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DEVELOPMENT OF INFORMATION LITERACY IN HISTORY AND CIVIC EDUCATION AS A 21ST-CENTURY LEADERSHIP SKILL

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Abstract

The information revolution of the 21st century brought several significant changes in the field of education, among many the spread of WEB 2.0, MOOC systems and artificial intelligence ultimately further blurring the line between the digital-analogue world. In this context history and civic education have become even more significant, giving information and media literacy a more prominent role. It should be the role of teacher training institutes to prepare future educators to tackle challenges and build on new opportunities. The concept of digital citizenship appears in the literature and curricular development goals, which also implies the ethical, responsible and safe possession and application of digital literacy and media literacy competences in both secondary and tertiary education (Erdem et al, 2022). Our study explores the relationship between media literacy, digital literacy and digital citizenship competences in the field of history and civic education. During the content analysis of the literature, global and EU strategy reports, we examined the most important challenges and objectives formulated in the topic. The results include the increasing role of information and media literacy since the 2010s, the approaches to citizenship education and a model of the key concepts in the title in the form of a competence network.

Keywords

Information Literacy, Media Literacy, Civic Education, Digital Pedagogy, Disinformation, Leadership Skills.

Resumo

A revolução informacional do século XXI provocou transformações profundas no domínio da educação, entre as quais se destacam a disseminação da Web 2.0, a emergência dos sistemas de ensino massivo aberto online (MOOC) e o avanço da inteligência artificial, contribuindo para esbater ainda mais a fronteira entre os mundos digital e analógico. Neste novo paradigma, as áreas da História e da Educação para a Cidadania assumem uma relevância

acrescida, conferindo à literacia informacional e mediática um papel central no desenvolvimento das competências cívicas dos cidadãos. Por conseguinte, compete às Instituições de Ensino Superior dotar os futuros professores das ferramentas necessárias para enfrentarem os desafios e explorarem as oportunidades proporcionadas pelas novas tecnologias e práticas educativas. O conceito de cidadania digital encontra-se amplamente representado na literatura especializada, bem como nos objetivos de desenvolvimento curricular, implicando a aquisição e aplicação ética, responsável e segura das competências associadas à literacia digital e mediática, tanto no ensino secundário como no ensino superior. O presente estudo analisa a inter-relação entre literacia mediática, literacia digital e competências de cidadania digital no âmbito do ensino da História e da Educação para a Cidadania. Com base na análise de conteúdo da literatura relevante e dos relatórios estratégicos, tanto a nível global como da União Europeia, identificam-se os principais desafios e metas delineados nesta área. Os resultados evidenciam, entre outros aspetos, o papel crescente da literacia informacional e mediática desde a década de 2010, as abordagens contemporâneas à educação para a cidadania e um modelo conceptual dos temas em estudo, estruturado sob a forma de uma rede de competências interligadas.

Palavras-chave

Literacia da Informação, Literacia dos Meios de Comunicação Social, Educação Cívica, Pedagogia Digital, Desinformação, Competências de Liderança.

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Introduction

Over a quarter of a century, the 21st century has witnessed an abundance of technological innovations that have profoundly impacted both education and society at large. The digital sphere and various algorithms are not only capable of influencing elections (e.g., the Cambridge Analytica scandal) or inciting violence against religious minorities (Harari, 2024), but also significantly facilitate the translation of texts, plagiarism, and access to information. It is therefore unsurprising that attitudes toward artificial intelligence among educators and researchers span a broad spectrum—from techno-optimism to outright rejection (Zompetti et al., 2024). Due to the pace of technological advancement, some scholars have begun to replace the notion of digital literacy with that of AI literacy, which emphasizes the critical and reflective use of artificial intelligence (Long & Magerko, 2020). In this study, however, we do not distinguish between AI literacy and media literacy, as both encompass the ethical, responsible, and safe acquisition and application of digital competencies (Erdem et al., 2022).

The COVID-19 pandemic changed global conditions and highlighted the critical role of leadership in navigating uncertainty, transformation, and chaos. In this new reality, leadership increasingly demands skills like information literacy, enabling individuals to access, evaluate, and apply information responsibly amid rapid change. As part of the essential toolkit for 21st-century digital citizenship, information literacy empowers leaders to make informed decisions and foster resilient, adaptable communities (Erçetin & Açıkalın, 2025).

Although students—often referred to as digital natives—are immersed in digital media daily, they frequently lack the sub-skills essential for responsible and deliberate

technology use. For educators, the absence of adequate training often poses a significant challenge in fostering both their own and their students' digital competencies. On a more positive note, recent years have seen a shift toward the integration of digital citizenship into educational curricula, particularly within the field of civic education. This integration aims to equip students with fundamental competencies for engaging in the digital sphere, such as ethics—that is, appropriate, safe, and responsible internet use —information and media literacy, political and civic participation, and the capacity for critical resistance (Moonsun, 2016). Accordingly, this paper examines the educational policy objectives and pedagogical practices that have emerged regarding digital literacy, history education, and citizenship education, both in Hungary and in international contexts.

Theoretical background

The concept associated with information literacy is now nearly half a century old (Tóth, 2024), and as such, it has undergone numerous revisions over the past decades. Although several attempts have been made to establish a unified definition, no universally accepted interpretation has emerged. Nonetheless, the ongoing discourse has drawn attention to the fundamental aspects of the field (Leaning, 2017). Accordingly, most authors define the concept as the competent use of technology, information, and its sources, as well as critical thinking skills (Koltay & Szőke-Milinte, 2020; Fedorov & Mikhaleva, 2020; Rahim, A. & Indah, M., 2024). These foundational understandings of information literacy provide a crucial framework for interpreting contemporary developments in the digital age. As the sociotechnical landscape continues to evolve, it becomes increasingly important to reassess how these core competencies are applied in practice. The growing complexity of digital environments—shaped by algorithms, artificial intelligence, and the proliferation of online content—demands an expanded perspective on what it means to be information literate in the 21st century.

Information and Media Literacy in European Policy Documents and Educational Guidelines

Following the turn of the millennium, the growing impact of technological development on education and the labor market became almost immediately noticeable within the European Union. One of the first signs of this was that, in 2002, the European Training Foundation and the European Council assigned the application of information and communication technologies among the key competences (Bognár, 2002; Szabó, 2023).

From 2003 onward, these changes also began to emerge in the educational systems of several Central European countries — at that time not yet EU members — including Hungary. In Hungary, the National Core Curriculum already incorporates digital competencies to be developed within the subject of history, focusing on skills related to recognizing, retrieving, and evaluating information (Fekete, 2025).

A significant milestone in this trajectory was the Paris Declaration of 2015, in which educational actors identified four priority areas for education: (1) fostering social, civic,

and intercultural competences; (2) promoting critical thinking and media literacy; (3) improving the education of disadvantaged children; and (4) promoting intercultural dialogue (European Education and Culture Executive Agency, Eurydice, 2016).

The European Council's framework for the development of digital competence, DigCompEdu, includes information and media literacy among the key competences. Developed by the Joint Research Centre (JRC) of the European Commission, the DigCompEdu framework was first introduced in 2013 and updated in 2017 to reflect the changing needs of European citizens. (Fodor, 2024)

In March 2019, the *Second Survey of Schools: ICT in Education* was conducted at the request of the European Commission to examine the use of digital technologies in EU education systems, based on data from 400 schools per country. As a follow-up to the 2011 study, the longitudinal analysis showed progress in several areas over eight years. The report also identified a model called 'Highly equipped and connected classroom' establishing three scenarios with costs of technological equipment, network and professional development for educators of EU classrooms (European Commission, Directorate-General for Communications Networks, Content and Technology, 2019).

The survey identified several key issues, such as the lack of skills of both students and educators concerning digital content development, the absence of thorough in-service and pre-service training for teachers, of whom only 12% had a proper ICT course at university. Analysis of Hungarian data from the survey also highlighted this obstacle.

Following COVID and the distance learning period in Hungary the education government implemented a reform in teacher training. The new policies brought compulsory courses and programmes related to both majors of teacher candidates[1], alongside general digital instructional support and information literacy courses introduced. The new programmes are already present at universities, however, institutions are autonomous in developing their own approaches and strategies.

One of the most significant outcomes of the EU Commission survey was the lack of disciplinary models adaptable by teachers (European Commission, Directorate-General for Communications Networks, Content and Technology, 2019). It is clear that there are general principles and ideas for digital redefinition of analogue learning (Puentedura, 2013) while pedagogical background is also set for learning and teaching (European Commission, 2021). On the other hand, both theoretical models and practical methods, techniques, tasks and platforms of digital learning in separate disciplinary contexts are still scarce with only handful of explorers in the field of history education (Breakstone et al, 2021; Cantabrana et al. 2022; Hajdarović, 2023).

[1] Hungarian teacher trainees must choose two majors (e.g. history and a foreign language) which are studied parallel psychological and education related courses for five years including several field practices organised in schools.

Changing role and toolkit of civic education

Although citizenship education has been a foundational element of schooling, the emergence of the digital citizen marks a contemporary shift in how civic identity is understood and promoted in educational theory and policy. Since its development in the 17th century, the roles and objectives of citizenship education have gone through countless stages of development in response to changing challenges in Europe and Hungary in particular.

The conscious and intentional education of the civic community was reintroduced after ancient times, the Enlightenment and it was developed further with the formation of nation-states. It played a prominent role in the enlightened absolutist monarchies of Central Europe. In Hungary, it appeared in curricula and classrooms as *Historical geography*, later with the title of *History and Social studies*, as *Constitutional studies* and as *Foundations of our worldview* during the period of the communist dictatorship (Kaposi 2019; Jakab, 2019).

Gábor Halász identifies the rediscovery of the need for civic education after the fall of communism in Central Europe as the interplay of several factors. First, the end of Eastern European dictatorships and emerging difficulties of young democracies, the phenomena of globalisation, the acceleration of European integration, and the experience of the ethnic-nationalist civil war reappearing in Europe (Halász, 2005). The subject of citizenship education was introduced as a compulsory subject in England in 2002 after a long process that began in the 1990s, based on the work of the British professor Bernard Crick (Advisory Group on Citizenship, 1998). Independent thinking, activity, critical, and objective student attitudes played an emphatic role in the emerging civic competence, which sees the role of student participation not in the future, but already in the present (Kaposi, 2019).

Joel Westheimer and Joseph Kahne (2004) identify three distinct stages of citizenship: the (1) personally responsible citizen, the (2) participatory citizen, and the (3) justice-oriented citizen. The personally responsible citizen is characterised by adherence to laws and social norms, personal responsibility within the community, and generally positively characterised acts such as working, paying taxes, recycling, donating blood, or volunteering in times of crisis. The participatory citizen goes a step further, engaging actively in civic life by joining community organisations, initiating projects to support those in need, or fostering economic development. This model assumes a deeper understanding of how governmental institutions function. At the highest level of this framework stands the justice-oriented citizen, who critically examines social, political, and economic structures. Rather than focusing solely on surface-level problems, this ideal citizen seeks to understand underlying systemic issues, identify injustices, and engage with democratic movements aiming for structural change.

Moonsun (2016) also introduces three approaches to citizenship education: (1) traditional (or national), (2) critical, and (3) digital. The traditional model focuses on clearly defined social and economic rights and duties, through which individuals become "good citizens" by conforming to national expectations. The critical model emerged in response to civil rights movements in the United States, emphasising the development of multicultural

and global identities and giving voice to ethnic, linguistic, religious, and cultural minorities. The third and most recent stage is digital citizenship, which reflects the transformative impact of digital technologies on civic life. Moonsun (2016) outlines four core competencies for digital citizens: (1) ethical, safe, and responsible internet use; (2) information and media literacy; (3) civic and political engagement; (4) critical resistance.

In the framework proposed by Erdem et al. (2022), digital citizenship supports the higher-order dimensions of citizenship education. Moving beyond earlier models that focused primarily on normative behaviour, contemporary citizenship now encompasses cognitive, affective, and psychomotor skills as well. Thus, citizenship education is undergoing a significant transformation. It no longer solely concerns legal and social responsibilities or conformity to civic norms. Instead, it now incorporates digital behaviours shaped by the Web 2.0 environment and promotes the development of interconnected digital competencies.

According to the International Society for Technology in Education (ISTE), digital citizenship involves students' ability to recognise the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital and analogue world. It entails acting in safe, legal, and ethical ways (ISTE, 2023). ISTE standards emphasise that digitally literate students understand the implications of their online presence, the significance of digital security, and the risks of data collection technologies. They are equipped to use digital tools ethically, respect intellectual property rights, and share information responsibly.

Fodor et al. (2023) highlight the diverse nature of both history and citizenship education in a comparative analysis of national regulatory frameworks. Among 16 European and Asian countries[2] all of the European nations have compulsory civic education without compulsory school leaving examination in the subject. On the other hand, declared objectives of development vary greatly from country to country. Education for democratic values and ideas are shared by all analysed curricula, but explicit further goals as sustainability, and financial knowledge vary. Among the countries of the research only Checzia, Hungary, Ireland, Austria, China and Turkey highlight digital competence and information literacy development (Fodor, Tõhn, Máté, 2023).

The COVID pandemic and the unsettling American political events focused global attention on the threats of misinformation. The European Commission has published a Digital Educational Action Plan for the period 2021-2027, which aims to support digital citizenship by developing digital literacy and tackling misinformation.

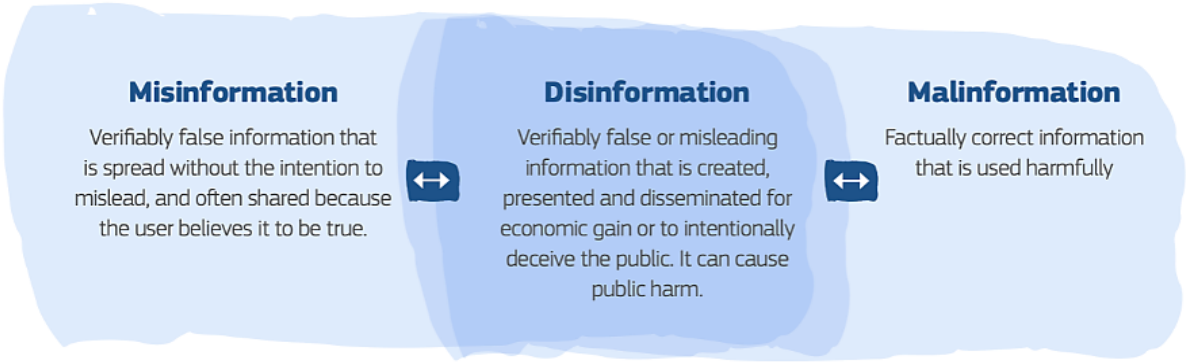
The main findings of the report include: (1) A significant number of initiatives on this topic take a technological approach to digital literacy and pay little attention to critical thinking. (2) Awareness of the role and dangers of the media is still low among teachers and parents. (3) Information literacy and digital competence development are not emphasised in the training of teachers in Europe.

[2] Armenia, China, Czechia, England, France, Hungary, Ireland, Kazakhstan, Mongolia, Poland, Scotland, Slovakia, Turkey.

The report places great emphasis on the development of effective educational resources that can support information and digital literacy, and understanding of controversial historical and current issues.

Based on the report, a guide for teachers with the same title (*Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training*) was also produced. The textbook-like digital volume contains both theoretical and practical aspects. In one of its chapters, it presents the basic concepts of the topic, including disinformation, deepfakes, algorithms, digital citizenship, digital literacy, etc.) It also includes short summaries of teaching and learning strategies, such as the flipped classroom, blended learning, and gamification.

Picture 1. The relationship between misinformation, disinformation and malinformation



Source: European *Commission*, (2022)

Picture 2 - Digital proficiency levels

Level	Complexity of tasks	Autonomy	Cognitive domain
Basic	Simple tasks	With guidance/autonomy and with guidance where needed	Remembering
Intermediate	Well-defined and routine tasks, and straightforward problems/tasks, and well-defined and non-routine problems	On my own/independent and according to my needs.	Understanding
Advanced	Different tasks and problems/most appropriate tasks	Guiding others/able to adapt to others in a complex context	Applying/evaluating/creating

Source: European Commission, 2022, 38

An important chapter of the guide is built on the differences between misinformation, disinformation, and malinformation. Practical techniques include examining students' digital footprints, checking the source of facts and news, distinguishing between facts and opinions, discerning the difference between the processes of censorship and freedom of the press, and discussing conspiracy theories.

The guide also focuses on the measurement of digital competence. By partially simplifying the proficiency levels, DigCompEdu formulates three aspects: task complexity, learner autonomy, and cognitive level. Based on these, it distinguishes between basic, intermediate and advanced task levels.

Development of information literacy in history education

As we outlined in the previous chapters, the accelerated digitalization triggered by the COVID-19 pandemic has profoundly impacted all levels and domains of education. However, the growing dominance of online sources in history education was already observable before the pandemic. This trend also manifested in research projects in history textbooks, where it became increasingly clear that textbook authors encouraged students to search the internet rather than conduct library-based research. Academic literature also responded to these changes; several authors had already emphasized the need to foster information literacy in history lessons, particularly since students during this period frequently relied on Wikipedia as their primary source of information (Walsh, 2008; Engel-Fekete, 2023).

Since 2020, however, the opportunities and challenges presented by artificial intelligence have become increasingly central to scholarly discourse surrounding the humanities. It is undeniable that AI offers substantial support in reconstructing historical objects and texts, as well as in certain aspects of pedagogical work, such as lesson planning and worksheet development (Kőműves, 2024). Furthermore, large language models facilitate the generation of visual illustrations corresponding to various historical periods. As a result, many historians consider artificial intelligence a valuable tool (Kansteiner, 2022; Sternfeld, 2023; Szabó T., 2025)

However, a study conducted in 2023 among history teachers (Hajdarovic, 2023) revealed that participants could identify only four out of nine AI-generated texts as not being written by a human. These findings not only highlight the growing vulnerability of teacher assessment in the 21st century but also draw attention to a new and increasingly critical area for the development of digital and information literacy.

Texts generated by large language models, along with various deepfake methods (e.g., face-swapping, puppeteering, lip-syncing, voice-cloning, and image synthesis—and other visual disinformation strategies, pose significant challenges not only to educators. One indication of this is the increasing frequency with which the media publishes AI-generated images depicting fabricated or anachronistic historical events as factual. A striking example is the circulation of an AI-generated image purportedly depicting ancient Greek mosaics. To counteract the spread of false historical narratives and chronological distortions, it is essential that school education supports the acquisition of fundamental

historical knowledge and the ability to accurately place historical phenomena in their correct temporal context. However, this latter competency can be cultivated almost exclusively through the teaching of history. (Vajda, 2018).

In addition to fostering the recognition of anachronisms, history education also offers the opportunity to develop critical thinking, another fundamental component of information literacy. This capacity is primarily cultivated through the analysis of historical sources in history lessons. Nevertheless, it must be emphasized that, according to some scholars, the methodologies traditionally used for historical source criticism, as well as certain digital competencies, are no longer sufficient for evaluating the credibility of online content and websites (Breakstone et al., 2025). In classroom practice, students typically concentrate on the content of written sources and may attempt to identify the author or the date of origin. In doing so, they tend to employ a vertical reading , approaching the text "from the top down" (Wineburg & McGrew, 2019; Lodhi, A. K. et al., 2025). However, this interpretive strategy can be ineffective when faced with websites spreading disinformation, which may lack grammatical or spelling errors, use credible-sounding domain names, and even cite various seemingly reliable sources to support their content. According to Pimentel and others (Pimentel, D. R., 2024; McGrew, 2021; Wineburg & McGrew, 2019), the solution could be digital civic online reasoning when training users to verify the credibility of a given website by consulting independent sources before engaging in a thorough analysis of its content. Nowadays, there are no widely established methodological approaches for teaching the civic online reasoning framework; however, its integration is becoming increasingly urgent in today's context.

Discussion

Information literacy is widely understood as the competent use of technology and information sources, underpinned by critical thinking skills—an essential foundation for navigating and interpreting the complexities of the digital age. Its theoretical concepts are well known and widely repeated; however, real discussion of techniques, tasks, methods, strategies, and the ideal formal curricular position and school time devoted to its improvement are very rare. History and civic education may be two fruitful and interconnected fields where the necessary skills can be acquired through historical source analysis and fact checking recently produced information.

The evolution of citizenship education increasingly highlights the central role of information and media literacy in preparing students for active participation in a digital society. Educational systems must equip learners with the skills to critically evaluate sources and navigate digital environments, which is strongly targeted by European policy efforts.

History education provides a firm basis to learn the techniques of critically dealing with information met in historical sources. With sufficient training, methods and strategies, students can learn how to not only start dialogue with the past but also use their subskills to navigate in the flood of recently produced information.

Different ideal roles and toolkits are emphasized in connection with these objectives, thinking like a historian, fact checker or journal editor may also be applied. All of these refer to an advanced level of cognition/consideration/logic which is a uniquely useful tool for not only young adults, but future young leaders in particular.

A key question in today's education is whether subjects like history and civics can provide individuals, particularly those not in the humanities, with the necessary skills to tackle 21st-century challenges. Just as with the printing press or the steam engine, we cannot fully predict the impact AI will have on our world. Nonetheless, as educators, we should aim to maximize its potential for positive change.

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