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Media literacy

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Media literacy: a bridge between communication and education

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Abstract

The widespread use of information and communication applications in digital media has changed the way pupils and students embark on the learning process, the terms of learning engagement, and their perception of the value and usefulness of information and knowledge. However, curricula in Greece do not follow this change, at any educational level; students' needs are not supported in a digital, interactive, environment; nor is the importance of digital communities valued in school life. The introduction of selective digital literacies in a "skills zone" in secondary education is invalidated as an innovation by the number and irrelevance of subjects fitted into this one teaching hour per week; furthermore, this training is delivered by teachers who have not received any MIL education. This challenge can be resolved by introducing MIL courses in formal curricula and by training active and future educators.

Keywords: media literacy, media education, formal education, MIL courses.

Introduction

A literate person today needs to handle not only representations of the alphabet but multimodal expressions of intentional messages, as each discourse is realized in a multiple system of modes and means, where any concept is expressed in different codes, allowing variable interpretations, based on both the individual's acquired skills and knowledge as well as the requirements of social contexts and the needs of each different community or environment. Diversified media codes, multimodal messages (written text, image, sound, hypertext, etc.), non-linguistic elements (advertising, gestures) (Kress, 2003), new language codes (Cope & Kalantzis, 2015) comprise the contemporary framework of knowledge transfer to students, at all educational levels.

Variability in the meaning of multimodal messages with multiple semiotic codes, as they operate in different cultural, social, and educational contexts, suggests that, today, the teaching of any literacy can no longer focus on the normative component only of any "piece" of knowledge or any "instance" of skill to be taught - for example, the norms of typical forms of the national language. Achieving the everyday goals of communicating and representing "meaning" requires individuals to be able to perceive differences in patterns of this meaning from one context or mode to another.

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On the other hand, the characteristics of new digital media interact with the very process of meaning generation, where the forms of written language are intertwined with oral, visual, auditory, gestural, tactile and spatial patterns.

The "new education" is characterized by constant revision, variety, interactivity and opportunities for social creativity (Frau-Meigs & Hibbard, 2016). The importance of new types of literacy in the modern knowledge society (European Commission, 2016) is both fundamental and unprecedented, because it not only connects the knowledge society with modern literacies, but it also transforms the process of acquiring knowledge from a relatively passive to a more active and interactive act, in a context of continuous communication, as a phenomenon that determines current and future social developments. The acquisition of Media Literacy includes all digital literacies, knowledge and skills needed by the contemporary literate person, also including complex cognitive and functional skills, in a communicative, informational and socializing dimension (Johnson, 2008; Kertysova, 2018).

From individual responsibility towards a national Media Literacy curriculum

However, neither research nor educational interventions have incorporated media and information literacy (MIL) in a uniform manner; thus, we see various ad hoc approaches by practicians both to deliver and to assess the effects of MIL applications; we also observe lack of standardization and -even more crucial- the use of different definitions and validation measures. These incompatibilities make it difficult to compare results across applications or over time, even more because of the lack of consensus on a single research design that will appropriately measure effectiveness of the various proposed educational interventions or models.

Another important issue is that MIL interventions, and in particular those emphasizing news literacy, often focus on identifying information distortions (mis/dis-information) deconstructing news content or teaching verification techniques, without, though, adopting certain pedagogies or being based on specific learning theories. Despite intense debates among scholars and differing views on which pedagogy is more or less effective, no MIL specific discipline is highly standardized, and each instructor's understanding of the field, as well as his or her academic training, have a significant impact on students' learning experiences. In practice, discussing the details of different approaches is less important today, as, in the absence of a single standardised MIL Pedagogy framework, teachers translate and adapt the MIL concepts and practices as they see fit for the conditions and environments in which they work, the political and news media of their country, and the prevailing technological environments (Kajimoto & Fleming, 2019).

In a nutshell, MIL research today is characterized by ad hoc approaches, different definitions and measurements, lack of standardization in theory and application, difficulty in comparing results

over time or across cases, as well as differing views on which pedagogy is most effective. MIL interventions often do not adopt the broader interpretations of the social, cultural, economic, and political dynamics of media and content production and circulation. Also, the nature of MIL teaching seems to be complex and challenging as it needs to tackle different goals at the different levels of education and settings, which teachers seem to be "lost in the translation" of the online information saturated environment (Brennen, et al., 2020).

For that matter, multidisciplinary cooperation between many parties is required, in order to couple the findings of media and news literacy research with pedagogy methodologies and address the current limitations in an open dialogue between MIL researchers, practitioners and professionals so that appropriate and flexible MIL school programs are developed, to keep pace with fast-changing digital technology (Edwards et al., 2021). Furthermore, MIL provides citizens with the necessary skills to seek, analyse and share information for advocacy or civic engagement in an ethical and responsible manner (Middaugh, 2018).

Based on evidence such as the aforementioned, many researchers and practitioners urge for national formal MIL interventions, not only because this way curricula can be drafted to cover a wide spectrum of contemporary students' needs, but also because in the current circumstances, where individuals try to become media literate on their own means, the responsibility is unevenly distributed among varied social strata and population groups. At the same time, coupled with the need for an urgent paradigm shift in formal education, we need to consider that, due to the rapid spread of the use of digital media, a wider transition from models of external control (for example, by governments) to models where families undertake the roles of 'remote regulators' of their members' interaction with digital environments seems inevitable, for example through self-regulation (in the case of teenagers or young adults) or through parents (in the case of younger students), (Livingstone, 2004; 2011).

Nowadays content is in overabundance, media and applications are more than what an average individual can handle in their average day and digital skills have become the warp on the canvas of the school curriculum. However, this curriculum is not education's "bible" any more, as both students and teachers can learn new knowledge and skills both at school and outside the traditional educational institutions, for example at online communities or platforms such as social media and social networks, where they not only have access to chunks of information on any subject but they also create new content themselves, through interaction and collaboration.

Pedagogical value of Media Literacy Education

Contemporary education must adapt to accommodate linguistic diversity, media diversification, and multimodal discourse. Thus, the new pedagogy should incorporate new literacies beyond

reading and writing, reflecting the dynamic interactions between individuals and knowledge sources in digital environments. This shift requires constant pedagogical revision to foster social volatility and equip learners with relevant and suitable skills for the knowledge society (Frau-Meigs & Hibbard, 2016; Kress, 2001). MIL researchers and practitioners have become aware of the need to radically adapt their practice to include contemporary literacies on a daily basis, creatively expand their ways of application, and focus on younger and diversified populations. It is urgent to work together to set a single framework and criteria for evaluating MIL interventions with the aim of creating a reliable body of comparable outcomes.

Research consistently shows that educational interventions that promote media literacy skills, critical thinking, and deep reasoning have positive impact on individuals' ability to engage critically with information and manage content, shaping attitudes, perceptions, and critical reading abilities (Vraga et al., 2009).

The development of artificial intelligence applications on top of the available state of the art "traditional" technology presents a further significant challenge for educators: they must be able to gain quick knowledge and skills in order to instruct students how to master photo-optical skills (perception of visual stimuli), reproduction skills (using digital tools to produce new content), production skills (knowledge construction from non-linear information elements, use of hypertext structures, etc.), capacity to evaluate information presented in various modes (critical assessment of relevance, quality, and reliability), socio-emotional skills (perception of cyberspace rules and applications), real-time parallel reasoning skills (capacity to simultaneously process large volume of stimuli, as in online teaching), along with critical evaluation skills etc. (Eshet-Alkalai, 2007; 2012).

Furthermore, misinformation online poses one more significant challenge, while it can even diminish the value of the very evidence used in teaching (McDougall et. al., 2019). While the decline in trust in traditional information institutions complicates the attribution of credibility to any particular type of sources (Duran et al., 2020; Hobbs & Frost, 2003), comprehensive understanding of digital media, critical analysis of news and advertising, and awareness of legal and ethical issues in media consumption and production are important skills for digital citizens and media users of any age. Media literacy is crucial for restoring trust in information and rationalize media consumption.

In this context, there is growing interest in educational interventions and research surrounding media literacy, particularly in response to concerns about misinformation and 'fake news' in the digital age. Collaborations between researchers and practitioners aim to design effective curricula, incorporating techniques like critical thinking, verification, and media literacy. The COVID-19 pandemic has accelerated the need for large-scale interventions in the evolving digital landscape, emphasizing the importance of new literacies (Edwards et al., 2021; Sivek, 2018).

Media literacy in formal education

The literature shows that educational interventions that introduce elements of MIL skills (critical thinking, evaluation of information sources, documentation, media and news knowledge, etc.) produce consistently positive effects on the ability to critically engage with information (Michailidis, 2018; Sobers, 2008). Moreover, many studies find that perceptions of source credibility and the ability to critically assess their quality influence an individual's attitude toward misinformation in specific and information in general (Vraga et al., 2009).

Quantitative studies have confirmed that MIL interventions can have a positive impact on attitudes and perceptions about content production, message comprehension, writing, and critical thinking (Hobbs & Frost, 2003), or media structures and scales of influence (Duran et al., 2008). Researchers also show that MIL skills can have a positive impact and stimulate learning in non-media-related areas, too (Sobers, 2008). Other studies, which measure the interaction of youth participation programs with the general community, have found that targeted teaching of MIL principles has a positive impact on critical reading of news, interaction of young people with peers, and political debate (Michailidis, 2018). Also, news literacy studies have shown that media & news literacy skills can mitigate the perception of bias (Vraga et al., 2009).

Moreover, educational interventions based on deep, analytical, time-and-resources sponsoring thinking, activating the so called “system type 2 reasoning” (Kahneman, 2013), appear to be more effective than those based on automatic responses (Edwards et al., 2021). These interventions are more time consuming and require greater cognitive engagement with the subject (fact-checking, coaching for evaluation, or other techniques, etc.) and give more effective, and often longer-lasting, results as regards the ability to manage information (Rapp & Salovich, 2018). In addition to other types of MIL skills that can be offered in the school framework, Lee and Soep (2016) suggest “critical computational literacy” to be added to the new pedagogical and conceptual framework as combining critical literacy and computational thinking. Valtonen et al. (2019) also suggest that media literacy at the school level should include an understanding of both algorithmic thinking and the principles of computing. It has been shown that algorithmic and computational thinking (Lee & Soep, 2016), as well as principles of ICT and artificial intelligence (Valtonen et al., 2019), are more effective when combined with critical media literacy.

Further, educational interventions encouraging critical engagement with news content, as well as gaming and gamification techniques, seem promising in enhancing critical thinking skills, while behavioural interventions (Kozyreva et al., 2020) aim to empower users in digital environments. The concept of "civic media literacy" emphasizes ethical information sharing in civic engagement, highlighting the role of MIL in addressing misinformation and fostering active citizenship (Brennen et al., 2020; Middaugh, 2018).

MIL and challenges in educational interventions

Media consumption in the 'post-truth' and 'fake news' era have become part of academic discourse across disciplines. The COVID-19 pandemic in the years 2020-2021, on the one hand with the compulsory online education due to quarantine and on the other hand with the increase of misinformation about health issues, can become a catalyst for change, underlining the need for large-scale measures and for interventions with new types of literacy in the evolving political and digital landscape (Brennen, et. al., 2020).

There are several challenges and issues surrounding media literacy interventions and research, including the lack of standardized approaches for assessing the effectiveness of pedagogical interventions, jeopardizing comparisons across different programs and over time. There's also over-focus on addressing distortions such as disinformation, rather than changing behaviour. Traditionally MIL research tends to focus on many different issues such as the importance of information reliability, verifiability of sources, development of critical thinking, and so on; however the role of emotion in the consumption of online content in general, and news in particular, remains marginally studied (Sivek, 2018); on the other hand, media landscape technology is evolving rapidly and we see that digital AI algorithms already include elements of emotions in the applications with which users interact. The complexity of the digital media environment, including factors like AI algorithms and dynamic systems, poses more challenges for standardizing MIL programs.

Meantime, while media literacy can provide a tool for any lesson, it is not integrated as a horizontal capacity building approach in the curriculum structure. Creativity, critical thinking, communication skills, wise media consumption and production, news literacy – all these new “subjects” cannot be understood as units or even as lessons at school, but as horizontal topics that run through the curriculum map and its strategic planning and are part of every lesson, in the same way as literacy and numeracy. The need for a change in the mentality of curriculum planning is evidenced in a 2022 survey in the context of my doctoral thesis, where 1300 students of the Aristotle University of Thessaloniki state that they need systematic training in media and news literacy. In specific, the survey revealed that the students who were self-MIL-trained in seminars, workshops or lectures outside their University, stated that they had better practical skills in MIL compared to those who had followed such courses inside the University, and far better skills compared to those who had not received any MIL training at all. Such challenges in research design, implementation, and evaluation are coupled with the lack of comprehensive databases and longitudinal outcome evaluations. Thus, the need for interdisciplinary approaches and a unified MIL framework is emphasized, along with considerations for future research and policy initiatives (Frau-Meigs, & Hibbard, 2016; Livingstone, 2011). Taking into account all the above challenges, specific recommendations for MIL researchers and practitioners are proposed in the literature:

✓interdisciplinary cooperation to exploit research findings and limitations

✓broader MIL applications to address distortions such as disinformation

✓improving the range of samples in surveys

✓widening the range of platforms

✓adopting a single framework for MIL assessment

✓standardization of criteria and methodologies in MIL research

✓comparability of interventions

✓regular dialogue between MILE researchers and practitioners

(Edwards et al., 2021)

To the above, the following should be added:

✓adoption of uniform terminology for MIL concepts both in research and in pedagogical interventions, so as to allow comparability and monitoring, as well as the building of robust bibliography

✓integrating learning theories into MIL research and implementations

Education at a crossroad

MIL education is currently in transition. Undoubtedly, there is a window of opportunity, but there are also several risks. We need to be absolutely clear about our priorities and ambitions. Technology never functions in a vacuum: cultural, social, political, and economic developments are all correlated with technical advancements. Today's media landscape is changing not just in terms of technology but also in terms of how personal identity is constructed. The circumstances in which policy is made are not of our choosing; rather, they are the result of technological advancement and the synthesis of more general, often incongruous, social, economic, and political trends.

So, there are opportunities as well as risks in the field of media and information literacy. Setting specific goals and targets for MIL is essential to ensuring that all dimensions are covered in full in the curriculum. MIL Experts are essential advisors to the drafting of a National Strategy, helping decision-makers balance programmes. As regards tertiary education, by making MIL courses mandatory, Schools of Pedagogy and Communication should first set the example and equip upcoming teachers with the necessary knowledge and abilities. Furthermore, it is imperative in

higher education to provide suitable horizontal curricula that furnish all professions with sophisticated MIL competencies, empowering them to skilfully manoeuvre the intricacies of the contemporary media environment (Chryssanthopoulou, 2023).

Thus, there is urgent need to develop appropriate MIL curricula nationally and across EU countries, considering all challenges in implementation, teacher training, and engaging younger generations through diverse, inclusive, attractive and sustainable education strategies (Eshet-Alkalai, 2006; McDougall et al., 2018; Sivek, 2018).

A Greek case

Since 2021 the Greek Ministry of Education has included digital skills in the official school curriculum at the secondary level as one of the many courses of the hourly course "Skills Workshops", squeezed between a fan of different -and irrelevant- other topics. These “digital skills” courses, however, are currently delivered by teachers who have not received any training on this subject. Also, no single pedagogical curriculum has been established for MIL, nor are specific directions provided, so each instructor's understanding of the field, as well as his/her academic training, has significant impact on students' learning experiences. In practice, teachers translate and adapt the MIL concepts and practices as they see fit for their working conditions, their own code of ethics and the prevailing technological environments (Kajimoto & Fleming, 2019).

Furthermore, the great majority of "educational interventions" outside of formal education that have been put into place in Greece in recent years are disjointed ad hoc training practices in very specific dimensions of digital literacy, mostly within the framework of European programmes. These are typically conducted without any large and consistent body of scientific evidence, without reference to learning theories, and without any sort of evaluation of the outcomes. The speakers or “trainers” are professionals from a variety of fields, but they are not trained in the principles, practices, or pedagogy of Media Literacy. The majority of these initiatives result from private initiative, and they are scattered, discontinuous, and fragmented in nature.

These actions' primary focus is teaching kids, teens or seniors how to utilise new technology or become familiar with fundamental features of the most widely used digital applications or use media as child-monitoring tools. On the other hand, the concepts of digital skills in the general public debate usually refer to issues such as online security or personal data protection, while in the media sector they are mainly related to disinformation. This fragmented picture is complemented by a plethora of surveys, publications or programs, which do not follow any generally accepted criteria, but are summed up in packs of “literature”, from which the rapporteurs draw on a preferential basis.

However, university students in Greece state that they wish to be formally MIL educated. As mentioned above, in my research conducted in the framework of my doctoral dissertation, I found that most young people (in a sample of 1300 graduate and post graduate students of Aristotle University of Thessaloniki) have better MIL skills if they have studied and know the significance and meaning of MIL concepts; so, it seems that theory drives and reinforces practice. In specific, those who had received training and had studied MIL concepts had better performance when managing online information, dealing with multiple sources, differentiating true from false information, identifying reliable sources, understanding the difference between fact and opinion in news, tackle large volumes of multimedia content, controlling bias and exercising critical reasoning when consuming online content, behaving more rationally in social media, and understanding the role and function of media.

Although most seem to know 'how', they seemed that they do not know 'why'; and most state that they urgently need to develop not only digital but also cognitive MIL skills. What is really considerable is that though most participants were self-assessed as media literate, the vast majority asked for formal MIL education to me introduced in the university curriculum.

From the international literature, research and practice, but also from my research, it is clear how important is the introduction of MIL courses in higher education. Schools of Pedagogy, Journalism and Communication should urgently re-evaluate their programs to be the first to meet the requirements of this field. As a pedagogical tool, then, MIL will give university students of all disciplines the opportunity to become effective professionals, while it will provide educators-to-be with the skills to become adequate future MIL trainers in primary, secondary and lifelong education, for media literacy for all.

The need for a national strategy

Considering the above challenges, the integration of Media and Information Literacy in formal education and the development of relevant curricula is urgently required. The inclusion of general and specialized MIL courses in universities is necessary, especially in Schools of Pedagogy, Journalism, Communication, etc. Today, ICT are not just tools in the classroom, but need to become the subject of study in themselves. The convergence of mainstream and AI educational technologies requires readiness for a “digital” future. Educators must be constantly trained not only to organically use ICT in their work, but to be updated in how to analyse and master media, in order to teach pupils and students. At the same time, prudence is required in exploiting the potential of selected productive AI technologies in an ethical way, emphasizing the responsibility of users, creators and controllers. Preparedness is crucial, as digital technologies can significantly impact both teaching and learning and require new ways of thinking.

In order to reach this stage, the following seem to be required

✓National strategy

✓National Skills Assessment Criteria

✓MIL policies and pilot projects

✓Establishment of MIL pedagogical models

✓Reorganization of school curricula with MIL as a horizontal skill

✓General MIL courses in all Universities

✓Specialized MIL course in relevant Departments (Media, Pedagogy, etc.)

✓Teacher training in skills and knowledge

✓MIL assessment and certifications

✓Teacher Tools

✓MIL experts as curriculum advisors and developers

✓Improving MIL skills of media and journalists

✓Exchange of best practices with other national authorities

The fragmented nature of MIL initiatives in Greece reflects a need for unified efforts to facilitate exchange of know-how. Overall, there's a call for greater standardization and coordination in media literacy programs, both in Greece and worldwide, to address the evolving media landscape effectively (Brennen et al., 2020; Kajimoto & Fleming, 2019). Emphasis should also be placed on the under-studied role of emotions in online content consumption. While many MIL approaches target critical thinking, translating this knowledge into behavioural change remains a challenge.

Conclusion and suggestions

Today, the complex interaction between humans, machines, big data and AI poses further challenges to post-digital critical media literacy: (1) We need to reinvent existing theories and practices for the post-digital context; (2) Renewed theories and practices need to find a new balance between the technological and political aspects of media literacy, addressing the problem of the unpredictability of the process of lifelong media literacy education; (3) Critical media literacy needs to be extended to non-human learning systems in order to develop 'literate machines' with which people will interact, along with appropriate sets of content from which machines will

learn in a holistic and ethical manner, without replicating stereotypes or biased behaviours encountered in random online materials. So the keywords for new policies are:

✓Reinventing theories and practices for the post-digital environment

✓Balance between technological and political dimensions

✓Addressing the unpredictability of lifelong learning

✓Supporting Learning Systems (human or non-human) and securing "uncontaminated" content for Machine Learning and Artificial Intelligence

The paradigm shift in education will be based on Media Literacy. It is urgent to enhance critical thinking skills, particularly among children and less privileged populations, so that they can navigate the complexities of the digital landscape. Media literacy education has to be understood beyond the tasks of decoding messages, incorporating values, improving practices, and introducing processes that empower individuals to address social problems effectively. Above all, MIL will highlight the ways to resolve challenges posed by the convergence of technologies and artificial intelligence in the post-digital era. The transition in education calls for re-evaluation of curricula and pedagogies to prepare students for their future roles.

In the post-digital era, Media Literacy has a crucial role to play in the conception, understanding and development of all forms of intelligence. But our field is still new and we have a lot of questions to answer and a lot more to ask. We move forward in this journey by sharing our knowledge, challenges and proposals in an interdisciplinary community. Today's media structures require a holistic approach; thus, media literacy must be widely understood as more than the critical decoding of messages. We need to understand media as an infrastructure with materiality (Forsler, 2018) and to perceive learning no longer as a process of knowledge acquisition that is measurable, comparable and predictable, but as an ever-evolving and largely unpredictable process (Biesta, 2010). We need to reimagine media literacy and disconnect it from instrumental pedagogy (e.g. fact-checking) and policy-making, but focus on values, practices and processes that will prepare young people to use the new means to solve lasting social problems, by reinventing spaces for meaningful engagement, by creating positive dialogues in communities, by opening opportunities for effective action and by facilitating practices that produce and reproduce the sense of the world we share with others (Mihailidis, 2018)

In the continuous interaction between human and machine intelligences, it is necessary to modernize our perceptions of education and learning and understand that Media Literacy is the only way to guide students and adults to navigate the opportunities offered by digital technologies, so as to reach out to new ways of learning, able to make ethical and rational use of the digital knowledge society.

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