read more books during the pandemic. For very few people (only 11%) the pandemic has had a discouraging effect on reading. The rest are divided equally between those who did not change their reading habits during the pandemic and those who began to read more due to lockdown. The latter includes 50% of intensive readers and about the same proportion of the 16- to 34-year age group (Panagiotopoulos, 2022, pp. 39, 65). Especially when schools were closed, reading was a more popular leisure activity, as students had more time to read and found it relaxing and pleasant. Students who liked to read tended to read more and, in fact, read more on paper and digital formats during school closure, while their colleagues who did not like to read were less motivated to read in both formats.

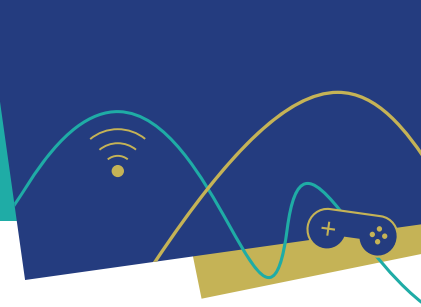


However, students clearly prefer to read on paper rather than digitally before and during school closures. More than half of the students use devices more often during school closures, but about a third do not use devices for reading. As such, students are *digital natives* as long as they use devices for entertainment purposes, such as playing and watching videos other than reading. However, the lack of appropriate reading materials during school closure was a great challenge for students, especially when the usual sources such as the library, teachers and friends were not available. (Sun, Loh, & Nie, 2021)

In the United Kingdom, more children and young people say that they enjoyed reading and read more during lockdown compared to before, but fewer boys say that they enjoyed reading and fewer read in their free time – compared to girls (Clark & Picton, 2020). Almost 1 in 3 (31%) of people read more during lockdown, a particular spike among young people (18-24) where almost half (45%) are reading more than before lockdown. Many people say that reading is a form of release, escape, or distraction, and more time is the key to increasing reading during lockdown. In addition, people are reading the same genres as before, just increasing the number of books. (The Reading Agency, 2020)

In the United States, the remote pandemic education conditions of a university changed the attitudes of university students toward electronic reading. Most of them reported negative changes in attitudes toward digital reading. Although positive changes were also found, many respondents reported that they had a negative impact on health and learning related to screen reading. A considerable proportion of students reported less academic reading during the pandemic, and less highlighting and annotation on their texts. (Mizrachi & Salaz, 2022)

The preference for printed books is due to a lack of digital reading skills, a preference for reading on paper, and knowledge of printed resources over digital resources. The negative experience of reading with devices, such as eye strain or difficulties in obtaining materials, limits students' ability to practice continuous and pleasant digital reading, which then affects their decision to accept or reject new reading forms. Although some devices can make continuous reading more beneficial (e.g., e-readers), not all students have access to



these reader-friendly devices. (Hupfield, Sellen, O'Hara, & Rodden, 2013; Ketron & Naletelich, 2016)

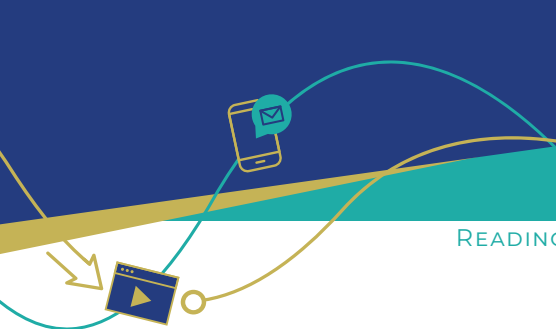
Like analogous reading is a growing process that involves years of socialization by adults around students, digital reading must be socialized carefully in the lives of students to equip students with the necessary skills to locate materials and engage in digital texts. Like printed books, e-books should be integrated into the curriculum to introduce students to the habit of using reading technology. (Brueck, Lenhart, & Roskos, 2019)

4. DISCUSSION

Reading provided shelter for many children during lockdown, as well as a valuable source of pleasure, while helping them maintain their reading abilities at school. However, for others, the closure of schools and libraries has cut off essential reading, while the lack of time, quiet space, and support from schools and colleagues has affected both their ability and their motivation to read for enjoyment. When it comes to digital reading, many students may face challenges due to a lack of support, making them more akin to *digital immigrants* rather than digital natives.

Despite continuous improvements in digital reading technology, parents, educators, and schools must recognize the benefits and challenges of using printed and digital resources. Future teachers must be trained in best practices for using e-text and must understand the use of reading technology to effectively use digital devices. The results indicate the need for additional research on the use and knowledge of future teachers about the use of media, as they are children's guides on the use of new media – together with the families of children. The reading experience of future teachers is of particular importance because it sets the direction of the future generation in the field of reading and should be implemented effectively in any form.

It is crucial to improve the access of students to high-quality reading materials, not only in print, but also in digital formats. Schools and libraries play a vital role in supporting these children, not only by providing access to reading material, but by connecting potential readers with books that will inspire them and capture their interest. Furthermore, schools must play a more active role



in socializing students using digital devices and reading resources. In order to support children's rediscovery of their love of reading, they need time, space, and access to books and stories in print or digital format.

5. CONCLUSIONS

Educators must have appropriate knowledge of the possibilities and weaknesses of modern media to choose the appropriate “tools”. A systematic misunderstanding of technology's potential only leads to the loss of innovative ideas and opportunities, while extending the digital divide. Adults must provide children with an environment where they can continue to read, think, and learn, and in which they control all forms of technology and maintain a fluid interaction with them (Merkoski, 2013, p. 163; Guernsey & Levine, 2015, p. 58).

On the other hand, incongruent reading modes (“print-to-digital” and “digital-to-print”) do not facilitate the transition and modification of today's dominant digital media ideologies. The responsibility must inevitably lie with content providers who are invited to exploit the possibilities offered by the digital environment and to provide the opportunity for multimodal reading experiences that will allow modern people to feel at home. Today, teachers are asked to recognize and promote a harmonious reading environment, seeking and proposing reading content adapted to analog or digital worlds (“print-to-print” or “digital-to-digital”). The most effective approach is to become proficient in reading in all formats and to acknowledge that digital reading encompasses various aspects of our academic, professional, and social lives, necessitating specific digital and cognitive skills.

Educational programs, campaigns, and policy efforts are needed to promote reading enjoyment, and positive behaviors are more important than ever. In view of constant technological changes, further research is also needed to monitor students' attitudes and practices toward digital reading in relation to analogous reading to better inform teachers about the benefits and challenges of both reading modes.



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UnTwining Cyberbullying

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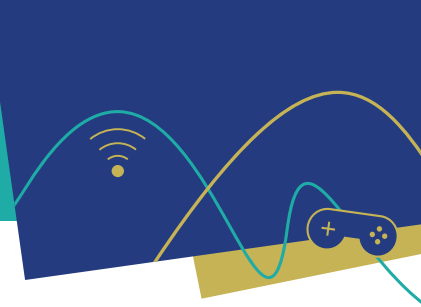
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ABSTRACT

Since the beginning of the Covid-19 pandemic, the realm of education has greatly suffered from both the lack of direct, in person, social communication and collaboration as well as the abrupt changes in the learning settings, followed by incomprehensive attempts of all members of the educational community involved to adjust, particularly during lockdowns. Despite the initial awkwardness, a number of good practices not only have emerged, but also survived in the post-pandemic era, especially regarding views and the use of media and the information they provide, together with the development of advanced digital skills. More specifically, the adoption of diverse digital platforms to learn and interact also cultivated educators' and learners' need to acquire new competences against any wrongful use of these media. Hence, efforts to engage students in digital activities to enhance their active critical awareness concerning inappropriate communication and fake information have been made. The aim of the current paper is to present such an example, using Twine, a digital narration tool, as a means of helping students, in accordance to *The Core Principles of Media Literacy Education* of NAMLE and goals of Cyberbullying Research Center, to effectively identify and act against cyberbullying.

In order to access the applications follow [this link](#) or enter <http://3gym-thess.thess.sch.gr/> site (2021-2022-announcements).

Keywords: media literacy; digital literacy and skills; cyberbullying; digital narration platforms; inappropriate communication; ICT challenges



INTRODUCTION

Over the last 20 years, and especially since the beginning of the Covid-19 pandemic, it has become increasingly imperative to integrate innovative information and communication technologies (ICT) in sociopolitical life, especially in the realm of education. Quarantine periods have drastically affected traditional school lesson attendance depriving both teachers and students from direct, in person communication and collaboration, forcing abrupt changes in learning environments. Teaching and learning through a web platform demanded the acquisition of new skills and ICT related knowledge with notions such as “breakout session or room”, “shared screen” and “waiting in the lobby” being associated with quite original content. Some of the initially incomprehensible attempts by all members of the educational community to adapt to the new communicative conventions have led to several good practices emerging and also surviving in the post-pandemic era. Web video conference platforms and e-classes with the inclusion of Web 2.0 tools and services, such as social media, wikis, blogs and digital games, which were introduced during that period claiming to offer a closely-resembling-to-real-classroom-settings environment, consist new norms that still prevail in multiple educational, professional and social life interactions.

As is always the case, broadening the use of a technological advancement also raises the number of risks and possible harmful contexts involved in its application. The more apps that facilitate online interactions grow in popularity, the faster and more furiously digitalized bullying incidents gain grounds disrupting the mentality of Internet users. Cyberbullying can be described in a few words as disturbing and troubling, and most of the times distressing online misconduct, and has been one of the internet-related threats that acquired immensely greater intensity during and after the pandemic. As many studies have shown (Keating et al., 2020; Lobe et al., 2021; Milosevic, Laffan, et al., 2021, Raisbeck 2022), this social pathogeny expanded in prevalence during quarantine times assuming a variety of forms such as publicizing, by means of texts, images or videos, true or fake details of one’s private life instances on social media, as well as addressing offensive, threatening and/or abusive messages, images or videos, and identity faking in order to manipulate someone else’s

feelings and behavior. The imminent gravity of the situation is also evident in the great number of reports, projects, interventions, sites and research articles that, since the beginning of the Covid-19 pandemic, have been added to the body of knowledge regarding the consequences of this social issue and proposing protective measures against it.

In this context, it has been pertinent that educational goals be enriched to tackle digital risks. Namely, one of *The Core Principles of Media Literacy Education* of National Association for Media Literacy Education (NAMLE) is “active inquiry and critical thinking about the messages we receive and create” (2022) online. In the same rationale, online organization websites all over the world including but not limited to “Cyberbullying Research Center” (<https://cyberbullying.org/>), “Enisa” (<https://www.enisa.europa.eu/>), “Kids Helpline” (kidshelpline.com.au), “Netsafe” (netsafe.org.nz/), “Child Exploitation and Online Protection” (ceop.gov.uk), “NCMEC’s CyberTipline” (CyberTipline.org), “Stop Bullying” (<https://www.stopbullying.gov/>), “Better Internet for Kids” (<https://www.betterinternetforkids.eu/sic/greece>), “Safer Internet 4 Kids” (<https://saferinternet4kids.gr/>) have uploaded an enormous amount of text, image and video information on identifying and acting against cyberbullying in order to raise awareness among adolescents, educators and parents providing advice, helpline numbers and even online quizzes and games to approach the matter through a means that is compatible to students’ interests and everyday life. The following figures present such attempts first depicting a schematic representation of the involved actors and the interaction taking place within a scenario in the area of cyberbullying and online grooming, which is a product of the work described in ENISA Work Program 2009 under Multiannual Program (MTP) 3, followed by a screenshot of an online multiple choice question quiz on cyberbullying (Review Game Zone, 2023), respectively.

All efforts notwithstanding, raising adolescents’ awareness and reducing risky online behavior remains a challenge for teachers, parents and researchers. This paper aims at presenting an alternative approach in enhancing students’ active inquiry and critical thinking concerning online inappropriate communication and identity faking through their engagement in digital activities, encouraging, at the same time, fellow teachers developing similar material to meet their students’ needs.

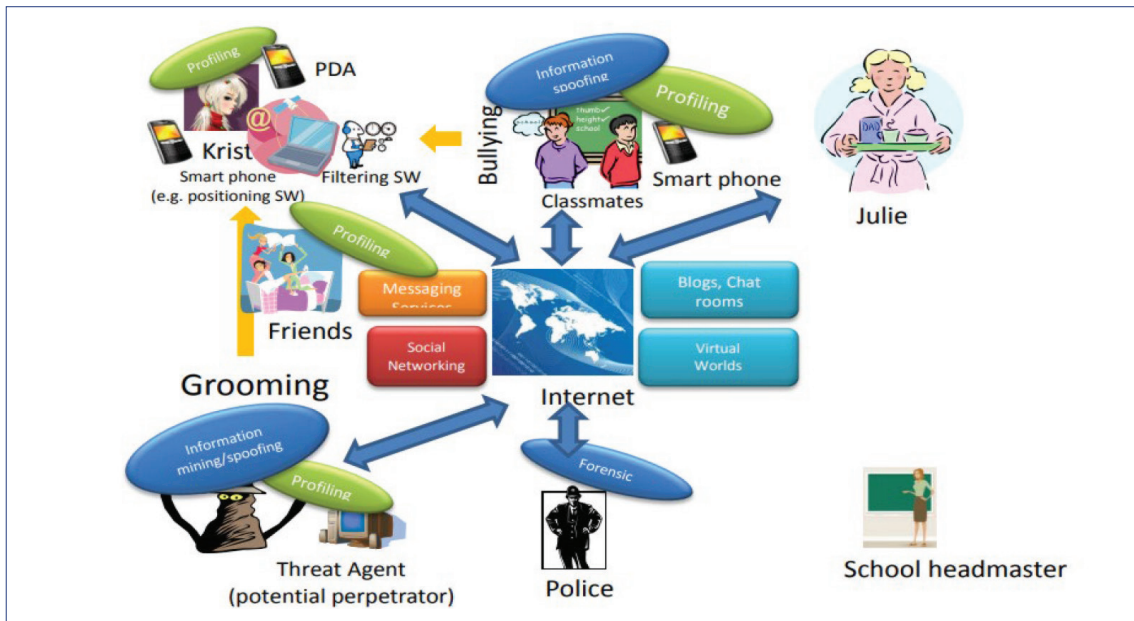


Figure 1. A schematic representation of the involved actors and the interaction taking place within a scenario in the area of cyber bullying and online grooming (ENISA, 2011).

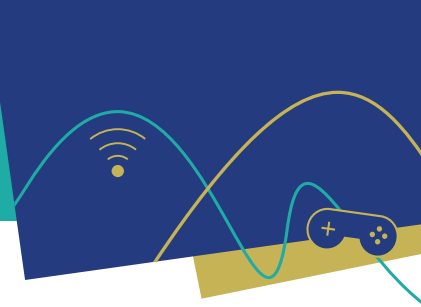
	<p>1) What is an example of cyber bullying?</p> <p>A Hitting someone</p> <p>B Ignoring someone that is talking to you</p> <p>C Telling someone their shirt is ugly</p> <p>D Mean text messages</p>
	<p>2) When can cyber bullying not happen?</p> <p>A When you talk with your friends</p> <p>B When you are at school</p> <p>C When you are at home</p> <p>D When you talk to someone face to face</p>

Figure 2. Screenshot of a Cyberbullying quiz on Review Game Zone (2023).

DIGITAL GAMES IN EDUCATION

Since the 1970s, pioneer Charles Abt (1970), followed by many researchers, has been looking for ways in which games can be used as a means of acquiring new skills and knowledge, while there has been an ongoing effort to clarify the terms “gamification”, “educational games”, “serious games” and “game-based learning” (Stone, 2008; Prensky, 2009; Tang et al. 2009; Touloupoulou 2009; Deterding 2010; Lovell 2011; Macmillian 2011; McGonigal, 2011; Popescu et al., 2011; Marczewski, 2012; Perrotta et al., 2013; Simões et al, 2013; Apostol et al., 2013; Barata et al., 2013; de Sousa Borges et al, 2014; Dimitriadis, 2015; Chiotaki, 2018; Camacho-Sanchez et al., 2022). Becker (2021) attempts to explain and define the relevant terms showcasing the differences between teaching and learning types using games by giving key definitions and presenting the main characteristics of each concept in relation to the purposes, motivation, emphasis, cost and catalytic idea of each.

The term “gamification” was coined in 2002 (Marczewski, 2002) and first appeared in the literature regarding the use of alternative practices and technology in education in 2008 (Deterding et al., 2011). By providing the feeling of a game experience, the incorporation of gamification into the educational process aims to arouse and sustain students’ interest in learning, i.e., to increase their engagement and encourage them to achieve more ambitious goals by following rules and having fun. Apostol et al. (2013) identify eight elements of games used for this purpose: rules, goals and clear outcome, feedback and rewards, problem solving, story (plot), player(s), safe environment, and sense of mastery. Furthermore, educational games or learning games, digital and non-digital, obviously based on the concept and characteristics of gamification, “take advantage of children’s positive attitude towards the game, so that the educational goals [set] can be more easily and effectively realized” (Gounaridou and Siamtanidou, 2020:23). Computer games exert an increasing impact on children and adolescents, having become an integral part of their everyday life, influencing their thoughts, behavior and interaction with their peers, so the inclusion of electronic educational games in the learning process constitutes an urgent need with a twofold intended effect: the acquisition of the specific



subject matter knowledge as well as the enhanced development of attained information and skills.

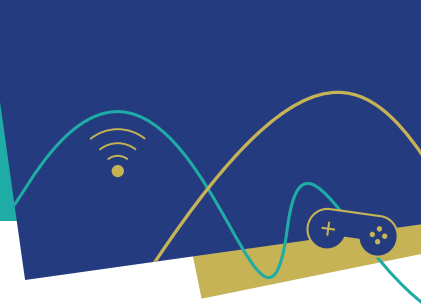
Current research findings show that the integration of gamification in education positively impacts motivation, participation and learning outcomes. While there are limited contrary findings, for example, Hanus and Fox (2015) concluded that students in the classroom in which the gamification element had been used have lower levels of motivation and lower final exam scores, the majority of researchers agree on the primarily beneficial influence of gamification in these aforementioned three (3) areas provided that a careful implementation design is followed (Lee and Hammer, 2011; Eickhoff et al., 2012; Barata et al., 2013; Hamari and Koivisto, 2013; Hamari et al., 2014; Kingsley and Grabner-Hagen 2015). In addition, games and the concept of “gamification” very often appear in the description of the content of adult seminars and training. Some of the most relevant instances involve: a) “the Playful Nature of Sign Language!”, a seminar in which participants have a first contact with the world of sign language through songs, stories and games in sign language, b) “Secret of Fire”, an online Greek educators’ training long-term seminar using gamification, c) simulation games for healthcare personnel, d) games for leadership skill development and e) ICT teacher online training courses on the e-Twinning platform. In Greece, new methods of counseling and education have also been proposed. Systemic counseling such as “Team Empowerment with Synthetic Play-Action” as well as teaching approaches for various school subjects, for example, Environmental Studies of the second grade of Primary School with the use of “Trading Card Games” (Chiotaki, 2018), the Odyssey for the first grade of Junior High School with the use of digital narration tools (Palioura and Dimoulas, 2022) and traffic education (Gounaridou and Siamtanidou 2020), illustrate such attempts.

A vitally important aspect of game development is the role of stories and narration, which usually stems from the need to create a plot in the game (Adams, 2010). With the introduction of multimedia elements, a new form of narration was created, i.e. digital narration/storytelling. According to the comprehensive definition proposed by Robin (2006a), digital narratives “revolve around the idea of combining the art of telling stories with a variety of digital

multimedia, such as images, audio, and video. Just about all digital stories bring together some mixture of digital graphics, text, recorded audio narration, video and music to present information on a specific topic” (1). More than that, both their condensed content, consistent with the increasingly shorter duration of the students’ attention span, as well as potential for multiple uses, such as recounting personal experiences or historical events, teaching, informing and entertaining, have been cited in literature as key characteristics of digital narratives (Ackerman & Maslin-Ostrowski, 1995; Burk, 1997; Abrahamson, 1998; Banaszewski, 2002; Barrett, 2005; Robin, 2006a; Castañeda, 2013; Lambert, 2006; Psomadaki et al., 2019; Palioura & Dimoulas, 2022).

The integration of digital storytelling in the educational process is multipurpose, with learners being either passive recipients of the material produced by the teacher, or actively involved in creating their own material. In the first case, the teacher, acting as a facilitator/mediator, presents the new material to be assimilated as the content of a digital narrative, as a “lesson hook”, attracting the curiosity and interest of the learners. The main objective is to render the learning process more enjoyable, to motivate the participants and to make the subject matter more comprehensible. In the second case, where the learners themselves, through guidance, are involved in conducting research, assembling large amounts of content and gaining expertise in handling digital communication and authoring tools, the ultimate aim is to enhance their autonomy as independent digital users. Thus, they acquire the ability to organize their ideas as they learn to create stories for an audience and to present these ideas and knowledge in a personal and very meaningful way (Bull and Kajder, 2004). In addition to the five (5) literacies that, according to Robin (2006b), are developed through digital stories, namely, digital, global, technological, visual and information literacy, Garcia and Rossiter (2010) mention three (3) other skills: empathy, self-awareness and community building.

One such example constitutes Heymann and Greeff’s (2018) use of the non-linear digital narration “Twine” platform, presented in detail below, to teach a fourth-year telecommunications course in higher education at the University of Johannesburg. The “Codebreakers” game they developed aimed at better preparing students for the examinations of the course “Information Theory”.



Among the results of the research, the students' interest and motivation sustenance was reported. Another attempt to use the benefits of this platform in order to more competently prepare students for the English Language Panhellenic Examinations is described in Michailidou (2023) pinpointing on its multimodality assets that support different student learning types. Delving into the aforementioned findings while focusing on adolescent students' interests and needs, the idea of using digital games in order to fight against cyberbullying, specifically the "Twine" platform, and not just digitalizing quiz questions, emerged. Thus, the primary intent of the current proposal is to help protect adolescents against digital threats also trying to inspire fellow educators.

USING "TWINE" TO PROTECT ADOLESCENTS AGAINST DIGITAL THREATS

Since this article also aspires to be used in a repository sense, in this section the project development environment of "Twine" platform will be first presented so that, in the future, similar ideas could be developed by teachers, educational designers and, even students themselves. "Twine" is an open-source tool for creating interactive, non-linear narratives. No knowledge of code is necessary to develop a simple story, whose continuity is essentially "built" by the user with his choices, but CSS and JavaScript programming languages can also be used to enrich it with images and videos. The story is either exported as an html file, which users download from the website to play the game, or published, with free uploading and access, on the Borogove.io website or on the independent game marketplace Itch.io (<https://twinery.org/>). Navigation in this environment is quite familiar to teenage users both because it simulates non-linear fiction tales, for example the Greek book "The 88 dolmades" by the author Eugenios Trivizas, and because this tool is proposed in educational competitions for creating narrative games by the students themselves, for example the International Digital Game Contests "The Lesson... Game!" organized by the Greek National Centre for Audiovisual and Communication Media and Media (EKOME).

The key concepts that need to be understood when creating a project in Twine are Stories, the final narrative product created by connecting Passages, which are the building blocks of stories that function as subdivisions of time,

space, or combinations of both, as well as sections of dialogue or code, frames, or scenes of the story. In addition, Variables are ways of storing and acting on data of some kind. Anything from a number to a string of characters can be stored in a Variable. Unlike other code or text in a Passage, Variables usually begin with either the dollar sign (\$) or underscore (_) in the Harlowe and Sugar-Cube visual layout formats, which are the most familiar to novice users of this application. The following figure presents the basic elements of the developer's interface screen. At the top left A, the options "Passage", "History" and "Construction" are shown used in the formulation of the interaction between the project's building blocks. For example, if one selects "Construction", one can use the options shown in the toolbar directly below to control or play the story flow or even publish the story. In the center of the screen, at B, the connections between the Passages are schematically shown. By clicking on a Passage, its content is shown on the right, at C, both in terms of the code contained, for example, for formatting the Passages or integrating images and audio, but also as regards the texts themselves and the links to the other Passages. At the bottom left D, the user can select the viewing mode of the project either by name and extract of the Passages, or just by name, or just as an overall structure.

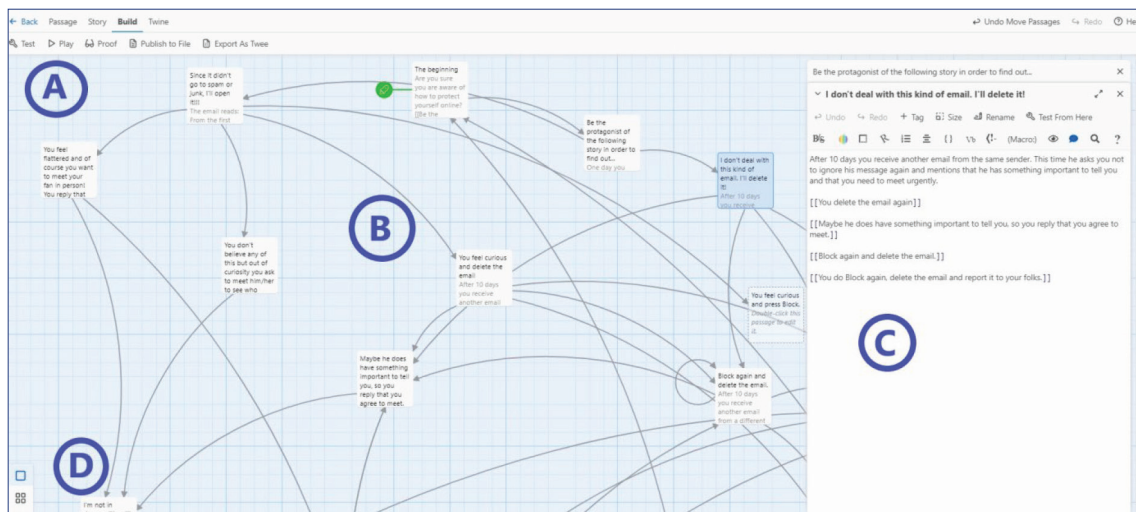



Figure 3. The project development environment in Twine.

Finally, by selecting “Story” and then “#Stylesheet” from the horizontal menu, one can change the background and/or color, font, and font size with one command as shown in the table below:

Table 1. The background and color, font, and font size code.

```
tw-story {  
font-family: monaco, monospace, helvetica, sans-serif;  
font-size:180%;  
color: black;  
background-color: grey;  
}
```

The specific material titled “Stop Cyberbullying!” was initially developed in Greek but an English version has additionally been created. In the beginning of the scenario the user is confronted with the question “Are you sure you are aware of how to protect yourself online?” and departs in a non-linear narration game to confirm or refuting his/her own opinion.



Are you sure you are aware of how to protect yourself online?
Be the protagonist of the following story in order to find out...

Figure 4. First passage interface

After being guided by the blue color usually used in hyperlinks to continue to the next passage, he/she encounters the situation of receiving an e-mail from an unknown sender. From this point forth, the development of the story is directed by the student himself/herself making decisions as to whether he/she will read the e-mail, accept the proposal to meet a stranger, succumb to his/her threats or choose to report the described misconduct.

```
One day you receive an email from an unknown sender with the title "we must  
meet!!!".  
  
Since it didn't go to spam or junk, I'll open it!!!  
  
I don't deal with this kind of email. I'll delete it!
```

Figure 5. Situation description and first choice of action

During their navigation users are presented with pieces of advice and information as well videos from sites to enrich their knowledge. They are also cheerfully praised when making the optimal decision.

After having played the game, students were asked to anonymously report on their experience using a 5-point Likert scale. Overall, students at different Junior High School grades positively commented in terms of finding the game both amusing and effective as regards raising their awareness against cyberbullying and suggesting ways of defending against it. Out of seventy-eight (78) students, sixty (60) consider this type of activity extremely or very entertaining while only 19 negatively commented on its impact. A further application and feedback from teachers have already been planned in order to confirm these preliminary results.

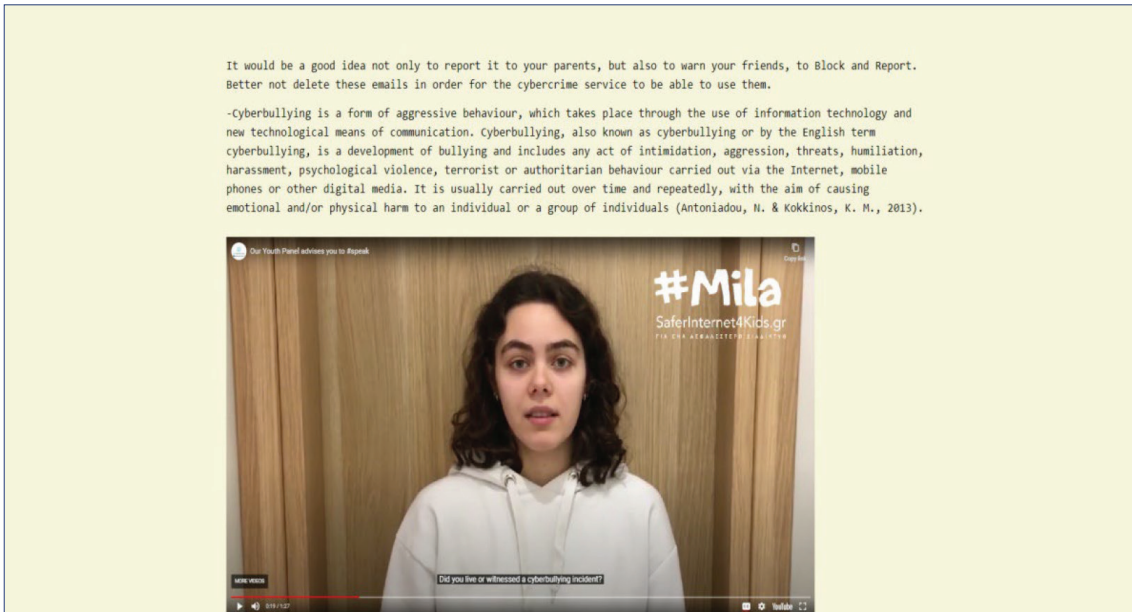
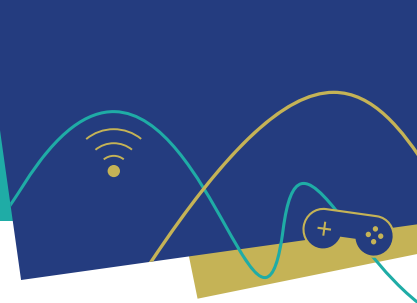


Figure 6. Pieces of advice and video screenshot

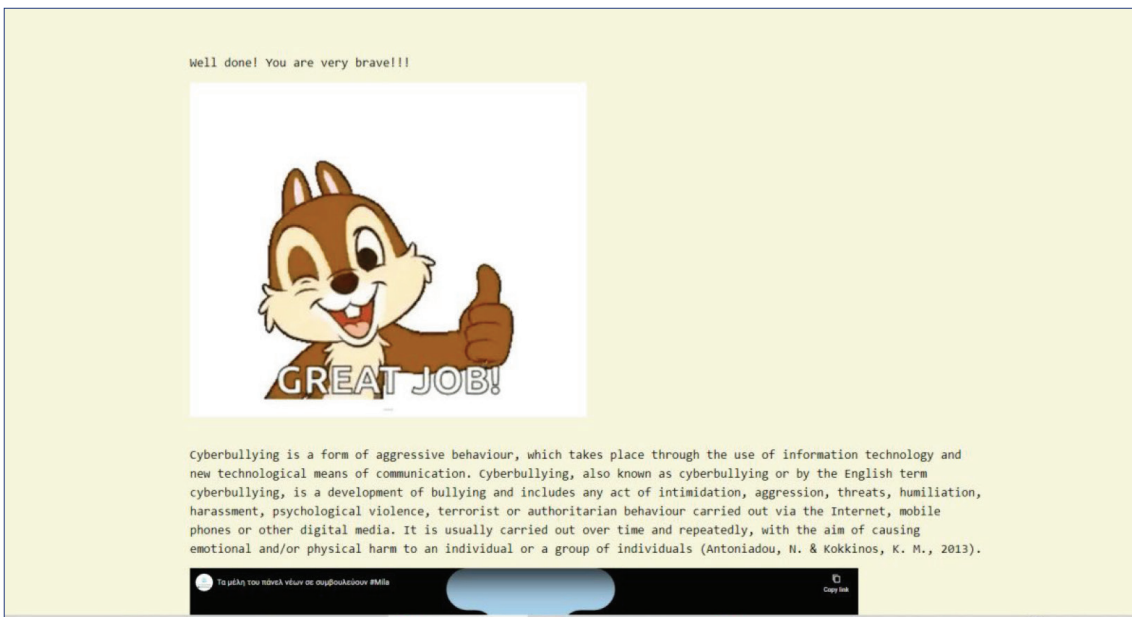


Figure 7. Final screen interface

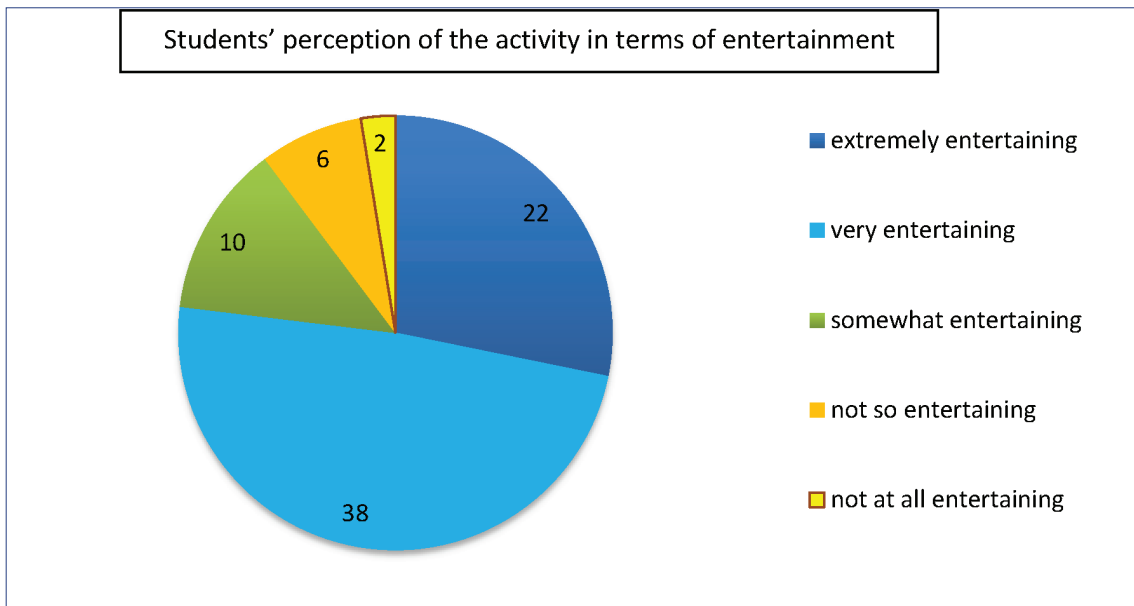


Figure 8. Students' answers regarding their perception of the activity in terms of entertainment

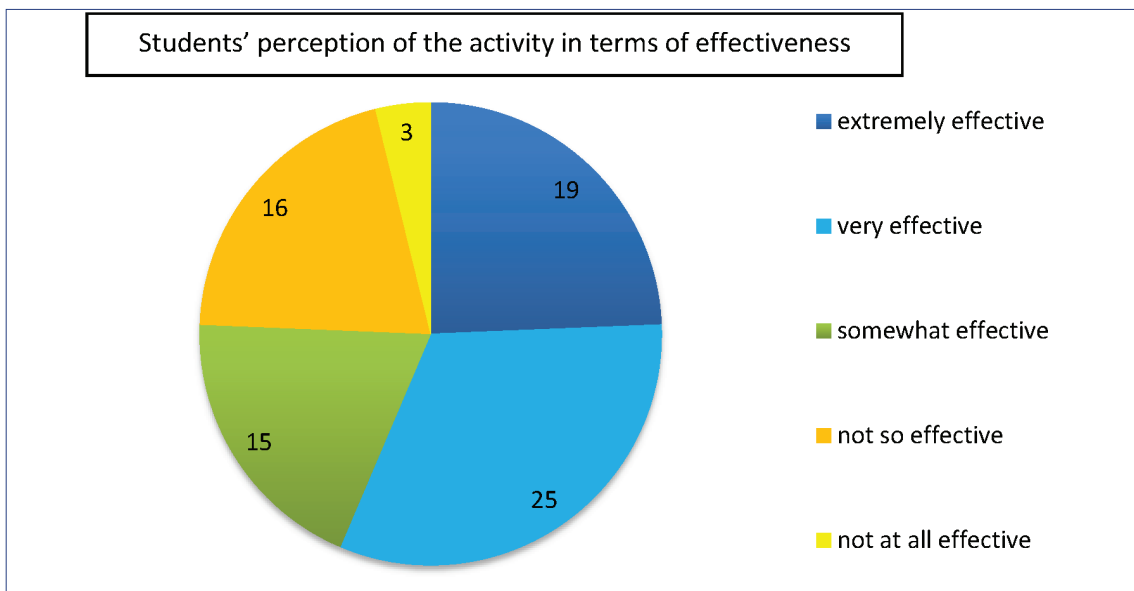


Figure 9. Students' answers regarding their perception of the activity in terms of effectiveness

CONCLUDING REMARKS

Realizing the imminent mental and emotional dangers that cyberbullying encompasses, especially after the increase of online misconduct during and after Covid-19 pandemic lockdowns, this article presents an alternative approach to raise adolescents' active critical thinking and awareness regarding this social pathogeny. Using digital tools, more specifically, digital games, to fight against digital threats, seems a substantial and germane practice as confirmed by research in adolescents' initial reactions. In the 21st century digital era, it is imperative that non-linear digital narration platforms like "Twine" as well as other educational and serious games tools play a crucial role in tackling risks connected with internet use enhancing digital literacy skills. Thus, students, teachers and educational designers should be encouraged to use such tools to effectively identify and act against cyberbullying.

Conflicts of Interest: The author declares no conflict of interest.



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"This book covers a wide range of applications and contexts illustrating the importance of Media and Information Literacy (MIL) in the post-pandemic era. [...] A common "thread" across all chapters is the emergence of MIL not just as a skill or competency, but as a fundamental human right. The ability to access, analyze, evaluate, and create information is intrinsic to the exercise of free expression, informed citizenship, and personal empowerment. In an era where information is as vital as any traditional resource, ensuring equitable access to and understanding of this information becomes a matter of social justice and human dignity. MIL, in its essence, equips individuals with the tools to engage critically with the media and information they encounter, fostering not only personal enlightenment but also the health of democratic societies."

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