



Teaching media literacy in Europe: evidence of effective school practices in primary and secondary education

Analytical Report



Erasmus+

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ABOUT NESET II

NESET II is an advisory network of experts working on the social dimension of education and training. The European Commission's Directorate-General for Education and Culture initiated the establishment of the network as the successor to NESSE (2007-2010) and NESET (2011-2014). The Public Policy and Management Institute ([PPMI](#)) is responsible for the administration of the NESET II network.

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EXECUTIVE SUMMARY

Rapid advances in digital technologies and a simultaneous increase in internet use have highlighted the importance of preparing students to access, use, understand and critically assess all forms of media. Wider access to the internet and digital media has delivered to students and teachers increasing amounts of information, and facilitates self-expression, active forms of citizenship, and creative communication with a broader audience. However, students are also increasingly at risk of being exposed to various forms of disinformation, propaganda, radical and violent messages, indoctrination, and hate speech. The benefits of wider access to increasing volumes of information are clear, yet in many if not all European countries this is also presenting challenges to their citizens, democratic processes, security, and ‘social fabric’.

The spread of disinformation and ‘fake news’ pose acute challenges for Member States’ education systems. Students (and indeed all citizens) need to develop pertinent competences to navigate these fast-changing environments. Research shows that education in media literacy can have positive outcomes on students’ knowledge, skills and attitudes in analysing and critically understanding the media and disinformation. Crucially, competences alone are no guarantee of civility: creators of disinformation, political campaign teams using social media data, extremists, and ‘troll farm’ agents, all possess very high levels of competences in media literacy. In this report, media literacy education is seen not only as a set of competences for students to develop, but also as a dimension of agency; competences alone cannot provide all the tools required for students to view the media critically, nor are they enough to cultivate active forms of citizenship based on democratic values and attitudes.

Research and policy initiatives on media literacy and media education have been growing across Europe and the English-speaking world for decades. However, there is a lack of systematised comparative evidence about ‘what works’ in media literacy education practices at classroom level.

Within this context, this report details the latest research in the area of media literacy and media education with regard to primary and secondary education in Europe. This report is aimed at policymakers, practitioners and researchers in the fields of school education, media and digital policies. It reviews relevant European and international research to better understand how teaching and learning practices can support students’ media literacy in primary and secondary education. It also aims to understand how media literacy education in schools can help address the challenges related to the spread of disinformation and ‘fake news’.

More specifically, the report aims to answer the following questions:

- What teaching and learning practices at primary and secondary level can support students’ media literacy, facilitate their critical engagement with media and support their active citizenship in the public sphere?
- What specific challenges does the spread of disinformation pose for teaching and learning media literacy education in schools, and how can these challenges be addressed?
- What media education literacy practices are most effective and suitable at primary (ISCED 1) and secondary levels (ISCED 2-3)?
- What competences can help to build media literacy among students at school level?

- What classroom assessment practices can be effective tools to assess students' media literacy?
- How can media literacy education help address the challenges posed by the spread of disinformation and 'fake news'?
- What key policy recommendations can be made to better address media literacy in EU Member States' education systems and schools?

Key findings

➤ **Main competences to support media literacy in education**

Media literacy covers the following competences:

- **Access:** the ability to find and use media skilfully and to share suitable and valuable information with others (including browsing, searching, filtering and managing data, information and digital content).
- **Analysis and evaluation:** the capacity to comprehend messages and use critical thinking and understanding to analyse their quality, veracity, credibility and point of view, while considering their potential effects or consequences.
- **Creation:** the capacity to create media content and confidently express oneself with an awareness of purpose, audience and composition techniques.
- **Reflection:** the capacity to apply social responsibility and ethical principles to one's own identity, communication and conduct, to develop an awareness of and to manage one's media life.
- **Action/agency:** the capacity to act and engage in citizenship through media, to become political agents based on democratic values and attitudes.

These competences work together to support students' active participation in learning through the processes of consuming and creating media messages. They can be supported in primary and secondary education through the integration of media literacy in the school curriculum, and in dedicated classroom practices via specific teaching and learning practices which address disinformation. Competences for media literacy are also supported by favourable contextual factors such as pertinent teacher education, a supportive school environment, and local partnerships.

Media literacy competences are required to actively participate in democratic society; they enable citizens to access, understand and deal with the media, and encourages them to become political agents. They can allow students to use their voices through active participation in online activities, facilitate students' active citizenship competences and agency to express their politics and participate in the public sphere.

➤ **Media literacy education practices to address disinformation**

The current media landscape has been marked by the spread of disinformation and 'fake news', which is having an unwelcome impact on students and on classroom learning. Disinformation campaigns have certainly made life more difficult for teachers who seek to convey the value of evidence to their students, especially in subject areas that are especially prone to propaganda such as science, history and citizenship education.

There is an ongoing debate on the best strategy to address students' susceptibility to disinformation, revolving around the extent to which interventions should target a person's core belief system and worldview. In formal education, this especially applies to secondary school students, given the fact that they have more fully developed belief systems.

Media literacy initiatives, including educational programmes involving journalists, have been shown to lessen the vulnerability of children to disinformation. The development of critical thinking and analytical competences are key components of a successful educational intervention. Evidence shows that students who reported high levels of media literacy learning opportunities were more likely to identify misinformation, which lends credence to the impact of media literacy programmes.

➤ **Effective teaching and learning media literacy practices at school level**

Media literacy education, taken to mean learning about the use and production of media, can be advantageous to and integrated in virtually all curriculum subjects (e.g. mother tongue education, history, geography, civic and citizenship education, science education). However, media education is not taught as a separate and independent mandatory school subject in any EU country. Instead, where it exists at all, it is predominately cross-curricular and integral, or modular. As of 2014, most EU Member States had not yet adopted a media education curriculum, and schools largely had autonomy in their decisions about media literacy education practices.

One of the key challenges of teaching and learning media literacy at classroom level is the thorny question of how to effectively consolidate the school and out-of-school media literacy practices that are essential to cross the home-school and online-offline institutionally constructed divides.

Our understanding of and approach to media literacy is mainly based on research in secondary school classrooms. The limited but influential research in primary school classrooms suggests that it is hard to distance and distinguish media literacy at this level from literacy innovations.

Teaching and learning practices for media literacy education can involve various classroom-based methods (e.g. active inquiry, discussion-based learning, collaborative learning and educational leadership, game-based learning, etc.), most of which are based on active learning. Medium or genre specific pedagogical practices are commonly used in teaching and learning with media literacy (e.g. combined advertising and science literacies).

➤ **Key conditions for successful implementation of media literacy education practices in school**

There is an urgent need for media literacy educators and stakeholders to document their best practice in the form of empirical classroom research, and to address enduring disconnects between theory and practice, conceptual frameworks and pedagogic practice, and educational/political policy and classroom practices. The integration of digital literacy in the maturation phase, specifically into science education, is flourishing as a research area.

Successful implementation of media literacy education at the school level is facilitated by approaches to pedagogy that combine and/or cross boundaries between spaces and roles — the classroom and the extended 'third space', teachers and students working in partnership to co-create learning, and professional development in hybrid combinations of physical and virtual networks.

There is a wealth of evidence of more formal, funded, partnership engagements between media literacy educators and media industries, literacy organisations, NGOs and other stakeholders at the

level of resource production and single events. However, empirical evidence of the conditions for successful partnership and impacts at the school level are likely to be in the public domain within two to three years, as many relevant projects are ongoing.

Policy pointers

This report consolidates evidence on the ways in which media literacy can be taught at classroom level in primary and secondary education. The following pointers aimed at relevant education policymakers at EU, national and/or regional level draw on the key conclusions of the report.

- **Develop dynamic media literacy curricula that enable full coverage of the five main competences for media literacy**

Policy pointers

- Policymakers should develop dynamic media literacy curricula at primary and secondary level that fully cover the five main competences for media literacy shared by international models: access, analysis and evaluation, creation, reflection, and action/agency.
- Media literacy curricula should prioritise students' active learning and agentive use of and creation of all forms of media.
- Media literacy curricula should also cover the specific elements of the Digital Competence Framework for Citizens (DigComp), including media production; civic media engagement; active inquiry; discussion-based learning; project-based learning; collaborative learning; game-based learning and critical and reflective learning about data and identity.

- **Provide media educators with support and resources for addressing students' media literacy more holistically**

Policy pointers

- Policymakers should provide media educators with adequate support and sufficient resources for addressing students' media literacy more holistically by bringing together school-based and out-of-school media literacy practices.
- Media literacy initiatives should aim to cross the home-school and online-offline divides, thereby creating a 'third space' for more agentive (active, critical and engaged) media literacy education.

- **Raise awareness about disinformation and the misuse of data in education**

Policy pointers

- Policymakers should raise awareness about disinformation and the misuse of data at all levels of education.
- The spread of disinformation and misuse of data in education should be tackled in primary and secondary education through specific policies targeted at these levels of education.

➤ **Invest in further research into good practices in teaching media literacy to build resilience to misinformation**

Policy pointers

- Policymakers should invest in further research into good ‘sense-making’ practices in teaching media literacy to build resilience to misinformation and conspiracy theories (such as inoculation approaches).
- Research findings should be used to resolve the debate around media literacy and students’ belief systems, and facilitate far-reaching dissemination of these best practices for consistent adoption by media educators.

➤ **Invest in further research to explore media literacy education across all school levels**

Policy pointers

- Policymakers should invest in further research to explore media literacy education across school levels.
- Research should aim to identify the similarities and differences between media literacy education at primary and secondary levels.
- Policymakers should support the development and use of systematic assessment methods, and based on this level-specific understanding of media literacy and media education.

➤ **Facilitate and invest in large-scale collaboration initiatives in media literacy education**

Policy pointers

- Policymakers should facilitate and invest in large-scale collaboration initiatives between media literacy educators, data analysts, social media platforms, journalists and NGOs.
- Support to these initiatives should have the explicit objective of bringing the best practices of short-term, small-scale media literacy partnership projects, into the formal school curricula and classroom practice for all students.

➤ **Define and adopt a clear connection between media and digital literacy policy, media education curricula, and teacher education**

Policy pointers

- Policymakers should define and adopt a clear connection between media and digital literacy policy, media education curricula in primary and secondary education, and teacher education, from initial teacher education (ITE) to comprehensive professional development (CPD).
- Such a clear and comprehensive policy approach to media and digital literacy should increase the chances of success of implementing media literacy education and digital competences in school education.

➤ **Support the inclusion of an assessment of media literacy competences in the OECD PISA test.**

Policy pointers

- Policymakers should support the inclusion of an assessment of students' media literacy competences in the next round of the OECD PISA test.
- The PISA test should assess all the components of media literacy competences, including knowledge, cognitive skills, social skills and attitudes.

GLOSSARY

This section defines several key concepts which are referred to in the report.

Digital Citizenship is “the ability to engage positively, critically and competently in the digital environment”¹. Promoted by the Council of Europe, this concept also refers to “competent and positive engagement with digital technologies (creating, working, sharing, socializing, investigating, playing, communicating and learning); participating actively and responsibly (values, skills, attitudes, knowledge) in communities (local, national, global) at all levels (political, economic, social, cultural and intercultural); being involved in a double process of lifelong learning (in formal, informal and non-formal settings); and continuously defending human dignity” (Frau-Meigs et al., 2017, p. 15).

Digital literacy is “the ability to use [ICTs] to *find, understand, evaluate, create* and *communicate digital* information” (Report of the Office for Information Technology Policy’s Digital Literacy Task Force, in Grizzle et al., 2013, p. 182). The concept of digital literacy extends beyond merely using information in a functional, instrumental way, and beyond its simple retrieval. Instead, it more broadly comprises one’s ability to ask questions about the source and meaning of information, to inquire about the interests of its producers, and to understand how information is related to “broader social, political and economic forces” (Buckingham, 2015a, p. 25). Digital literacy is, fundamentally, a type of socio-ethical knowledge, with corresponding skills and attitudes that complement the technical and practical skills needed to use digital technologies. In the constantly-evolving uses of digital technologies, digital literacy is embedded in new social and new media practices and active forms of citizenship (Calvani et al., 2012; Casey & Bruce, 2011). The DigComp 2.1. framework defines the digital literacy competences specifically for the current European context (see Carretero et al., 2017; Vuorikari et al., 2016).

Dynamic literacies is an emerging term that brings together semiotics and multimodality, media education, the new literacy studies, and ‘transmedia literacies’, all of which stand in contrast to the traditional view of literacy as a static, narrow and autonomous set of skills (Potter & McDougall, 2017). Dynamic literacies include two key features: digital storytelling, and digital curation. Digital storytelling provides opportunities for new modes of self-representation and collaborative meaning-making between students, their families/carers, their communities, and their schools. Digital curation refers to the processes of writing, editing, and authorship when producing, collecting or assembling digital content. In the context of education, literacy, media and technology converge in “the material-discursive-semiotic assemblings that are and could be generated in schools” (Comber, 2013, in Merchant et al., 2016, p. 240).

Media literacy is a term with a considerable number of competing definitions and the subject of debates about its scope (see e.g. Buckingham, 2015a; Grizzle et al., 2013; Hobbs, 2010; Livingston, 2004; Mihailidis, 2018; Rosenbaum et al., 2008). For the purposes of this report, we define media literacy as the “ability to access the media, to understand and critically evaluate different aspects of the media and media contexts and to create communications in a variety of contexts” (European

¹See: <https://www.coe.int/en/web/digital-citizenship-education/digital-citizenship-and-digital-citizenship-education>
Accessed 20.09.2018.

Commission, 2007)². This definition builds on three key elements: 1) access to media and media content; 2) critical ability to decipher media messages and awareness of how the media works; and 3) creativity, communication and production skills (Silver, 2009). Media literacy defines media messages as informational and creative content included in texts, sounds and images, carried by all forms of media including television, cinema, video, websites, radio, video games and social media. As media literacy refers to all media, the concept encompasses and includes all other forms of literacy, including digital literacy (Perez Tornero & Varis, 2010).

Media education refers to the educational process of teaching and learning about the media to develop competences (including knowledge, skills and attitudes) related to media literacy (Hartai, 2014; Perez Tornero & Varis, 2010). Media literacy education is “the educational field dedicated to teaching the skills associated with media literacy”³. In certain contexts, media literacy and media education can be used interchangeably. Borg and Lauri (2011) note that without a satisfactory translation of the word ‘literacy’ in French, the language uses the word ‘education’ in place of ‘literacy’ (*‘éducation aux médias’*). In German, ‘media literacy’ is translated into a general term for competence (*‘Medienkompetenz’*), while in Dutch, the concept is referred to as ‘media wisdom’ (*‘mediawijsheid’*).

Media and information literacy (MIL) is a composite concept proposed by UNESCO in 2011 to include the competences and practices of all related existing literacies (including news literacy, television literacy, film literacy, digital literacy, etc.) (Grizzle et al., 2013; UNESCO, 2011, 2014; Wilson et al., 2011). UNESCO defines MIL as “a combination of knowledge, attitudes, skills, and practices required to access, analyse, evaluate, use, produce, and communicate information and knowledge in creative, legal and ethical ways that respect human rights” (UNESCO, IFAP, IFLA, 2012).

² The Council Conclusions of May 2016 specified that media literacy includes “all the technical, cognitive, social, civic and creative capacities that allow us to access and have a critical understanding of and interact with both traditional and new forms of media”.

³ See: <https://namle.net/publications/media-literacy-definitions/>. Accessed 20.09.2018.

1. INTRODUCTION

1.1. Introduction to the report and its structure

This report has been produced by the Network of Experts working on the Social Dimension of Education and Training (NESET II). It is structured as follows:

- **Chapter 1** introduces the report, including its academic and political context, aims, scope, research questions, and a summary of its methodological approach.
- **Chapter 2** defines the concept of media literacy and discusses various competence frameworks for media literacy. It delineates five key competences that can be found in all of the established media literacy frameworks shared between Europe, the US and other international contexts: access, analysis/evaluation, creation, reflection, and action/agency (see Carretero et al., 2017; Frau-Meigs et al., 2017; Hobbs, 2010; Mihailidis, 2014; UNESCO, 2014, 2016). It also reviews the most recent literature on media literacy approaches and relevant competences in education. This chapter serves as the conceptual background for the rest of the report.
- **Chapter 3** discusses the educational challenges presented by the spread of disinformation and 'fake news'. The chapter discusses diverse approaches to address such challenges at school level (such as inoculation approaches and addressing conspiracy theories), and reviews teaching and learning methods and school practices that can effectively support students' media literacy in confronting disinformation.
- **Chapter 4** provides a brief review on the extent to which media literacy is addressed in school curricula across Europe. It then discusses effective teaching and learning practices for media literacy education in primary and secondary education, such as medium/technology approaches; student-centred approaches; methods to effectively bring together school and out-of-school media literacy practices; pedagogical practices; and media literacy assessment methods.
- **Chapter 5** considers the conditions that allow for the successful implementation of effective media literacy education teaching practices at school level. These conditions include, but may not be limited to, those related to teacher preparation, school environments, or local partnerships.
- **Chapter 6** presents our main conclusions and policy pointers for education policymakers of the EU and Member States. It provides key findings and suggestions on how to improve the teaching of media literacy education at primary and secondary education levels.

1.2. Context of the report

Who is this report for?

The report details the latest research in the area of media literacy and media education with regard to primary and secondary education in Europe. The primary audiences of this report are local, regional, national and international policymakers who have the authority to bring about a widespread and systematic change in media education policy and practice.

Literacy in the digital era

Rapid advances in digital technologies and a simultaneous increase in internet use have fuelled a debate on the importance of preparing students to access, use, understand and critically assess all forms of media. Students, armed with nothing more than a single device, have access to a vast array of virtually unfiltered information. The expansion of time spent online by students has increased the risks of problematic internet use among children⁴. In most OECD countries, extreme internet use⁵ has negative consequences on students' life satisfaction, aroused feelings of loneliness at school, increased the risk of disengagement from school, and been harmful to academic performance (OECD, 2017).

Certainly, wider access to the internet and digital media has delivered to students and teachers increasing amounts of information, and facilitates self-expression, active forms of citizenship, and creative communication with a broader audience (Admiraal, 2015; Buckingham, 2015b; OECD, 2017⁶). The benefits of wider access to increasing volumes of information are clear, yet in many if not all European countries this is also presenting challenges to their citizens, democratic processes, security, and 'social fabric' (European Commission, 2018a; Jeangène Vilmer et al., 2018; Kahne & Bowyer, 2017). Students are increasingly at risk of being exposed to various forms of disinformation, propaganda, radical and violent messages, indoctrination, cyberbullying and hate speech⁷. The media both develops and constrains public knowledge, and this ability makes it a strong influence not only on the political process but also on the processes of learning and socialisation, influencing children's life and development (McDougall et al., 2018; Zezulkova, 2015).

The spread of disinformation and 'fake news'⁸ pose acute challenges for Member States' education systems. Students (and indeed all citizens) need to develop pertinent knowledge and develop the skills to navigate these fast-changing environments. Research shows that education in media literacy⁹ can have positive outcomes on students' knowledge, skills and attitudes in analysing and critically understanding the media (Jeong et al., 2012; Vraga & Tully, 2015; Webb & Martin, 2012) and disinformation (Kahne & Bowyer, 2017). These outcomes include critical engagement with the media in its consumption and its use, with the general aim of orienting this engagement towards civic participation. Crucially, competences alone are no guarantee of civility: creators of disinformation, political campaign teams using social media data, extremists, and 'troll farm' agents, all possess very high levels of competences in media literacy. In this report, then, media literacy education is seen not only as a set of competences for students to develop, but also as a dimension of agency; competences

⁴ In 2015, across OECD countries, 54 % reported that they feel bad if no internet connection is available (with shares of more than 77 % in EU countries such as France, Greece, Portugal, Sweden) (OECD, 2017).

⁵ More than six hours per day online outside of school (OECD, 2017).

⁶ PISA 2015 data shows that across OECD countries, 88 % of students agreed that "the internet is a great resource for obtaining information" (OECD, 2017).

⁷ 37 % of respondents said that they encountered "fake news" every day or almost every day; 71 % felt confident in identifying them (European Commission, 2018b).

⁸ In line with the High-level group on fake news and online disinformation set up by the European Commission in January 2018, we understand the concept of disinformation as a phenomenon that goes beyond the term 'fake news', and which includes "all forms of false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm or for profit" (European Commission, 2018a, p. 10).

⁹ Media literacy is the "ability to access the media, to understand and critically evaluate different aspects of the media and media contexts and to create communications in a variety of contexts" (European Commission, 2007). Media literacy education is "the educational field dedicated to teaching the skills associated with media literacy". See: <https://namle.net/publications/media-literacy-definitions/>. Accessed 20.09.2018. A definition of media literacy, media education, and other key concepts used in this report, is provided in the Glossary.

alone cannot provide all the tools required for students to view the media critically, nor are they enough to cultivate active forms of citizenship based on democratic values and attitudes.

Policy context

In the last decade, media literacy has gained increased political attention at EU level. A series of key policy documents published since 2007 have stressed the importance of developing higher levels of media literacy, among students in particular. In particular, initiatives adopted by EU institutions have progressively stressed the need to promote media literacy in education and training to reinforce students' critical thinking, active citizenship, and promote the EU's common values.

The question of media literacy first came to the fore in the EU policy debate with the adoption of a European Commission Communication in 2007, which underlined the importance of developing young people's capacity to critically approach and assess diverse media sources. Adopted the same year, the Audiovisual Media Services Directive set out a reporting obligation for the Commission to measure levels of media literacy in all EU Member States¹⁰. The importance of education in achieving a higher degree of media literacy was reiterated in a European Parliament Resolution (December 2008) and a Commission Recommendation (August 2009). At Council level, conclusions from May 2008, November 2009 and December 2014 repeatedly stressed the importance of media literacy; each encouraged the Commission and Member States to promote and support the analysis and exchange of good practices for integrating media literacy in education and training.

Since 2015, the importance of teaching media literacy was reaffirmed in a series of EU policy initiatives taken with the broader objective to strengthen students' critical thinking and active citizenship to address the rise of populism, xenophobia, radicalisation and the spread of disinformation. Following the attacks on *Charlie Hebdo*, in March 2015 the Paris Declaration¹¹ of EU Education Ministers called for action to "[strengthen] children's and young people's ability to think critically and exercise judgement so that, particularly in the context of the internet and social media, they are able to grasp realities, to distinguish fact from opinion, to recognise propaganda and to resist all forms of indoctrination and hate speech". The document also expressed the need to "[empower] teachers so that they are able to take an active stand against all forms of discrimination and racism, to educate children and young people in media literacy".

Council conclusions of May 2016 on developing media literacy and critical thinking through education and training emphasised that education and training should provide learners with the competences and values required "to access, interpret, produce and use information and other media content, notably in the context of the internet and social media, in a safe and responsible manner". The Council urged Member States towards "developing media literacy and critical thinking in education and training at all levels, including through citizenship and media education". Similarly, in January 2018, the Commission's Digital Education Action Plan also emphasised the need to strengthen students'

¹⁰ Directive 2007/65/EC of the European Parliament and of the Council of 11 December 2007 amending Council Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the pursuit of television broadcasting activities. OJ L 332, 18.12.2007, p. 27–45. A preliminary political agreement was reached in April 2018 by the European Parliament, Council and Commission on the main elements of the new Directive on the basis of a Proposal from the Commission adopted in May 2016 (COM(2016) 287 final, 2016/0151 (COD)).

¹¹ Informal meeting of EU Education Ministers, Declaration on Promoting citizenship and the common values of freedom, tolerance and non-discrimination through education. Paris, Tuesday 17 March 2015. Available at: http://ec.europa.eu/dgs/education_culture/repository/education/news/2015/documents/citizenship-education-declaration_en.pdf. Accessed 20.09.2018.

critical thinking and media literacy, and called for an “EU-wide awareness-raising campaign targeting educators, parents and learners to foster online safety, cyber hygiene and media literacy”.

Within the broader objective to strengthen social cohesion by promoting the EU’s common values, inclusive education and the European dimension of teaching, the *Council Recommendation of May 2018 on Common values, inclusive education, and the European dimension of teaching* invited Member States to fight the rise of populism, xenophobia, radicalisation, divisive nationalism and the spreading of fake news. The Council invited Member States to continue the implementation of the commitments of the Paris Declaration in regard to the enhancement of critical thinking and media literacy.

Finally, while the 2006 version of the European Reference Framework of Key Competences for Lifelong learning did not mention media literacy, the new *Council Recommendation on key competences for lifelong learning* (May 2018) and its updated European Reference Framework includes several direct and indirect references to relevant competences for media literacy. Its definition of digital competence includes “information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking”. Moreover, citizenship competence is defined as “the ability to act as responsible citizens and to fully participate in civic and social life”, including critical thinking skills, which are directly related to media literacy.

1.3. Aims and research questions

Research and policy initiatives on media literacy and media education have been growing across Europe and the English-speaking world for decades (Borg & Lauri, 2011; Buckingham, 2015b; McDougall et al., 2018). Recent research at EU level provides useful evidence on assessment criteria for media literacy levels (European Commission, 2009a, 2011); on the role of informal media education and formal media education to acquire media literacy competences (Bitonti & Školkay, 2013; Hartai, 2014); and on media literacy policies, practices and actions outside of schools (Frau-Meigs et al., 2017; European Audiovisual Observatory, 2016). However, there is a lack of systematised comparative evidence about ‘what works’ in media literacy education practices at classroom level (Hartai, 2014).

This report is aimed at policymakers, practitioners and researchers in the fields of school education, media and digital policies. It reviews relevant European and international research to better understand how teaching and learning practices can support students’ media literacy in primary and secondary education. It also aims to understand how media literacy education in schools can help address the challenges related to the spread of disinformation and ‘fake news’.

More specifically, the report aims to answer the following questions:

- What teaching and learning practices at primary and secondary level can support students’ media literacy, facilitate their critical engagement with media and support their active citizenship in the public sphere?
- What specific challenges does the spread of disinformation pose for teaching and learning media literacy education in schools, and how can these challenges be addressed?
- What media education literacy practices are most effective and suitable at primary (ISCED 1) and secondary levels (ISCED 2-3)?

- What competences can help to build media literacy among students at school level?
- What classroom assessment practices can be effective tools to assess students' media literacy?
- How can media literacy education help address the challenges posed by the spread of disinformation and 'fake news'?
- What key policy recommendations can be made to better address media literacy in EU Member States' education systems and schools?

1.4. Methodology

The main source of information for this report is secondary data; it draws on research evidence from the academic literature, international policy reports, comparative studies, and research projects.

To locate the secondary literature, we conducted systematic searches for peer-reviewed articles published since 2010 in EBSCO Educational Databases¹² including the Education Resources Information Center (ERIC)¹³ and the Teacher Reference Center (TRC)¹⁴. The following key search words were used: 'media education', 'media literacy', 'digital literacy', 'media studies'. Complementary terms included: 'primary education', 'secondary education', 'teaching practices', 'disinformation', 'misinformation', and 'fake news'. Results were screened by using the report's research questions as selection criteria. After screening, 38 publications from Europe and 107 publications from non-European countries were selected and analysed according to the study's conceptual framework and research questions.

Our review has been supplemented by European network and action reports (e.g. COST¹⁵), international conference abstracts and proceedings (such as the Media Education Summit¹⁶, GAPMIL MIL forum¹⁷, and Media Meets Literacy¹⁸), and materials and research produced by European and international government departments and agencies, international organisations or non-governmental organisations ('grey literature'). We have also carried out structured searches of recent empirical evidence, pedagogic resources and European funded project outcomes in the public domain, and used a 'snowball' approach to gather additional research materials.

¹² See: <https://www.ebsco.com/academic-libraries/subjects/education>. Accessed 20.09.2018.

¹³ See: <https://eric.ed.gov/>. Accessed 20.09.2018.

¹⁴ See: <https://www.ebsco.com/products/research-databases/teacher-reference-center>. Accessed 20.09.2018.

¹⁵ See: <http://www.cost.eu/>. Accessed 20.09.2018.

¹⁶ See: <https://www.cemp.ac.uk/summit/2018/>. Accessed 20.09.2018.

¹⁷ See: <http://www.unesco.org/new/en/gapmil/>. Accessed 20.09.2018.

¹⁸ See: <https://mediameetsliteracy.eu/>. Accessed 20.09.2018.

2. COMPETENCES FOR MEDIA LITERACY IN SCHOOL EDUCATION

2.1. Definitions and competence frameworks for media literacy

Defining media literacy

For the purposes of this report, we understand media literacy as the “ability to access the media, to understand and critically evaluate different aspects of the media and media contexts and to create communications in a variety of contexts” (European Commission, 2007). This definition builds on three key elements: 1) access to media and media content; 2) a critical ability to decipher media messages and an awareness of how the media works; and 3) creativity, communication and production skills (Silver, 2009). Media literacy refers to media messages as the informational and creative content of text, sound and images carried by all forms of media including television, cinema, video, websites, radio, video games and social media. As media literacy refers to all media, the concept encompasses and includes all other forms of literacy, including digital literacy (Perez Tornero & Varis, 2010).

Several competence frameworks support the understanding of media literacy and help to disentangle the knowledge, skills and attitudes that it covers. The next section provides a brief review of some of the main frameworks of competences that have been recently developed at EU and international level. They provide a useful conceptual background on which we develop our analysis of media literacy education practices in school education in the following chapters.

Media and Information Literacy (MIL)

The concept of Media and Information Literacy (MIL) covers competences and practices relating to all existing literacies, and is meant to support the development of policies and strategies in various areas such as ICT, media, access to information, and informal and formal education policies (Grizzle et al., 2013). The UNESCO MIL Curriculum and Competency Framework combines media literacy and information literacy under one “umbrella term” (Wilson et al., 2011). MIL encompasses competences that enable citizens to:

- 1) Understand the role and functions of media and other information providers;
- 2) Understand the conditions under which those functions can be fulfilled;
- 3) Recognise and articulate a need for information;
- 4) Locate and access relevant information;
- 5) Critically evaluate information and the content of media and other information providers in terms of authority, credibility and current purpose;
- 6) Extract and organise information and media content;
- 7) Synthesise or operate on the ideas abstracted from content;
- 8) Ethically and responsibly communicate one’s understanding of created knowledge to an audience or readership in an appropriate form and medium;
- 9) Be able to apply ICT skills in order to process information and produce user-generated content;
- 10) Engage with media and other information providers for self-expression, freedom of expression, intercultural dialogue and democratic participation.

The concept of MIL and the MIL Curriculum and Competency Framework largely echo the concept of media literacy as understood in this report, the competences that it covers, and its applications in the context of primary and secondary education.

The Reference Framework of Competences for Democratic Culture

The Council of Europe's Reference Framework of Competences for Democratic Culture is a "comprehensive resource to plan and implement teaching, learning and assessing of [competences for democratic culture] and intercultural dialogue" (Council of Europe, 2018a, p. 19). The framework is organised around four areas of competence:

- 1) Values: valuing human dignity and human rights; valuing cultural diversity; valuing democracy, justice, fairness, equality and the rule of law.
- 2) Attitudes: openness to cultural otherness and to other beliefs; respect; civic-mindedness; responsibility; self-efficacy; tolerance of ambiguity.
- 3) Skills: autonomous learning skills; analytical and critical thinking skills; skills of listening and observing; empathy; flexibility and adaptability; linguistic, communicative and plurilingual skills; co-operation skills; conflict-resolution skills.
- 4) Knowledge and critical understanding: of the self; of language and communication; of the world, politics, law, human rights, culture, cultures, religions, history, media, economies, environment, sustainability.

The Reference Framework of Competences for Democratic Culture usefully complements the concept of media literacy and its application in education. The skills, knowledge and critical understanding that it encompasses – such as analytical and critical thinking skills, communicative and plurilingual skills, co-operation skills, and knowledge of language and communication – are directly related to crucial media literacy competence areas – including analysis and evaluation, creation, reflection, action and agency. In addition, the Reference Framework for Competences for Democratic Culture builds on values and attitudes for a democratic culture which are crucial for media literacy and active forms of citizenship in a culture of democracy.

The concept of digital citizenship

Partly based on the Reference Framework for Competences for Democratic Culture, the concept of digital citizenship is directly related to other concepts such as global citizenship, global competence, digital competence, digital consciousness, digital literacy, digital media literacy education, MIL and media literacy (Frau-Meigs et al., 2017). Digital citizenship refers to four main constitutive elements that are close to the concept of media literacy and to some of its main competence areas (in particular access, creation, action and agency):

- 1) Competent and positive engagement with digital technologies (creating, working, sharing, socialising, investigating, playing, communicating and learning);
- 2) Participating actively and responsibly (values, attitudes, skills, knowledge) in communities (local, national, global) at all levels (political, economic, social, cultural and intercultural);
- 3) Being involved in a double process of lifelong learning (in formal, informal, non-formal settings); and
- 4) Continuously defending human dignity.

The European Digital Competence Framework for Citizens (DigComp)

The European Digital Competence Framework for Citizens (DigComp) is a reference framework to support the development of digital competence of individuals in Europe developed by the Joint Research Centre (JRC) of the European Commission, and first published in 2013 (Kluzer & Pujol Priego, 2018). DigComp aims to help policymakers formulate policies that support digital competence building for all citizens in the context of employment, education and training and lifelong learning initiatives¹⁹ (Carretero et al., 2017). Its most recent update, DigComp 2.1., identifies the components of digital competence in five competence areas and 21 specific competences:

- 1) Information and data literacy: browsing, searching and filtering data, information and digital content; evaluating data, information and digital content; managing data, information and digital content.
- 2) Communication and collaboration: interacting through digital technologies; sharing through digital technologies; engaging in citizenship through digital technologies; collaborating through digital technologies; netiquette; managing digital identity.
- 3) Digital content creation: developing digital content; integrating and re-elaborating digital content; copyright and licences; programming.
- 4) Safety: protecting devices; protecting personal data and privacy; protecting health and well-being; protecting the environment.
- 5) Problem solving: solving technical problems; identifying needs and technological responses; creatively using digital technologies; identifying digital competence gaps.

DigComp is a relevant tool at European level that is recognised by the open participatory process that underlay its production, by its contribution to create a common language and understanding of digital competence, and by the guidance and support it can provide for education and training initiatives (Kluzer & Pujol Priego, 2018). It has also been developed through the analysis and comparison of other existing frameworks and models of ICT skills, digital literacy, information and media literacy, such as the European e-Competence Framework (e-CF), ESCO transversal ICT skills, and UNESCO's Media and Information Literacy framework described above (Ibid.)

Our approach to media literacy competences in school education

While each of the concepts and frameworks described above list media literacy competences that are relevant at primary and secondary education level, they are predominantly applicable in broader dimensions including in informal and non-formal education, training, employment, or ICT policies. As a guiding analytical framework for the purpose of this report, we use Hobbs' (2010) framework of five 'essential competences' for media literacy (covering access, analysis and evaluation, creation, reflection, and action), as it was developed primarily within and for media education theory and practice. In order to strengthen the relevance of Hobbs' five essential competences to the European

¹⁹ The DigComp conceptual reference model has since been used by the JRC to develop other related frameworks for the European Commission: The European Framework for Digitally Competent Educational Organisations (DigCompOrg, available here: <https://ec.europa.eu/jrc/en/digcomporg/framework>); The Digital Competence Framework for Consumers (DigCompConsumers, available here: <https://ec.europa.eu/jrc/en/digcompconsumers>); and The European Framework for the Digital Competence of Educators (DigCompEdu, available here: <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu>). Accessed 07.11.2018.

context, this framework is additionally supported throughout our analysis with the relevant competences and concepts defined in the frameworks described above, and in particular in DigComp.

Hobbs identifies five essential competences — access, action/agency, reflection, creation, and analysis and evaluation (see Figure 1) — that support “people’s active participation in lifelong learning through the processes of both consuming and creating messages” (Hobbs, 2010, p. 18). Throughout the report, we rely on this framework and, to ensure its relevance, keep in mind the competences set out in other relevant frameworks that are intended for the European context. We also emphasise — something competence-based approaches tend not to — the agentive aspects of media literacy education; that is, we focus not only on what is to be learned but also on the *learner* (McDougall et al., 2015; Mihailidis, 2018).

Figure 1. Media literacy competences



Source: Hobbs (2010).

In this chapter, we apply Hobbs’ over-arching conceptual framework to the more recent DigComp 2.1. framework. DigComp, recall, consists of digital competences developed specifically for the EU context. The competences of the two frameworks — Hobbs’ and DigComp — are distinct yet inter-related: DigComp’s ‘information and data literacy’ is roughly equivalent to Hobbs’ ‘access’; ‘communication and collaboration’ is equivalent to ‘action/agency’; ‘safety and problem solving’ to ‘analysis and evaluation and reflection’; and ‘digital content creation’ to ‘creation’ (Carretero et al., 2017). These rather straightforward overlaps between the two frameworks allow us to not only bring to DigComp 2.1 the valuable contributions of Hobbs’ approach, but has the added benefit of bringing Hobbs’ competences firmly within the context of the EU. Hobbs’ framework will also serve as an interpretive device through which to describe the most recent literature on media literacy approaches and competences in education across Europe.

The following chapters of the report look at how media literacy education at primary and secondary education levels can support the development of these competences and facilitate critical engagement with media through specific teaching and learning practices to address disinformation (Chapter 3); through the integration of media literacy in the school curriculum and dedicated classroom practices (Chapter 4); and by complementary factors such as teacher education, a supportive school environment, and local partnerships (Chapter 5).

2.2. Access

Benefits and challenges

The competence of accessing media refers to the ability to find and use media and ICT tools skilfully, including the ability to share suitable and valuable information with others (Hobbs, 2010). In DigComp, this covers browsing, searching and filtering, evaluating and managing data, information and digital content (Carretero et al., 2017, p. 11).

PISA 2015 results show that on average, 95 % of students in OECD countries reported that they had a link to the internet at home; and 91 % had access to a smartphone (OECD, 2017). In eight EU countries²⁰, internet access grew by more than 30 to 50 percentage points between 2006 and 2015 (Ibid.). However, research shows that digital technology access and use varies considerably among students and are strongly associated with socio-economic and cultural factors (Calvani et al., 2012). Moreover, when students access internet resources, they tend to demonstrate low attention to the validity of content and a lack of critical thought and judgement (Calvani et al., 2012).

Wider access to digital media has provided students and teachers with greater opportunities to access information, for self-expression, for active forms of citizenship and for creative communication (Buckingham, 2015b). Access to digital media has broadened students' opportunities to maintain their existing friendships while reducing their inhibitions about sharing and disclosing intimate information (Admiraal, 2015). In turn, the democratisation of access to these new uses of media demands more and different skills and competences from users, including analytical and evaluative competences, and creative and reflective competences.

Media access competences in education

Although more than 80 % of young people in Europe use the internet for social activities, the use of technology for educational purposes still lags behind (European Commission, 2018c). Many schools in the EU do not have access to a broadband internet connection, and many educators report that they lack the competences and confidence to use digital tools to support their teaching (Ibid.).

Accessing digital technology in the classroom can help to teach students to compose and organise ideas on screen, supporting learners' knowledge with various semiotic resources of different modes and media (Sofkova Hashemi, 2017). It can also support students in negotiating, designing, producing and presenting meaning, along with "writing strategies" such as planning, drafting, editing and proofreading of texts (Ibid.). For example, working with multimodal media texts such as advertisements in the classroom can enable children to improve their ability to critically construct meaning in a dynamic, engaging and collaborative process (Parry, 2016).

2.3. Analysis and evaluation

Benefits and challenges

The competence for analysing and evaluating media can be defined as the capacity to "[comprehend] messages and [use] critical thinking to analyse message quality, veracity, credibility, and point of view,

²⁰ Bulgaria, Greece, Latvia, Lithuania, Poland, Portugal, Romania and Slovakia.

while considering potential effects or consequences of messages” (Hobbs, 2010, p. 19). Analysis and evaluation competences imply the capacity to question and think in a critical manner about media content. They are therefore closely related to critical understanding skills (Perez Tornero & Varis, 2010). In DigComp, this area is covered by integrating and re-elaborating digital content, understanding copyright and licences, various kinds of technical and ethical problem solving and managing your digital identity (Carretero et al., 2017, p. 11).

Media literacy can enable students to make connections between their reading or use of a specific media form and the wider socio-economic and cultural context in which the media in question was made and consumed. It helps them to place a media message in the context of an elaborated knowledge structure about a particular issue (Carver et al., 2014). The conceptual framework and pedagogical practices associated with media education “facilitate meaning-making and enrich the repertoire of strategies children and young people can draw in their reading” (Parry, 2016, p. 336).

Media analysis and evaluation competences in education

Education plays a primary role in promoting critical thinking about, and understanding of, the media. Media education can be seen as a challenge to the “dominant epistemology of the curriculum” by questioning the ways in which the world is represented in the media and the processes that construct knowledge (Frau-Meigs, 2006, p. 13). Through the development of critical thinking skills, media literacy also supports democratic values and attitudes, as well as active citizenship competences, by bringing up citizens who are able to raise questions, criticise, and who aim to read “behind the visible”. This can be achieved notably through critical media pedagogy activities in a student-oriented teaching and learning environment, and through both the explicit and the “hidden” curriculum (Akar-Vural, 2010).

Being aware that audiences may interpret the same message differently helps to increase one’s critical attitude towards the media, and hence, media literacy (Rosenbaum et al., 2008). The capacity to interpret and create meaning from media content differs depending on an individual’s socio-economic background: people with a different background may interpret the same media content differently (ibid.). PISA 2015 results show that socio-economically advantaged students are more likely than their disadvantaged peers to agree that “the internet is a great resource for obtaining information” (OECD, 2017, p. 225). This reminds us that students should not be seen and treated as a homogeneous group. It is not only their socio-economic background, but also their unique identity and complex life circumstances that influence the ways in which they interpret and create media content.

The ability to engage critically with the media is particularly relevant in the context of science education and the development of scientific literacy (Marks et al., 2010; see also Chapter 4)²¹. Scientific media literacy refers to the ability of students to understand how media products are created, how scientific knowledge is incorporated into them, and to engage critically with science in the news (Belova & Eilks, 2015; Belova et al., 2016; Jarman and McClune, 2010). Jarman and McClune argue that instructional objectives related to scientific media literacy could be broken down into “relatively short, self-contained teaching units” (2010, p. 61). This could be done in a cross-curricular manner in science education, mother tongue education, media education and/or Media Studies, providing opportunities

²¹ Scientific literacy can be defined as “an understanding of the scientific concepts (content), the processes and the applications of science in society” (Carver et al., 2014, p. 212).

for different curricular areas to complement each other and by encouraging students to make connections between different subjects.

2.4. Creation

Benefits and challenges

The production of media content can be a “powerful means of learning” (Buckingham, 2015b, p. 19). It requires creativity and confidence in self-expression, with an awareness of purpose, audience, and composition techniques (Hobbs, 2010). This can be carried out by appropriating and adapting existing content, creating new content, or by exploiting the potential of networked communication, if adequately combined with critical reflection and analysis. In the DigComp framework, creation covers a more specific range of digital processes, from sharing and engaging through digital technologies and observing netiquette to programming (Carretero et al., 2017, p. 11).

Creative media literacy competences also refer to communication skills, such as the ability to establish social relations through media activities, citizen participation skills, and content creation skills (European Commission, 2009a). The ability to create and mobilise the media to share political decision-making or influence certain social issues has become particularly relevant in the use of new media, through which citizens have become instant producers of media content, for example through eye-witness mobile phone coverage of dramatic events such as terrorist attacks (Jukes, 2016).

Communication skills also cover operative skills, semiotic and cultural skills, and intercultural skills (Perez Tornero & Varis, 2010; Rosenbaum et al., 2008). Teaching activities that focus on utilising technology in the classroom to produce media content can help to increase students’ collaboration skills as well as their social and emotional skills (Bowden, 2015).

Media creation competences in education

Parola and Ranieri (2011) emphasise that until recently, media education neglected and undervalued activities that focus on the production and creation of media, which were considered a form of ‘technicism’ with little pedagogical value. They assert that by providing children with opportunities for creative self-expression and play, media production activities can have positive outcomes for students (Ibid., p. 94).

Media literacy interventions that include active audience involvement components (e.g. creative production activities or classroom discussions) have been found to be more effective than interventions based solely on passive components (e.g. lessons only), as they require greater mental efforts and comprehension (Jeong et al., 2012). Classroom-based media production activities can provide students with references to current media trends, practices, institutions and production technology. They can be a successful teaching strategy to improve students’ diverse media literacy competences.

In a study carried out in Norway on a vocational media course classroom activity that aimed to integrate media experiences and practices into classroom-based media learning, de Lange (2011) underlines that the course achieved a convergence between media production and critical reflection through thematic project work. Such classroom-based media production activities can also allow students to use their out-of-school experiences to create and analyse media (Ibid.). In a British study

comparing the media literacy levels of young people who have studied media in schools against peers at the same educational level who have not, McDougall et al. (2014) found that students with a media qualification were better able to produce more technically coherent and literate material than their peers. They show that students with a media qualification appeared more comfortable in digital spaces, that their creativity was more technically coherent and their storytelling more literate (Ibid.).

Media production activities in the classroom can also support students' critical thinking, cultural competences and social skills. Domingo-Coscollola et al. (2016) show that allowing students to become producers of media content (here, digital objects) can enhance students' capacity to direct their own learning processes, think critically, and take responsibility for their own positions while taking into account other points of view. Similarly, Begoray et al. (2015) show that media literacy practices such as creating health advertisements can help students to develop critical analysis competences and understand "how popular media informs and shape their understanding of gender and of themselves" (p. 57).

Exploring and creating multimodal genres in the classroom can help students develop creative and compositional skills that combine visual and linguistic modes in creative ways, and to develop conceptual understanding skills (Belova et al., 2016; Carlin-Menter, 2013; Sofkova Hashemi, 2017). Carlin-Menter (2013) underlines that for students to be proficient in gathering information from various sources, evaluating them for credibility and authenticity, organising material in a cohesive and coherent manner, collaborating and utilising information in productive and meaningful ways, learning activities and projects "that target both content standards and literacy skills", may be enhanced and facilitated through the use of new media tools (p. 418). Similarly, Jenson and Droumeva (2016) suggest that bringing game design and development into Science, Technology, Engineering and Mathematics (STEM) can help to introduce and familiarise students with the principles of computation, design thinking and procedural logic alongside numeracy, textual literacy and scientific thinking. Finally, as advances in technology have enabled more people to create and distribute videos and to move from being passive consumers to becoming more active and critically-minded consumers and producers (Gruszczynska, 2013; Harshman, 2017), opportunities have been created for creative media literacy education initiatives.

2.5. Reflection

Benefits and challenges

Reflecting on media content means to "[apply] social responsibility and ethical principles to one's own identity and lived experience, communication and conduct" (Hobbs, 2010, p. 19). The capacity to develop an awareness of and to manage one's media life is a key component of media literacy (Rosenbaum et al., 2008; Zezulkova, 2015). Understanding, managing and controlling students' media use can in turn help them to better evaluate media content and digital technologies in terms of their expectations and needs. In DigComp 2.1., reflection also covers identifying one's own digital competence gaps (Carretero et al., 2017, p. 11).

Reflective competences in the use of media by children and young people are a part of media literacy and relate to other competences needed when using media such as analysis and evaluation. The use of media, and particularly of the internet, requires students to develop specific skills and competences such as the ability to determine the accuracy of online resources and the credibility of other users, to

know their online audience and to present themselves accordingly. Young users should be able to reflect on their online behaviour in the context of specific social norms and online communication rules (Admiraal, 2015; Litt, 2013).

Media literacy can also support students' reflective competences to promote the ethical and socially responsible use of digital media, and to address issues such as cyberbullying, radicalisation and violent extremism (Alava et al., 2017; Bhat et al., 2010). Media literacy education can be a useful intervention strategy to prevent violence and tackle online radicalisation (Grizzle, 2016; Jeong et al., 2012; Jolls & Wilson, 2016). Jolls and Wilson (2016) underline that media and information literacy (MIL)²² "offers both offensive and defensive tools of discernment and expression to advocate for positive human values and for political action, and to recognize and to mitigate harmful media messages and effects" (p. 172). Supporting media literacy education can help to "counter fundamentalist, extremist and radicalized rhetoric and provide alternative narratives" with the aim to "build media literate, digitally capable, civically engaged and politically active communities" (Melki, 2018, p. 11).

Reflective competences on media in education

Media education that facilitates the shift from reflection on media content to self-reflection on one's lived media experience and identity, allows students to explore their unique, multifaceted media life (Woodfall & Zezulcova, 2016). Admiraal (2015) notes that in the Netherlands, the development of students' reflective internet skills is not addressed directly in schools, leading students to develop these during their free time or in the course of other school assignments. The author observes that studies on internet skills among secondary school students show that although students generally possess the technical skills required to use the internet, they demonstrate a low ability to critically evaluate internet sources and awareness of their online audience (Ibid.). This shows that frequent use of the internet does not automatically lead to increased reflective competences.

2.6. Action/agency

Benefits and challenges

Media literacy competences are necessary to act and participate in society as they enable citizens to access, understand and engage with the media, and to become political agents in a democratic society (Mihailidis & Thevenin, 2013). Media literacy is needed to share knowledge on an individual or collective basis, and can help solve collective problems and participate in one's community at local, regional, national and international levels (Hobbs, 2010).

In the more specific DigComp framework, "Engaging in citizenship through digital technologies" is defined as "to participate in society through the use of public and private digital service and to seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies" (Vuorikari et al, 2016, p. 8). Media literacy can help students get a better understanding of the functioning of a democratic society, the role of the press, participation in civil society, and "foster educational environments in which students can practice the skills of leadership, free and responsible self-expression, conflict resolution, and consensus building" (Akar-Vural, 2010., pp. 741-742). For Mihailidis and Thevenin (2013), media literacy competences should aim to empower

²² See Glossary for a definition of the concept of Media and Information Literacy (MIL).

individuals to become active citizens in an inclusive, active and participatory society, “to have a voice and to use it” (p. 1617).

Action/agency competences in education

Across Europe, Hartai (2014) notices that there is an increasing shift towards the civic role of media education, where media literacy can be promoted as a means of educating responsible and active citizens. Based on the hypothesis that media literacy can ultimately lead to increased civic awareness and participation in civil society, McDougall et al. (2014) show that British secondary school students who had enrolled in Media Studies were more likely to participate in online activities through social media and to be involved in creating media in general than their peers who had never studied media in school. However, they found no evidence that students enrolled in a Media Studies course were more likely to be involved in other types of civic action through media. Media literacy education could facilitate students’ active citizenship competences and agency by supporting their skills, confidence and attitudes to find “authentic ways of developing and expressing their politics and participating in the public sphere” (Ibid., p. 16).

The following chapters provide an overview of the evidence available from the literature on teaching and learning approaches to media literacy education. These practices build on most of the five main competences defined above to different extents, depending on the relevance and objective of the particular educational approach. For example, Chapter 3 discusses education practices aimed at teaching students to understand and evaluate disinformation, which is focused squarely on the specific competency of supporting analysis and reflection. On the other hand, the teaching and learning practices discussed in Chapter 4 — such as active inquiry and critical thinking practices, discussion-based learning and reflective practice, or collaborative learning — are not wholly based on a single competency but do nonetheless draw on a broad range of them.

Key findings

- Media literacy competences and their more specific application to the digital context (including access, analysis and evaluation, creation, reflection, and action/agency) work together to support students' active participation in learning through the processes of consuming and creating media messages. They can be supported in primary and secondary education through specific teaching and learning practices to address disinformation (see Chapter 3), through the integration of media literacy in the school curriculum and dedicated classroom practices (see Chapter 4), and by favourable complementary factors such as teacher education, a supportive school environment, and local partnerships (see Chapter 5).
- The competence to access media refers to the ability to find and use media and ICT tools skilfully, including the ability to share suitable and helpful information with others. Accessing media and digital technology in the classroom and working with multimodal media texts can help students to compose and organise ideas, design, produce and present meaning.
- Analysis and evaluation competences refer to the capacity to understand media messages and use critical thinking to analyse their quality, veracity, credibility, and point of view, while considering their potential effects or consequences. Media literacy education can enable students to make connections between a specific media form and the wider socio-economic and cultural context in which the media in question was produced and consumed.
- The production of media content can be a powerful means of learning, if adequately combined with critical reflection and analysis. Media literacy interventions that include active audience involvement components (e.g. creative production activities or classroom discussions) have been found to be more effective than interventions based solely on passive components (e.g. lessons only), as they require greater mental efforts and comprehension.
- Media literacy competences are necessary to act and participate in society as they enable citizens to access, understand and engage with the media, and to become political agents in a democratic society. They can allow students to use their voices through active participation in online activities and facilitate students' active citizenship competences and agency to express their politics and to participate in the public sphere.

3. MEDIA LITERACY EDUCATION PRACTICES TO ADDRESS DISINFORMATION

This chapter builds on the previous and reviews several teaching and learning methods and school practices which can effectively support students' media literacy. Addressing disinformation and 'fake news' is at the centre of this discussion; we will consider the competences needed to challenge disinformation and which contribute to the action and agency that enable citizens to be active citizens in democratic societies. Approaches to address disinformation include teaching about propaganda through reflective pedagogical practices (Hobbs & McGee, 2014); media literacy education intended to increase students' skill in judging the accuracy of information (Kahne & Bowyer, 2017); and so-called 'inoculation' methods (Compton, 2013). The chapter first discusses the spread of disinformation and 'fake news' and the unique challenges they pose, and subsequently considers several educational countermeasures.

3.1. Disinformation and 'fake news': the role of education

Issues at stake

'Disinformation', 'fake news'²³ and 'post-truth' are terms that have become commonplace in contemporary public debates. The terms are, ultimately, modern parlance for perennial phenomena such as propaganda and conspiracy theories. The advent of, and broad access to, digital technologies and the internet provide school students with far more access to information than any previous generation. Yet, they can also generate "powerful echo chambers for disinformation campaigns" (European Commission, 2018d).

Established media outlets with a history of legitimacy and journalistic ethics are being replaced by digital alternatives in a contest for 'users', where success depends on being "first, fastest, and findable on social media", and by "using personalized messages to connect to audiences" (Hobbs, 2014, p. 23). In such an environment 'fake news' has thrived, which is more likely to be shared through new media and travel much faster than more trustworthy content (Vosoughi et al., 2018). This is in large part due to the reliance of 'fake news' on stirring emotions: content that evokes anxiety or anger, for instance, is shared more widely than impassive content (see e.g. Berger & Milkman, 2012).

A key characteristic of this media landscape — where information is easily accessible, and relatively simple to create and disseminate — is that the information itself can be, and is increasingly, based on ideology, deception and propaganda. Such information presents itself as 'the truth' and 'as reality',

²³ Fake news has been defined as having three core elements: "fabrication: (i.e., fake news is conjured rather than reported), deception (i.e., fake news is designed to persuade rather than inform), and virality (i.e., fake news thrives on superficiality and escalation rather than depth and moderation)" (Rosenzweig, 2017, p. 105). The term 'fake news' has become controversial itself because, as the Council of Europe argues, "it fails to describe the complexity of the "information pollution" phenomenon, and that it is being used by politicians around the world to describe news that they find disagreeable." (Wardle & Derakhshan, 2017, p. 5). We understand the concept of disinformation as a phenomenon that goes beyond the term 'fake news', and includes "all forms of false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm or for profit" (European Commission, 2018a, p. 10).

but it is veritably rife with rumours, clickbait²⁴, images and videos of events staged to promote a cause and propagated by ‘fake’ news sources (van der Linden et al., 2017).

Youth especially may find it difficult to evaluate whether the information they encounter online is reliable, and to recognise when information is in fact disinformation.²⁵ To be sure, inaccurate and incomplete information can oftentimes be benign, harmless and innocent. Nevertheless, it is frequently harmful, purposefully slanted, manipulative, misleading, biased, and propagandistic in nature. For example, climate change denial is a favourite theme of disinformation (McCright et al., 2016). In such instances, pseudo-science meant to manufacture uncertainty about scientific evidence replaces real science and evidence. Those who spread disinformation label experienced experts as untrustworthy or elitist and put forward ‘alternative experts’ who rarely have expert credentials (Lewandowsky et al., 2017). Persistent exposure to disinformation can cause people to stop believing in facts altogether and to doubt the very value of science and scientific evidence (van der Linden et al., 2017).

At school level, the consequences of disinformation campaigns can be particularly significant. Certainly, they have made life more difficult for teachers who seek to convey the value of evidence to their students, especially in subject areas that are especially prone to propaganda such as science, history and citizenship education. In some instances, those who produce or disseminate disinformation have intentionally targeted teachers to shift teachers’ opinions²⁶. Given, then, the consequences of disinformation on individuals and society, it is imperative that we improve our understanding of how disinformation might be effectively countered through educational means.

The internet: opportunities and pitfalls in education

The internet, as source of knowledge and information, provides both opportunities and pitfalls for education. ICTs and the internet are rapidly replacing books as the main source of information for school students and their teachers (European Commission, 2013). Students can now communicate directly with their peers from other schools, countries and cultures, and teachers have the opportunity to broaden the horizons of their students in ways they could only dream of a decade ago. However, young people also face real dangers from deceptive propaganda, cyberbullying, and exposure to extremist ideas and hate speech on the internet. A variety of extremist groups also use the internet and social media to recruit new members and to reinforce divisions and existing prejudices²⁷. The general public and school students are also targeted by advertisers, opinion makers and those deliberately spreading false information. Most students (and teachers) are unaware that algorithms shape and filter what they are displayed when they conduct online searches and when they use social

²⁴ Clickbait is a term used to describe media content and images intended to attract attention and to encourage visitors to click on a link to a particular web page.

²⁵ See e.g. <https://ipi.media/new-finnish-project-brings-journalists-to-schools-to-teach-media-literacy/>; and <https://www.indy100.com/article/bbc-interactive-game-identify-fake-news-kids-reporter-8257756>. Accessed 20.09.2018.

²⁶ See for instance as an example of a science teacher being targeted by disinformation: <https://www.ucsusa.org/publications/got-science/2017/got-science-may-2017#.Wxot3FOFP1w>. Accessed 20.09.2018.

²⁷ In response, several international organisations and non-governmental organisations, such as the Anti-Defamation League in the US, the Council of Europe, UNESCO and the OSCE have been developing online guidelines on how to combat, for instance, hate speech, for over a decade. See for the ADL: <https://www.adl.org/sites/default/files/documents/assets/pdf/combating-hate/confront-hate-speech-online.pdf>; For the OSCE: <https://www.osce.org/odihr/39821?download=true>. Accessed 20.09.2018.

media. Such algorithms are very resistant to transparency (Miller, 2016), and have also been accused of having a radicalisation effect²⁸.

When using the internet, school students, like the general public, also run the risk of entering into so-called ‘echo chambers’²⁹ or online ‘filter bubbles’³⁰. These terms refer to the phenomena that readers and viewers are only exposed to content that reinforces their social and political views, and when information is hyper-personalised (Rosenzweig, 2017). In such circumstances, students are rarely challenged to consider alternative points of view. Young people are generally more likely to trust news and information they access online (European Commission, 2018b), and to prefer and give more credence to the information on websites that contains infographics and images, or that appear first in on-line searches (Hargittai et al., 2010).

Hobbs and McGee (2014) argue that other opportunities, and attendant challenges, have arisen because so many young people have become active media creators themselves. For those operating in the social and political arena, or who have worked on citizenship education related projects, it is likely that they have even contributed to propaganda themselves (wittingly or not). Education that focuses on raising awareness about the processes of disinformation, and which encourage critical self-reflection, can play a key role in reversing these trends.

3.2. Psychological challenges when tackling disinformation and ‘fake news’

To better understand what approaches to addressing disinformation will be effective in educational settings, it is prudent to better understand some of the (social) psychological challenges and opportunities that are likely to impact any educational programme directed towards school students.

Confirmation and disconfirmation biases

A critical barrier to countering disinformation and ‘fake news’ are ‘confirmation and disconfirmation biases’, which have been found in adults but also in children at a very young age (Dibbets & Meesters, 2017; Mercier & Sperber, 2011). Ideally, new evidence that challenges our opinions should provide motivation for us to re-examine our views. However, the response to such counter-evidence is often a psychological impulse to cling ever more tightly to our erroneous beliefs or misconceptions. Human beings generally tend to seek confirmation of their existing beliefs, rather than information that might contradict or complicate their beliefs (confirmation bias). Disconfirmation bias is the human tendency to ignore or reject information and assertions that challenge one’s beliefs, even when they are

²⁸ See: <https://www.nytimes.com/2018/04/25/world/asia/facebook-extremism.html>; see also: <https://www.npr.org/programs/ted-radio-hour/614007696/attention-please>. Accessed 20.09.2018.

²⁹ An *echo chamber* can be described as: “a situation where certain ideas, beliefs or data points are reinforced through repetition of a closed system that does not allow for the free movement of alternative or competing ideas or concepts. In an echo chamber, there is the implication that certain ideas or outcomes win out because of an inherent unfairness in how input is gathered.” See: <https://www.techopedia.com/definition/23423/echo-chamber>. Accessed 20.09.2018.

³⁰ An online *filter bubble* can be defined as: “the intellectual isolation that can occur when websites make use of algorithms to selectively assume the information a user would want to see, and then give information to the user according to this assumption.” See: <https://www.techopedia.com/definition/28556/filter-bubble>. Accessed 20.09.2018.

demonstrably true. In such instances the media, as a source of (accurate) information, is often discredited and regarded as dishonest and biased.³¹

Research is pointing to the conclusion that correcting disinformation, both in and outside of educational settings, is rarely (fully) effective (Lewandowsky et al., 2017). Although individuals will sometimes acknowledge the validity of accurate views when exposed to them (so long as they are not important to the central tenants of their world view or their identity), for the most part they will continue to rely at least partially on information they know to be false. Lewandowsky et al. (2017) refer to this phenomenon as the ‘continued-influence effect’. They also highlight research showing that, in some circumstances and primarily among adults, being provided with correct information (after being confronted with evidence that runs contrary to one’s world view), belief in the false information even intensifies (Ibid.). This is the so-called “backfire effect” (Nyhan & Reifler, 2010). Such backfiring takes place in part because confrontation with corrective information can evoke strong negative and defensive emotions, especially when ideological issues are at stake.

Miller (2016) argues that the first step to counter the tendency of individuals to confirm their biases is to help school students gain insight into how our biases impact the way we seek, accept, share and act on information.³² The next step is to guide them through experiences that raise self-awareness of their own biases. Miller emphasises that students need to learn how to effectively access news from a wide range of sources and to seek out information and opinion pieces from a variety of points of view (Ibid.). Another critical ability in addressing confirmation bias is to be able to withhold judgment when first learning of an event. The immediate aftermath of any major (controversial) event attracts rumour, blaming, accusations, speculation, false news, and sometimes conspiracy accounts. Being able to facilitate discussions around media reporting of controversial events places an extra burden on teachers, who need to be sufficiently competent to guide such processes in the classroom.

False consensus

Combatting disinformation in the media can be more difficult when users believe many others share their (erroneous) belief. This has been termed the ‘false consensus effect’ (a tendency to overestimate how common one’s ‘own’ opinion is) and affects many adolescents according to multiple studies. Regardless of whether a particular belief is accurate, the false consensus effect gives a person more assurance and confidence in her beliefs and decisions.

A good example of the false consensus effect is described in an Australian study relating to erroneous views on climate change. Levinston et al. (2013; p. 334) found that:

“opinions about climate change are subject to strong false consensus effects, that people grossly overestimate the numbers of people who reject the existence of climate change in the broader community, and that people with high false consensus bias are less likely to change their opinions.”

³¹ See for a discussion of both confirmation and disconfirmation bias: <https://www.facinghistory.org/resource-library/video/defining-confirmation-bias>. Accessed 20.09.2018.

³² Harvard University’s ‘project implicit’ allows people to test their own implicit biases through an online tool, including their biases regarding for instance ethnicity, gender and religion. This could be an interesting component for any media literacy course. See: <https://www.theguardian.com/lifeandstyle/2009/mar/07/implicit-association-test>. Accessed 20.09.2018.

Similarly, a recent study in the United States (US) found that irrespective of people's opinions on gun control, they thought the majority of the population agreed with them.³³ The strength of the false consensus bias is influenced by the fact that it is not only cognitive, but that it has an emotional dimension. The impression that others agree with us provides comfort and a sense of support for our opinion and emotions (Coleman, 2018). It has been argued that promoting awareness of the false consensus effect can be a way of countering it (Bauman, 1997).

3.3. Educational approaches to address disinformation

The importance of promoting awareness of disinformation and 'fake news' among school students, as part of a broader media literacy approach, has been emphasised by multiple international organisations. In addition to the European Commission, UNESCO³⁴ and the Council of Europe (Wardle & Derakhshan, 2017) have stressed the importance of addressing disinformation in the media through education. The OECD will include an international 'global competence assessment' in the 2018 round of the PISA test that will include an assessment of students' ability to 'spot fake news'³⁵. According to the OECD (2018), young people can easily be fooled by partisan, biased or fake news due to a lack of media literacy. Cultivating students' 'global competence' could therefore help them to "capitalise on digital spaces, better understand the world they live in and responsibly express their voice online" (ibid., p. 5).

Hobbs and McGee (2014) provide a reminder that early forms of media literacy education to combat disinformation took place in the 1930s in the US, based on promoting critical analysis of propaganda in mass communication, including in radio, film and newspapers. For instance, the Institute for Propaganda Analysis (IPA) developed study guides that were widely distributed. Such critical analysis, Hobbs and McGee argue, is still highly relevant, and how one's family and cultural values shape the interpretation of messages is still of deep concern³⁶.

Hobbs and McGee recommend going back to basics, to what were called the ABC's of Propaganda Analysis, as a starting point for education against modern propaganda:

- Ascertain the conflict element in the propaganda you are analysing.
- Behold your own reaction to this conflict element.
- Concern yourself with today's propagandas associated with today's conflicts.
- Doubt that your opinions are "your very own".
- Evaluate, therefore, with the greatest care, your own propagandas.
- Find the facts before you come to any conclusion.
- Guard always, finally, against omnibus words³⁷. (Ibid., p. 63)

³³ 'Most Americans Think Their Opinions on Guns is Widely Shared', Chris Wilson, *Time*, August 5, 2016. Available at: <http://time.com/4439610/gun-control-opinion/>. Accessed 20.09.2018.

³⁴ See: <https://en.unesco.org/programme/ipdc>; and https://en.unesco.org/sites/default/files/fake_news_eu_berger.pdf. Accessed 20.09.2018.

³⁵ See: https://eacea.ec.europa.eu/national-policies/eurydice/content/focus-spotting-fake-news-new-skills-or-old-competences_en. Accessed 20.09.2018.

³⁶ The IDP created a list, based on classical rhetoric, of seven key propaganda techniques: name calling, band wagon, glittering generalities, flag waving, plain folks, testimonial, and stacking the cards. (Hobbs & McGee, 2014, p. 59). According to the authors, they still apply today.

³⁷ Omnibus words are words that are extraordinarily difficult to define (Hobbs & McGee, 2014).

One key question with respect to present-day education about disinformation is: when to start? Should this be in secondary school, or earlier? In analysing the impact of media literacy campaigns, Jeong et al. (2012) refer to developmental psychological insights first articulated by Jean Piaget, who distinguished between the concrete operational phase (approx. 8-12 years of age) and the formal operational phase (approx. 13 years and older). In the formal operational phase, according to Piaget (1972), young people's thinking becomes more abstract, logical, deductive and systematic.

Jeong et al. (2012) consider that students may be impacted more by media literacy education programmes after the formal operational phase. However, their meta-analysis shows that age differences are inconsequential in terms of impact, thus confirming that media literacy efforts can begin earlier than the formal operational phase³⁸. The authors *do* register some unexpected results, namely that although multiple media literacy sessions are more impactful than single sessions, interventions with fewer components are more effective than interventions with more components. This suggests that more components may confuse young people: too many components test the limits of their capacity to process information. Finally, the study did *not* find that the provider of media training (expert, teacher, peers) makes any difference, though this is not conclusive and stands in contrast to other studies that have shown that experts and peers are more effective in imparting media training than non-experts and non-peers. It was found in a US study, for instance, that a peer-led media literacy campaign for 11-19-year olds, was highly effective and more valued by school students (Pinkleton et. al., 2008). An Australian study among year-eight students (12-13 years of age) also showed that a media literacy student-led approach was especially beneficial; the students were actively involved in the planning, development and delivery of learning (Berman & White, 2013).

Kahne and Bowyer (2017) conducted a study among youth in the US to assess the extent to which exposure to media literacy made them better able to assess the accuracy of information they encountered in the media. Respondents were asked how often they had “discussed how to tell if the information you find online is trustworthy” and “discussed the importance of evaluating the evidence that backs up people's opinions” in their classes (Ibid., p. 15). Their results showed that people who reported limited levels of media literacy education were less able to recognise biased information. In fact, it showed that this ‘low exposure to media literacy’ group was somewhat more likely to rate (objectively false) posts with misinformation as accurate than an evidence-based post. On the other hand, those with the most media literacy learning were more successful in distinguishing between evidence-based posts and posts with disinformation. The authors concluded that: “Individuals who reported high levels of media literacy learning opportunities were considerably more likely to rate evidence-based posts as accurate than to rate posts containing misinformation as accurate — even when both posts aligned with their prior policy perspectives” (Ibid., p. 27). This lends credence to the impact of media literacy programmes.

There are multiple initiatives across Europe that aim to tackle disinformation in education. Worth mentioning is the German and Belgium-based organisation Lie Detectors³⁹, which aims to “turn schoolchildren in Europe aged 10-15 into powerful lie detectors and critical thinkers in a world increasingly populated by propaganda and distorted facts online, empowering them to understand

³⁸ For instance, a study among 8 and 9-year-old primary school students in the US showed that a three-hour advertising literacy classroom intervention positively impacted students' understanding of the message creator and persuasive strategy (among other things) (Nelson, 2016).

³⁹ See: <https://lie-detectors.org/>. Accessed 20.09.2018.

news media, make informed choices and resist peer pressure as they assemble their worldview”⁴⁰. Also initiated in Belgium, the site ‘Forbidden facts’⁴¹ was set up in 2017 to debunk fake news and teach about the mechanisms behind it.⁴² Several websites have also appeared, with lesson plans for teachers to address disinformation and ‘fake news’⁴³.

The European Commission has pointed to the importance of collaboration between civil society and educational institutions to combat disinformation online⁴⁴. Multiple NGOs have developed educational materials to address confirmation bias; for example, the educational organisation Facing History and Ourselves (FHAO), primarily active in North America and Europe, has developed guidelines for educators to address confirmation bias and related issues⁴⁵.

3.4. Inoculation approaches in education

Another approach in media education that appears to be effective is ‘Inoculation Theory’ (Compton, 2013). The basic idea is that, like an inoculation for a virus, students are exposed to a “weakened” form of the disinformation. When exposed to the disinformation at a later date, the inoculation will provide them with the necessary counter-arguments to dismiss the disinformation (Ibid.). In other words, based on critical thinking, the core principle is to prepare students for exposure to potential disinformation by introducing them to the logical fallacies that are commonplace in disinformation. The aim is also to encourage students, especially at secondary education level⁴⁶, to move beyond superficial processing of information and engage in a more critical, deeper analysis of the information they are presented with.

Inoculation programmes tend to consist of two main elements: (1) they contain an explicit warning of an impending threat; and (2) there is a refutation of an anticipated argument. The refutation exposes and counters the imminent fallacy (Cook et al., 2017). Take the example of climate change: an inoculation might include: (1) an explicit warning to students that attempts are being made to cast doubt on the scientific consensus regarding climate change; and (2) that one strategy of climate deniers is to use “fake experts” to cast doubt on scientific consensus (Ibid.).

Multiple digital initiatives are being implemented to inoculate youth against ‘fake news’. For instance, an online game in the UK and the Netherlands claims to provide a ‘fake news vaccination’. The simulation game puts players in the shoes of an aspiring propagandist and they create their own ‘fake news’. In the game, youth manipulate digital news and social media. A pilot study shows that the game has some success in building resistance to ‘fake news’ among teenagers⁴⁷.

⁴⁰ See: <http://www.teachhub.com/teaching-strategies-detect-fake-news>. Accessed 20.09.2018.

⁴¹ See: <http://www.forbiddenfacts.com/>. Accessed 20.09.2018.

⁴² Other games are identified in this article: <https://memeburn.com/2018/02/fake-news-online-games/>. Accessed 20.09.2018.

⁴³ See e.g.: <https://uwyo.libguides.com/fakenews/lessonplans>; and https://www.projectlooksharp.org/?action=about_pls. Accessed 20.09.2018.

⁴⁴ See: http://europa.eu/rapid/press-release_MEMO-18-3371_en.htm. Accessed 20.09.2018.

⁴⁵ See: <https://www.facinghistory.org/sites/default/files/Confronting%20Confirmation%20Bias.pdf>. Accessed 20.09.2018.

⁴⁶ See for instance: https://www.cam.ac.uk/sites/www.cam.ac.uk/files/fakenews_latest_jrr_aaas.pdf. Accessed 20.09.2018.

⁴⁷ See: <https://www.cam.ac.uk/research/news/fake-news-vaccine-online-game-may-inoculate-by-simulating-propaganda-tactics>; <https://www.getbadnews.com/#intro>. Accessed 20.09.2018.

3.5. Addressing conspiracy theories in education

Conspiracy theories are a particular type of disinformation rooted in ‘us versus them’ thinking, under which certain groups of people are involved in making secret agreements and taking actions to accomplish malevolent goals (van Prooijen, 2017). The growth of conspiracy theories in contemporary popular discourse has been connected to the omnipresence of digital media and the internet.

Several studies have shown that mere exposure to conspiratorial discourse, even when conspiratorial claims are dismissed, makes people less likely to accept more accurate information. Conspiracy theories also tend to be particularly prevalent in times of economic and political crises (see Lewandowsky et al., 2017). It can also be difficult to disprove conspiracy theories since they reduce highly complex issues to crude, but virtually unfalsifiable, explanations and causes (Barkun, 2003). Among the general public, stronger belief in conspiracy theories is significantly associated with lower analytic thinking, open mindedness and higher levels of intuitive thinking (Swami et al., 2014).

Hobbs (2014) argues that there are dangers involved with teaching about conspiracy theories in schools, if not done correctly. In her view, education about conspiracy theories needs to involve students taking an active role in becoming more critical about media messages (hence student centred, interactive and experiential), learning the importance of becoming a sceptical reader and thinker, able to evaluate sources, and by learning the skills of argumentative and persuasive rhetoric (see also: Rosenzweig, 2017).

Educational initiatives to combat conspiracy theory thinking: the role of journalists

Several educational initiatives allow students to meet expert journalists, who impart how professional journalists play a role in combatting disinformation in general, and conspiracy theories in particular. In March 2018, the BBC Academy, together with BBC News, launched the BBC’s media literacy project ‘School Report’.⁴⁸ Targeting 11 to 18-year old students, more than 1,000 schools are being offered mentoring in class, online, or at events from BBC journalists. Online materials will be made available to schools that educate school students about ‘fake news’. There will also be video tutorials and an interactive game⁴⁹ where students play the role of a BBC journalist. In France, the association ‘*Entre les lignes*’⁵⁰ (Between lines), created by journalists, photographers and cameramen from the Agence France-Presse and the newspaper Le Monde, organises workshops for students, teachers and trainers to develop their critical thinking in the context of online disinformation.

The Finnish project ‘*Faktana, kiitos!*’ (Facts please!)⁵¹, launched in 2017, was a response by Finnish journalists to address their concerns about media disinformation and their sense that the general public was starting to mistrust journalists. Meeting with students, journalists discuss how news reporting is produced, the motives behind certain stories being produced, and how to evaluate information. Journalists also convey to students their professional ethics and how that informs what

⁴⁸ See: <https://www.childnet.com/blog/bbc-journalists-will-educate-young-people-about-fake-news;http://www.bbc.co.uk/blogs/aboutthebbc/entries/84e0f9a4-e82d-449f-b095-90a3d46cd9ae>. Accessed 20.09.2018.

⁴⁹ See: <https://www.indy100.com/article/bbc-interactive-game-identify-fake-news-kids-reporter-8257756>. Accessed 20.09.2018.

⁵⁰ See: <http://entreleslignes.media/>. Accessed 20.09.2018.

⁵¹ See: <https://ipi.media/new-finnish-project-brings-journalists-to-schools-to-teach-media-literacy/>. Accessed 20.09.2018.

and how they report. More than 120 journalists participated in 2017, reaching more than 7,000 students, and there are plans to include journalism students in the future.

In a similar recent initiative, French journalist Tomas Huchon visited 81 schools to work with lower and upper secondary students to help them identify 'fake news'⁵². His approach was not to provide alternative facts to deceptive conspiracy theories, but rather to get students to research the validity of their arguments. Huchon showed students a mini-documentary with false (outrageous) information with a conspiracy at its core⁵³. He then exposed the deceit, and talked with students about why they may have believed the documentary was credible in the first place. A second video shows why the first video is heavily biased and how conspiracy theories are manufactured to be persuasive. Additionally, Huchon teaches students how to check the authenticity of information and how advertisers and others use the students' personal information in their attempts to influence them.

3.6. Unfinished business: how confrontational should media literacy campaigns be when combating bias and disinformation?

Lewandowsky et al. (2017) argue that corrections to biases are generally only effective when at least two conditions are met:

- 1) Correcting disinformation must not directly challenge people's core worldviews, as it can evoke a defensive emotional reaction and risks being unethical. Affirming the self-worth of audiences can be an important ingredient to any campaign to address disinformation; challenging a person's core belief system can counterproductively lead people to fortify their belief systems.
- 2) When providing corrective evidence, an explanation of why the disinformation was disseminated in the first place, and a more credible explanation, must also be provided.

Hyman and Jalbert (2017), however, contend that in the contemporary context, the spread of disinformation does not create intolerant worldviews; rather, intolerant worldviews are what allows disinformation to spread. They therefore argue that worldviews need to be explicitly addressed (Ibid.). This discussion is a critical one since the two approaches lead to very different educational strategies.

⁵² See: <https://www.npr.org/2018/04/03/599240683/how-a-teacher-in-france-is-trying-to-help-her-students-spot-fake-news>; <https://www.npr.org/sections/ed/2018/05/03/601839776/a-conspiracy-video-teaches-kids-a-lesson-about-fake-news>. Accessed 20.09.2018.

⁵³ The documentary had already been placed on the web, which led to many conspiracy theory websites taking the information and disseminating it as fact.

Key findings

- The current media landscape has been marked by the spread of disinformation and ‘fake news’, which is having an unwelcome impact on students (at both the cognitive and emotional level) and on classroom learning. The consequences of disinformation campaigns can be significant, particularly at school level. They have certainly made life more difficult for teachers who seek to convey the value of evidence to their students, especially in subject areas that are especially prone to propaganda such as science, history and citizenship education.
- Basic human social-psychology can thwart efforts to combat disinformation among students. However, by understanding how they work, they can be used as an educational resource. Media literacy initiatives have been shown to lessen the vulnerability of children to disinformation. The development of critical thinking and analytical competences are key components of a successful educational intervention.
- There is an ongoing debate on the best strategy to address students’ susceptibility to disinformation, revolving around the extent to which interventions should target a person’s core belief system and worldview.
- Media literacy campaigns against propaganda and disinformation have historical precedents that can inform present efforts to combat vulnerability to disinformation.
- There are many current educational initiatives that improve students’ capacity to detect disinformation and protect themselves against its influence. Evidence shows that students who reported high levels of media literacy learning opportunities were more likely to identify misinformation, which lends credence to the impact of media literacy programmes. Such initiatives should be more widely researched and implemented.
- Educational programmes across Europe’s schools to combat conspiratorial thinking are beginning to involve professional journalists. Journalists can help teach students how to check the authenticity of information and to understand how advertisers and others use the students’ personal information to influence them.

4. TEACHING AND LEARNING MEDIA LITERACY AT SCHOOL LEVEL

Although research evidence at school level is limited, media literacy initiatives have demonstrated positive outcomes for students' knowledge, skills, and attitudes (Bulger & Davison, 2018). This chapter first outlines how media literacy can be approached in the school curriculum (as a separate subject or across the curriculum) and provides a brief review on the extent to which media literacy is tackled in school curricula across Europe by using recent examples from selected countries. The chapter then offers an overview of the most recent literature on effective and adequate teaching and learning practices for media literacy education at classroom level (in primary and secondary education) by reviewing media literacy pedagogical practices and assessment methods.

4.1. Classroom contexts

This section provides an overview of how media literacy education can be integrated into school curricula at primary and secondary level. It provides examples of curricular areas including media education, and puts media literacy education school practices into context.

Media education as a separate subject or across the curriculum

Media literacy education is a fragmented landscape in school education across Europe, appearing in different curricular areas, or as a separate subject. Understood as learning *about* the use and production of media, media literacy education can be a relevant element of *all* curriculum subjects (Buckingham, 2015a; Frau-Meigs, 2006). Media education can be delivered as part of mother tongue education, history, geography, civic and citizenship education, science education, or through media education or Media Studies courses. For example, media literacy pedagogic objectives can be included in the science curriculum as students need to be able to extract, use, understand and analyse the media in order to retrieve information about science-related topics, and to critically engage with science in the media (Carver et al., 2014).

There is a debate among academics about the relevance of media literacy education at school level in a cross-curricular way, or as a separate course of media education, or Media Studies. Frau-Meigs (2006) points out that teaching media literacy across the curriculum may reduce media education to an instrumental role, where “an issue that is every teachers' responsibility can quickly become nobody's responsibility” (p. 13). Similarly, Hartai (2014) notes that when integrated into other subjects in a cross-curricular form, “media education is deprived of its focus and loses its priority concerning its contents” (p. 64). Akar-Vural (2010) underlines that a critical media literacy curriculum is a crucial condition for generating a “democratic citizenship understanding” among students and should be promoted at school level. Media education can play an important role across the school curriculum, to support the development of media literacy competences for all students.

Other authors argue that media literacy education should be promoted in a transversal way, across curriculum. Küter-Luks et al. (2011) asserts that media education should be implemented for students aged 9-12 years old, in the period between childhood and adolescence. They underline that

adolescents are most vulnerable to the negative effects of media — for example increased negative emotions and depression, negative body image, more positive views towards substance use, etc. — and so it is important to keep the issue of students' awareness of internet risks in mind when developing a media literacy strategy. Moreover, media education programmes targeting young adolescents can be quite successful, since they are at an age when behavioural and thought patterns are not yet completely formed, but their cognitive abilities are sufficiently formed to understand the content of media literacy programmes (Ibid.). Carver et al. (2014) argue that media literacy should be promoted across the curriculum, including in science education. For example, activities based on a frame analysis of newspaper articles could be applied across the curriculum, to various scientific concepts as well as non-scientific subjects such as mother-tongue teaching, in order to enhance students' reading skills (Ibid.).

In 2014, the European Media Literacy Education Study (EMEDUS) research project found that although the developments of media literacy education at schools are hard to measure, there is a predominance of cross-curricular and integrated or modular forms of teaching media literacy across the EU (Hartai, 2014). While this report provides a review of the latest literature on media literacy education across Europe, it does not provide a comprehensive picture of the extent to which media literacy is taught in each EU Member State. The following section provides examples of the way that media literacy is included in the school curriculum in a select few European countries.

Media literacy education in the curriculum: examples across Europe

Several Western countries (such as the UK, Australia, Canada and the Netherlands) have included media education programmes from elementary school through higher education since the middle of the 20th century, with the express aim of providing students with skills to better comprehend and integrate the influence of a rapidly shifting media landscape (Akar-Vural, 2010; Belova and Eilks, 2015; Hobbs & Jensen, 2009). Media education is now a fairly well-established specialist subject in secondary schools in several countries in the English-speaking world, and has gained ground in formal education across Europe in the last decades, both at primary and secondary level (Frau-Meigs, 2006; Hartai, 2014).

In 2014, the EMEDUS project found that there was "some sort of media education in 70 % of the EU Member States at primary level, in 75 % at lower-secondary level, and in 80 % at upper-secondary level" (Hartai, 2014, p. 58). Across EU countries, media literacy was primarily attached to four other subject areas at primary level: mother tongue education (in 54 % of EU countries), visual arts (50 %), civic or citizenship studies and ICT (both in 38 % of EU countries). At lower-secondary level, media literacy was primarily connected to mother tongue education (in 75 % of EU countries), ICT (63 %), civic and citizenship education (63 %), visual arts (58 %) and history (42 %). Similarly, at upper-secondary level, media literacy was connected to mother tongue education (in 75 % of EU countries), civic and citizenship education (54 %), ICT and visual arts (50%), history (46 %) and social studies (42 %) (Ibid.).

Media education is not taught as a separate and independent mandatory school subject in any European country. As of 2014, most EU Member States had not yet adopted a media education curriculum, and schools remained autonomous to implement media literacy education practices (Hartai, 2014). Box 1 below presents some examples of how media literacy is included in school curricula at primary and/or secondary level. Despite limitations due to the overall absence of media

education-related curricular guidelines in most EU countries, examples of national policies and practices show that there is potential to better include pedagogical practices focused on media literacy in the EU.

Box 1. Examples of European countries where media literacy is included at curriculum level

In **Finland, Hungary** and the **Czech Republic**, national framework curricula or strategies determine the subjects to be taught in relation to media education, with some degree of flexibility for schools (Hartai, 2014; Jolls & Wilson, 2014). However, these framework curricula seem to allow an important level of heterogeneity in the extent to which these frameworks were actually understood and implemented at school level (McDougall et al., 2014).

In **Germany**, the concept of ‘media competence’ (*Medienkompetenz*) is mainly understood as a technical media competence in non-educational contexts. Within educational contexts, it refers to “the ability and the willingness to deal with media in an adequate, autonomous, creative and socially responsible way” (Tulodziecki, 1998, in Tulodziecki & Grafe, 2012, p. 49). At national level, standards for media competence exist in primary and secondary education, and several recommendations on media literacy have been published since the 1990s (Tulodziecki & Grafe, 2012). At the level of federal *Länder*, media literacy education is part of the curriculum and standards for different academic subjects and curriculum areas, mostly via non-compulsory courses. However, the situation is heterogenous in the different *Länder*, where media literacy is not yet systematically integrated. At school level, guidelines, curricula and standards offer conditions for the implementation of media literacy education (Ibid.).

Similarly, in **the Netherlands**, the number of media education programmes has been developing steadily but slowly, and have relied mainly on the initiative of a few enthusiasts at school level⁵⁴ (Küter-Luks et al., 2011). Admiraal (2015) recommends that media literacy education in the country integrate the development of internet skills, including critical understanding, reflective and participatory competences.

In **Turkey**, despite a debate on the need to integrate the subject into the school curriculum, media literacy education started as an optional elective course in secondary schools, although it can also be taught in other courses such as language and arts (Cakmak & Tuzel, 2015).

In **the UK**, the subject of Media Studies at secondary and higher education is a well-defined and well-developed field. Media education specialist courses are available for most students from the age of 13, while media education is also a dimension of English teaching through the secondary school (Buckingham, 2015b). Assessment objectives for the General Certificate of Secondary Education (GCSE) in Media Studies state that students must be able to develop various skills including: enquiry, critical thinking, decision-making and analysis; knowledge and understanding of a range of important media issues; appreciation and critical understanding of the media and their role; and practical skills for creative media production (Department of Education, 2016). However, media literacy education is minimal at primary level, where there is a lack of evidence about how students are actually taught to learn, read and understand media (Parry, 2016).

⁵⁴ In 2008, the Dutch government supported the establishment of Mediawijzer.net, the Dutch centre of expertise for media literacy. Mediawijzer.net aims to provide all Dutch citizens with media literacy competences so they may increasingly participate fully in society. According to Mediawijzer.net, “being ‘media literate’ means possessing the knowledge and skills to be able to function consciously, critically and actively in a multi-media world”. See: <https://www.mediawijzer.net/>. Accessed 20.09.2018.

Some countries have focused their approach to media literacy on supporting students' digital competences through existing media education courses, or in the context of ICT education. Domingo-Coscollola et al. (2016) observe that the school curricula of the **Czech Republic** (through "Media education"), **Finland** ("Multiliteracy" and "ICT Competence"), and **Spain** ("Information handling and digital competence"), emphasise the importance of digital literacy competences both in technical terms and in the development and application of these skills in a transversal manner.

Source: compiled by authors.

4.2. Media literacy teaching and learning at classroom levels

This section looks at recent evidence-based and practice-based insights into media literacy teaching and learning practices at classroom level.

The literature reviewed for this section of the report can be divided into three areas. The first area is *teaching and learning media literacy*, in which nurturing students' media literacy is the primary intended learning outcome (ILO), or plainly, the main goal (e.g. Admiraal, 2015; Kuter-Luks et al., 2011; Lacasa et al., 2014; Parola & Ranieri, 2011). The second area falls within *literacy innovation*, where traditional literacy is being challenged and rethought in the light of emerging reading/consuming and writing/producing practices and their multimodal nature (e.g. Parry, 2016; Sofkova Hashemi, 2017). Within this second area, traditional literacy and media literacy often blend into one core literacy for the 21st century. The third area is what we term here as *teaching and learning with media literacy*, within which classroom practices make use of media education theory and practice in order to primarily achieve other ILOs. It is important to note here that *teaching with media* represents another considerably large research area. We have, however, excluded it from our literature review for the straightforward reason that it concerns teaching *with* media, in which technology is considered to be a central instrument of teaching and learning; our focus, however, is *media literacy*, which refers to processes of analysing and/or producing media content.

Although these areas often represent separate academic fields, this report discusses them in tandem in order to be comprehensive in our review, and to capture the complexity of the field. This section reviews an array of teaching and learning approaches and practices, while questioning their potential role to the development of media literacy competences. We suggest that it is a 'potential' role, due to the lack of research on media literacy assessment methods and criteria, as will be discussed at the end of this section.

4.2.1. Pedagogical practices

Teaching and learning practices for media literacy education can be based on various educational approaches and classroom-based methods. This section concentrates on the most commonly discussed educational approaches in primary and secondary education.

Beyond media specificity

Although media literacy knowledge and skills should be equally learnt and practiced across diverse platforms and media genres, classroom practice often concentrates on a single medium such as TV dramas (Akar-Vural, 2010), the internet (Admiraal, 2015), advertising (Belova & Eilks, 2015), newspapers (Carver et al., 2014), or film (Harshman, 2017). This is what can be described as a

medium/technology-centered approach. Learning media literacy competences through focusing on a single medium or a mode of communication is similar to literacy education. The effectiveness of this approach arguably lies in its narrow focus and pragmatism, as it might be easier for educators to comprehend and apply in practice. For instance, Belova et al. (2016) combine advertising and science literacies to develop a framework that can be used to plan, execute and assess a number of activities in science education, such as asking students to scientifically test a product to identify false claims used in that products' promotion. The weakness potentially lies, firstly, in its assumptions that all media literacy competences learnt on an example of a single medium are simple transferrable to other media and modes of communication. This might possibly be true about reflection and agency, whereas media literacy competences, such as access, analyse, and create developed with and for a concrete technology (e.g. computer) or media genre (e.g. film, advertising), could be less easily transferrable across other media.

Secondly, this approach does not reflect students' out-of-school media experience that "binds together a polyphony of media utterances" (Woodfall & Zezulkova, 2016, p. 104). Marsh and Millard (2000), for example, observed that "[c]hildren are constantly engaged in decoding the reality represented in the world around them, interpreting it according to their own sociocultural practices and experiences and then encoding it, using whatever range of materials are available to them" (p. 48). Students use multiple sources in the process of meaning making, only rarely depending on one media platform, genre, technology or mode of communication. For instance, in her educational intervention with primary school children, Parry (2014) addressed child's complex readership. Parry also used advertising in her research, although the intended learning outcome was not the competences of analysing and evaluating advertising, but students' complex literacy. Based on her research, she argues that "with appropriate pedagogic and conceptual tools students develop as critical, cultural and collaborative readers of words, images, sounds and texts and thereby of the world" (p. 325). Parry's (2014) approach therefore highlights the shift from a specific medium to a more transferrable media literacy classroom practice. In such practice, reflection as a media literacy competence plays a crucial role. For example, acknowledging the fast pace of technological change, Casey and Bruce's (2011) argue that media literacy learning should teach students how to extract and make meaning directly from their interactions with media. They argue that learning to reflect on one's own media experience is the best that formal education can do to prepare students for an unpredictable future.

Moving across spaces and school levels

One of the key challenges to teaching and learning media literacy in classrooms is how to effectively bring together school and out-of-school media literacy practices, in order to cross the home-school and online-offline divides. The task for media literacy teaching is to find ways in which students' media experience can be integrated into classroom learning (De Lange (2011), as well as to consider the usefulness of media literacy teaching to students' out-of-school lives. As a case in point, De Lange (2011) suggested the use of *Plan, Go-Through and Evaluate* (PGE) procedure in order to close the gap between "formal and non-formal media experiences and practices [within] classroom-based media learning" (p. 251). The procedure is similar to Hobbs' circular media literacy competences framework, even though creation, reflection and agency are only secondary to access, analysis and evaluation.

The focus on some media literacy competences, while the neglect of the others, is common in media literacy classroom practices aiming at crossing the home-school divide. For example, Admiraal (2015)

used role-playing games to facilitate the development of secondary school students' reflective internet skills. Admiraal (2015) retrospectively suggested that collaboration should be further strengthened through this approach. According to him, role-play gaming in classrooms should combine individual online playing of the game in class (individual, because in practice students split up tasks and activities instead of engaging in discussion and interaction) and collaborative offline playing of the game with peers and parents outside class (as out-of-school settings are naturally more social). Crossing those divides and bringing media experiences and practices together is a challenging but important task for school teachers. Clarke (2017) had this in mind when using *Instructional Digital Storytelling* to train teachers on how to successfully integrate school and out-of-school aspects in their pedagogic practice.

Clarke's (2017) research also serves as a reminder that formal media literacy teaching and learning is also intended for pre-service and practicing teachers (see e.g. Belousa & Stakle, 2010). Attention to media literacy classroom practices is most usually paid to children and pre-teens at primary and lower-secondary school levels (e.g. Küter-Luks et al. 2011; Sofkova Hashemi, 2017), as well as adolescents and young adults at secondary and high school levels (e.g. Lacasa et al., 2014; McDougall et al., 2014). Less research, however, has explored media literacy *across* educational levels (e.g. Belova & Eilks, 2015; Domingo-Coscollola et al., 2016). Media literacy classroom practices are therefore mostly developed, practiced, and researched as episodic educational interventions within the context of a single educational stage, rather than being seen as a continuous educational intervention evolving across educational stages and school levels. This creates a tension and inconsistency within European school curricula that is mostly embedded in spiral and serialist education. The following section showcases and discusses some of the media literacy episodic interventions used in formal education, which however have a potential to be used in the future for the development and application of a spiral and serialist media education.

Before discussing the individual classroom practices in media education, it is important to note that they all share a view of students as active participants in their learning. Active learning provides students with opportunities to shape their own learning by giving them space and support to try, explore, create, discuss and reflect. Students can therefore have an impact on learning media literacy through their own involvement in the learning process (Demirci, 2017). This form of participation is believed to effectively nurture students' critical, analytical, creative and reflective media literacy.

Thinking student: Active inquiry and critical thinking practices

Media literacy education requires active inquiry and critical thinking about the media messages we receive, as well as with those we create (NAMLE, 2007). For this purpose, and following the first four specific media literacy competencies — access, analysis and evaluation, creation and reflection — Casey and Bruce (2011) suggest applying *the Inquiry Cycle* (ask-investigate-create-discuss-reflect-ask again) in formal media and digital literacy teaching and learning. Although teachers and educators are both seen as co-learners in this cycle, Casey and Bruce (2011, p. 80) point out that there are some key differences in the roles:

“Teachers need to scaffold and bridge aspects of the cycle – for example, stimulating questions, promoting reflection and guiding inclusive discussion. Digital tools may be regarded as extending the capacity of the teacher to guide and sustain the Inquiry Cycle. Pupils see the same tools as objects of experience — they take pictures and make recordings as a means of acting on the world.”

This principle of media literacy education can lead to the use of pedagogical practices aimed at teaching students to ask specific questions about media messages and to understand some key concepts of media literacy. Questions aimed at developing students' active inquiry and critical thinking competences can focus on recognising the author and purpose of a media message, on identifying the use of language techniques (words and symbols), and on the relationship between the author's motives and the broader socio-cultural context (Hobbs & McGee, 2014). Furthermore, if production practices are included in the processes of active inquiry and critical thinking, then the approach equally nurtures learners' media literacy creation skills and knowledge.

Holistic education and media use management

Holistic approaches to media literacy education focus on nurturing, together with critical and creative thinking, the social, emotional, cultural and ethical skills needed for a life inevitably replete with media engagement (Belousa & Stakle, 2010; Calvani et al., 2012; Pfaff-Rudiger et al., 2012; Zezulkova, 2015). The approach is a reaction to the tension "in school-based media education (...) explained primarily on the basis of the divide between educational goals aiming at developing explicit, systematic and assessable competences, and the students' own competences with media culture which is holistic, interactive and often characterized [sic] by emotional involvement and spontaneous learning" (de Lange 2011, p. 254). Holistic media education aims to erase the divide by applying classroom strategies capable of establishing "a productive connection between these two worlds" (Ibid.).

Such connection can be, for example, established through teaching media use management. Rosenbaum et al. (2008) note that the capacity to manage media use is one of the critical skills that constitute media literacy. Under reflective practice, students learn to evaluate their own media usage patterns, to self-monitor and self-report them (see section 2.4. above). The difference here is that any potential need for modification is identified by the students themselves, while educators may intervene only as a response to students' self-identified needs and offer possible solutions and support. To identify and act upon the student's own needs, goals, feelings and socio-cultural context, necessarily requires a holistic approach to media education.

Discussion-based and collaborative learning

An important way that students' media experience is expressed is simply through talking about the media. Sharing and talking about TV shows and films, online games, YouTube videos, social media influencers, breaking news, and more, is one of the pillars of childhood cultures (Woodfall & Zezulkova, in press). Such conversations are also an important part of the classroom culture formed during non-formal social situations (Zezulkova, 2015). Yet, although discussion-based media literacy learning at classroom level has a long tradition of support, it must overcome an enduring conviction that its purpose is to find out about students' media experiences so as to modify them or to lead students to anticipated answers.

Among others, Akar-Vural (2010) observed educators teaching critical media literacy through the use of TV dramas, and concluded that the students "seemed far from gaining a critical media literacy consciousness due to the fact that the teachers do not discuss (...) but only emphasize [sic] the harm of watching television with a protectionist, censoring, and didactic approach" (p. 756). Together with Akar-Vural (2010), a number of others (e.g. Admiraal, 2015; Belova & Eilks, 2015; Belova et al., 2016) recommend instead nurturing students' ability to reflect through discussion-based learning, either alone or combined with other approaches (e.g. learning by doing).

Discussion-based media literacy learning is becoming even more crucial within today’s convergence culture in which meaning is constructed collectively (Jenkins, 2009). Even though one can argue that knowledge and meaning are always socially constructed, the advent and spread of social media and user-generated content moved the collective meaning making on another level. Consequently, to know how to collectively create knowledge, but at the same time be able to reflect on this process while finding one’s own agency within it, are important media literacy skills. These can be nurtured through discussion-based as well as collaborative learning.

Most pedagogical practices included in this literature review contain some element of collaborative learning. However, students are usually only encouraged to collaborate during the educational intervention itself. Interestingly, de Lange (2011) applied *Plan, Go-through and Evaluate* (PGE) when inviting students to also be actively involved in planning and assessing the educational intervention. Table 1 below outlines the main phases of PGE group media projects. De Lange (2011) explains that students are “selected in rotation prior to each media project, for a total of six projects during the course year, while the course teachers participate in each of these groups” (p. 259). This pedagogical approach makes media literacy learning and teaching not only collaborative, but also spiral. Agency as a media literacy competence is at the core of this collaborative learning approach to media education.

Table 1. PGE group media projects

Project preparation	Project assignment	Project implementation	Project assessment
Focus: Brainstorm about topics, problems, and questions.	Focus: Formulate document that defines the project focus.	Focus: Present project assignment for the whole class.	Focus: Review final projects in relation to initial ideas.
Intention: Open discussion where students present various ideas and interest.	Intention: Relate project focus and interests to formal educational standards and study literature.	Intention: Make the PGE group responsible for project decisions by explaining intentions and priorities.	Intention: Reflect about project process and form plan to final product. Reflect about challenges in realising educational aims.
Planning		Going-through	Evaluation

Source: de Lange (2011).

Learning through play and game-based learning

Learning through play is usually associated with media education for pre-school and primary school aged children, whereas game-based learning has been primarily used with youth (e.g. in lower and upper secondary school classrooms). According to McDougall et al. (2018), education governed by principles of play can effectively cultivate young peoples’ media and digital literacies. Play with educational purposes should be enjoyable, participatory, to some extent spontaneous, and open to complex, distinct, and often unpredictable, learning outcomes. It can nurture specific as well as transferrable media literacy knowledge and skills, above all those associated with creative thinking, production and agency. Learning media literacy through play can draw upon children’s own media related performance play, “through which children often repeatedly enact moments from their favourite texts” (Berger & Zezulkova, 2018, p. 67). Through this, students can begin to playfully explore storytelling and narration relevant to their future knowledge and skills in critical and creative media literacy.

Game-based learning is a form of learning through play, which carries characteristics of games (e.g. video games, board and card games) such as being competitive, immersive, and narrated and having exact rules and external rewards. Media literacy learning outcomes of game-based learning can therefore be more prescribed, specific and partly also controlled. For instance, Wouters and van Oostendorp (2013) conducted a meta-analysis and identified various types of instructional support in serious games that were effective in increasing knowledge and cognitive skills: (1) games in which ideas, characters, topics, and messages could be personalised; (2) games with oral instead of written explanations; and (3) games with corrective feedback, modelling problem-solving processes and stimulating students' reflection and collaborative work. In terms of media literacy, game-based learning can therefore effectively nurture analytical and reflective skills. Furthermore, when students act as producers of games (see e.g. Burn et al., 2016), their creative and production media literacy skills and knowledge can be also developed and improved.

4.2.2. Assessment methods

It is one thing to define, learn and teach media literacy, quite another to measure or assess it. How to assess and evaluate media literacy skills and how to measure their improvement remain one of the main stumbling-blocks of media literacy theory, research and practice. To that end, one area of research explores the ways in which media literacy can be appraised. For example, Küter-Luks et al. (2011) conducted a survey with pre-teens who were asked to report their media access and parental mediation, to reflect on their fears and perceived risks, and to express their opinion about the need for media education. This self-reporting approach is commonly used in media literacy assessment even though it does not directly assess media literacy knowledge and skills. Calvani et al. (2012) stand in contrast; although they also used questionnaires, their aim was to evaluate the extent to which adolescents' digital skills went beyond "simple technical aspects (...) [to] a range of more significant knowledge and skills related to a conceptual understanding of technology, socio-relational knowledge and high-order cognitive skills" (p. 797). To test this, they developed a long list of "types of knowledge" and "types of skills", on the basis of which the questionnaire was developed and the results evaluated (see Calvani et al., 2012, pp. 799-800).

Grimley (2012) used a less common qualitative approach and developed two educational tasks, tasks whose execution and successful completion required that students possess a particular set of digital literacy skills. Their ability to use these diverse skills was then evaluated in order to assess their digital literacy level. Both Calvani et al. (2012) and Grimley (2012) arrived at a similar conclusion: that no matter how high the participating students' technical skills were, their analytical and critical work with information and resources was low.

Another body of research evaluates the effectiveness of specific educational interventions at classroom level, in which the main, or at least one of the, intended learning outcomes was an increased level of media literacy. Such studies have employed commonplace quantitative methods, such as pre-test and post-test questionnaires on students' reflective internet skills (Admiraal 2015), questionnaires with both open-ended and Likert-type questions focused on media literacy and advertising (Belova & Eilks 2015), or surveys with open-ended questions about online and digital writing (Carlin-Menter, 2013). On the qualitative side, Carver et al. (2014) used pre- and post-test word association maps and focus group interviews, combined with analysis of the classroom work. McDougall et al. (2014) developed a three-stage methodology (see Table 2 below) informed by a cross-European

understanding of media literacy and combined with Mihailidis' (2014) framework for media literacy and civic engagement.

Table 2. Three-stage media literacy assessment methodology

EU/UNESCO/Ofcom	Paul Mihailidis	Method
Informed use, creative making, safe sharing	ACCESS	Survey Profiling
Critical reading	AWARENESS, ASSESSMENT, APPRECIATION	Fieldwork (analysis, interviews)
Civic engagement	ACTION	Online creative (political) task

Source: McDougall et al. (2014).

Key findings

- Media literacy education is in a fragmented state in school education across Europe, sometimes appearing in different curriculum areas, other times as a separate subject (media education or media studies). Media literacy education, taken to mean learning about the use and production of media, can be advantageous to and integrated in virtually all curriculum subjects (e.g. mother tongue education, history, geography, civic and citizenship education, science education).
- Media education is not taught as a separate and independent mandatory school subject in any EU country. Instead, where it exists at all, it is predominately cross-curricular and integral, or modular. As of 2014, most EU Member States had not yet adopted a media education curriculum, and schools largely had autonomy in their decisions about media literacy education practices.
- One of the key challenges of teaching and learning media literacy at classroom level is the thorny question of how to effectively consolidate the school and out-of-school media literacy practices that are essential to cross the home-school and online-offline institutionally constructed divides.
- Our understanding of and approach to media literacy is mainly based on research in secondary school classrooms. The limited but influential research in primary school classrooms suggests that it is hard to distance and distinguish media literacy at this level from literacy innovations.
- Media education in schools is mostly episodic and situated, which creates inconsistency and tension within European school curricula embedded in a spiral and serialist approach to education. There is a need for a spiral and serialist media education ensuring media literacy competences are being continuously developed and improved across educational stages and school levels.
- Teaching and learning practices for media literacy education can be based on various classroom-based methods (e.g. active inquiry, discussion-based learning, collaborative learning and educational leadership, game-based learning, etc.), most of which are based on active learning. Medium or genre specific pedagogical practices are commonly used in teaching and learning with media literacy (e.g. combined advertising and science literacies).
- Assessment and measurement in classroom-based media literacy teaching and learning continues to be underdeveloped and under-researched.

5. CONDITIONS FOR SUCCESSFUL IMPLEMENTATION OF MEDIA LITERACY EDUCATION PRACTICES AT SCHOOL LEVEL

Implementing media literacy is, of course, a step past simply defining it or making recommendations; in this chapter we discuss how media literacy has been and can be realised. There are conditions that can allow for, or can prevent, successful implementation of effective media literacy education teaching practices at school level. Namely, aspects of teacher preparation, the school environment, and local partnerships each play a role, and the following three sub-sections review in turn the supporting evidence since 2011. There does not seem to be, however, enough evidence to confidently state the extent of their role and formal connections, which remains an impediment to successful implementation.

5.1. Teacher preparation

Research indicates that teacher preparation at both initial teacher education (ITE) and continuous professional development (CPD) level is crucial to equip teachers with the relevant knowledge, skills and attitudes to effectively teach about media literacy (Bulger & Davison, 2018; Hartai, 2014; Hobbs & Tuzel, 2015). Meehan et al. (2015) argue that promoting media literacy in teacher education could be achieved by spreading lessons that fit within the regular ITE curriculum and coursework, to position media literacy as an “instructional or pedagogical strategy for teaching and learning across subject areas, not as a separate subject” (p. 85).

In 2014, the EMEDUS project emphasised that media education or Media Studies remained largely absent from ITE across Europe, and that “media education is at the mercy of the individual teachers’ ambition (or lack of ambition)” (Hartai, 2014, p. 140). The COST/TRANSLIT report on Media and Information Literacy in Europe (see Frau-Meigs et al., 2017) observed that in the vast majority of EU Member States, there is no provision of formal teacher training in media literacy or media education. Teachers’ pedagogic expertise in these areas is dependent on their own interest in seeking out professional development and the availability of such training in their regions or nations. Most media literacy education training is provided as part of informal networks or as a feature of projects funded by non-governmental sources. ICT and online safety are covered within teacher training provision and/or governmental educational policy in most EU Member States, but this is a very different subject area from media literacy or media education; in curricula they are commonly conflated, and this represents a major obstacle to media literacy education. In sum, “media education policies, where they exist across the EU, are rarely, if ever, directly linked to the training of media educators” (McDougall et al., 2017).

Three different research approaches on the topic of training and professional development for teachers in media literacy education and pedagogy are apparent ⁵⁵:

⁵⁵ Research from outside of Europe has been reviewed within this framework, so the analysis is driven by the current European landscape for media literacy education.

- Pedagogic training and curriculum design development of media educators that cover both critical media literacy pedagogy and teaching media practice/production.
- Pedagogic training and professional development of teachers for learning and teaching with and/or about contemporary media, across curricular contexts.
- Digital literacy and online competences/safeguarding — research in this category provides evidence of teachers and/or students' development of more functional digital literacy skills for and/or in formal educational contexts.

Specific media education/media literacy teacher education programmes

Studies that research the need for, or make recommendations for, media education teacher education programmes in countries where they do not currently exist, have not been included in our review. Instead, we focus on research about how media education/literacy is being implemented, and which good practices have been identified.

Empirical evidence of best pedagogical practice, as opposed to self-testimony or retrospective reporting, is scarce:

Documenting, analyzing, evaluating, and disseminating teaching practices, especially in new domains such as those related to ME, is fundamental. Due to lack of time, teachers are not used to sharing their experiences with colleagues and reflecting on their own practices in order to improve them. (Parola & Ranieri, 2011, p. 95)

There is scant evidence and therefore little to identify what constitutes good practice in the training and professional development of school teachers' pedagogical approaches to media education and media literacy as a discrete aspect of curricula. The findings above, from EMEDUS (2014) and Frau-Meigs et al. (2017) are consistent with this systematic field review⁵⁶. Where robust research evidence does exist, there are three general findings:

- 1) Strategies to develop specific media competences are more effective than a focus on generic technological abilities;
- 2) Training teachers to create sustainable pedagogic interventions with less resources and longer-term planning are preferable to shorter term, resource-heavy pilot projects;
- 3) Guiding teachers to design activities that require students to view media from the perspective of media production in industry (editorial work, team collaboration, working to deadlines and elements of competition and risk) are successful (Parola & Ranieri, 2011). However, seven years on from the publication of this study, there is minimal research evidence of training in these three key practices.

The reports collated in the COST/ANR reports from the 28 EU Member States (see Frau-Meigs et al., 2017) indicate that in the vast majority of countries, there is no provision of formal teacher education in media literacy. Most training is provided as part of informal networks or projects funded by non-governmental sources. ICT and online safety are usually covered within teacher education provision and/or governmental educational policy in most EU Member States, but this is a very different subject

⁵⁶ *The Journal of Media Literacy Education; Media Education Research Journal, Comunicar; Media Practice and Education, Learning, Media and Technology* and *Cultura y Educacion*, all publish empirical classroom research with robust methodologies and data to answer research questions, validate claims and draw out recommendations for teachers, but articles rarely focus on teacher training or CPD.

area from media education and conflating these aspects of curriculum is a major obstacle to media literacy in schools (see McDougall et al., 2017).

There is still a larger field of research into the need for teacher education, and about the concerns teachers have about the societal and pedagogical significance of digital media and their low confidence in their abilities to teach students on the topic (Ferrari, 2012; Recepoğlu & Ergun, 2013; Tondeur et al., 2012; Zhang et al., 2014). Two disconnects are pervasive. First, the disconnect between media literacy policies and teacher training and development:

Media literacy policies, where they exist across the EU and are linked to education, are (...) rarely, if ever, directly linked to the training of media educators. There is an urgent need for a new systematic approach to teacher training in media education on the state level. Even countries with outstanding practice in media education have failed in this respect. (McDougall et al., 2017, p. 156 and see also Drotner, 2014; Forsman, 2014; Kotilainen & Kupiainen, 2014).

In the UK, where the discrete teaching of media literacy is the most established and mature (see McDougall et al., 2014), and takes place within the context of Media Studies, only one teacher education qualification is focused explicitly on the subject; the majority of training for media educators is provided in the form of courses run by training organisations and, increasingly, awarding bodies who focus their training more on preparing students for assessment than pedagogy. It is important to note that a significant number of media teachers are engaged in research into their classroom practice for postgraduate/doctoral courses run by Universities. However, to date this research has not been disseminated in publications and thus does not feature in this field review.

The second disconnect observed in studies about implementation are “missing connections between the theoretical framework of pedagogical media competencies and the current practice of media pedagogical teacher training” (Tiede et al., 2015, p. 533).

Teaching with and about media

This kind of research evidence is about the broader, cross curricular dimension of the broader ‘uses of media literacy’ in the classroom, within or to enhance existing teaching programmes, rather than the teaching of media literacy *per se*. Most of the research evidence for cross-curricular teacher development situates the activities and resources in the domain of digital literacy and e-safety. Exceptions include research in Germany, which investigates the use of media from two perspectives: “What contribution media can make to personal development and the education (“Bildung”) of a person as well as how the term “Bildung” itself has to change due to new media developments” (Tulodziecki and Grafe, 2012, p. 49). Moreover, a broader, emerging international research field explores ‘curational’ pedagogy, and provides evidence of teachers working with digital media to design learning as a more collaborative practice: “The acceptance of transmedia literacy practices as a site for rich educational work – in media education and related areas – can only succeed if matched by a convergence of a more porous educator–student expertise.” (McDougall & Potter, 2015, p. 199; see also Andrews & McDougall, 2012; Potter, 2011).

Tanriverdi and Apak’s study (2010) reports on the needs of primary teachers in Turkey, Finland and Ireland; the sector has fallen behind secondary school media education in its implementation. The

authors recommend an interdisciplinary approach to primary-level teacher education for media educators, to deliver an integrated, longitudinal skills-based media literacy.

A significant sub-field of media literacy education across Europe is media literacy within science education. Belova and Eilks (2015) report the findings of a pedagogic intervention in teaching Chemistry through advertising (relating to Parry, 2016; see also Belova et al., 2016, and Chapter 4 above). Carver et al. (2014) applied frame analysis (of newspaper articles) to genetics education and drew broader recommendations for pedagogy:

The ideal situation would be if science and English teachers (Norwegian in our case) could work together on this kind of interdisciplinary programme to enhance reading skills. We believe that such an approach would strengthen the relevance of both subjects, but will require teachers who are motivated to work across the traditional school subjects. (2014, p. 237).

Carver et al.'s work is representative of a sub-field of media literacy that is joining media literacy with science literacy (see also Jarman & McLune, 2010; Marks et al., 2010; Wegner et al., 2014, and Chapter 2 above). The application of media literacy to other specific subjects are only discussed in the occasional single study; for example, Horrell et al.'s (2018) study of religious education and media literacy that addresses the "regrettable gap" between them in the UK GCSE and A Level curricula and about which they make several recommendations. However, both the sub-field of science/media literacy, and the various single studies of other subject areas, lend themselves to improvements in teacher development: the studies can influence teachers who read the articles, who can attend conferences where the work is presented, or who can make use of the web materials generated by the research.

This research does not provide evidence relating to ITE or CPD for interdisciplinary media literacy teaching, it merely reports, from the perspective of teacher-researcher, on pilot projects or interventions. For example, Clarke (2017) studies the efficacy of digital storytelling for teacher development, and included teachers in Ireland of Mathematics, Business, English and Design Communication Technology. The research intervention facilitated digital storytelling as both a reflective/reflexive practice tool and as a modelling of pedagogic use of digital storytelling with students, towards "developing a form of continual professional development by initiating and engaging other teachers in a structured inquiry which involved learning about, developing and implementing technology in a meaningful way in their classrooms. It involved integrating technology with a story which could either be used to introduce or explain a concept, solve a problem, illustrate an example or inspire students." (Ibid., p. 2045). While Clarke's study could be categorised as 'digital literacy', it is also an example of the more holistic approach to the use of media in pedagogy; the objectives are less functional or competence based, being concerned instead with teacher and student reflexivity and situated learning (see also Thompson-Long, 2014).

Digital literacy and online competences/safeguarding

There are strong suggestions of a tension between more active/agentive critical media literacy education, and more functionalist or protectionist digital literacy/skills or online safety. If true, then the significance of this category of research could be understood as a site of this tension. To make sense of it, we combined our broader search parameters with the studies just listed; the review returned 25 % of European studies focusing on this aspect of media literacy. Research in this category

is often diagnostic — assessing the digital literacy competences of both students and teachers and also institutional resources (see Calvani et al, 2012; Polizzi, 2011; Pombo et al., 2016). However, studies in the maturation phase have moved beyond protectionism and are reporting instead on six features:

- 1) The dynamic relationships between digital literacy and reflection (e.g., see Admiraal, 2015; Delfino, 2011);
- 2) Media/digital literacy and students' new media writing (e.g., see Carlin-Menter, 2013);
- 3) Inquiry-based learning for media literacy (e.g., see Casey & Bruce, 2011; Wegner et al., 2014);
- 4) Specific pedagogic strategies for e-learning (e.g., see Eryilmaz et al., 2015; Potter & McDougall, 2017),
- 5) The relationship between Open Educational Resources (OER) and Digital Literacy (see Gruszczynska et al., 2013) and digital meaning-making, voice and representation (see Burnett et al., 2017; Sofkova Hashemi, 2017).

Therefore, while concerns about competing discourses of various versions of media literacy remain (a more agentive understanding of *all* literacy as 'dynamic' might be more productive), empirical studies appear to be shifting away from risk-reduction or competence-based research towards more nuanced, focused and *pedagogic* research into digital literacy with a broader conception of what constitutes digital capability (see McDougall et al., 2018). Along with this, researchers are applying the broader concept of 'digital literacy pedagogy' to specific classroom contexts, and are applying inquiry-based learning to develop a more holistic, agentive and dynamic literacy. For example, Schwartz (2015) applies a 'funds of knowledge' approach taken from literacy research, and Casey and Bruce (2011) specify that:

We view literacy practices as involving both digital and traditional literacy tools, along with objects in the environment. The capacity to communicate through multiple media is then part of larger processes of problem solving, identity formation, and being in the world, which are encapsulated by the concept of inquiry. (p. 84)

Recent studies in this area also tend to provide more empirical evidence of successful pedagogic implementation, and include more research into ITE and CPD, than studies in other areas tend to. The reason for this appears to be related to the availability of more funding for teacher development in digital literacy and e-safety than there is for media education or media literacy.

5.2. School environment

This section looks at factors which support the implementation of media literacy education practices at the level of the school culture (e.g. 'whole school approach'⁵⁷). A supportive school environment may be a support factor for media literacy education at school level, for instance by ensuring the sufficient frequency of media literacy interventions to increase their impact (Jeong et al., 2012).

⁵⁷ A whole school approach can be defined as a holistic and ecological approach to education. The approach involves all members of the school community, including school staff, students, parents, psychologists, youth services, NGOs and the broader community – working together in promoting a sense of belonging and cohesion. The entire school community engages in a cohesive, collective and collaborative action, based on multi-disciplinarity and on differentiation (European Commission, 2015).

Recent studies across Europe on how to create enabling and conducive school environments for media literacy education are coming at the issue from two angles⁵⁸:

- Inter-structure/infrastructure: providing evidence of cross-curricular or whole institution integration of media literacy, providing enabling frameworks and resource for media literacy educators to work within.
- Extended classroom, 'Third Space' or teacher-student partnership initiatives: providing evidence of the facilitation of media literacy education through projects and activities that make connections between formal education and home/family/community, fostering an extended, rich and 'porous' learning environment.

Inter/infra structure

Research into the environmental conditions required within the school, within and across departments or subject areas, and/or at whole school level, shares three key findings. First, to facilitate the use of a wide variety of pedagogic methods, schools should provide support in terms of timetabling for cross-curricular skills-based active learning:

drama activities, co-operative games, exploring pictures and photographs, reading a photograph, using pictures as a stimulus for discussion or in determining previously acquired knowledge about an issue, ranking pictures, exploring a television advertisement, role-playing discussion, written activities, using recorded extracts from television, radio, and videos, and so on. (Tanriverdi & Apak, 2010, p. 1205).

Secondly, institutional support in the form of direct, personal advocacy from the school leader (Headteacher or Principal) can foster a rich environment for the integration of digital media and technology into pedagogy. However, the factors that may influence this, or the agency of teachers in lobbying for such support, is harder to measure:

Results show that principals' behaviour seems to be independent from teachers' attitudes towards ICT integration into teaching (...). Such a result controverts hypothesis six claiming that principals' support for ICT integration into teaching is associated with teachers' attitudes towards such integration. In other words, there is no relationship between teachers' attitudes towards ICT integration in teaching and principals' supportive behaviors. (Polizzi, 2011, p. 119).

Third, effective media literacy education in school contexts depends on a recognition of the dynamic interplay between 'schooled' literacy, media/digital literacies, between the new literacy experiences and practices of students and teachers: "The basis of our framework is the understanding that teaching is a highly complex activity that draws on many kinds of knowledge. Teaching is a complex cognitive skill occurring in an ill-structured, dynamic environment." (Mishra & Koehler, 2006, p. 1020, in Clarke, 2017, p. 2046).

This finding leads into the next section, which discusses the extended environment. That said, research studies on the topic have discussed it as a distinct condition for best practice, namely, that there should be a recognition within the school environment of its limitations and of its place in a dynamic

⁵⁸ Research from outside of Europe has been reviewed within this framework, so the analysis is driven by the current European landscape for media literacy education.

relationship with external practices. Livingstone and Sefton-Green, from their longitudinal ethnography into school students' digital learning across home and school, describe this as "a mesh of interconnections" (2016, p. 61).

However, several studies have observed a shift in priorities at school planning level owing to external factors. For example:

The results of the PISA-Study have led to a shift of interest from media literacy to different fields (e.g., reading literacy, mathematical and scientific literacy, national educational standards, and core curricula). However, the fact that there is a relation between these subjects and media issues is often ignored. (Tulodziecki & Grafe, 2012, p. 55)

This may provide some causality for the finding above: in the implementation phase of media literacy education, research evidence suggests there is a convergence of media literacy with science education.

Extended classroom/Third Space

There is a wealth of research into the significance of the 'third space' for digital media literacy, but here we limit our scope to only include evidence of successful implementation, rather than exploratory projects which develop the concept⁵⁹. For example, many non-formal education projects and 'media clubs' in schools have become common and are indicative of third space activity; a range of these are listed by Potter and McDougall (2017). Our review, however, is focused on successful implementation and the evidence that supports it. Potter and McDougall found two elements of successful implementation in/of third spaces: a conception of Dynamic Literacies (see Casey & Bruce, 2011) combined with the teaching of Digital Media Curation as a new literacy practice.

Game-based pedagogy is generally practised across the extended classroom, given the constraints and expense of such work in the classroom (see section 4.2. above). Admiraal (2015) utilised games for constructivist, enquiry-based learning to develop students' reflexive use of the internet: "This would also imply that the game can be (partly) played at home, which would also offer better possibilities for including parents in game activities and in the communication about the game." (p. 306). Lacasa et al. (2014) conducted an ethnography with SimCity and Machinima to work across home and school, virtual and real worlds, and to integrate previous media experience (from the first space) into the classroom (the second space).

De Lange (2011) reports on the successful implementation of the PGE pedagogy (*Plan, Go-through, Evaluate*) to offer teachers a framework for working in transactional classroom space, rooted in activity theory, for combining formal and informal schooled interactions to co-create projects:

The PGE script opens an institutionally established transactional space between students' non-formal media perspectives and formal educational obligations. The empirical data above illustrate how this transactional space contributes to defining premises for using digital tools wherein students have both gained a voice and contributed in defining classroom-based digital production. (p. 272).

⁵⁹ Whilst the third space is a broader concept, for this report we have included research examples of learning and teaching dynamics in secondary school media education which include a reflexive, negotiated exchange of media knowledge between teacher and student (porous expertise) and/or a focus on media curation as a literacy practice: "This (third) space facilitates dynamic literacies, curational practices and a porous exchange of knowledge. Purposive use of such a space can answer questions about the use of digital media for teaching and learning in school" (McDougall & Potter, 2018, p. 1).

McDougall et al. (2018) reported on a participative action research project implementing third space pedagogy across a school, families and a community centre. They identified three objectives: “Independent engagement with learning in new (digital) contexts (sometimes epistemological, sometimes curational, creative, or self-representational); Self-selection of suitable applications for ‘schooled’ learning; Autonomy in taking the lead in collaborative learning with parents and carers (evidence of ‘flipped learning’ in a family/home context).” (2018, p. 14)⁶⁰.

Domingo-Coscollola et al. (2016) report on collaborative action research (the pan-European DIYLab project) which supports school leaders in their integration of ‘DIY learning’ across physical and virtual borders. This successful implementation was enabled by a shift in mindset that mingled the roles and identities of teachers and students, and the context of professional development became a hybrid of physical and virtual networking. The characteristics of this pedagogical application were stated as “Creativity (transformation, appropriation, authorship, etc.); Collaboration (DIY together); Self-regulation (this is linked to problems related to the compartmentalisation of the syllabus and evaluation/self-evaluation); Technology (intensive use of technology, which must consider digital technologies that are analogical, artefactual and symbolic); Explain and share (interest in explaining to others what I know and sharing it).” (Ibid., p. 21).

However, Livingstone and Sefton-Green’s (2016) study stands in contrast, revealing that school students, their parents and their teachers seem to actively resist the third space: “They were embedded, more or less securely, within rather tight networks – experienced as coherent small worlds – centred on home, school, locale and diaspora.” (p. 83). The digital networks they used served to, in the main, reinforce rather than create or disrupt relations of popularity and marginalisation. Effort was spent on maintaining multiple networks and interconnecting social worlds, but there was no evidence that networked digital media was diversifying or deepening connections. This finding is quite discouraging, if accurate: the concept of learning conceived of by schools may be profoundly disconnected from students’ everyday life. Moreover, students, along with their parents or carers, may be resigned to accept this as the order of things. Indeed, the researchers were surprised by “the effort that the school and family put into resisting moves to connect learning across sites” (p. 240) as “both teachers and young people have a lot invested in keeping their spheres of interest and identity separate and away from the scrutiny of the other” (p. 235).

5.3. Local partnerships

This section looks at the extent to which local partnerships between schools and local actors (e.g. local authorities, businesses, NGOs) can support the implementation of media literacy education practices at school level. Projects that include fewer formal opportunities for home/family engagement in school learning are included in section 5.2 above. While there is a good amount of evidence about more formal, funded, partnership engagements between media literacy educators and media industries, literacy organisations, NGOs and other stakeholders at the level of resource production and single events, this report focuses on empirical studies about teacher education, successful

⁶⁰ See also Vickery (2014) on the role of an after-school digital media project in addressing participation gaps, a similar focus to the community project’s remit on reducing ‘engagement deficit’.

implementation, and the impact on teacher development, which is far sparser across Europe⁶¹. The initiatives described in this section were identified as reporting successful implementation of media literacy education at the school level with formal partnership as a significant factor.

In the UK, the broader domains of open educational resource development and students as partners, both of which inform aspects of the research reviewed here, are supported by the Joint Information Systems Committee (JISC) UK Open Educational Resources (OER) programme. However, this is within a higher education context (see Gruszczynska et al., 2013) and there is no evidence to date in the research field of successful ‘trickle down’ implementation to the school level. The United Kingdom Literacy Association published a research-based resource arising from an action research co-creation project between teachers and students in three English schools; they produced, trialled and re-purposed pedagogic resources for the integration of media literacy into the History, English, ICT and Geography Curriculum at secondary school level (McDougall & Ward, 2017).

Collaboration initiatives in the field of media and digital literacy education have also involved private companies. The AGIRE project (Pombo et al., 2016) is a partnership with the e-Xample consortium of 26 companies related to teaching and learning in Portugal. In England, the Digital Families project (McDougall et al., 2018) was funded by a multinational technology provider.

Gathered from the studies we reviewed, the most significant partners are the EU, through the European Commission, and the COST-Actions. This partnership is typically reciprocal, with funding flowing to projects which are, in turn, required to meet EU and UNESCO objectives for media literacy education.

Partnerships with NGOs are in the development phase and we expect empirical evidence of successful implementation to be available in the research literature within two years, as many funded projects are ‘live’ at this time. Key NGO partners for media literacy education include Castellinaria⁶² and Associazione REC⁶³ in Switzerland; SUPSI (in collaboration with Amnesty International) in Italy; Associazione SEED (across and beyond Europe); Televele Association⁶⁴ in Hungary; MediaWise⁶⁵ in Romania⁶⁶. A current Marie Skłodowska-Curie project is exploring the digital literacy practices of unaccompanied refugee children in European camps (see CEMP, 2017)⁶⁷.

⁶¹ For detailed audits and overviews of projects and resources, see: COST Action IS1401- *Strengthening Europeans’ Capabilities by Establishing the European Literacy Network*, Frau-Meigs et al., (2017), and Council of Europe: European Audiovisual Observatory (2016) Mapping of Media Literacy Practices and Actions in EU-28.

⁶² See: www.castellinaria.ch. Accessed 20.09.2018.

⁶³ See: www.t-rec.ch. Accessed 20.09.2018.

⁶⁴ See: <http://televele.hu/english/>. Accessed 20.09.2018.

⁶⁵ <http://mediawise.ro/about-us/what-we-do-educatie-media/>. Accessed 20.09.2018.

⁶⁶ For an overview, drawing interim research findings, see Neag, in Hobbs and Mihailidis (eds.), 2019 (in press).

⁶⁷ Other relevant resources include: UNESCO’s Media and Information Literacy: Critical-thinking, Creativity, Literacy, Intercultural, Citizenship, Knowledge and Sustainability (MIL CLICKS framework, see: <https://en.unesco.org/MILCLICKS>); and the DIY Media and Information Literacy (ECO Project) MOOC from the University Sorbonne Nouvelle (see: <https://www.mooc-list.com/course/diy-media-and-information-literacy-eco-project>). Accessed 20.09.2018.

Key Findings

- There is an urgent but ongoing need for media literacy educators and stakeholders to document their best practice in the form of empirical classroom research, and to address enduring disconnects between theory and practice, conceptual frameworks and pedagogic practice, and educational/political policy and classroom practices.
- The integration of digital literacy in the maturation phase, specifically into science education, is flourishing as a research area. The field of digital literacy is in general moving away from competence models and protectionist approaches to more robust research that embraces the complexity of 'dynamic literacies'.
- Successful implementation of media literacy education at the school level is facilitated by approaches to pedagogy that combine and/or cross boundaries between spaces and roles — the classroom and the extended 'third space', teachers and students working in partnership to co-create learning, and professional development in hybrid combinations of physical and virtual networks. This work also speaks to the need for media educators to be confident in accepting the need for the concept of 'Bildung' itself to change, as opposed to thinking of digital media as merely contributing to it as a stable entity.
- There is a wealth of evidence of more formal, funded, partnership engagements between media literacy educators and media industries, literacy organisations, NGOs and other stakeholders at the level of resource production and single events. However, empirical evidence of the conditions for successful partnership and impacts at the school level are likely to be in the public domain within two to three years, as many relevant projects are ongoing.

6. CONCLUSIONS AND POLICY POINTERS

This chapter states the conclusions of the report, identifies key policy implications, and provides recommendations for policy makers and practitioners (focusing on the practicability and replicability of the various approaches that were analysed).

6.1. Conclusions

Research and policy initiatives on media literacy and media education have been growing across Europe and the English-speaking world for a few decades. Recent research at EU level has provided useful evidence on the role of informal media education and formal media education to acquire media literacy competences (Bitonti & Školkay, 2013; Hartai, 2014); on assessment criteria for media literacy levels (European Commission, 2009a; 2011); or on media literacy policies, practices and actions outside of schools (European Audiovisual Observatory, 2016). However, there is a lack of systematised comparative evidence about ‘what works’ in media literacy education practices at classroom level.

Within this context, this report reviews relevant European and international research to better understand how teaching and learning practices can support students’ media literacy in primary and secondary education. It also aims to understand how media literacy education in schools can help address the challenges related to the spread of disinformation and ‘fake news’.

What competences can support media literacy in education?

Media literacy covers the following competences:

- **Access:** the ability to find and use media skilfully and to share suitable and valuable information with others (including browsing, searching, filtering and managing data, information and digital content).
- **Analysis and evaluation:** the capacity to comprehend messages and use critical thinking and understanding to analyse their quality, veracity, credibility and point of view, while considering their potential effects or consequences.
- **Creation:** the capacity to create media content and confidently express oneself with an awareness of purpose, audience and composition techniques.
- **Reflection:** the capacity to apply social responsibility and ethical principles to one’s own identity, communication and conduct, to develop an awareness of and to manage one’s media life.
- **Action/agency:** the capacity to act and engage in citizenship through media, to become political agents in a democratic society.

These competences work together to support students’ active participation in learning through the processes of consuming and creating media messages. They can be supported in primary and secondary education through the integration of media literacy in the school curriculum, and in dedicated classroom practices via specific teaching and learning practices which address disinformation. Competences for media literacy are also supported by favourable contextual factors such as pertinent teacher education, a supportive school environment, and local partnerships.

The competence to access media refers to the ability to find and use media and ICT tools skilfully, including the ability to share appropriate information with others. Accessing media and digital technology in the classroom and working with multimodal media texts can help students compose and organise ideas, design, produce and present meaning.

Analysis and evaluation competences refer to the capacity to understand media messages and use critical thinking to analyse their quality, veracity, credibility, and point of view, while considering their potential effects or consequences. Media literacy education can enable students to make connections between a specific media form and the wider socio-economic and cultural context in which it was made and consumed.

The production of media content can be a powerful means of learning, if adequately combined with critical reflection and analysis. Media literacy interventions that include active audience involvement components (e.g. creative production activities, or classroom discussions) have been found to be more effective than interventions based solely on passive components (e.g. lessons only), as they require greater mental effort and comprehension.

Media literacy competences are required to actively participate in democratic society; they enable citizens to access, understand and deal with the media, and encourages them to become political agents. They can allow students to use their voices through active participation in online activities, facilitate students' active citizenship competences and agency to express their politics and participate in the public sphere based on democratic values and attitudes.

Media literacy education practices to address disinformation

The current media landscape has been marked by the spread of disinformation and 'fake news', which is having an unwelcome impact on students (at both the cognitive and emotional level) and on classroom learning. The consequences of disinformation campaigns can be significant, particularly at school level. They have certainly made life more difficult for teachers who seek to convey the value of evidence to their students, especially in subject areas that are especially prone to propaganda such as science, history and citizenship education.

Basic human social-psychology can thwart efforts to combat disinformation among students. However, by understanding how they work, they can be used as an educational resource. Media literacy initiatives have been shown to lessen the vulnerability of children to disinformation. The development of critical thinking and analytical competences are key components of a successful educational intervention.

Media literacy campaigns against propaganda and disinformation have historical precedents that can inform present efforts to combat vulnerability to disinformation. There is an ongoing debate on the best strategy to address students' susceptibility to disinformation, revolving around the extent to which interventions should target a person's core belief system and worldview. In formal education, this especially applies to secondary school students, given the fact that they have more fully developed belief systems.

There are many current educational initiatives that improve students' capacity to detect disinformation and protect themselves against its influence. Evidence shows that students who reported high levels of media literacy learning opportunities were more likely to identify misinformation, which lends credence to the impact of media literacy programmes.

Educational programmes across Europe's schools to combat conspiratorial thinking are beginning to involve professional journalists. Journalists can help teach students how to check the authenticity of information and to understand how advertisers and others use the students' personal information to influence them.

Effective teaching and learning media literacy practices at school level

Media literacy education is in a fragmented state in school education across Europe, sometimes appearing in different curriculum areas, other times as a separate subject (media education or media studies). Media literacy education, taken to mean learning about the use and production of media, can be advantageous to and integrated in virtually all curriculum subjects (e.g. mother tongue education, history, geography, civic and citizenship education, science education).

Media education is not taught as a separate and independent mandatory school subject in any EU country. Instead, where it exists at all, it is predominately cross-curricular and integral, or modular. As of 2014, most EU Member States had not yet adopted a media education curriculum, and schools largely had autonomy in their decisions about media literacy education practices.

One of the key challenges of teaching and learning media literacy at classroom level is the thorny question of how to effectively consolidate the school and out-of-school media literacy practices that are essential to cross the home-school and online-offline institutionally constructed divides.

Our understanding of and approach to media literacy is mainly based on research in secondary school classrooms. The limited but influential research in primary school classrooms suggests that it is hard to distance and distinguish media literacy at this level from literacy innovations.

Teaching and learning practices for media literacy education can be based on various classroom-based methods (e.g. active inquiry, discussion-based learning, collaborative learning and educational leadership, game-based learning, etc.), most of which are based on active learning. Medium or genre specific pedagogical practices are commonly used in teaching and learning with media literacy (e.g. combined advertising and science literacies).

Key conditions for successful implementation of media literacy education practices at school level

There is an urgent but ongoing need for media literacy educators and stakeholders to document their best practice in the form of empirical classroom research, and to address enduring disconnects between theory and practice, conceptual frameworks and pedagogic practice, and educational/political policy and classroom practices.

The integration of digital literacy in the maturation phase, specifically into science education, is flourishing as a research area. The field of digital literacy is in general moving away from competence models and protectionist approaches to more robust research that embraces the complexity of 'dynamic literacies'.

Successful implementation of media literacy education at the school level is facilitated by approaches to pedagogy that combine and/or cross boundaries between spaces and roles — the classroom and the extended 'third space', teachers and students working in partnership to co-create learning, and professional development in hybrid combinations of physical and virtual networks. This work also speaks to the need for media educators to be confident in accepting the need for the concept of

‘Bildung’ itself to change, as opposed to thinking of digital media as merely contributing to it as a stable entity.

There is a wealth of evidence of more formal, funded, partnership engagements between media literacy educators and media industries, literacy organisations, NGOs and other stakeholders at the level of resource production and single events. However, empirical evidence of the conditions for successful partnership and impacts at the school level are likely to be in the public domain within two to three years, as many relevant projects are ongoing.

6.2. Policy pointers

This report consolidates evidence on the ways in which media literacy can be taught at classroom level in primary and secondary education. The following pointers aimed at relevant education policymakers at EU, national and/or regional level draw on the key conclusions of the report:

- **Develop dynamic media literacy curricula that cover the five main media literacy competences**

Policy pointers

- Policymakers should develop dynamic media literacy curricula at primary and secondary level that enable full coverage of the five main competences for media literacy shared by international models: access, analysis and evaluation, creation, reflection, and action/agency.
- Media literacy curricula should prioritise students’ active learning and agentive use of and creation of all forms of media.
- Media literacy curricula should also cover the specific elements of the Digital Competence Framework for Citizens (DigComp), including media production; civic media engagement; active inquiry; discussion-based learning; project-based learning; collaborative learning; game-based learning and critical and reflective learning about data and identity.

- **Provide media educators with support and resources for addressing students’ media literacy more holistically**

Policy pointers

- Policymakers should provide media educators with adequate support and sufficient resources for addressing students’ media literacy more holistically by bringing together school-based and out-of-school media literacy practices.
- Media literacy initiatives should aim to cross the home-school and online-offline divides, thereby creating a ‘third space’ for more agentive (active, critical and engaged) media literacy education.

➤ **Raise awareness about disinformation and the misuse of data in education**

Policy pointers

- Policymakers should raise awareness about disinformation and the misuse of data at all levels of education.
- The spread of disinformation and misuse of data in education should be tackled in primary and secondary education through specific policies targeted at these levels of education.

➤ **Invest in further research into good practices in teaching media literacy to build resilience to misinformation**

Policy pointers

- Policymakers should invest in further research into good ‘sense-making’ practices in teaching media literacy to build resilience to misinformation and conspiracy theories (such as inoculation approaches).
- Research findings should be used to resolve the debate around media literacy and students’ belief systems, and facilitate far-reaching dissemination of these best practices for consistent adoption by media educators.

➤ **Invest in further research to explore media literacy education across all school level**

Policy pointers

- Policymakers should invest in further research to explore media literacy education across school levels.
- Research should aim to identify the similarities and differences between media literacy education at primary and secondary levels.
- Policymakers should support the development and use of systematic assessment methods, and based on this level-specific understanding of media literacy and media education.

➤ **Facilitate and invest in large-scale collaboration initiatives in media literacy education**

Policy pointers

- Policymakers should facilitate and invest in large-scale collaboration initiatives between media literacy educators, data analysts, social media platforms, journalists and NGOs.
- Support to these initiatives should have the explicit objective of bringing the best practices of short-term, small-scale media literacy partnership projects, into the formal school curricula and classroom practice for all students.

- **Define and adopt a clear connection between media and digital literacy policy, media education curricula, and teacher education**

Policy pointers

- Policymakers should define and adopt a clear connection between media and digital literacy policy, media education curricula in primary and secondary education, and teacher education, from initial teacher education (ITE) to comprehensive professional development (CPD).
- Such a clear and comprehensive policy approach to media and digital literacy should increase the chances of success of implementing media literacy education and digital competences in school education.

- **Support the inclusion of an assessment of media literacy competences in the OECD PISA test.**

Policy pointers

- Policymakers should support the inclusion of an assessment of students' media literacy competences in the next round of the OECD PISA test.
- The PISA test should assess all the components of media literacy competences, including knowledge, cognitive skills, social skills and attitudes.

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