Teachers Digital 4.0

Tackling Disinformation and Promoting Digital Literacy through Education and Training in European Classrooms

CURRICULUM

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EXECUTIVE SUMMARY

The *Teachers 4.0 Digital Age Curriculum* is a coordinated initiative carried out by a consortium as part of a large-scale, European co-funded project: *Teachers 4.0 Digital Age*. Its goal is to equip pre-service and in-service teachers with the competence to promote an understanding of digital media literacy and enable them to engage young students with effective methods to evaluate information and distinguish between disinformation, misinformation, malinformation, and similar challenges.

The *Teachers 4.0 Digital Age Curriculum* capitalises on the two main products of the European Commission Expert Group on tackling disinformation and promoting digital literacy:

- *Guidelines for Teachers and Educators on Tackling Disinformation and Promoting Digital Literacy through Education and Training*, and
- *Final Report on Tackling Disinformation and Promoting Digital Literacy through Education and Training*.

The *Teachers 4.0 Digital Age Curriculum* corresponds to a total of sixty (60) training hours (30 hrs for direct instruction + 30 hrs for individual study) and – inspired by the contents of the above-mentioned documents – it is comprised of the following ten modules:

1. Introduction
2. Disinformation: What are we talking about?
3. More Key Terms and Definitions
4. Setting the Scene for Teaching and Learning in the Digital School Environment
5. Assessing and Evaluating Digital Media Literacy in Schools
6. Explore the Key Media Practices of Children and Students
7. Teaching Digital Media Literacy and Disinformation
8. Building Digital Media Literacy Competences in the Classroom: Becoming Digital Citizens
9. Students in all their Diversity
10. Practical Examples of Lesson Plans

All modules are accompanied by relevant supplementary teaching, learning and assessment material. The development of supplementary teaching and learning material is considered as of central importance since it can contribute substantially to the teaching process, to engaging participants in multi-dimensional learning and to building participants' abilities to apply their knowledge. The whole spectrum of supplementary teaching and learning material includes amongst others:

- Readymade PowerPoint slides
- Hypothetical scenarios for role play
- Films and videos
- Additional bibliography
- Activities on phishing
- Ready-made, interactive self-evaluation questions e.g. using Mentimeter and
- Evaluation rubrics

The *Teachers 4.0 Digital Age Curriculum* is an electronic edition developed in English, Greek, Bulgarian, Romanian, Italian and Polish.

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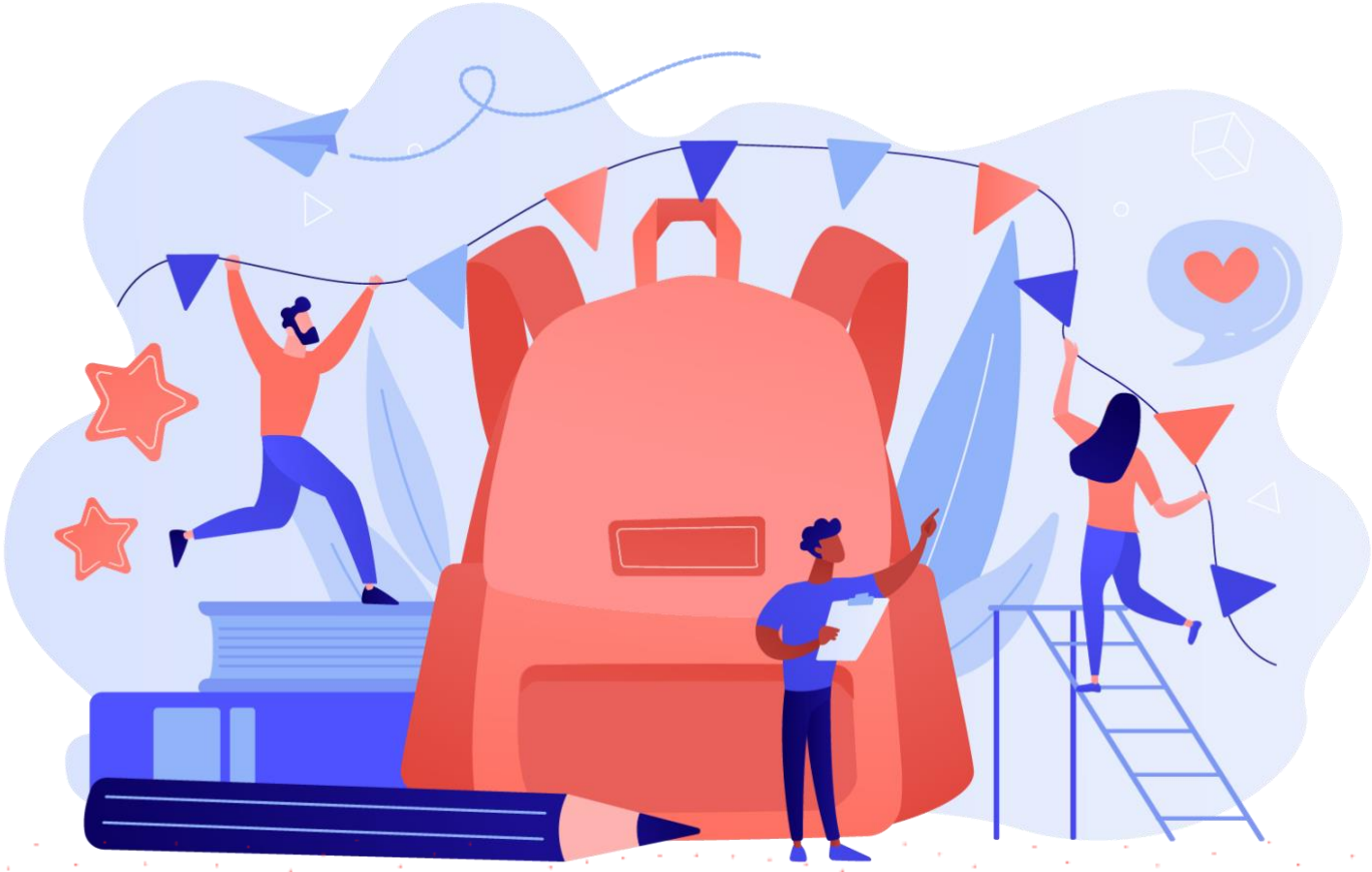
1. Introduction



1. Introduction

Duration: 30-35 minutes

This introduction is the first step of the University Course. It aims at providing learners with a general understanding of both the *Teachers 4.0 Digital Project* as whole and the theoretical and methodological approach inspiring the Course.

The Teachers 4.0 Digital Age Project

The *Teachers 4.0 Digital Age* is an Erasmus+ Project, with a lifetime of three years, from 2023 to 2026, that aims at equipping pre-service and in-service teachers with the tools, skills and knowledge to combat disinformation and foster digital media literacy along with critical thinking and resilience among their students. This large-scale capacity-building project involved two-thousand one hundred (2.100) pre- and in-service teachers in the European territory, particularly Bulgaria, Cyprus, Greece, Italy, Poland, and Romania.

The *Teachers 4.0 Digital Age* partnership has developed a comprehensive Curriculum comprising ten modules corresponding to sixty (60) training hours (30 hrs for direct instruction + 30 hrs for individual study). During the project, the Curriculum was delivered both as a University Course in six (6) European Universities, and as an online course via the *Teachers 4.0 Digital Age eLearning Platform*. The eLearning Platform offers blended learning opportunities to thousands of primary and secondary school teachers, providing them with practical tools, lesson plans, and resources.

By investing in teacher capacity, the project aims to create a more resilient and informed school environment, which respectively translates into students capable of using critical thinking and adopting a safe, responsible behaviour when interacting with contemporary media. Even if the project activities were mainly oriented to teaching staff, its target audience consists primarily of European children and youth, the future of Europe.

The Consortium of the project includes sixteen (16) members, coming from seven (7) EU member-states, mainly originated from Southern and Eastern Europe. This geographical approach was chosen based on the fact that the countries of this region showcase a limited level of digital and media skills, which is why initiatives such as the *Teachers 4.0 Digital Age Project*, need to be implemented and promoted. These partner countries are:

- Bulgaria
- Cyprus
- Greece
- Italy
- Poland
- Romania.

The partnership of the project maintains a threefold structure, with partners coming from diverse backgrounds and demonstrating expertise in a variety of fields:

1. **Public Authorities:** three (3) consortium members active in the public education sector, with a significant outreach potential in their respective national context.

- Cyprus Pedagogical Institute, Cyprus
- Institute of Educational Policy, Greece
- Ministry Of Education and Research, Romania

2. **European Universities – Faculties of Pedagogy originating from the partner countries:** six (6) consortium members engaged in upskilling the future teaching staff and educators of Europe:
    - European University Cyprus, Cyprus
    - National and Kapodistrian University of Athens, Greece
    - Sofia University St. Kliment Ohridski, Bulgaria
    - University of Lodz, Poland
    - University of Palermo, Italy
    - West University of Timișoara, Romania

3. **Adult Education Providers:** four (4) consortium members who maintain experience and are active in the field of teacher training:
    - Athens Lifelong Learning Institute, Greece
    - CESIE ETS, Italy
    - Lodz Centre for Teacher Training and Practical Education, Poland
    - Mediawise, Romania.

In addition to the previously mentioned partners, the partnership includes two (2) institutions at the forefront of tackling disinformation and fostering media literacy, both in a European and international context: EAVI (the European Association for Viewers Interests) and ALL DIGITAL, which serve as two leading European networks that preserve a significant potential to impact the digital and media literacy levels across Europe, while shaping the policy landscape in the relevant field.

Finally, the *Teachers 4.0 Digital Age* partnership incorporates ReadLab, an organisation with specialisation in delivering innovative tools, such as eLearning solutions.

This plurality of expertise, along with the geographical distribution of the project partners, allows a targeted approach in terms of upskilling those with relatively limited digital knowledge, while ensuring the effectiveness and sustainability of the project's results.

The Objectives of the Project

The purpose of this project is to provide a major upskilling opportunity to a total of two thousand one hundred (2.100) teachers and educators throughout Europe so as to improve their capacity to deal with issues of disinformation in European classrooms and to collectively contribute to helping young people to be able to think critically, make informed choices online and stay safe whilst continuously building their resilience.

The two (2) main complementary constituent elements that provide the basis for the delivery of this large-scale capacity-building intervention are:

1 [The Teachers 4.0 Digital Age Curriculum]

The *Teachers 4.0 Digital Age Curriculum*, in line with the European Commission *Guidelines for Teachers and Educators on Tackling Disinformation and Promoting Digital Literacy* [see § 1.3 below], promotes teachers' understanding of how digital literacy can be achieved and

helps them engage young people with effective ways to assess information and identify disinformation.

2 [The Teachers 4.0 Digital Age eLearning Platform and Course]

The *Teachers 4.0 Digital Age* eLearning platform and course - a high-quality online learning resource offered in six (6) European languages – provides all in-service teachers with the opportunity to acquaint themselves with integrating digital literacy across different subjects.

The Guidelines for Teachers and Educators on Tackling Disinformation and Promoting Digital Literacy

The *Guidelines for Teachers and Educators on Tackling Disinformation and Promoting Digital Literacy*, introduced in 2022 by the European Commission, provide the foundation of the *Teachers 4.0 Digital Age Project*. These *Guidelines* aim to upskill teachers and provide them with the tools and techniques they need to increase digital media literacy in the European school environment and combat disinformation through teaching practices. This means that the indirect outcome of this groundbreaking tool will be the empowerment of students to explore the digital world and the promotion of democratic engagement.

The target audience of the *Guidelines* are educators coming from both primary and secondary levels of education, regardless of their existing digital education expertise. These *Guidelines* give teachers a structured approach to helping their students foster critical thinking and responsible online behaviour. Its practical and accessible format includes various resources that can be seamlessly integrated into teaching materials. The *Guidelines* feature straightforward explanations of technical concepts, assessment exercises focused on fact-checking that can be implemented in a classroom setting, and advice on adopting positive online habits.

In addition to the aforementioned, the *Guidelines* provide educators with a series of detailed activity plans that can have an inspirational and supportive effect in developing engaging lessons. These activities are also complemented by a series of actionable tips and cautionary notes that shift the focus to more challenging topics and offer guidance on how to address them effectively. This comprehensive approach ensures that educators are well-prepared to face the complexities of digital media literacy and disinformation in an engaging and educational way.

Overall, the purpose of the *Guidelines* is to support teachers in creating a classroom setting where students are equally informed about digital challenges while also being empowered to think critically and act responsibly in their online interactions. By offering practical tools, real-life examples, and pedagogical strategies, the *Guidelines* are intended to enhance the quality of digital education across Europe and help students become informed and active digital citizens.

The University Course

The *Teachers 4.0 Digital Age Curriculum* results from a coordinated initiative carried out by a consortium as part of a large-scale, European co-funded project. Its goal is to equip pre-service teachers with the competence to promote an understanding of digital media literacy and enable them to engage young students with effective methods to evaluate information and distinguish between disinformation, misinformation, malinformation, and similar challenges.

Specifically, this University Course was developed through the collaboration of six (6) major universities from across Europe and three (3) expert organisations among the sixteen (16) partner organisations involved in the *Teachers 4.0 Digital Age Project*. It's worth noting that the participating countries were not selected at random; instead, they were chosen because the project aimed to focus on countries ranking low on the Media Literacy Index, where the greatest needs in digital and media literacy exist. Therefore, the universities and organisations from these countries were selected for their extensive expertise in the field. The consortium members responsible for developing the course modules were:

- University of Palermo, Italy
- European University Cyprus, Cyprus
- Kapodistrian University of Athens, Greece
- University of Lodz, Poland
- University of Sofia, Bulgaria
- West University of Timișoara, Romania
- Athens Lifelong Learning Institute, Greece
- European Association for Viewers Interests AISBL (EAVI), Brussels, Belgium
- Mediawise Society, Bucharest, Romania

Needs analysis of the Initial Teacher Training

Research on media and information literacy in Europe observed that, in most EU Member States, zero to little provision of formal teacher training in media literacy or media education has been done (Frau-Meigs et al. 2017). Teachers can sometimes lack the necessary experience or knowledge to critically assess a particular tool's pedagogical implications, the familiarity with the ethical issues that digital platforms can raise for student data privacy, or simply the time and resources to build participatory digital literacies (Foulger et al. 2019).

Initial Teacher Training institutions can lay a solid foundation for teachers' digital media literacy skills, even though equipping teachers with the necessary competencies is a lifelong exercise in a constantly evolving environment (Wilson et al. 2013). The development of digital media literacy is expected to be most effective if all teachers, rather than only specialised teachers, receive training, a process which should be initiated at the pre-service level. The ability to search for relevant and reliable information, assess its validity, and detect biased information is vital for all subjects (European Commission, 2022).

Content of the Course

The *Teachers 4.0 Digital Age project* did not intend to develop the relevant curriculum from scratch. Instead, it capitalised on the two (2) main products of the European Commission Expert Group on tackling disinformation and promoting digital literacy:

- *Guidelines for Teachers and Educators on Tackling Disinformation and Promoting Digital Literacy through Education and Training* [see § 1.3. above], and
- *Final Report on Tackling Disinformation and Promoting Digital Literacy through Education and Training*.

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All the aforementioned modules are accompanied by suggested teaching methods and tools suitable for our target group and consistent with the course goals.

Design of the course

Presently, initial teacher education courses focusing on digital media literacy are often optional, if existent. Given the critical role of digital media literacy in contemporary learning, it is important that digital literacy courses become more prominently integrated into initial teacher education. In addition to incorporating elements of digital media literacy into all initial teacher education courses, a specific course on combating disinformation, building resilience, as well as digital [media] and information literacy was developed as a separate course in all six (6) Pedagogy Departments of the Universities participating in the project. All the Universities were involved in a rigorous validation process that involved scientific review and scrutiny of the course content before its finalisation and translation. The course was initially developed in English and eventually translated into all partner languages: Greek, Italian, Romanian, Bulgarian and Polish.

The ultimate objective of this University Course is to become a compulsory part of all teacher education programmes. For a start and based on the project's outcomes, a total of one thousand fifty (1.050) teachers-to-be are expected to participate in this course between the Fall semester of 2024 and the Spring semester of 2025, thus improving their capacity in acquainting children and youth with the dynamic and the manifestations of disinformation and improving their digital media literacy in Cyprus, Greece, Bulgaria, Romania, Poland and Italy.

Supplementary Teaching, Learning and Assessment Material

Alongside the course development, the nine (9) partners involved have also developed relevant supplementary teaching, learning and assessment material for each of the ten (10) modules. The development of supplementary teaching and learning material was considered of central importance since it can contribute substantially to the teaching process, engage participants in multi-dimensional learning, and build participants' abilities to apply their knowledge. This task involved a systematic effort for the learning material to include the following three (3) types of interaction:

1. learner-learner

2. learner-instructor
3. learner-content.

Therefore, the partnership has crafted all the material needed for delivering the University course. The whole spectrum of supplementary teaching and learning material includes amongst others:

- Readymade PowerPoint slides
- Hypothetical scenarios for role play
- Films and videos
- Additional bibliography
- Activities on phishing
- Ready-made, interactive self-evaluation questions e.g. using Mentimeter and
- Evaluation rubrics

For more information: https://teachers4digitalage.eu

References

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2. Disinformation: What are we talking about?

The Module at a Glance

2. Disinformation: What are we talking about?	
Abstract	This module defines disinformation by offering a formal definition and exemplifying it through specific examples and case studies. It discusses disinformation in relation to misinformation, malinformation and fake news. It further relates disinformation to related concepts such as participatory culture and examines phenomena related to disinformation such as echo chambers and the filter bubble while discussing its detrimental consequences for democracy, democratic institutions and values and equal participation in the digital world.
Learning outcomes	• Define disinformation, misinformation, and malinformation, distinguishing between them. • Identify various forms and sources of disinformation, including social media, traditional media, and political propaganda. • Analyse the impact of disinformation on individuals, societies, and democratic processes. • Develop critical thinking skills to discern credible information sources and verify the accuracy of information encountered online.
Resources & equipment	*Resources* ○ *Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training* ○ Nayirah Kuwaiti girl testimony ○ *Snakes have legs* - Original Animation ○ PowerPoint Presentation (SM2.2) *Equipment* ○ Internet connection, interactive monitor or whiteboard and video projector ○ Digital devices (notebooks, tablets, or smartphones) for learners ○ Large paper and markers for group activities.
Total duration	195 minutes

Introduction

Duration: 15 minutes

Learning outcome(s):

- Brainstorm about the topic of disinformation
- Reflect on the mechanisms used to spread misinformation and what leads to the spread of disinformation.

Resources & equipment: PowerPoint Presentation SM2.2 (including Ice-breaking activity, useful definitions, videos)

Description:

Promoting critical thinking is an essential aspect of digital literacy in the information age. Digital media literacy is currently one of the most important skills for active citizenship and democratic participation in the digital age. One cannot be considered as digitally literate today or be able to actively exercise one's rights and responsibilities as an informed citizen, unless they have developed critical thinking skills alongside technical skills. A digitally literate person has the ability to navigate the Internet, access, analyse and evaluate Information. The aim of this module is to raise awareness among students, of the ways disinformation works and to promote the use of critical thinking, specifically when it comes to consuming and disseminating information in the digital world and to equip them with the skills necessary to avoid being manipulated by individuals or organisations that spread false information thus undermining democracy, democratic institutions and values, as well as equal participation in the public sphere online and offline.

In this module we introduce the term **disinformation** and other relevant terms (misinformation, malinformation, fake news, echo chambers, filter bubble, among others) and relate them to important concepts for the discussion of various issues related to disinformation as they will be addressed in the rest of the modules.

Students watch the short video *Snakes have legs* (SM2.1).

Use it to initiate discussion and introduce the ideas discussed in the module. The aim is to allow the group to consider the ways in which misinformation is spread today (the internet is a primary source), reflect on the reason why (what enables the spread of misinformation), consider the absurdity of certain claims (snake have legs) and the faith in fakes which gain credibility because the information was retrieved online ("I read it on the internet"). Questions such as the following may be used to prompt discussion:

- Do you identify any problems with the piece of information shared here (snakes have legs)?
- How did this piece of information spread according to the cartoon and why does the speaker believe it?
- Consider the speaker's disbelief when he comes across an actual snake and his doubt regarding the true identity of the animal he has encountered because it does not fit the information he has received about snakes on the internet. What does that tell us about the information we receive online?

Theoretical Insights

Duration: 55 minutes

Learning outcome(s):

- Define disinformation, misinformation, and malinformation, distinguishing between them.
- Identify various forms and sources of disinformation, including social media, traditional media, and political propaganda.
- Analyse the impact of disinformation on individuals, societies, and democratic processes.
- Develop critical thinking skills to discern credible information sources and verify the accuracy of information encountered online.

Resources & equipment: PowerPoint Presentation (SM2.2), computer with access to the Internet, projector and speakers.

Description:

Of disinformation and related ails

The spread of disinformation has become increasingly prevalent in the digital age, facilitated by the rapid dissemination of information through online platforms and social media. Its impact can be far-reaching, affecting public discourse, political processes, and societal norms.

Disinformation refers to false or misleading information deliberately spread with the intent to deceive or manipulate others and it can cause public harm. It is "verifiably false or misleading information that is created, presented, and disseminated for economic gain or to intentionally deceive the public" (*Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training* - Publications Office of the EU (europa.eu). It differs from **misinformation** which is verifiably false information which is often shared because the users believe it to be true, and **malinformation** which is based on fact, but removed from its original context in order to mislead, harm, or manipulate, or as Wardle and Hossein Derakhshan put it, occurs when "genuine information is shared to cause harm, often by moving information designed to stay private into the public sphere" (*Information Disorder Toward an interdisciplinary framework for research and policymaking*). Unlike misinformation, which may be spread inadvertently or unintentionally, disinformation is created and disseminated with the purpose of influencing beliefs, opinions, or behaviours. It often involves the distortion or fabrication of facts, the manipulation of narratives, or the selective presentation of information to serve a particular agenda.

Disinformation can take various forms, including false news articles, deceptive social media posts, manipulated images or videos, fabricated quotes, and misleading statistics. It is commonly used for political propaganda, to sow discord or confusion, to discredit opponents, or to advance specific ideologies or interests.

Some examples that illustrate the diverse ways in which disinformation can be used to manipulate public opinion, advance political agendas, or undermine trust in institutions

include, but are not limited to, propaganda spread during wartime, the Russian interference in the 2016 US Presidential Election, anti-vaccine disinformation, misinformation during the COVID-19 pandemic, manipulation of information concerning immigrants and refugees in the media, false advertisements in the form of articles promoting products for weight loss, and even spreading incorrect or completely false information about the curriculum of sex education aiming to create moral panic and prevent its teaching in schools. As it can be understood, the breadth of disinformation is vast and its consequences can be detrimental for democracy, civic participation, equality or even peace to name but a few.

These examples underscore the importance of critical thinking, digital media literacy, and vigilance in evaluating information sources and combating the spread of false or misleading information. Combatting disinformation requires critical thinking skills, media literacy education, and efforts to promote transparency and accountability in information dissemination.

Disinformation is distinct from misinformation due to its deliberate intent (Bennett & Livingston 2018; Fallis 2015; Weedon, Nuland, & Stamos 2017). Misinformation pertains to the quality of information, encompassing flawed, misleading, or inaccurate details (Tucker et al. 2018; Weeks and Gil de Zúñiga 2019), and it occurs unintentionally. In contrast, disinformation is purposeful. As Fallis (2015) states, "Unlike an honest mistake, disinformation comes from someone who is actively engaged in an attempt to mislead" (p. 402). Essentially, misinformation is "misleading or inaccurate information," whereas disinformation "includes all forms of false, inaccurate, or misleading information designed, presented, and promoted to cause harm intentionally or for profit" (European Commission 2018, p. 10).

How and why disinformation spreads

Disinformation spreads through several mechanisms, primarily due to its emotional appeal, ease of access, and the algorithmic nature of online platforms. People are more likely to share content that elicits strong reactions, whether it's fear, anger, or validation of their beliefs. Social media algorithms amplify such content because it drives engagement, creating echo chambers where misinformation thrives. Additionally, disinformation can be strategically disseminated by bad actors, such as state-sponsored campaigns or ideologically motivated groups, to influence public opinion, disrupt societies, or achieve political objectives.

Disinformation, which involves spreading false or misleading information with the intent to deceive, is often used by individuals or groups aiming to manipulate public perception and promote specific agendas. According to Doowan Lee and Adean Mills Golub, two experts on disinformation analysis and the co-founders of Veracity Authentication Systems Technology (VAST), disinformation spreads in four significant ways:

- **Social engineering:** Providing a framework to mischaracterize and manipulate events, incidents, issues and public discourse. Social engineering is often aimed at swaying public opinion in favour of a certain agenda.
- **Inauthentic amplification:** Using trolls, spam bots, false identity accounts known as sock puppets, paid accounts and sensational influencers to increase the volume of malign content.
- **Micro-targeting:** Exploiting targeting tools designed for ad placements and user engagements on social media platforms to identify and engage the most likely audiences that will share and amplify disinformation.

- **Harassment and abuse:** Using a mobilised audience, fake accounts and trolls to obscure, marginalise and drone out journalists, opposing views and transparent content" (World Economic Forum, 2022).

One of the common facets of disinformation campaigns is discrediting authoritative voices. According to Ruth Ben-Ghiat, a historian at New York University, those who spread disinformation often aim to undermine trust in elites and reliable sources by linking them to alleged conspiracies and portraying them as corrupt groups. She notes that anti-science and anti-globalism narratives are interconnected (World Economic Forum, 2022). Furthermore, according to experts, reporting the truth is often a costly, time-consuming, and risky endeavour. In an age of instant communication, disinformation spreads rapidly, outpacing the slow, meticulous process of verifying facts. Major stories, especially those with significant consequences, can take weeks or even months to uncover, as demonstrated by the #MeToo investigation. Additionally, reporting from conflict zones or under authoritarian regimes poses significant dangers to journalists, making it challenging to provide accurate, firsthand accounts essential for public awareness and accountability (World Economic Forum, 2022).

Echo Chambers and filter bubbles in the service of misinformation

Although disinformation has been seen by research as a strategic lie and the audience has been seen as a victim, it can also be argued that "people sometimes consume disinformation they want to believe because it confirms their worldview and advances their interests" (Ruiz and Nilsson, 2023, p.20), a tendency also known as confirmation bias which refers to interpreting, favouring, and recalling information in a way that confirms or supports one's prior beliefs or values. As O'Shaughnessy (2020) argues, "the 'victim' of disinformation is by no means necessarily naive: the process could more aptly be described as a co-production, with the target being invited to join a shared fantasy" (p. 55). This is the logic behind ***echo chambers*** (Nguyen 2020), "an epistemic environment in which participants encounter beliefs and opinions that coincide with their own" (Ruiz and Nilsson, 2023, p.18); that is, "a self-reinforcing mechanism that moves the entire group toward more extreme positions" (Cinelli et al. 2021, p. 1), leading to radicalisation. Because on the Internet, people tend to engage more with others who share their interests and viewpoints, virtual communities are created where individuals exchange information that aligns with their own beliefs. These communities are called 'echo chambers' because each person's opinions are essentially reinforced by those of others in the group. Acting as both mirrors and amplifiers of personal worldviews, echo chambers create an environment conducive to radicalization (*Filter bubbles and echo chambers* - Fondation Descartes) thus reinforcing disinformation overall and becoming a breeding ground for conspiracy theories as participants become imprisoned in a **filter bubble**.

A "filter bubble" refers to the process by which information is tailored before it reaches an Internet user. Internet expert Eli Pariser explains that filter bubbles arise from the personalization of online content, which is believed to intellectually isolate users and reduce the variety of information they encounter (Pariser, 2012). For instance, on Facebook, a person with a keen interest in cats will see a significant amount of cat-related content on their news feed. This is due to the algorithms used by digital platforms, which determine users' interests by analysing their online behaviour. (*Filter bubbles and echo chambers* - Fondation Descartes).

Participatory culture and the rise of disinformation

The term "participatory culture" has gained prominence with the rise of Web 2.0 technologies. It signifies the emergence of the "prosumer," an individual who is not just a passive consumer of culture but also an active producer. This shift allows individuals to engage in content creation and archiving by sharing through blogging and platforms like Facebook, X (Twitter), TikTok and YouTube to name but a few. Henry Jenkins, a leading media theorist, contends that participatory culture represents a significant transformation in how individuals interact with media and one another. Unlike traditional media consumption, where audiences passively absorb content, participatory culture enables individuals to actively engage in creating, sharing, and interpreting media content (Jenkins, 2009). The prosumer is celebrated as an empowered individual with the freedom and skills (both tools and literacy) to contribute to the continuous expansion of cultural production enabled by the internet. This view presents a highly optimistic picture of participation, assuming that individuals now have access to forms of self-expression previously unavailable, that all expressions are valuable and desired, and that contributions imply participation and confirm one's presence and identity in the world.

However, several objections can be raised against this view. First, the notion that new media and Web 2.0 technologies have uniquely enabled individuals to become more engaged in content creation is debatable. While traditional media did not offer as many opportunities for creating and sharing content, they did not entirely preclude interactive engagement. The idea that audiences were once media-illiterate, passive recipients of information and have now become media-literate, active communicators is misleading and somewhat offensive. Although technical media literacy is increasing in some countries, critical media literacy—the ability to critically evaluate information and its sources—lags behind. The processes of mediatization, globalisation, and commercialization make media competence (both technical and critical) crucial for identity formation and individual development (Xinaris, 2016).

Second, the concept of participation itself needs scrutiny. Fuchs (2014) critiques the term's use to describe online interactions and content sharing, arguing that it originates from political science and is linked to participatory democracy with Marxist connotations. According to Fuchs, true participation means having the right and reality to be part of decision-making and controlling structures that affect individuals. Therefore, not all contributions can be considered genuine participation, especially from a Marxist perspective.

Participatory culture significantly can reinforce disinformation through several mechanisms. Digital platforms enable anyone to create and share content without traditional gatekeepers, allowing sensational and engaging disinformation to go viral. Social media algorithms promote content that aligns with users' existing beliefs, forming echo chambers that reinforce disinformation while excluding contradictory information. Social validation through likes, shares, and comments makes users more likely to accept and spread false information. Additionally, meme culture simplifies complex issues into misleading statements, while citizen journalism often lacks the training needed to avoid unintentional misinformation. Influencers with large followings can further amplify disinformation, driven by their trustworthiness and potential monetary incentives. As a result, participatory culture can foster an environment where disinformation thrives, underscoring the need for critical thinking, digital media literacy, and responsible platform management.

Empowering users, fighting disinformation

European and international organisations have raised the issue of the alarming increase of disinformation spread on several occasions. In a statement to the Human Rights Council, UN human rights chief Michelle Bachelet highlighted that disinformation is a symptom of deeper global issues like systemic inequality, political disenchantment, and social unrest. Bachelet emphasised the need to restore public trust by addressing these underlying causes and warned against censorship as a solution. She advocated for policies supporting independent journalism, media pluralism, and digital literacy, as well as greater transparency and accountability from social media companies (Rise of disinformation a symptom of 'global diseases' undermining public trust: Bachelet | UN News). Along the same lines, the European Commission's policy on online disinformation aims to tackle the spread of false information through various strategies. These include promoting transparency, enhancing the quality of information, empowering users, and fostering a collaborative approach with online platforms and stakeholders. The Commission also supports research and fact-checking initiatives to combat disinformation. This policy framework seeks to protect democratic processes and public health, especially in times of crisis, by ensuring that citizens have access to reliable and accurate information (https://digital-strategy.ec.europa.eu/en/policies/online-disinformation).

Recognising that disinformation poses a huge threat to democracy, the European Commission strengthened the Code of Practice on Disinformation. This was introduced in 2022 and enhances measures to combat online disinformation. Key elements include stronger actions to demonetize disinformation, increased transparency in political advertising, comprehensive coverage of manipulative behaviours, and improved tools for user empowerment and fact-checking. The Code aims to protect democratic processes and public health by promoting transparency, accountability, and collaboration among platforms, advertisers, and stakeholders. It also includes a robust monitoring framework and the establishment of a Transparency Centre and a permanent Task Force (https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/new-push-european-democracy/protecting-democracy/strengthened-eu-code-practice-disinformation_en)

Furthermore, National Regulatory Authorities (NRAs) play a crucial role in combating disinformation by ensuring media pluralism, safeguarding freedom of expression, and promoting media literacy. They operate independently, balancing regulation and public interest. NRAs implement media literacy programs to empower citizens with critical thinking skills, essential for identifying and rejecting disinformation (Themistokleous, 2019). The Cyprus Radio Television Authority exemplifies this by educating students on evaluating media content. This approach shifts NRAs from market supervisors to key players in fostering democratic values and informed citizenship (The role of National Regulatory Authorities in tackling disinformation - Centre for Media Pluralism and Freedom (eui.eu)

An important tool currently at the disposal of European citizens is the development and establishment of the Digital Services Act. As of 17 February 2024, the DSA rules apply to all platforms. With the introduction of the DSA, "[t]he roles of users, platforms, and public authorities are rebalanced according to European values, placing citizens at the centre" (The EU's Digital Services Act).

"The DSA regulates online intermediaries and platforms such as marketplaces, social networks, content-sharing platforms, app stores, and online travel and accommodation platforms. Its main goal is to prevent illegal and harmful activities online and the spread of

disinformation. It ensures user safety, protects fundamental rights, and creates a fair and open online platform environment." (The EU's Digital Services Act)

The Digital Services Act (DSA) was introduced to tackle several major challenges that arose with the rapid expansion of digital services and platforms. In essence, the DSA was developed to improve user safety, create a more transparent and fairer digital environment, and ensure that large platforms take greater responsibility for the content and services they offer.

Taking into account the growing presence of harmful content, including the widespread circulation of illegal and harmful material, such as hate speech, disinformation, and counterfeit goods, the DSA aims to ensure that online platforms are held responsible for managing this content effectively. In addition, prior to its establishment, limited regulation on how digital platforms moderated content, handled user data, or used algorithms to prioritise information, led to lack of accountability and transparency in the processes used by platforms on these matters; with the DSA, platforms are held accountable for their practices and the dissemination of content on a massive scale through large platforms is governed by clearer regulations to manage their increasing influence and role in large scale dissemination of content. The DSA strengthens user rights by providing better tools to report illegal content, increasing transparency in online advertising, and offering clearer insights into how platforms use algorithms to shape users' online experiences and access to information, thus enhancing the development of filter bubbles.

The Digital Services Act (DSA) strengthens efforts to combat the spread of disinformation through several important measures. It holds digital platforms, particularly large ones, accountable for managing illegal and harmful content, including disinformation, requiring them to implement measures for its quick detection, assessment, and removal. Platforms are also mandated to conduct risk assessments on the impact of disinformation and adopt strategies, such as adjusting algorithms, to prevent the spread of false or misleading content. Increased transparency is another key feature, as the DSA provides users with insights into how recommendation systems and algorithms prioritise content and mandates platforms to disclose more about how targeted ads, often used to spread disinformation, are displayed. Enhanced user reporting mechanisms allow individuals to flag misleading content more easily, with platforms obligated to respond promptly. Cooperation between platforms, fact-checkers, and authorities is encouraged to better identify and counter disinformation campaigns. Finally, very large online platforms (VLOPs) face stricter oversight, with annual audits by national and EU authorities to ensure compliance with the DSA's requirements. Through these measures, the DSA significantly boosts the fight against the spread and influence of disinformation.

While the best approach to counter disinformation is debated, experts agree on the need for collaboration between the public, regulators, and social media companies to limit its spread, as disinformation increasingly dominates the content landscape.

Activities

1. Recognising the workings of disinformation: the Nariyah testimony

Duration: 35 minutes

Learning outcome(s):

- Apply their understanding of disinformation to real-world examples, identifying and explaining the disinformation strategies used.
- Understand the ethical implications of spreading disinformation and the importance of promoting accurate information.

Resources & equipment: Computers or tablets with internet access and projector, large paper and markers for group activities

Description:

1. Learners watch a 6 minute clip from an incident now known as the *Nariyah testimony* (SM2.3).
2. Learners are divided into small groups (4/5 participants in each).
3. Learners discuss in small groups and prepare answers for the following questions:
    - What feelings does the testimony create in you (do not relate any information other than that the testimony concerns atrocities conducted by Iraqi soldiers during the Gulf War)?
    - What techniques and elements of the testimony support the creation of these feelings?
    - What impact do you imagine it had on public opinion?
4. Learners present their answers to the whole group.
5. Once the discussion is completed, the instructor proceeds to share some important information about this case.

    The *Nariyah testimony* refers to a controversial and influential incident that occurred in 1990, involving a 15-year-old Kuwaiti girl known only by her first name, Nariyah. This testimony played a significant role in shaping public opinion and U.S. policy during the lead-up to the Gulf War.

    The *Nariyah testimony* remains a key case study in media studies, public relations, and political science, highlighting the complexities and potential consequences of disinformation and propaganda. It was later revealed that Nariyah was the daughter of Saud Al-Sabah, the Kuwaiti ambassador to the United States, a fact that was not disclosed at the time of her testimony and that the testimony was part of a campaign organised by the public relations firm Hill & Knowlton, hired by the Kuwaiti government to garner support for military intervention.

    Once the instructor reveals the truth about this testimony learners are asked to react and answer the following questions, as a group:

    - Is this a case of disinformation? Why?

- If the public was deceived on this occasion, what moral issues arise?
- What are the ethical implications of using deceptive practices in advocacy and public relations?
- Summarise in what ways this is an example of how disinformation manipulates public opinion with often catastrophic consequences.

2. Understanding Conspiracy Theories and Echo Chambers

Duration: 35 minutes

Learning outcome(s):

- Understand the nature of conspiracy theories and echo chambers.
- Develop skills to analyse and identify how conspiracy theories spread.

Resources & equipment: Computers or tablets with internet access, examples of real and fictional conspiracy theories, large paper and markers for group activities.

Description:

1. Divide learners into small groups of 4-5 people.
2. Provide each group with examples of discussions on 'Conspiracy Theories', both real and fictional, (SM2.4.1, SM2.4.2, SM2.4.3) and a brief overview of an echo chamber (connection between COVID 19 spread and 5G; connection between vaccines and autism; teaching children sex education will make them gay).
3. Each group will analyse one conspiracy theory example and answer the following questions in general sentences:
    - How does this conspiracy theory fit into an echo chamber?
    - What are the common traits of the echo chamber for this theory?
    - How is the conspiracy theory reinforced within this group?
4. Groups should identify specific online behaviours, platforms, and communication methods that contribute to the spread of the conspiracy theory (e.g. blocking online participants with whose views you disagree, from an online discussion of Facebook; that means you do not get to consider different views and opinions which may enrich your understanding of a situation).
5. Each group presents their analysis, explaining how their assigned conspiracy theory spreads through an echo chamber.

3. How Participatory Culture Can Reinforce Disinformation

Duration: 30 minutes

Learning outcome(s):

- Define participatory culture, disinformation, echo chambers, filter bubbles, and social validation.
- Explain how digital platforms enable the creation and spread of user-generated content.

- Evaluate case studies of disinformation spread through participatory culture, such as Pizzagate or COVID-19 conspiracy theories.

Resources & equipment: Computers or tablets with internet access and projector; large paper and markers for group activities.

Description:

The instructor asks the group to explain in their own words and provide examples of what participatory culture refers to, based on the discussion from the first part of the Theoretical Insights. Once learners have established an understanding of what participatory culture refers to, the instructor summarises the events and information concerning Pizzagate (see SM2.5) and then proceeds to ask learners, in their groups, to make a list of the ways in which they believe disinformation was spread (see SM for possible answers). After the points have been shared in the class, the instructor leads a discussion about this incident, filling in information and guiding when and if necessary to lead students to understand how irresponsible use of the ability to participate in the online world may have direct material consequences in the society.

Possible questions to be used in the discussion are, but not limited to, the following:

- What would have been the responsible way for users to assess and evaluate the (dis)information spread?
- Are there technical means which they could have used?
- Do the platforms have a responsibility to fact check?
- Are users "innocent" in the way disinformation has spread?
- Is this a case of dis-information or mis-information? Explain why.

Assessment and Evaluation

1. How to misinform and manipulate people's opinion: prepare your own piece of disinformation

Duration: 25 minutes in class before end of lesson and asynchronous work after class

Learning outcome(s):

- Identify common tactics and techniques used in disinformation campaigns, such as fake news, manipulation of facts, and selective presentation of information.
- Understand how easy it is to manipulate information through representations (images, texts, sound. etc).
- Explore the motivations behind disinformation campaigns, including political, economic, and ideological factors.
- Reflect on the ethical implications of creating and spreading disinformation, including its potential harm to individuals, communities, and democratic institutions.

Resources & equipment: Digital devices (notebooks, tablets, or smartphones)

Description:

Learners are divided into groups of 5-6 individuals and are invited to attempt to purposely misinform an audience, i.e. to develop their own example of disinformation through any means they choose: write an article, develop a short video collage of images, create a cheap fake etc. The aim is to allow them to explore motivation, understand how easy it is for information to be manipulated with the aim to mislead an audience and lead them to a false belief, and to reflect on the ethical consequences of such an action.

Allow the learner to go in their groups, offer them a few minutes to discuss the assignment among them and then spend approximately 10-15 minutes discussing the assignment with them and respond to any questions. Emphasise the learning outcomes of this activity (please see above), taking some time to explain that the aim is for them to see that disinformation is easy to create and spread but the damage done by it might be difficult to undo.

This is a complex yet creative assignment, therefore, there are several steps in this activity, as follows:

- Decide on an audience, e.g. parents of high school children, the general public, teenagers etc.
- Decide on a topic, e.g. immigration, COVID-19, sex education in schools, miracle cures for obesity etc.
- Decide on what you want your audience to understand or believe, e.g. that COVID-19 and 5G are related, that sex education in schools promotes homosexuality, that the promotion of fitness and a healthy diet is part of a plan to monetise every aspect of health and wellness, that there is an anti-milk campaign boycotting dairy products which has been instrumented by cows themselves etc.
- Decide on the mode of communication, e.g. video collage, an article, a cheap fake.
- Develop your material and organise the information in a way that supports your goal to misinform your audience by using strategies discussed in this module.
- Following completion of this task, write a short reflection piece of about 600 words on the ethical implications of your work: what consequences might spreading this piece of disinformation have among your target audience and beyond, how and who can it cause harm to, what would you do if you were the recipient of this piece?

An Assessment Rubric for this assignment is available for use by the instructor. Its purpose is to offer guidance to the instructor as to evaluate the assignment. The instructor may choose to share the Assessment Rubric with the class prior to completion of assignment as to allow for transparent evaluation procedures and to help learners understand how this assignment is assessed.

Assessment Rubric

For the Assessment Rubric see SM2.6

This rubric covers various aspects of the assignment, from the selection of audience and topic to the ethical reflection and technical quality of the work. It provides a comprehensive framework for evaluating the learners' understanding and execution of the disinformation task.

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Multimedia Resources

Nayirah Kuwaiti girl testimony

Snakes have legs - Original Animation

Defending Truth | Davos 2024 | World Economic Forum

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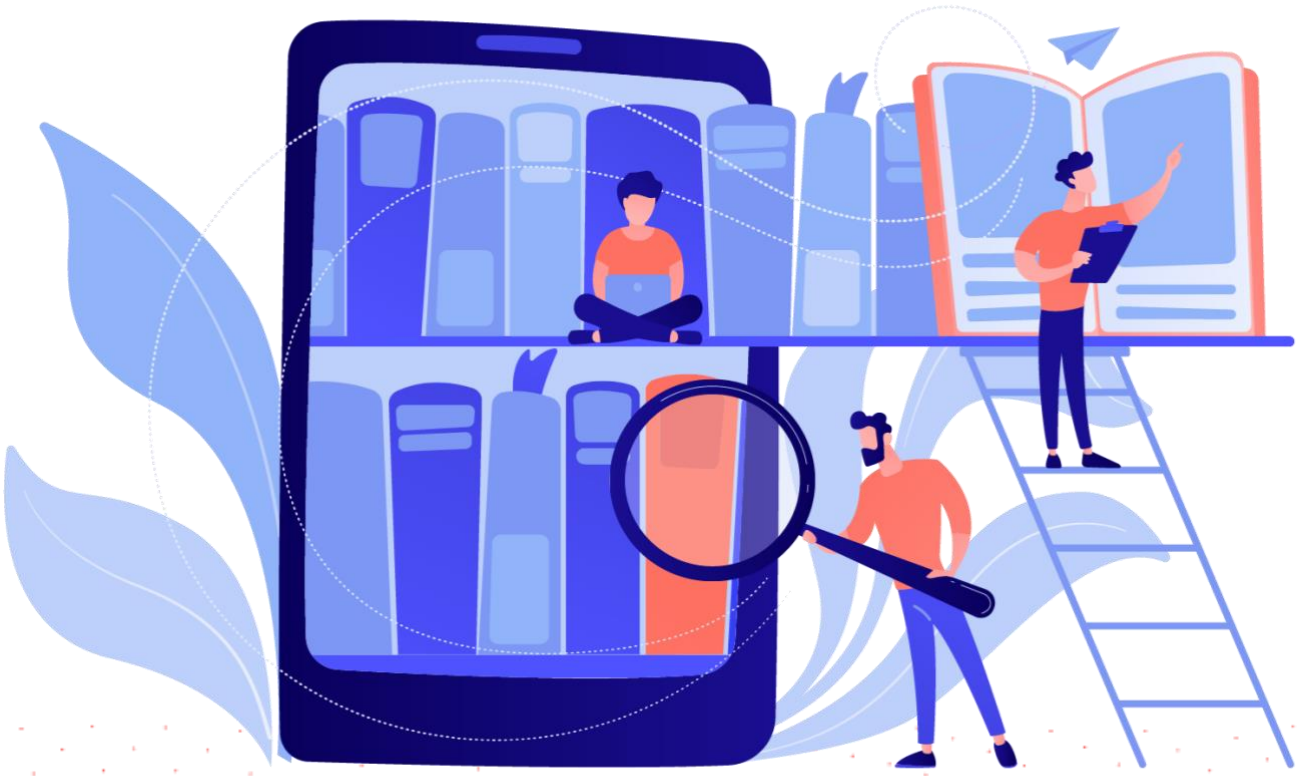
3. More Key Terms and Definitions



The Module at a Glance

3. More Key Terms and Definitions	
Abstract	The aim of this module is to approach basic terms related to digital media literacy and misinformation, on a theoretical and practical level. First, a glossary is provided, which includes a conceptual clarification of key terms and indicative examples of each. This is followed by activities which, through the active participation of the trainees, aim to familiarise them further with these terms, such as troll, phishing, cheapfake, deepfake and verification.
Learning outcomes	• Use skills to critically evaluate the credibility and reliability of online sources • Communicate respectfully and effectively in various digital environments, including emails, social media, and forums • Understand the importance of protecting personal information and the risks associated with sharing personal data online • Identify various forms of cyber threats such as phishing, troll, malware.
Resources & equipment	*Resources* ○ PowerPoint (SM3.1, SM3.2) ○ https://spotthetroll.org/start ○ https://www.youtube.com/ ○ 20 types of phishing attacks + phishing examples - Norton ○ What is Phishing? How Does it Work, Prevention, Examples (techtarget.com) ○ What is phishing? | Examples & Prevention (terranovasecurity.com) ○ What Is Phishing? Examples and Phishing Quiz - Cisco ○ What Is Phishing and How to Avoid the Bait (youtube.com) ○ https://www.youtube.com/watch?v=3wVpVH0Wa6E ○ https://www.youtube.com/watch?v=sDOo5nDJwgA&t=84s&ab_channel=WashingtonPost ○ https://medium.com/@efim.lerner/authenticating-identity-methods-to-confirm-the-real-person-behind-a-name-2037d9bd716e ○ https://dashdevs.com/blog/account-verification-practices/ ○ https://www.criipto.com/blog/what-is-authentication ○ https://iguru.gr/einai-elegchos-taftotitas-dyo-paragonton-giati-prepei-chrisimopoieite/ ○ https://doubleoctopus.com/security-wiki/authentication/single-factor-authentication/ ○ https://mshelton.medium.com/two-factor-authentication-for-beginners-b29b0eec07d7 ○ https://doubleoctopus.com/security-wiki/authentication/multi-factor-authentication/

	○ https://www.elprocus.com/biometric-authentication-system-applications/ *Equipment* ○ Internet connection, interactive monitor or whiteboard and video projector ○ Digital devices (laptops, notebooks, tablets, or smartphones) for learners.
Total duration	195 minutes

Introduction

Duration: 20 minutes

Learning outcome(s):

- Demonstrate understanding of digital citizenship and activism and its importance in participating meaningfully in our digital society.
- Learn about their digital rights, including the right to privacy and freedom of expression.
- Understand the responsibilities that accompany their digital rights, such as respecting others' rights.

Resources & equipment:

- PowerPoint Presentation Digital Citizenship (SM3.1)
- Internet connection and interactive monitor or whiteboard and video projector.
- Digital devices (BYOD, notebooks, tablets or smartphones + internet connection) for learners.

Description:

a) The instructor introduces the topic and the activities of the module.

b) Learners watch the short video "How to be a Responsible Digital Citizen? (youtube.com) to initiate discussion and introduce the Ideas discussed in the module. Then, the instructor teaches about Digital Citizenship also using the presentation (SM3.1)

A. DIGITAL CITIZENSHIP

The world has changed dramatically in the last 30 years. The rise of the internet means that much of our lives now takes place online, and the process of digitising society only seems to be accelerating. With this rapid change comes the need to know about digital citizenship – the roles, responsibilities, and skills for navigating digital life.

What is digital citizenship?

Susan Halfpenny from the University of York defines the concept as follows: “On a simplistic level, we might take digital citizenship as the ability to access digital technologies and stay safe…However, we also need to consider and understand the complexities of citizenship as

we start to become a digital citizen, using digital media to actively participate in society and political life".
So, digital citizenship is the ability to access digital technologies safely and responsibly, as well as being an active and respectful member of society, both online and offline.

Who are digital citizens?

Digital citizens are people who develop the skills and knowledge to effectively use the internet and digital technologies. They're also people who use digital technologies and the internet in appropriate and responsible ways to engage and participate in society and politics. Effectively, anyone who uses modern digital technology can be considered a digital citizen. However, a *good* digital citizen is informed about the various issues that come with the incredible benefits of technology. This is why it's so essential to teach digital citizenship in schools and other educational institutions.

Why is digital citizenship important?

When we consider that essentially everyone with an internet connection is a digital citizen, the concept of digital citizenship becomes a critical part of our lives. No matter what age a person is, knowing how to stay safe, respect others, and participate meaningfully in our digital society becomes a necessity.

1. Because we are a global community: The latest statistics show that around 4.66 billion individuals worldwide are active internet users, roughly 65.6% of the world's entire population**.** As such, there is a global community of people, each navigating the digital world. With this incredible level of connectedness, we can communicate with people we may never physically meet, share content and stories to wide audiences, and access information, news, and media on demand. However, with this access comes potential risks.

2. Because there are risks that come with digital technology: The dangers of technology are numerous and varied. Whether it's cyber security threats to our personal data, wealth, and identity or the dissemination of disinformation or illegal materials, the internet can be a dangerous place. Data shows that 80% of fraud in the UK is cyber-enabled, while 25% of all UK businesses fell victim to cybercrime in 2019. Furthermore, Europol's Internet Organised Crime Threat Assessment (IOCTA) 2024 outlines that cybercrime now poses a significant threat to the fundamental rights and security of EU citizens. It also highlights that cyber-attacks and online fraud have become increasingly sophisticated, making them harder to detect and combat effectively.

3. Because young people are increasingly online: Young people, in particular, face risks online. In 2020 in the UK alone, roughly one in five children aged 10 to 15 years in England and Wales (19%, or around 764,000 children) experienced at least one type of online bullying behaviour. When you couple these stats with the fact that children spend over 20 hours a week online by the time they're in their teens, the need to understand and teach digital citizenship becomes apparent.

4. Because there is a digital skills gap: According to a recent report in the science journal Nature, the COVID-19 pandemic has caused rushed digitalization of primary and secondary (K12) student education. Students around the world had to learn online, and the rapidly

changing digital landscape made it a difficult transition for many students (and their teachers) (Jackman et al., 2021).

The Nature article goes on to highlight those issues such as limited digital skills, technology access, inequality, and systemic racism were all hampering progress.

Which are the elements of digital citizenship?

1. Equal access: Above, we mentioned that the COVID-19 pandemic has highlighted an issue around access to digital education. There are a couple of points to bear in mind with this issue. The first is to recognize that not all students have the same access to computers, smartphones, or the internet. Teachers and educators must be aware of this fact, ensuring that there are suitable alternatives that meet the needs of students. It's also important to help students understand that learners, both local and those around the world, may have different access to technology, either in the classroom or at home. There is a certain privilege and responsibility for those who do have access.

2. Digital skills: Those growing up in the digital age should be digitally fluent, able to use and understand the latest technology. Not only does this help them safely and securely navigate the digital world, but it also helps them understand how technology shapes our society. The current generation of learners will go on to shape the future of the digital world, so a thorough understanding of it can help ensure that everyone has a voice in what's to come.

3. Communicating online: Most of us communicate in the digital space somehow, whether through social media, instant messaging, or other formats. However, communicating online is often vastly different from in-person interactions. Nuance, tone of voice, body language, and other non-verbal cues aren't evident. What's more, the physical distance, relative anonymity, and lack of consequences can make some people be less empathic.
Working on emotional intelligence can help with self-awareness, self-management, social awareness, and relationship management, all of which can make us better at communicating in the digital space. We each have a responsibility for our actions online, and it's important to teach about the consequences of misconduct in a virtual space.

4. Data safety: One of the consequences of having our digital personas online is that we end up creating a digital footprint of our data. Whether it's creating social media posts, handing over personal details, or uploading our content to cloud storage, we each create vast amounts of data. Knowing about data safety can help you keep your rights and freedoms, prevent fraud and cybercrime, and ultimately, give you control over who uses your data and how. Although laws and regulations such as GDPR exist to protect people online, we are each responsible for what we share. Teaching digital citizenship is about ensuring learners know how much information they produce and how that data is used, for good and for ill.

5. Freedom of speech: The internet gives everyone a voice to express themselves. As we've discussed, this can bring both positives and negatives. In our post on freedom of speech, we explored how freedom of speech is paramount to democracy. If we cannot speak freely, it often means our liberties are being restricted in some way. However, freedom of speech doesn't mean that you have the freedom to say anything without consequence. For example, it's often inappropriate to speak freely if it infringes on someone else's freedoms. Understanding the concept of free speech and how it applies in the digital age is essential to

becoming a good digital citizen. You can learn more about the varying uses of social media around the world and its consequences on relationships, politics and everyday life with our course on the anthropology of social media.

6. Digital wellbeing: Another consideration is how digital technology affects our health, relationships and society. When teaching digital citizenship, it's important to have your learners consider how much time they spend interacting with technology, how it makes them feel, and how they can stay physically and virtually safe.

7. Cyber security: As well as taking control of our own data, we also must be wary of cyber security threats in a digital space. Part of digital citizenship is about understanding how people can use technology to exploit vulnerabilities, steal data, and threaten devices. It's also essential to know how to stay safe online and prevent such threats.

How can we teach Digital Citizenship?

1. Use blended learning: Perhaps one of the most useful ways to teach digital citizenship is to use blended learning – a mix of traditional face-to-face learning experiences and online and mobile technologies. The aim is that each element enhances the other. Blended learning can help learners use and master some of the technology and software that is shaping the modern world, all through a structured and supervised way.
Of course, we've already mentioned the fact that students may not have the same access to technology outside of the classroom, so it's important to bear this in mind when planning study materials.

2. Discuss key themes: With topics such as freedom of speech, cyberbullying and digital wellbeing being linked to digital citizenship, there is plenty of scope for discussion. Of course, some of these topics could cause distress or controversy, so it's important to prepare appropriately.
By discussing these topics with your learners, you can promote critical thinking and empathy, as well as raising awareness about the subjects you're covering.

3. Work on digital media literacy: Depending on the setting, digital skills may already be a part of the curriculum so that your students can understand and use technology. For example, you could build a makerspace for young people, where they can use their digital skills in the real world.
Whether it's teaching the basics of digital computing in primary school or working with secondary learners on programming skills, you can improve your students' understanding of how technology is changing our society.

4. Be inclusive: Inclusivity is a central part of teaching digital citizenship. After all, each of us has a role to play in the digital age we live in. For example, you may want to plan lessons that are more inclusive for learners with special educational needs and disabilities. Creating an inclusive classroom, whether in person or online, helps to establish some of the key themes behind digital citizenship, as well as give all learners the opportunity to reach their potential.

B. ACTIVISM

Until recently, most digital citizenship efforts have focused primarily on teaching youth to protect themselves online. But this is only the beginning: digital media provide unique

opportunities for youth to become involved, to speak out, and to effect change both online and offline.

While youth believe that online spaces should be free of racism, sexism and harassment (Steeves, 2014), youth are often reluctant to speak out against prejudice and bullying online (Li et al., 2015).

Helping youth to understand their rights – as consumers, as members of a community, as citizens and as human beings – is central to empowering them to deal with cyberbullying, hate speech and online harassment. To respond to hate and harassment online, though, youth need not only to be trained in digital media literacy skills but to be empowered to speak out and exercise their full rights as digital *citizens*.

As we develop our definitions of digital media literacy and digital citizenship, therefore, it's important to remember that citizenship brings with it not just responsibilities but rights as well.

Digital citizenship may involve using digital media to engage with issues in the local community or state politics. If we can empower young people to influence their online cultures so that respect is the norm, we can empower witnesses to act.

Youth also need to know that speaking out *can* make a difference: research has shown that if just ten percent of the members of a group hold an unshakeable belief, that belief will spread to the majority (Xie et al., 2011). In fact, even smaller numbers can influence the values of their cultures: other studies have found that group members are much less likely to conform to the group's attitudes if even *one* person expresses a different opinion (Dean, 2023).

Digital citizenship may also focus specifically on influencing *online* communities, such as campaigns aimed at improving the climate of social media (Boldt, 2012). Because of the corporate nature of nearly all networked environments frequented by youth it is also important to include *consumer* activism in our definition of digital citizenship. This involves a recognition of the corporate nature of most online "communities" and "public spaces" as well as an understanding of what rights youth possess as consumers and how to exercise them, including using platforms' complaint/reporting mechanisms and organising public pressure campaigns (such as the effort to get Facebook to be more responsive to complaints about hate material.) (Steeves et al., 2020; Chemaly, 2013). In order for youth to exercise their rights as consumers, though, they need to understand the commercial considerations of the media they use - particularly those that use their data and personal information as a source of revenue.

This approach provides the essential link between teaching youth what they can do to influence the values of their online and offline spaces and empowering them to do it. Youth need to know that they don't give up their rights when they go online and, in fact, may have rights they're not aware of. For instance, the United Nations Convention on the Rights of the Child provides youth with essential rights to privacy, to free expression, to education and access to information, and to be free from discrimination, fear, violence and harassment. If youth are not aware of these rights, they may choose not to engage fully with digital media, which can lead to narrowed opportunities and, as an ironic result, lower levels of confidence, resiliency and safety skills (Third et al., 2014).

Theoretical Insights

Duration: 25 minutes

Learning outcome(s):

- Know the basic terminology associated with the digital media literacy
- Assess the reliability of digital sources and identify biases
- Understand how digital media can shape and reflect cultural, social, and political perspectives.

Resources & equipment:

- PowerPoint Presentation (SM3.2)
- Computer with access to the Internet, projector and speakers.

Description: Instructor presents the key terminology for this module and for each concept is having a little discussion with the learners of the meaning. Then through the presentation the concept is presented, and the instructor explains it better.

Terminology and examples/images

A. Key Terminology

1. Digital Revolution
2. Digital Footprint
3. Digital Divide/Network Society
4. Produser/Prosumer
5. Information Overload
6. Verification
7. Troll
8. Deep Web/Dark Web
9. Phishing
10. Cyberactivism
11. Cyber Bullying
12. Cloaking
13. Filter Bubbles
14. Cheap Fake
15. Deepfake

B. Conceptual Definition of Key Terms

1. Digital revolution: The digital revolution refers to the radical change brought about by the development and diffusion of digital technology in recent decades, which has affected almost every area of human activity, from the economy and education to communication and everyday life. It is characterised by the speed, scope and impact of technological change, often referred to as the 4th Industrial Revolution. The digital revolution today continues to rapidly change the landscape in many areas and its continuous evolution is influencing and transforming various aspects of human activity. The continuous advancement of technology creates new challenges and opportunities in all sectors of society. It also means a different development of post-digital (Jandrić et al., 2018; Schwab, 2016).

2. Digital footprint: A digital footprint can be defined as any trace (e.g., data or information) generated by a user's online activity and behaviour. Digital footprints can include a user's posts on social media such as text, photos, videos, the groups they participate in and like, and web searches. A digital footprint can be passive or active. A passive digital footprint is created unknowingly and without the user's will, for example when using a search engine. An active digital footprint refers to the data or information that a user knowingly produces, posts and shares online under his or her real name. An example of an active digital footprint

is a post on Facebook or Instagram, a comment on a website, a reaction on a YouTube video (Chen et al., 2019; Nawi et al., 2020).

3. Digital Divide / Network Society: The digital divide is the phenomenon of inequality in access to and skills in the use of digital media and technologies. In the beginning, the digital divide was associated with the criterion of whether or not one has access to the internet. However, subsequent research has focused on issues not only of access but also of the skills that users of digital media should possess. In order to address the problem of the digital divide, it is necessary to look at inequality not only in terms of access but also in terms of knowledge and skills to use these technologies. This approach allows for a more comprehensive understanding and response to the phenomenon, ensuring that all users have the necessary capabilities to make full use of digital media in their daily lives (Van Dijk, 2020; 2017).

4. Produser/Prosumer: The term is used to denote a hybrid producer-user, because on the web the concepts of producer, consumer and end-user are difficult to distinguish from each other. It essentially describes the producer-consumer merger, as the web is often created by users with an emphasis on interactivity, collaboration and sharing. An example are the large databases, e.g. Wikipedia, which are created with the participation of users (Barker & Jane, 2016).

5. Information Overload: The term information overload refers to the flood of information on the internet which can be disorienting for a user who lacks the ability to critically manage the volume of information. The necessary precondition for avoiding the negative aspects of information overload is critical digital literacy and the development of a search culture (Barker & Jane, 2016; Savage & Barnett, 2015).

6. Verification: It is the process by which the authenticity or existence of a website, address, account or information is verified. Types of authentication vary (e.g. single-factor authentication, two-factor authentication, multi-factor authentication and biometric authentication). Large platforms and services are required by law to use strict user authentication (e.g. entering a code obtained over the phone, fingerprint scanning) (European Commission, 2022; Parker, 2022).

7. Troll: Troll is a term often used on the internet to describe a person who seeks to insult or provoke other users in order to anger them, dominate any discussion, or attempt to manipulate the opinions of other users. The problems arising from such behaviour have increased significantly with the proliferation of social media. In particular, a troll often uses aggressive or offensive language, with the aim of slowing down the normal progress of an online discussion and possibly interrupting it. The actions of such individuals can undermine the cohesion and fruitful exchange of views in online communities, creating a hostile and uncomfortable environment for other participants (Tomaiuolo et al., 2020).

8. Deep Web/Dark Web: Deep Web is the huge part of the web that is not classified and cannot be found by traditional search engines but the content can be accessed with standard browsers. The Dark Web, a subset of the Deep Web, requires special software to access and can be the basis for illegal activities (Barker & Jane, 2016).

9. Phishing: Phishing attacks use fraudulent emails, text messages, phone calls or websites to trick people into sharing sensitive data, downloading malware or otherwise exposing themselves to cybercrime. Phishing is an increasingly common type of cyber-attack. A phishing attack is based on a social engineering effort where hackers create a fake communication that appears legitimate and appears to come from a trusted source. The motives for phishing attacks vary, but primarily attackers seek valuable user data such as personally identifiable information (PII) or login credentials that can be used to commit fraud by accessing the victim's financial accounts. Once attackers have login information, personal data, access to online accounts or credit card data, they can obtain permission to modify or subvert more cloud-connected systems and, in some cases, breach entire computer networks. The first forms of phishing attacks appeared decades ago in chat rooms. Since then, phishing has evolved in sophistication to become one of the largest cyber-hijacking schemes on the Internet leading to business email compromise (BEC), email account takeover (ATO) and malware (ransomware). More recently, artificial intelligence (AI) has facilitated this with hackers collecting identifying information about groups or individuals to target and then using various phishing techniques (Alanezi, 2021; Alkhalil et al., 2021; Alsharnouby et al., 2015; Apandi et al., 2020).

10. Cyberactivism: The use of the internet, especially email, websites and blogs, as vehicles for political intervention and political activism. This is the possibility offered by the internet to enable new forms of political activism through cooperation with previously marginalised groups from the public sphere and with little or no access to public discourse. It is a result of opening up the public sphere to excluded groups in the pursuit of social justice. An example of this kind of cyberactivism is the *Occupy Wall Street* movement, with the horizontal and non-hierarchical relationships between participants as a basic organising principle. It can be argued that assertive movements are now hybrids of online and offline activity (Barker & Jane, 2016; Dahlgren, 2013; McCaughey, 2014).

11. Cyberbullying: Cyberbullying is a repeated, aggressive, intentional act or behaviour carried out using digital technologies by an individual or group against a target person who cannot easily defend him/herself. However, the three key criteria that define traditional bullying (repetition, intent, and imbalance of power) often may not correspond to cyberbullying. The media used for the latter are the telephone, email, text messages, digital text or image messages, online chat rooms, blogs, websites, web pages, discussion groups, online games, social networking sites. Examples of cyberbullying include sending harmful, abusive or threatening messages, images or videos through messaging platforms or impersonating someone, social exclusion and sending malicious messages to others on their behalf or through fake accounts (Beam, 2019; Hinduja & Patchin, 2014; Smith et al., 2013; Sprague & Walker, 2021).

12. Cloaking: Cloaking is defined as online deception designed to disguise the true purpose or identity of the operators of a website. It is a common "baiting" technique used to conceal the true nature of a website by providing apparently different semantic content to different user segments. It is a search engine optimization (SEO) technique to illegally gain user traffic for scams. In the case of cloaking, the content presented to search engines is different from what users see when they visit the website. Popular search terms are usually used to direct users to pages with irrelevant content in order to deceive them.

The term is also used to describe websites created by individuals or groups who conceal their true identity in order to disguise a hidden political agenda. The problem is mainly that the masquerade websites are in a context in which it is becoming increasingly difficult to distinguish facts from propaganda (Barker & Jane, 2016; Daniels, 2009; Wang et al., 2011).

13. Filter Bubble: The term filter bubble describes situations in which internet users encounter only information and opinions that conform to and reinforce their own beliefs. These are information personalisation strategies and are due to algorithms that lead to the separation of information with which the user is likely to agree and those with which he/she disagrees, adapting the results offered by search engines to their previous online activity. Over time, this ideological separation is reinforced as the algorithm promotes the information that the user prefers, corresponding to his/her interests, level of education, political beliefs and purchasing habits. In this way, he/she is in a familiar bubble of beliefs and belonging and is not exposed to other ways of thinking. The bubble phenomenon is a cause for concern, because bubbles are invisible, their characteristics are opaque and are not a personal choice of the user, so it could have an impact on the democratic and communicative potential of the internet (Barker & Jane, 2016; Christian, 2023: Pariser, 2011).

14. Cheap Fake: A cheap fake is the modification of a digital content, mainly image and video. An example of cheapfake can be changing the face in a photograph, adding a different voice or different content of a person's speech to a video. The effect of cheapfaking is usually implemented using conventional and affordable technology and is relatively easy to detect (European Commission, 2022).

15. Deepfake: Deepfaking is the falsification of a digital content about people or events that did not exist/incurred in reality. It is a product of artificial intelligence and it is very difficult to detect its falsification. Deepfake content can be divided into four main categories: image, audio, video, and audio/video. Deepfake image usually depicts in it the body or face of a person in the face or body of another person respectively. In audio, the dubbing replaces the content of a person's voice or speech with another or creates new sound with the same person's voice. In video or audio/video that have been dubbed, they depict faces on the faces of other people in the video. Also, one person's body movement can be transferred to another person's body. Finally, the content of the shadowing may lip sync with the movement of a person's mouth and make it appear that the real person is talking about a topic they have never talked about (European Commission, 2022; Whittaker et al., 2023).

Activities on the term Troll

1. Identify Troll Accounts and their Impact on Digital Democracy

Duration: 20 minutes

Learning outcome(s):

- Identify fake social media profiles
- Distinguish between genuine and fake social media accounts
- Become aware of the risks of fake profiles

- Examine the consequences of online "trolling" for online communication and digital democracy
- Explain the risks of 'trolling' for digital democracy

Resources & equipment: Computer with access to the Internet, projector and speakers.

Description: In order to achieve the learning outcomes, the model of online collaborative learning (Harasim, 2017) is followed, according to which the construction of knowledge takes place through three phases:

Phase 1: Brainstorming (5 minutes duration): The instructor informs the learners about the subject under study, which is trolling. Initially, the instructor asks learners if they have ever heard about trolls and if they have examples of false profiles. They discuss for a few minutes their pre-existing knowledge and opinions about examples of trolls. Then with the brainstorming technique, the trainees attempt to answer the question: *"Do you know of any examples of fake profiles in social networks?"*

Phase 2: Organising ideas - Phase 3: Convergence of ideas (10 minutes duration): Thereafter, the instructor shares the link *https://spotthetroll.org/start* (SM3.3), the learners visit the website and find out about the purpose of the activity. The instructor asks the trainees to examine the eight (8) social media profiles presented on the website, reading the posts and features of each account. The trainees are then asked to decide whether each profile is authentic or a troll based on the posts and information provided.
The instructor presents the learners the concept of “Digital Democracy”. Then, learners are divided into groups and the instructor and asked to develop arguments on the question: "Online Trolling: Fun or Obstacle to Digital Democracy?" using a collaborative document (Berg & Hofmann, 2021; Sgueo, 2020).

Phase 4: Closure (5 minutes duration): Each group presents its arguments and discusses them with the entire class.

Activity on Phishing

1. Understanding and Preventing Phishing Attacks

Duration: 25 minutes

Learning outcome(s):

- Define phishing and identify common phishing tactics
- Recognize phishing emails, messages, and websites
- Implement strategies to avoid falling victim to phishing attacks.

Resources:

- PowerPoint presentations (SM3.4 and SM3.5)
- 20 types of phishing attacks + phishing examples - Norton
- What is Phishing? How Does it Work, Prevention, Examples (techtarget.com)
- What is phishing? | Examples & Prevention (terranovasecurity.com)
- What Is Phishing? Examples and Phishing Quiz - Cisco

- What Is Phishing and How to Avoid the Bait (youtube.com)
- Computer with access to the Internet, projector and speakers.

Description:

To achieve the learning outcomes, the model of online collaborative learning (Harasim, 2017) is followed, according to which the building of knowledge takes place through three phases:

Phase 1: Brainstorming (5 minutes duration): The instructor informs the learners about the subject under study, which is phishing. Initially, the teacher asks learners if they have ever heard what phishing is and if they have received an email or message that looks like a phishing attack. They discuss for a few minutes on their pre-existing opinions and knowledge in the specific theme. Then, with the brainstorming technique, the trainees attempt to answer the question: "In what ways can we recognize a phishing attempt?". Afterwards, they watch the educational video about phishing What Is Phishing and How to Avoid the Bait (youtube.com) and have the presentation (SM3.4).

Phase 2: Organising ideas - Phase 3: Convergence of ideas (15 minute duration): Thereafter, the instructor cites the learners three examples of phishing (SM3.5). The first one is a phishing email from a bank account. The second one is a phishing email from Netflix and the third one is a smishing (phishing message) from a hypothetical order. In the last case there are two messages. One is legitimate and the other is smishing. They read the three case studies, each one separately, and they try through discussion to spot the red flags and detect the phishing attacks based on the video they have watched previously.
The learners are divided into groups and summarise the elements that make up fishing techniques for each one of the examples of phishing. Furthermore, they state prevention methods and coping strategies.

Phase 4: Closure (5 minutes duration): The groups present strategies to be adopted to avoid falling victim to phishing.

Activities on Cheap/Deepfake

1. Identifying and Dealing with Cheap Fake and Deepfake content

Duration: 25 minutes

Learning outcome(s):

- Recognise cheap/deepfake content
- Explain the dangers of cheap/deepfake content
- Identify the dangers of cheap/deepfake for democracy and individuals,
- Propose actions to enable them to identify cheap/deepfake content; and
- Propose actions to avoid becoming victims of cheap/deepfake

Resources & equipment:

- PowerPoint presentation (SM3.6)
- https://www.youtube.com/watch?v=sDOo5nDJwgA&t=84s&ab_channel=WashingtonPost

- https://www.youtube.com/watch?v=3wVpVH0Wa6E
- https://www.youtube.com/watch?v=cQ54GDm1eL0
- https://www.bloomberg.com/news/newsletters/2023-04-06/pope-francis-white-puffer-coat-ai-image-sparks-deep-fake-concerns
- How to Protect Yourself Against Deepfakes - National Cybersecurity Alliance (staysafeonline.org)
- Computer with access to the Internet, projector and speakers.

Description:

To achieve the learning outcomes, the model of online collaborative learning (Harasim, 2017) is followed, according to which the construction of knowledge takes place through three phases:

Phase 1: Brainstorming (5 minutes duration): The instructor informs the learners about the subject under study, which is cheap/deepfake. Initially, the instructor asks learners if they have ever heard about cheap/deep fake and if they have examples of these. They discuss for a few minutes on their pre-existing knowledge and opinions about examples for cheap/deep fake. Then with the brainstorming technique, the trainees attempt to answer the question: "Do you know any examples of cheap fake or deep fake? Learners share their views and experiences regarding cheap/deep fake.

Phase 2: Organising ideas - Phase 3: Convergence of ideas (15 minutes duration): The instructor divides the learners into 4 groups and shares the link of videos in that order(SM3.6):
https://www.youtube.com/watch?v=sDOo5nDJwgA&t=84s&ab_channel=WashingtonPost
https://www.youtube.com/watch?v=3wVpVH0Wa6E
https://www.youtube.com/watch?v=cQ54GDm1eL0
https://www.bloomberg.com/news/newsletters/2023-04-06/pope-francis-white-puffer-coat-ai-image-sparks-deep-fake-concerns

Then the instructor asks participants to watch it. Each group analyses the video, identifying the points that indicate it is a cheap fake or a deepfake. Instructor asks learners to create a list in a collaborative paper and note down whether a digital content may be a product of cheap fake/deepfake and express their views on how deep fake content can negatively affect democracy and the personality of a person. Subsequently each group presents its findings to the plenary, explaining the points that indicate the video is a cheap/deepfake.

Phase 4: Closure (5 minutes duration): In addition, the instructor asks the learners to suggest ideas to avoid becoming victims of cheap fake/deepfake. Indicative ideas: use strong passwords on social media, avoid sharing audiovisual content with anyone, etc.

Activity on Verification

1. Identity verification

Duration: 45 minutes

Learning outcome(s):

- Clarify the content of the concept of 'authentication'

- Describe the three types of 'agents' that can be used for authentication
- Use different ways of authentication on the Internet
- Intend to make use of different types of authentication

Resources & equipment:

- *SM3.7*
- https://medium.com/@efim.lerner/authenticating-identity-methods-to-confirm-the-real-person-behind-a-name-2037d9bd716e
- https://dashdevs.com/blog/account-verification-practices/
- https://www.criipto.com/blog/what-is-authentication
- https://iguru.gr/einai-elegchos-taftotitas-dyo-paragonton-giati-prepei-chrisimopoieite/
- https://doubleoctopus.com/security-wiki/authentication/single-factor-authentication/
- https://mshelton.medium.com/two-factor-authentication-for-beginners-b29b0eec07d7
- https://doubleoctopus.com/security-wiki/authentication/multi-factor-authentication/
- https://www.elprocus.com/biometric-authentication-system-applications/
- Digital devices (laptops, notebooks or tablets) for learners.

Description:

In order to achieve the learning outcomes, the model of online collaborative learning (Harasim, 2017) is followed, according to which the construction of knowledge takes place through three phases:

Phase 1: Idea generation (duration 15 minutes): The instructor informs the learners about the topic under study, which is identity verification. First, the instructor describes its content, which is a way of verifying the identity of a person before granting access to a particular system. Authentication prevents unauthorised persons from accessing sensitive data. It is a simple way of proving that the users of a platform are exactly who they claim to be. Then, using the brainstorming technique, trainees attempt to answer the question: "In what ways can we verify our identity online?".

Phase 2: Organising ideas (10 minutes): The learners are divided into four (4) groups, each of which is responsible for searching the internet for examples of the following types of verification (SM3.7):

1. Single-factor authentication
2. Two-factor authentication
3. Multi-factor authentication
4. Biometric authentication

Phase 3: Convergence of ideas (duration 10 minutes): Next, the groups present the information they have found to the plenary and process the answers that emerged from the brainstorming and attempt to sort them into categories. In general, there are three types of 'factors' that can be used for authentication. These are:

- Something the person knows: any information the person knows that no one else knows, such as a password.
- Something he or she has: any possession, such as a phone or a security key.

- Something that is: a body part that uniquely identifies the person, such as a fingerprint, or their face.

Discussion follows on why it is important to enable strong identity verification (e.g., electronic fishing, credit card cloning).

Phase 4: Closure (10 minutes): Learners return to the plenary and create an infographic (information graph), a collection of images, visualised data and minimal text in which the four ways of verifying one's identity online are synthesised and presented.

Assessment and Evaluation

1. Awareness Quiz

Duration: 10 minutes

Learning outcome(s):

- Use critical thinking skills to assess the reliability of online content.
- Apply critical thinking skills to evaluate digital content

Resources & equipment:

- Resources for “Awareness Quiz” stems from all the material that was used and studied for the specific module (SM3.8).
- Digital devices (laptops, notebooks, tablets, or smartphones) for learners.

Description:

Instructor informs learners that they will visit the Electronic Class (eClass ΕΚΠΑ (uoa.gr) - eClass) that they have for the specific course which is uploaded there. Eclass is an integrated electronic course management system that supports the asynchronous distance learning service at the University of Athens without limitations and commitments. Access to the service is done using a simple web browser without requiring specialised technical knowledge. The integration of remedial distance learning methods into the learning process of the University of Athens supports and enhances teaching and access to knowledge, providing combinations of new methods to complement traditional teaching methods. For this purpose, any platform or any other application where the instructor will have created the quiz can be used.
The learners read each question carefully and choose the correct answer (SM3.8).

2. Digital Detective - Detection Awareness

Duration: 25 minutes

Learning outcome(s):

- Critically evaluate the potential threats posed by phishing attempts
- Engage in exercises and simulations that reinforce the understanding and application of detection techniques
- Critically analyse digital content to discern its reliability and accuracy
- Understand different authentication methods, including passwords, two-factor authentication, and biometrics

- Identify potential weaknesses in authentication systems and suggest improvements

Resources & equipment:

- Resources for “Digital Detective - Detection Awareness” stems from all the material and the sources that were used and studied for the specific module 3 (SM3.9).
- Digital devices (laptops, notebooks, tablets, or smartphones) for learners.

Description:

Instructor informs learners that they will again visit the Electronic Class (eClass ΕΚΠΑ (uoa.gr) - eClass) that they have for the specific course which is uploaded there. Learners have 20 minutes to do the following activities (SM3.9): The first activity is related to scenarios - hypothetical situations. Learners read each scenario carefully and choose the most appropriate response/action for each scenario. The second activity has to do with True - False statements. Learners read the statements and decide whether they are true or false. The last activity involves some open-ended questions. Learners read the questions and have to write some short answers. All activities include several of the concepts that made up this module and they emphasise the importance of scepticism and critical thinking when evaluating each subactivity.

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Multimedia Resources

https://spotthetroll.org/start
https://www.youtube.com/
What is Phishing and How to Protect Yourself from it? (youtube.com)
What Is Phishing and How to Avoid the Bait (youtube.com)
What is phishing? - YouTube
Phishing, Vishing, and Smishing: How to Protect Yourself from Scammers (youtube.com)
What is smishing? How phishing via text message works (youtube.com)
Phishing Explained In 6 Minutes | What Is A Phishing Attack? | Phishing Attack | Simplilearn (youtube.com)
https://www.youtube.com/watch?v=3wVpVH0Wa6E
https://www.youtube.com/watch?v=WzK1MBEpkJ0
https://www.youtube.com/watch?v=cQ54GDm1eL0
https://www.bloomberg.com/news/newsletters/2023-04-06/pope-francis-white-puffer-coat-ai-image-sparks-deep-fake-concerns
https://staysafeonline.org/resources/how-to-protect-yourself-against-deepfakes/
https://www.youtube.com/watch?v=sDOo5nDJwgA&t=84s&ab_channel=WashingtonPost
https://learning-corner.learning.europa.eu/learning-materials/tackling-disinformation-and-promoting-digital-literacy_el
https://medium.com/@efim.lerner/authenticating-identity-methods-to-confirm-the-real-person-behind-a-name-2037d9bd716e
https://dashdevs.com/blog/account-verification-practices/
https://www.criipto.com/blog/what-is-authentication
https://iguru.gr/einai-elegchos-taftotitas-dyo-paragonton-giati-prepei-chrisimopoieite/
https://doubleoctopus.com/security-wiki/authentication/single-factor-authentication/
https://mshelton.medium.com/two-factor-authentication-for-beginners-b29b0eec07d7
https://doubleoctopus.com/security-wiki/authentication/multi-factor-authentication/
https://www.elprocus.com/biometric-authentication-system-applications/

4. Setting the Scene for Teaching and Learning in the Digital School Environment

The Module at a Glance

4. Setting the Scene for Teaching and Learning in the Digital School Environment	
Abstract	This Module provides information on how to create a learning environment that is conducive to helping students become digitally literate and helping them develop the competencies needed to become resilient to misinformation and disinformation. It explains the importance of building a safe space for all students to discuss topics related to disinformation, with a special focus on controversial and sensitive topics. It discusses the role of the teacher before the implementation of activities related to disinformation, during the activities, and after their completion.
Learning outcomes	• Recognise the importance of building a positive learning environment and a safe space when addressing topics related to disinformation. • Identify useful approaches in the digital media literacy field, for the creation of a positive learning environment which fosters digital media literacy and resilience to misinformation, malinformation, and disinformation. • Understand the role of the teacher before, during and after the implementation of activities related to disinformation and digital media literacy. • Value the cooperation of different educational stakeholders when addressing controversial and/or sensitive issues related to disinformation.
Resources & equipment	*Resources* ○ *Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training* ○ Video *Controversial Issues - Turning disagreement into dialogue and understanding* ○ Video *The Disinformation Challenge: game-based learning in strengthening media literacy* (gameplay) ○ Video *QAnon: the rise and roots of a baseless conspiracy theory* ○ *Toolkit for teachers: How to spot and fight disinformation* ○ Two (2) serious games within our thematic ecosystem: - https://www.goviralgame.com/en - https://catpark.game/ *Equipment* ○ Internet connection, interactive monitor or whiteboard and video projector.

	○ Digital devices (notebooks, tablets, or smartphones) for learners. ○ Access to *Mentimeter* for the creation of Word Clouds (see Introduction below)
Total duration	195 minutes

Introduction

Duration: 15 minutes

Learning outcome(s):

- Introduce the topic of a positive learning environment and of safe space as important elements for discussions and teaching sessions related to disinformation.
- Learn about existing knowledge and practices for building a positive learning environment conducive to helping students become digitally literate.

Resources & equipment:

- PowerPoint presentation (SM4.1).
- Internet connection and interactive monitor or whiteboard and video projector.
- Digital devices (BYOD, notebooks, tablets or smartphones + internet connection) for learners.
- Mentimeter (see video and tutorial to create an interactive brainstorming) or similar.
- Interactive brainstorming slides to mobilise students' pre-knowledge (SM4.1)

Description:

The instructor welcomes participants and briefly explains the contents of the module, using a PowerPoint presentation (SM4.1). The instructor starts by explaining the importance of building a positive learning environment and a safe space before discussing and teaching topics related to disinformation. The instructor can focus on the following (taken form the first parts of the *Theoretical Insights*, see next section).

The learning environment (LE) comprises the psychological, social, cultural, and physical setting in which learning occurs and in which experiences and expectations are co-created among its participants. These individuals, who are primarily students, teachers and educational staff, engage in this environment and the learning process as they navigate through their personal motivations and emotions and various interpersonal interactions. This all takes place within a physical setting that consists of various cultural and administrative norms (e.g. school policies).

These general elements and characteristics of a positive learning environment also apply for the case of digital media literacy education. Additionally, for this specific case a positive learning environment is one which promotes a culture of respect and openness, where all students are encouraged to express their ideas on issues related to the digital sphere and to listen and consider other students' viewpoints; one which incorporates media literacy and

digital media literacy skills into the general curriculum, by identifying, for example, different types of media (e.g., news articles, social media posts, advertisements), or by evaluating the credibility of an online source and recognizing manipulation techniques; one which encourages critical thinking by supporting students to question assumptions, and to evaluate diverse information without automatically dismissing it as false; one where teachers provide accurate and reliable information helping their students develop a sense of trust in the educational process and learn to value truth over falsehoods". (Rusticus, Pashootan & Mah., 2023).

Using the Mentimeter web app or a similar one, the instructor invites participants to participate in interactive brainstorming through their digital devices to mobilise their pre-knowledge about building a positive learning environment and on controversial and/or sensitive topics related to disinformation and digital media literacy (SM4.2).

The instructor shares on screen the first Mentimeter slide with the question:

- What are the characteristics of a positive learning environment to conduct discussions and teaching activities on disinformation? (5 minutes to answer)

Then the second one:

- Which topics related to online disinformation would you consider as controversial and/ or sensitive for a group of primary school students? (5 minutes to answer)

After the interactive brainstorming session, the instructor comments on the first word cloud formed by the learners' answers, and summarises participants' answers. Regarding the second word cloud, the instructor summarises the topics and makes sure that the following topics are also included:

- COVID-19 and vaccines.
- The Russian invasion of Ukraine.
- Past and present histories of injustice.
- Crime and punishment.
- Gender-related and sexual diversity issues.
- Migration, minorities, racism, and religion.
- Climate change and global warming.
- Colonialism, slavery, antisemitism, Holocaust denial.
- Sensitive national topics.

The instructor explains that these topics are considered as controversial and/ or sensitive, depending on the social/ national context, and asks participants to keep them in mind during the rest of the session, when there is reference to " controversial and/ or sensitive topics". The instructor makes no comments on the topics added by participants on whether they are actually controversial or not, explaining that what is controversial for one teacher and his/her students, might not be for another teacher and their students.

Theoretical Insights

Duration: 50 minutes

Learning outcome(s):

- Familiarise with the concept of a (positive) learning environment and its components.
- Gain the know-how to create a safe classroom setting.
- Understand how to set the scene for teaching and learning in the digital school environment: before, during and after the school and classroom activities.

Resources & equipment:

- PowerPoint Presentation (S.M. 4.1).
- Computer with access to the Internet, projector.

Description:

A positive learning environment

"The learning environment (LE) comprises the psychological, social, cultural, and physical setting in which learning occurs and in which experiences and expectations are co-created among its participants (Rusticus et al., 2023; Shochet et al., 2013). These individuals, who are primarily students, faculty and staff, engage in this environment and the learning process as they navigate through their personal motivations and emotions and various interpersonal interactions. This all takes place within a physical setting that consists of various cultural and administrative norms (e.g. school policies)".

"A positive learning environment is one of the most critical components of a skills-based education classroom, regardless of the topic or issue addressed. A positive learning environment is created when teachers value participatory teaching and learning and when there is trust and rapport among students and between teachers and students. To establish trust that leads to true participation and engagement in learning, teachers first need to facilitate the progress of development of a learning environment in which all students feel valued, safe, and supported" (Rusticus et al., 2020; Shochet et al., 2013).

A learning environment is much more than what we see visually. It consists of three main elements – the physical, social and emotional environments. For any learning environment to be positive and have an impact, these elements must exist harmoniously. In summary, the three elements of a positive learning environment are as follows:

a. **Physical environment**. Schools must create a physical environment that allows all students to feel content, comfortable and focused. This means consideration of light, noise, air quality, temperature, reflections and wall colours. For example, where possible, there should be good natural light in classrooms, and quality electrical lighting. An organised and clutter-free space can help students to be more attentive and more engaged with their learning.

b. **Social environment**. Schools must also create an environment that is socially beneficial to learning. Every school must have an effective, well-established and universally understood whole-school approach to behaviour, to ensure solutions exist which aim to eliminate poor behaviour. Any behaviour that detracts from the academic

and social success of the school community, or weakens the self-esteem of staff or students, must be addressed effectively and efficiently if schools wish to nurture an environment conducive to learning.

c. **Emotional and psychological environment**. Students must also feel emotionally and psychologically prepared to learn and to develop an inherent, independent love of learning – where they learn to enjoy and appreciate each and every step they take in their learning journey. Motivation in the classroom can help students to become resilient, independent learners, who can manage any challenges they may face in the classroom, as well as in other environments, such the online environments. An inclusive and respectful atmosphere embraces the cognitive processes and supports the growth of the mindset of students. Additionally, social dynamics within the classroom can create a sense of belonging, which is equally crucial for motivation and engagement.

d. **Cultural environment**. The cultural element of the learning environment is equally important with the aforementioned, as it encompasses the variety of values, practices and beliefs that shape the educational experiences and perceptions of each student, especially when students coming from different backgrounds attend the same classroom. According to the sociocultural theory of Lev Vygotsky, a Russian psychologist, our societal and cultural background affects the way we think, feel, develop and behave. Human learning is, mostly, a social process, during which our cognitive abilities are shaped based on our surroundings (Vygotsky, 1962).

A **positive and purposeful learning environment** can boost enjoyment and engagement. It can also help to enrich teaching and learning and improve academic performance. Therefore, it is essential that schools and teachers strive to ensure that they are providing their students with the best possible learning environment. Effective learning environments promote a strong sense of community, leaving students feeling valued, respected and connected. For children whose home lives are unpredictable or unstable, a secure, welcoming learning environment in school can help to provide assurance and certainty.

Some characteristics found in a positive learning environment are as follows:

- Students feel physically and emotionally safe. They see the classroom as a place where they can be themselves and express themselves and their ideas without judgement.
- Students know that they are valued and respected, regardless of other factors such as ability, gender, sexuality, race, ethnicity, or religion.
- Students have ownership and input related to class structure and expectations. This can range from creating spaces specifically for student use to having a class discussion to establish norms and expectations.
- Standards of behaviour are established and are consistently and equitably enforced for all students.
- The teacher gets to know all students and uses that knowledge to create meaningful experiences.
- There is a positive relationship between the teacher and students and among students in the class.

Creating a positive learning environment begins with your self-reflection, continues with planning, and then is ongoing and dynamic during the implementation of the curriculum and the learning activities. Maintaining a positive learning environment is a work in progress - you must always consider how to maintain a positive learning environment and must be thoughtful about how the learning environment is perceived by your students.

These general elements and characteristics of a positive learning environment also apply for the case of media literacy and digital media literacy education. Additionally, for this specific case a positive learning environment is one which promotes a culture of respect and openness, where all students are encouraged to express their ideas on issues related to the digital sphere and to listen and consider other students' viewpoints; one which incorporates media literacy and digital media literacy skills into the general curriculum, by identifying, for example, different types of media (e.g., news articles, social media posts, advertisements), or by evaluating the credibility of an online source and recognizing manipulation techniques; one which encourages critical thinking by supporting students to question assumptions, and to evaluate diverse information without automatically dismissing it as false; one where teachers provide accurate and reliable information helping their students develop a sense of trust in the educational process and learn to value truth over falsehoods. (Benes, Alperin, 2022).

As pointed out in the *Guidelines for Teachers and Educators on Tackling Disinformation and Promoting Digital Literacy through Education and Training*, like any effective teaching, it is important to create a safe place for students to express their opinions and engage in active learning. Students appreciate being seen and heard, both by their peers and by their teachers, and they appreciate being empowered to become more literate in a digital world in which they might already be quite conversant. This digital world potentially allows students the opportunity to access a great deal of information, hear multiple opinions on a topic and to communicate across geographical, linguistic, cultural, and religious barriers. Yet, they may still need guidance and support in order to take full advantage of what is being offered and to identify potential threats.

You have a selection of approaches to choose from on challenging and sometimes controversial issues usually trending in the digital sphere. The following approaches have shown to be useful in the digital media literacy field, for the creation of a positive learning environment which fosters digital media literacy and resilience to misinformation, malinformation, and disinformation:

- **Spiral Curriculum**. Any subject, including digital media literacy, can be taught at any school age provided the appropriate teaching approach is adopted each time. It is an approach in which key concepts are presented repeatedly throughout the learning process, but with deepening layers of complexity or difficulty, or in different applications. Spiral curriculum, an approach to teaching, widely attributed to the American Psychologist and Cognitive Theorist Jerome Bruner allows the earlier introduction of complicated ideas traditionally reserved for later stages of the learning process after learners have mastered some key themes that involve deeper understanding and may discourage students who wish to apply their conceptual learning to real-world applications. The spiral curriculum is a form of learning that encourages the revisiting of topics and key concepts, building on previous course material in a cyclical and spiralling manner. This approach to teaching enables students to gain a deeper understanding of fundamental principles, whilst also

ensuring that they are regularly exposed to subject matter at different levels of complexity. By utilising this approach, teachers can support better learning outcomes and help students to gradually build on their knowledge and understanding over time.

- **Flipped Classroom**. This is a peer-led, blended learning strategy that increases students' engagement and learning through the use of media, in and outside the classroom. Students often complete readings at home and do problem-solving work in the classroom. The flipped classroom approach aims to enhance teachers' utilisation of face-to-face sessions by minimising lecturing and promoting students' active learning, skills development, and scaffolding (Bergmann & Sams, 2012, p. 97). Moreover, scholars emphasise the significance of teachers' perception and awareness for the success of the flipped classroom in secondary schools and they found that the flipped classroom approach has bolstered students' digital media literacy skills. (Yang, 2017, p. 23); (Smith & Johnson, 2017, p.65). The purpose of Flipped Classroom is to maximise time in class so that students participate actively in the learning process and interact with peers, guided by the teacher.
- **Blended teaching.** The Covid-19 pandemic was a watershed moment for switching to more remote learning in education. Blended learning has the potential to effectively combine face-to-face and online teaching into one cohesive experience providing such flexibility as anytime and anywhere access to learning management systems (LMS). Blended learning promotes independent learning and online cooperation, and yet retains some face-to-face classroom teaching (Deschacht & Goeman, 2015). The basic premise is to complement face-to-face classroom learning by giving students the learning flexibility as enabled by digital technology.
- **Learning by doing.** In education this is an approach based on the idea that we learn more when we actually "do" the activity. Learning-by-doing is perhaps one of the best ways to develop digital media literacy. Through practical lessons, teachers help their students to navigate the web and collect information. They can assign tasks that include the use of online tools and research and they can point out positive and negative examples of what has been discussed.
- **Game-based learning and gamification.** Such approaches are about applying gaming strategies (gamification) or using online and offline games (game-based learning) to improve learning and make it more engaging for individuals (SM 4.3). Gamification is a process where game-like elements, such as competition, rewards and interactive features are applied to non-game contexts, typically for the purpose of enhancing engagement, motivation, and learning. It involves using principles and techniques from game design to make activities more enjoyable and engaging. Game-based learning is an educational approach that uses games as a primary tool for teaching and learning. It involves the integration of game elements, mechanics, and principles into the learning process to make it more engaging, interactive, and effective. Game-based learning is designed to harness the motivational and immersive qualities of games to help learners acquire knowledge, develop skills, and solve problems. Educational games to raise awareness of media bias are an example of this. An example of a computer game to tackle disinformation is the Disinformation Challenge. It is a free interactive computer game designed with exercises that encourage users to enhance their critical thinking skills and verify encountered information using open-source data. The game can serve as supplementary

knowledge or be integrated into classroom settings to support curricula in subjects such as Civic Education or History. The game builds project-based skills and allows students to work individually or collaboratively on problem-solving lessons. A platform similar to the popular computer game Minecraft has been selected for building a special exercise course, teaching students methods for information verification. The computer game platform allows creators to generate a specific educational space, where students can explore freely while educators can observe their progress or communicate through the platform if necessary. This game was developed by the Civic Resilience Initiative (CRI), a Lithuanian NGO dedicated to enhancing media literacy skills among the young generation in Central and Eastern European societies, in cooperation with another Lithuanian non-profit specialising in game-based education, Three Cubes (SM 4.4).

Creating a safe space

As pointed out in the Guidelines, particular attention needs to be paid to the diversity present in the classroom, in terms of student's backgrounds, opinions and worldviews. This is of particular importance, especially when you address sensitive and controversial issues which can provoke emotional or psychological distress, polarisation, and heated arguments, as it is many times the case for issues and information students encounter online. All opinions should be valued and respected and it is up to you to create a safe and open space where all students and their diverse viewpoints can be expressed freely, without the fear of rejection or ridicule.

Creating a safe space can be achieved through different means, methodologies and approaches, some of which are as follows:

- "In terms of syllabus and curriculum content, you can choose a diverse reading list or a list of online sources with authors of different ethnicities, religions, backgrounds and genders and of different opinions on the same issue. You can also plan to invite a wide range of professionals from different backgrounds into their classroom; this normalises the idea that we can learn from people who don't look like us (or who do look like us in some instances), from people who believe in different religions, have diverse viewpoints on the same issue, etc. You should also remember to incorporate projects in the syllabus that celebrate different identities and cultures, encouraging students to embrace differences, in both the online and offline world.
- *Setting up classroom procedures*: When setting up their classroom, you must make sure that it reflects the diverse learning environment developed in the syllabus. For example, you can choose images that show a wide range of ethnicities in different roles; showcase Asian astronauts, Black doctors, and Latino professionals, and you should not rely on stereotypical imagery when deciding the posters on the classroom walls. Including differently abled people in classroom presentations and inviting a leader with a disability in the community to visit the classroom are good ways to set up an environment which is safe and accepts all diversities. Similarly, you need to build on the diversity in the group of students, both in terms of background and opinions. This will be enriching. You need to select working methods that bring out this diversity.

- *Setting up discussion procedures*: you should consider alternatives to classroom discussions, such as online discussion groups, where students don't feel singled out and have a measure of anonymity to express their opinions. It is also important to develop certain ground rules for everyone to abide with. Appropriate rules differ from classroom to classroom because what works for one group does not work for another. You need to develop the rules together with the students, if you can. It gives them ownership.
- Teach micro-affirmations to validate your students: Micro-affirmations start with active listening. In order to establish yourself as a safe sounding board for your students, maintain eye contact with them and show them body language that indicates you are engaged with them, such as nodding. Summarise what the student is telling you. Ask questions to make sure that you understand, and then affirm their experience by using a validating statement such as "I appreciate that this might be frustrating for you." You can use these statements to guide them toward developing a productive stance on their experience. Remember, however, that micro-affirmations can be used in any interaction, not just in instances when your students are struggling with an issue. They also work when students are sharing positive experiences; they help create a sense of trust and belonging. Even if you don't agree with what the student is telling you, you can affirm their experience, validate their emotions, and offer to help them find productive solutions. Don't treat subjects like cyberbullying and racism as if they are taboo. Instead, work to dismantle these behaviours in your classroom by directly and openly confronting them when they occur. This might mean confronting your own biases (and working to correct them) or raising the student's issue to school administration, if necessary. Help break the cycle by taking these subjects seriously and doing the work to protect your students" *(M.J. Fievre, 2021.)*

Creating a safe space for students doesn't have to be difficult. It can be something you build into each day's activities. Simply going in with the mindset that you are offering a diverse and enriching atmosphere is a good start.

Setting the scene: before, during and after the school and classroom activities

As explained in the previous section, creating a positive learning and teaching environment and developing a safe space for all students in their diversity is of utmost importance, especially with regards to teaching digital media literacy and tackling disinformation.
However, additional considerations should be kept in mind when teaching digital media literacy and resilience against disinformation. These considerations should be taken into account before, during and after classroom activities, in order to make sure that you have set the right scene to discuss issues related to online disinformation, that this scene is kept throughout the classroom activities and that it concludes in effective learning and sensitization among your students.

Before classroom activities

When you plan to engage your students in activities related to disinformation, it is important to discuss and inform other school and community stakeholders so as to prepare a common approach and facilitate the effective learning of students. These stakeholders include:

a. **School management**. You should discuss with school management before teaching about a sensitive or controversial issue, especially when it is related to disinformation. School management can provide suitable resources for individual teachers, such as access to educational materials, which the teacher might not be aware of. Moreover, school management is responsible for ensuring that school policies align with best practices for addressing disinformation in the classroom. School management could also facilitate and support the development of a whole-school approach for the tackling of disinformation and engage more teachers and educational staff in the effort, so that the teacher is supported by becoming part of a wider network of professionals who share a common direction on how to deal with disinformation.

b. **Parents**. It is essential to communicate with parents through established school-parent channels, and where possible to coordinate efforts, before discussing political or sensitive issues related to the online world, which may inevitably lead to discussions in students' homes. Effective learning can take place when different sources of information and learning are in the same direction. You cannot expect that, for example, you can deal with disinformation on Covid- 19 and vaccines, when the families of you students deny the mere existence of the pandemic or believe that vaccines transfer a microchip in the human body to record its operations and functions. Teachers and parents should agree on the approach towards controversial issues, so that the student hears the same narrative from different sources they respect. Parents play a critical role in shaping their children's beliefs and values, and they can be powerful allies in helping students navigate the complex world of information. By involving parents in the conversation about disinformation, teachers can help build a shared understanding of the issue and foster a supportive learning environment. In case such agreement cannot be reached with the parents on a particular issue, you should start with a different issue where agreement can be achieved and take it from there. In general you should remember that engagement among parents varies greatly. A good moment to communicate with them can be the first teacher/educator-parent meeting of the year where attendance is often high. If there is parental resistance, it is important to have allies in the school, such as the school director and/or other colleagues.

c. **Educational staff**. In case the school employs a psychologist and/or a social worker, you should inform them beforehand about the forthcoming classroom activities on disinformation, especially regarding a controversial or sensitive issue. These professionals should be prepared to provide specialist support if necessary (e.g., in case students offend each other or students feel emotionally disturbed by a topic). It is therefore wise to discuss with them about the potential of having students at risk in your classroom that you might not be aware of. Signs of mental health issues, trauma, or other vulnerabilities should be recognized in order to address disinformation issues accordingly by tailoring your instruction. Moreover, these professionals can provide you with updated resources and evidence- based practices that can create a more informed learning environment. Finally, they are ideal for the development of a safe environment inside the classroom, that values diversity, encourages critical thinking, and fosters open dialogue about sensitive issues related to disinformation.

d. **External contributors**. You do not have to teach digital media literacy alone. You can integrate virtual and/or physical third-party programmes (e.g. from civil society)

into teaching. You can also involve external actors, such as professional journalists, NGOs and academics, a process which has more benefits than challenges. On the one hand, involving external contributors means that you bring additional knowledge, expertise and evidence-based and hands-on experience from the field, apart from making the classroom climate and the learning process more exciting for students. On the other hand, you should be alert in the case these externals try to promote commercial, data gathering or political interests and be aware that their contributions might involve additional administration and economic costs, while limiting your flexibility in planning and developing your activities. Careful planning is needed for the involvement of these professionals so as to avoid potential disadvantages and risks.

Moreover, some tips to consider before implementing classroom activities related to disinformation and critical thinking skills are the following:

- You should become aware of potential psychosocial student motivations for dissent, student-specific sensitivities, community sensitivities and societal polarisation; also, your own stance, emotions, and sensitivities need to be clear and fully addressed before dealing with issues that can polarise your students or that can make them feel uncomfortable.
- You should collect initial ideas and opinions from students before discussing a topic. This can be done anonymously if needed. In terms of your local context and environment, you can also attend school-community events, monitor the local media and other popular media, and discuss with colleagues, parents, and students. Certain sub-sections of communities might have radical (in-group) opinions that can unexpectedly be expressed in the classroom. It is useful to be aware of these sensitivities.
- If there are some students that could potentially be challenging to manage, involving them in the preparation of the session and giving them specific tasks can be helpful. Sometimes, by giving them this type of motivation, you can achieve their full attention and cooperation, which in turn can have a positive effect on the overall classroom climate.
- Consider starting with one-on-one interactions (teacher-student; student-student), then move on to interaction within smaller groups, and only then move towards whole class interactions. It is important to have more sensitive discussions after developing a classroom community. Controversial topics are best discussed in an open environment where students feel safe, seen and heard. Starting a discussion on sensitive issues related to disinformation without the prior development of a classroom community can lead to misunderstandings, fear, bullying or an overall negative learning experience. Some additional information on how to deal with controversial issues in the classroom can be found in the video (SM 4.5).

During class activities

After making all the necessary preparations to introduce activities related to disinformation, critical thinking and digital media literacy, you should pay additional attention to the classroom climate during the implementation of these activities, in order to ensure that students equally participate, they feel safe to express themselves and continue to trust and

respect each other. In order to activate and maintain an open and supportive atmosphere in the classroom, consider the following:

- **Framing of the issues tackled is very important**. You should consider ways and methods in order to make these issues relevant to your students. The more relevant these issues seem to them, the more engaged they will become, the more they will participate and the more they will develop relevant skills and competences. Using current issues and events is usually a good way to keep your students interested. They can be a good starting point to discuss disinformation and its impact on society by critically evaluating news articles, social media posts, and other sources of information. This can support students to develop the necessary skills to identify misinformation and distinguish it from accurate information. Moreover, using real-world examples of misinformation incidents can help students understand the implications of spreading false information online. Case studies or examples of viral misinformation can serve as valuable teaching tools.
- **Monitoring activities**. You should constantly monitor emotional reactions in the classroom and possibly discover student-specific sensitivities. Some students may have radical opinions that are unexpectedly expressed in the classroom. You should be well prepared to address these radical opinions with respect and with logical arguments, without getting emotionally involved yourself. You should maintain this delicate balance where on the one hand everyone feels safe to express their opinions, but on the other, the safety of the space is not endangered. Striking a balance between an open classroom climate and a safe space is important. In an open classroom climate, students can say what is on their mind and freely share their views and opinions. However, an individual or a group of students may get offended or disturbed by remarks made by others. You should therefore check in with individual students as much as possible, especially when discussions about controversial issues take place and when students exhibit inappropriate behaviour. You have the responsibility to keep this balance by modelling behaviours and reactions which contribute to maintaining a respectful environment.
- **Setting an example**. If you are comfortable with this, sharing some personal examples of how you as a person (or teacher/educator) develop your digital media literacy and/or have been exposed to disinformation can invite students to share their own experiences. Disclosure of personal stories and experiences can help maintain your students' interest and engagement and can facilitate the process of them disclosing similar experiences. It helps in creating an atmosphere of equality and acceptance, since it will become apparent that anyone (even adults, even teachers) can be affected by disinformation. A team spirit is created and students feel they have more in common than different. This is another aspect to be monitored. You need to monitor to what extent your activities might further strengthen in-group versus outgroup dynamics, between you and the students, and among students. In order to monitor this aspect you can carry out regular observations of classroom interactions, seek student feedback, and apply self-reflection techniques; you can keep a personal diary of how students are responding to your teaching about challenging and controversial issues; you can organise peer evaluations by colleagues; you can try to ensure that your assessment practices are objective, unbiased, and culturally responsive to all students' learning styles and backgrounds.

- **Monitoring risk factors**. The risk of alienating students when confronting preconceptions, myths, and biases can be high on certain issues. Disagreements can be handled by dialogue, separating opinions from the person who holds them, and by introducing multiple fact-based perspectives into the discussion. These perspectives can be of interdisciplinary character, highlighted by the use of methods and tools from sociology, psychology, political theory, gender and race studies, cultural studies, art, and aesthetics (Koltay, 2011). Therefore, you need to be well prepared to introduce and use these perspectives and these tools in order to avoid such risks.
- **Watching for ingroup-outgroup tendencies**. An in-group is a group to which a person belongs and anyone else who is perceived as belonging to that group. In-group members have positive views of each other, and give each member preferential treatment. An out-group consists of anyone who does not belong to the group. Out-groups are viewed more negatively, and receive inferior treatment in comparison to that of in-group members. In-group members are perceived as being heterogeneous, and as having positive qualities, referred to as in-group differentiation (e.g., Lambert, 1995; Linville & Fischer, 1993). Out-group members are perceived as being "all the same," homogeneous, and as having more negative qualities. This is referred to as the homogeneity bias (e.g., Linville, Fischer, & Salovey, 1989). These concepts are used to explain hostility between groups (e.g., Republicans versus Democrats, gays versus straights, whites versus blacks). Relatedly, this bias creates problems with teams. Young people and adults sometimes see each other's digital media usage as 'inappropriate' and can use this as a basis for negative stereotyping of the other group. You should be alert of these tendencies and address them as early as possible. The issue of stereotyping others is not only related to disinformation and judging other people from their social media usage, and it needs to be addressed in every possible occasion, not only when disinformation and digital media literacy are discussed.

After class activities

The maintenance of a positive learning environment and of a safe space for all students lasts until the very final minute of the teaching session and goes beyond it. You, as a teacher, should consider the following in order to maintain a positive atmosphere for the following sessions in the future, when other issues on digital media literacy and disinformation will be addressed:

- Consider having a discussion with the students regarding what they learned, what they enjoyed and perhaps enjoyed less. This way, you will get a clear picture of what has worked well and what not, in order to avoid future challenges and be able to recreate the positive environment where knowledge can flourish. You should be open to feedback and suggestions, so that you design your sessions and your activities to engage students more and facilitate their learning.
- Consider designing new activities that build on the previous ones, actively involving students in this process. This way you will gain many benefits: you can assess your students' knowledge in understanding previous concepts and design new ones according to their real level of understanding; you can connect new concepts to what students have already learned, using analogies, real-life examples, or previous

assignments as a foundation. This approach helps students to see the relevance of new information and makes learning more meaningful; by involving students in the process, you can provide further opportunities of choice and autonomy. Allowing students to choose their learning activities can help them take ownership of their learning and build on previous experiences. For example, you can offer multiple project options based on their interests. Debriefing with the students about their thoughts, experiences, and emotions is another good way to build on existing knowledge. You can ask what they have learned and how they would like to build on what they have just done and based on their answers you can design future activities.

- Seek for additional support and supervision. If you have kept a diary of how students responded to the lessons that touch on controversial issues, discussing this with the school psychologist, mentor teachers or school pedagogue should be considered. These professionals have skills, knowledge and experience to assist you in case some of your activities did not go as planned. You should be open to their feedback and their recommendations, so that you prepare next sessions and activities accordingly.
- Conducting a more formal assessment of the knowledge and skills gained by the students and/or an evaluation of the learning and teaching methods used is an effective way to understand the effects of the session, of the activities or of the discussions which took place. As it is explained in the next Modules on assessment, the results of the assessment will guide your future efforts so as to achieve the best possible results.
- Consider using a monitoring tool (e.g. logbook), in order to assess knowledge and skills acquired by students through the activities implemented. A logbook is a valuable tool, as it represents a mechanism for continuous documentation and recording of experiences and outcomes. Subsequently, a logbook allows real - time feedback and relevant adjustments that can fill any gap between the expected learning outcomes and students' understanding, while activating their critical thinking through self - assessment processes.

Activities

1. Discussing a controversial issue

Duration: 40 minutes

Learning outcome(s):

- Understand the necessary steps to introduce a controversial issue.
- Organise and prepare a lesson plan to discuss a controversial issue.
- Realise the importance of the development of a safe space in the classroom to discuss *and address controversial issues.*

Resources & equipment: Internet connection, personal digital devices, word processor or spreadsheet, LMS or printer and paper.

Description:

The instructor reminds participants what has been discussed about introducing and discussing controversial and/or sensitive issues with the students, in terms of misinformation and disinformation.

Work steps:

1. The instructor divides the whole group into three - four smaller groups, depending on the number of learners.
2. The instructor provides them with some topics which can be considered as controversial, such as:
    - COVID-19 and vaccines.
    - The Russian invasion of Ukraine.
    - Past and present histories of injustice.
    - Crime and punishment.
    - Gender-related and sexual diversity issues.
    - Migration, minorities, racism, and religion.
    - Climate change and global warming.
    - Colonialism, slavery, antisemitism, Holocaust denial.
    - Sensitive national topics.

At this point the instructor can encourage the groups to select another topic, if they think that it is more relevant for their case.

1. Once they have chosen the topic, the instructor asks each group the following set of questions:

Group A- Before:

- How will you prepare an activity/ discussion on the selected topic?
- What steps will you take in order to ensure that the learning environment remains positive throughout the activity/ discussion?
- What research will you do beforehand?
- What other professionals (if any) will you involve in the process?
- What resources will you use?
- What could be some potential challenges to discuss the specific topic? How do you plan to overcome them?
- How will you embed media literacy and digital media literacy in the discussion?

Group B- During:

- How will you introduce the selected topic?
- How will you make sure that the learning environment remains positive and safe during the activity/ discussion?
- What resources will you use?
- What will you do if one of your students is getting bullied or ridiculed for their opinions by the rest of their classmates?
- What will you do if the majority of your students believe the disinformation on the issue? (for example believe that global warming does not exist, or that the COVID-19 pandemic was fake)
- What steps will you take in order to deal with heated discussions during the activity?

- Will you use a personal example? If so, which one and why?
- How will you monitor the activity/ discussion?

Group C- After:

- How will you sum up the activity/ discussion?
- How will you evaluate the effectiveness of the discussion/ activity?
- What steps will you take in order to close the discussion/ activity?
- How will you assess the development of knowledge and skills among your students? Be detailed!
- What resources will you use?
- What will you do if after the end of the discussion/ activity you realise that some of your students are bullied because of the opinions they expressed during the discussion?
- What would be the final conclusions to share with your students on the selected topic, in relation to disinformation?

2. The instructor allows for twenty minutes for the groups to discuss. Then, the instructor asks representatives of each group to present the main points of the discussion.
3. When each group representative finishes their presentation, the instructor asks the rest of the groups to comment, provide feedback and give recommendations. The process repeats for every group.
4. When all groups have presented their ideas, the instructor summarises the most important and relevant ideas, so that participants are fully aware of the key points to keep from this activity.

2. Case study: the growing influence of 'Q'

Duration: 40 minutes

Learning outcome(s):

- Understand examples of cases to be used for discussions and activities on disinformation
- Realise and question potential personal barriers and limitations in terms of disinformation and fake news
- Adapt a case study to be used with their students.

Resources & equipment: Internet connection, personal digital devices, word processor or spreadsheet, LMS or printer and paper

Description:

Work steps:

1. The instructor reminds participants on issues discussed earlier on personal bias, self-reflection and stereotypes.
2. The instructor divides the whole group into three- four smaller groups, depending on the number of participants.
3. The instructor provides participants the same case study, taken from the Toolkit for teachers - How to spot and fight disinformation, Case study 1, page 15 (SM 4.6).

4. The instructor asks each group to research and answer the questions following the case study (at the bottom of p.15 of the Toolkit), as well as the following questions:
    - Would you use this case study and the relevant materials for a discussion with your students? If so, how? If not, why?
    - What would be the expected outcomes and results from the use of this case study for your students? How would you assess that they have gained the relevant competences on digital media literacy?
    - Would you make any modifications for the case study to become more relevant to your students? If so, which ones?
5. The instructor allows for twenty minutes for the groups to discuss. Then, the instructor asks representatives of each group to present the main points of the discussion.
6. When each group representative finishes their presentation, the instructor asks the rest of the groups to comment, provide feedback and give recommendations. The process repeats for every group.
7. When all groups have presented their ideas, the instructor summarises the most important and relevant ideas, so that participants are fully aware of the key points to keep from this activity.

Assessment and Evaluation

1. Self-reflection questionnaire

Duration: 20 minutes

Learning outcome(s):

- Assess participants knowledge and skills on module contents
- Self-reflection on acquired knowledge in relation to the theoretical stimuli provided
- Self-reflection on skills acquired with respect to the exercises provided

Resources & Equipment: Internet connection, personal digital devices

Description:

At the end of the module, after presenting Theoretical Insights and practical activities, the instructor asks participants to complete an individual self-reflection questionnaire based on closed stimulus questions and answers.

The questionnaire on the one hand represents an assessment tool for the achievement of areas on the other hand represents a tool for self-assessment.

Self-assessment questionnaire (SM4.7)

2. An Activity Plan

Duration: 30 minutes

Learning outcome(s):

- Critically analyse an existing lesson plan on disinformation

- Evaluate the effectiveness and the potential use of a lesson plan
- Adapt existing materials to cover their needs

Resources & equipment: Internet connection, personal digital devices

Description:

1. The instructor provides participants in paper or electronic form the Activity Plan 1: Working with disinformation, from the Guidelines, p. 18. (SM 4.8)
2. The instructor asks participants to read it individually, to reflect on the following questions and to take notes of their answers:
   - How do you evaluate this activity plan? What are its strong points? What are its weaknesses?
   - Would you use it with your students? If so, how? What potential changes would you make? If not, why? What potential changes would you make so that you can use it?
   - In the introduction of the Activity Plan, it says: "*Provide a thought or a personal experience related to disinformation, or link to a disinformation news item*". Let's make it real. What thought or personal experience would you use? What disinformation news item would you give to your students?
   - In the Modelled discussion part of the Activity Plan, it says: "*If there is extra time, ask for reflections*". Let's suppose that you do have extra time. What questions for reflection would you ask?
3. The instructor allows for 15 minutes for all participants to read the Activity Plan and answer the questions individually.
4. Then the instructor asks for volunteers to share their thoughts and ideas to the whole group.
5. The instructor encourages everyone to provide feedback and recommendations on what they have just heard.
6. The instructor sums up the activity by summarising and by drawing conclusions on the ideas shared by participants.

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Multimedia Resources

https://www.wcupa.edu/coral/documents/07in-outgroups.pdf

What is game-based learning?

The Disinformation Challenge: game-based learning in strengthening media literacy (gameplay)

Controversial Issues - Turning disagreement into dialogue and understanding

Further References and Resources

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5. Assessing and Evaluating Digital Media Literacy in Schools

The Module at a Glance

5. Assessing and Evaluating Digital Media Literacy in Schools	
Abstract	Becoming a “digital media literate” person means developing digital media literacy competencies to use them more responsibly and play an active role in creating a democratic, pluralistic, and connected society. This module offers a theoretical framework for mapping and measuring these competencies and developing assessment and evaluation tools and methods. It also provides activities with some practical examples and exercises focused on disinformation issues.
Learning outcomes	• Learn about a theoretical model for teaching and learning about digital media literacy. • Learn about a theoretical framework for assessing and evaluating digital media literacy competencies • Learn about examples of tools and methods for assessing and evaluating digital media literacy competencies • Learn to develop assessment tools to measure the acquisition of digital media literacy skills.
Resources & equipment	*Resources* ○ Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training ○ A framework for digital media literacy competencies (SM5.1) *Equipment* ○ Internet connection, interactive monitor or whiteboard and video projector ○ Digital devices (notebooks, tablets, or smartphones) for learners.
Total duration	195 minutes

Introduction

Duration: 20 minutes

Learning outcome: Learn to reflect on their pre-knowledge of assessment and evaluation of digital media literacy activities.

Resources & equipment:

- Internet connection and interactive monitor or whiteboard and video projector.
- Digital devices (BYOD, notebooks, tablets or smartphones + internet connection) for learners.
- Mentimeter (see video and tutorial to create an interactive brainstorming) or similar.
- Interactive brainstorming slides to mobilise students' pre-knowledge (SM5.2).

Description:

Interactive brainstorming (Mentimeter)

Using the Mentimeter web app or a similar one, the instructor invites learners to participate in interactive brainstorming through their digital devices to mobilise their pre-knowledge about students' competencies in digital media literacy and tools to evaluate them (SM5.2) (5 minutes).

The instructor shares on screen the first Mentimeter slide with the questions:

1. What activities would you carry out with students to promote their digital media literacy skills? (5 minutes to answer).
2. What tools would you use to assess digital media literacy competencies after a classroom activity? (5 minutes to answer).

After the interactive brainstorming session, the instructor comments on the two word clouds formed by the learners' answers (5 minutes).

Theoretical Insights

Duration: 45 minutes

Learning outcome(s):

- Learn about a theoretical model for teaching and learning about digital media literacy.
- Learn about a theoretical framework for assessing and evaluating digital media literacy competencies.
- Learn about examples of methods and tools for assessing and evaluating digital media literacy competencies.

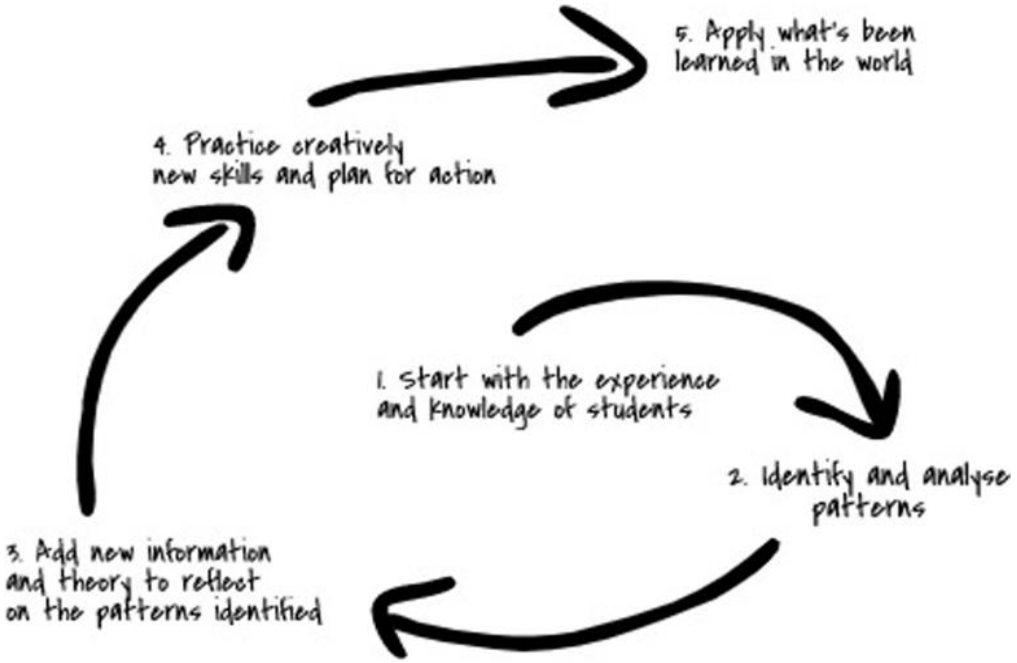
Resources & equipment: slides, internet connection, interactive monitor or whiteboard and video projector.

Description:

Paulo Freire's model of learning and teaching

Any attempt to build a map for assessing and evaluating digital media literacy should start from the model of learning and teaching that is adopted in a media education class. An interesting one is the Empowerment Spiral, developed by Paulo Freire (1963). According to the Brazilian educator, complex topics or concepts should be broken into five short-term learning steps that stimulate different cognitive and affective processes, enhance our ability to evolve new knowledge from experience, and then proceed to action. If instructors adopt this model to design their digital media literacy lesson plans and evaluation procedures, they will have a powerful matrix for transforming learning and teaching (Fig. 1).

Figure 1 - Freire's model for teaching and learning [1963]



In the *first step - Start with the experience and knowledge of learners* - learners participate in an activity that leads to observing personal experiences for potential insight, making them ask something like, "Oh! I never thought of that before." For example, they might compare whether their experience of migrant persons is similar to the one often stereotyped in the news; they might also keep a media journal for one day (from breakfast to bedtime) to become aware of how many different media uses and practices they have in their daily lives, etc.

The *second step - Identify and analyse patterns* - provides time for learners to analyse the media according to six key concepts or "dimensions" of Media Literacy (SM5.3): categories, producers, audiences, technologies, languages and representations.

For example, learners could ask questions like:

- How does the camera angle make us feel about the people shown in a news report?
- What difference would it make if other camera angles were used?

- What kinds of words are used when referring to certain social categories? What do they imply at a connotative level?
- How does the music contribute to the mood of the news story being told?
- If we compare how the same news is given by two different newspapers, what do we learn about the vision and intentions of the journalists?
- What do we know about the owner of this newspaper/magazine?

The *third step - Add new information and theory to reflect on the patterns identified* - brings learners to deeper reflection, trying to situate what they have learned in the previous steps at a more macro level. Depending on the issues, they may want to consider philosophical or cultural traditions, ethical values, social justice, or democratic principles that can guide individual and collective decision-making. For example, imagining that they are watching a breaking news video about a protest over a social issue, they could ask questions like:

- Is it right for news programs to only interview government representatives?
- How are civil rights neglected in certain media representations?
- What is the role of the independent Communication Authority operating in my country? What is the regulation regarding the journalistic profession? Is there a regulation regarding the circulation of (fake) news on social media?
- How do commercial interests condition mainstream news and also the proliferation of disinformation? What are the consequences?
- What is an alternative story that could be told about that event?

Step four - Practice creatively new skills and plans for action - and *step five - Apply what's been learned in the world* - allow learners to formulate creative action ideas and make them visible in the public domain. It's when they make a call to action and "learn by doing", individually and collectively. However, it's important to remember that action doesn't necessarily imply using sophisticated technologies or professional expertise. Indeed, the most long-lasting actions are often simple activities that symbolise or ritualise increased awareness. For example, after analysing and reflecting on disinformation and fake news, students could write a Decalogue or an infographic for fact-checking and post it on the bulletin board in the school lobby and website for all to read. They could also create a blog to share their explorations, insights, and reflections on disinformation and propaganda techniques, and show examples of how disinformation uses clickbaiting as a way to make profit. Other learners concerned about recent cases of disinformation might interview teachers, parents, schoolmates, and experts to share different perspectives and find solutions. These actions involve interacting and connecting with the general public, circulating ideas, collaborating on identifying problems and solutions, creating media content and disseminating it, and promoting civic engagement as a specific digital citizenship competence.

Mapping and measuring digital media literacy competencies

As with any other subject, in a digital media literacy course, it is crucial to assess and evaluate learners' work and see how digital media literate they have become as a result of it. It is essential to give them regular feedback on their progress (also through their self-evaluation) so that they can feel responsible for their learning.

However, creating assessment and evaluation tools for digital media literacy can be more challenging than other subjects. This may be in part because teachers lack the technical knowledge to evaluate work done with digital media. But more importantly, it may also be because they do not know clearly what competencies their students should achieve and, hence, the type of questions to ask during classroom activities. This often results in evaluating simply the final *media production* done by students.

Therefore, not only is the *process* often hastily or poorly documented, but, in any case, how does a teacher evaluate a media production like a video? As Buckingham sharply argues, "Comparison with the work of 'professionals', or the use of 'expert juries' in the manner of a film festival, may be inappropriate or positively misleading. Is 'quality' simply in the eye of the producer, or is it also determined by the audiences – and if so, which audiences? To what extent do we take into account here the involvement of adults – for example, in editing or providing specialist expertise, or in the drive to create an acceptable finished product?" (Buckingham, 2003, p. 200).

Therefore, two crucial steps must be considered to create objective, comprehensive, and meaningful assessment and evaluation plans for digital media literacy work. The first one is to define the *digital media literacy competencies* that a teacher expects their students to achieve, trying to make connections with the competencies frameworks of other school disciplines. The second one is to use *tools and procedures* that allow the teacher to assess students' work most exhaustively, making their expectations as straightforward as possible to them.

As said, to develop a consistent assessment and evaluation plan, the subject and its competencies framework need to be defined. According to a fundamental and widespread definition, media literacy is "the ability to access the media, to understand and critically evaluate different aspects of the media and media content and to create communications in various contexts" (European Commission, 2009). From this definition, the European Charter of Media Literacy identifies seven areas of competence (Bachmair and Bazalgette 2007):

1. **Effective use** of media technologies to access, store, retrieve and share content to meet individual and community needs and interests.
2. **Accessing and making informed choices** about a wide range of media forms and content from different cultural and institutional sources.
3. **Understanding how and why** media content is produced.
4. **Critically analysing** the techniques, languages and conventions used by the media and the messages they convey.
5. **Creative use** of the media to express and communicate ideas, information and opinions.
6. **Identifying, avoiding and/or challenging** media content and services that may be unsolicited, offensive, or harmful.
7. Making effective use of the media in **exercising democratic rights and civil responsibilities**.

From these basic definitions, we propose a *Framework for Digital Media Literacy Competencies* (SM5.1) adapted from David Buckingham's model (2014) with some insertions from the DigComp 2.2 Framework. Following Buckingham's suggestion, in our

Framework we included digital media literacy competencies with their own distinctive set of learning expectations, but also some meta-level learning expectations that are much more generally applicable in other curriculum areas, such as collaboration and communication, creativity, argument and debate, searching and finding, reflection and evaluation, confidence and self-esteem.

Once a teacher has determined the competencies s/he wants to develop, s/he can assess whether students achieved them and at what level. The teacher can then create formative and summative assessment tools to measure students' learning. Self/peer evaluation forms, learning reflections, writing samples, observation grids, and rubrics are all potential tools you may decide to use. We suggest using students' self-evaluation as often as possible, as it may be a powerful tool to evaluate students' learning and improve it.

Using peer evaluation may help assess group work. We know that digital media and online environments foster collaborative work; hence, there is sometimes a tendency to swing too enthusiastically toward group assessment. Yet, finding a balance between individual and group assessment is crucial, as the latter can most obviously encourage freeloading. We know that, in principle, all students can contribute to the success of a project in many diverse ways. Still, we also know, in a more pragmatic sense, that if less motivated students know that their grades will be the same as the highly motivated in their group, they might just decide to work less. As Gibbs (2010) acutely points out, "Allocating a single group mark to all members of a group rarely leads to appropriate student learning behaviour, frequently leads to freeloading, and so the potential learning benefits of group work are likely to be lost, and in addition students may, quite reasonably, perceive their marks as unfair" (p. 1).

As said, peer assessment may be quite helpful in tackling these problems. Ultimately, when considering an individual's contributions to a group task, the only people who know what the respective group contributions have been are the members of the group themselves. In a way, group work "naturally" lends itself to peer and self-assessment. Teachers could, for example, require students to keep a project logbook, a blog or some form of portfolio that allows them to demonstrate (and self-reflect on) their performance within a group. It is also worth considering how teachers collect peer assessments. They can do it anonymously (hence reducing students' anxieties about assessing one another) or by open discussion (thus allowing students the opportunity to defend themselves). Whichever approach teachers take will invariably depend on their knowledge of the students, the cohort size, and the student's own experiences of group work and peer assessment.

Some examples

To assess students' digital media literacy competencies related to disinformation issues, it could be useful to mix open-ended and closed questions, tasks to act on learning scenarios about disinformation, and written essays. More specifically, *knowledge* assessment could benefit from questionnaires, short essays of description, or distinguishment on disinformation topics, *skills* assessment can be done by asking students to rate media content in terms of reliability, identifying specific topics or characteristics in specific media products or posing problem-solving activities such as fact-checking, pre-bunking and debunking, doing online searches for alternative points-of-views. Attitudes can be assessed with questions on their considerations of the reliability and credibility of online information.

Other ways to assess skills in these areas are media production and the (e-)portfolio by which students build or create, possibly in a collaborative mode, propaganda, fake news, a decalogue to pre-bunk, or a list of debunking resources. A grid, a rubric, or a peer evaluation tool could be used to assess this kind of activity.

Here, we provide some examples to use as models for creating your tools. Teachers may consider using some of them before and after the activity to compare results and assess student progress.

Rubrics

In a rubric, teachers can adopt two methods:

1. Use **quantitative** measures. For example, a Level Four student successfully identifies five or more ways to de-bunk disinformation, a Level Three identifies four ways, a Level Two three ways, a Level One two ways, and Insufficient one or zero ways. In this case, the teacher can reduce ambiguity but at the same time lose analytical depth.
2. Use **qualitative** descriptions of the student's work. If the teacher defines Level Four as Confident work, Level Three is Competent work, Level Two is Developing work, Level One is Beginning work, and Insufficient is Failing work.

Ideally, both methods should be used: quantitative expectations help to evaluate knowledge and application of specific skills, while qualitative expectations allow to measure more speculative skills (inquiry and analysis).

A rubric construction model

In the first stage, the general components of the rubric are identified: dimensions, criteria and indicators.

Table 1 – Rubric construction model stage 1

Dimensions	**Disinformation and fake news**
Criteria	**Content marker**
Identify personal concerns	○ Reflect on how fake news affects oneself or individuals. ○ Recognise the negative effects fake news can have on oneself.

In the second stage, the rating scale is chosen.

Table 2 – Rubric construction model stage 2

Proficient (3)	**Emerging (2)**	**Beginning (1)**	**Not Met (0)**

In the third stage, for each indicator the level is formulated.

Table 3 – Rubric construction model stage 3

Dimensions	Disinformation and fake news			
Criteria	**Proficient (3)**	**Emerging (2)**	**Beginning (1)**	**Not Met (0)**
Identify personal concerns	The student demonstrates a clear, sophisticated and analytical awareness of how fake news affects people.	The student demonstrates an adequate analytical awareness of how fake news affects people and the importance of validating information.	The student demonstrates a minimally adequate analytical awareness of how fake news affects people and the importance of validating information.	The student fails to recognize how fake news affects people and the importance of validating information.
	The student includes clear examples of how fake news may negatively affect a person's personal, academic, or professional life.	The student includes some examples and criticism regarding how fake news may negatively affect a person's personal, academic, or professional life.	The student includes few examples and lacks insight into how fake news may negatively affect a person's personal, academic, or professional life.	The student does not support his/her thesis with examples or evidence and does not reflect on how fake news can negatively affect a person's personal, academic, or professional life.

Pre- and post-tests

Like rubrics, pre and post-tests are traditional measures of learning. A pre-test aims to assess students' knowledge before instruction and provide a baseline for better planning future activities. The post-test determines whether students have improved their understanding of fundamental concepts and processes and if they can apply this understanding to other areas they have been assigned to study.

The mix of questions focused on the disinformation issue could address the following:

1. Students' knowledge of media and how they construct reality: does the information you find online show people and things the way they are in real life? Can you think of some examples?
2. Students can apply digital media literacy concepts to different kinds of information producers. For example, describe the difference between information coming from a blogger and a mainstream newspaper: who is communicating and why? What different levels of credibility do they have?
3. Students' understanding of the language used in fake news and how it can be identified (debunking knowledge). For example, how is the message formulated? How can online news sources be identified?
4. Students' understanding of their relationship with the media and how it influences their life. For example, how much do you rely on the stories published by your

favourite social media influencer? Do you share these stories with your friends? Do they make you change your mind on certain issues?

Including this question mix ensures that content knowledge and process skills are being measured. If you repeat the same test at the end of the media literacy instruction to assess student progress, you can save results from pre-tests for comparison purposes.

Self-assessment grids

As said in the previous paragraph, students' self-assessment can be a powerful tool to evaluate and improve their learning. For example, Jason Deehan (2016) describes how he developed a rubric to be used by students to self-assess their learning after a critical analysis of the movie *12 Years a Slave*.

Another example comes from the self-assessment grids developed by Maria Ranieri (2013) in the toolkit *Digital and Media Literacy Education*. One of the units of the toolkit is dedicated to information credibility. The two activities included in this unit - one about searching for information and the other about evaluating it - are both self-assessed through grids (tables 4 and 5). Incidentally, as these activities may be carried out in pairs or groups, it is possible to adapt them to peer-assess learning, as suggested in the previous paragraph.

INDICATOR	ANSWERS	TEACHER'S COMMENTS
Comprehension and awareness (with regard to your individual performance)		
Did I understand how search engines work?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Did I understand what a keyword is?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Responsibility and participation (with regard to your individual performance)		
Did I actively contribute to the group work?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Did I actively participate in the class debates?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Concept map (with regard to the group's performance)		
Is the concept map clear and coherent?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Is the concept map complete?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Can the concept map be improved?	A) Yes, for example… (fill in) B) No, because… (fill in)	

Table 4 – A self-assessment grid for the activity "A map for searching"
Source: Toolkit Digital & Media Literacy Education Toolkit, p. 60

INDICATOR	ANSWERS	TEACHER'S COMMENTS
Responsibility and participation (with regards to your individual performance)		
Did I contribute actively to the pair work?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Did I contribute actively to the class debates?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Comprehension and awareness (with regard to your individual performance)		
Did I understand the concept of reliability/credibility of online information?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Did I understand the evaluation criteria of online information?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Selection and evaluation (with regard to your individual performance)		
Did I find at least two reliable websites?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Did I find at least two unreliable websites?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Did I suggest at least two reasons for reliability?	A) Yes, for example… (fill in) B) No, because… (fill in)	
Did I suggest at least two reasons for unreliability?	A) Yes, for example… (fill in) B) No, because… (fill in)	

Table 5 – A self-assessment grid for the activity " I evaluate, you evaluate"
Source: Toolkit Digital & Media Literacy Education Toolkit, p. 61

Activities

In this part, learners will be involved in the construction of two assessment tools for digital media literacy skills. Specifically, they will focus on the construction of an authentic task and the related competence assessment rubric. This is done through the provision of two construction schemes one relating to the authentic task and one relating to the rubric.
This part sets out the salient features from a conceptual point of view of the two instruments and the schemes that are provided to the students for constructing them.
In the evaluation phase, two tools are proposed to evaluate the processes developed in the construction of the two instruments.

1. Authentic task

Duration: 25 minutes

Learning outcome(s):

- Be able to build assessment tools to measure the acquisition of digital media literacy skills.
- Know how to construct a real situation that can put the student in a position to use the acquired competence.

Resources & equipment: Personal digital devices, word processors or spreadsheet, LMS or printer and paper.

Description:

Learners' experiences of authenticity in assessment depend on the contexts and environments in which they undertake such assessment and are also interpreted through their aspirations and conceptions of authenticity.

The instructor explains that authentic tasks are goal-oriented, pursue a communicative purpose, focus on meaning and are as authentic as possible. The successful completion of a task implies the achievement of a communicative outcome that can be carried out inside or outside the classroom but in the context of an authentic interaction. Contextual authenticity is achieved when tasks are carried out in the real world, while interactional authenticity is achieved when students and teachers are involved in a classroom negotiation process.

The characteristics that the student must follow to construct the authentic task are:

- Authentic tasks have **real-world relevance**: activities match as nearly as possible the real-world tasks of professionals in practice rather than decontextualized or classroom-based tasks (e.g., Brown, Collins & Duguid, 1989; Jonassen, 2013; Lebow & Wager, 1994; Oliver & Omari, 1999; Resnick, 1987; Winn, 1993).
- Authentic tasks include **complex activities** that students must investigate over a predefined period (e.g. Bransford, Vye et al., 1990; Jonassen, 2013; Lebow & Wager, 1994).
- Authentic tasks are seamlessly integrated with **assessment**. Assessment of tasks is seamlessly integrated with the major task in a manner that reflects real world assessment, rather than separate artificial assessment removed from the nature of the task (e.g., Herrington & Herrington, 1998; Reeves & Okey, 1996; Young, 1993).

Work steps to be developed for the construction of an authentic task:

1. The instructor divides the learners into small groups of 3-4 and simulates the work in a specific learning context.
2. Learners choose a digital media literacy competence from the competence framework on which to base the development of the authentic task.
3. Learners use the table below to design the authentic task (see table 6 - SM5.5.1).
4. Learners use the *Authentic task evaluation form* (see SM5.5) in the evaluation phase for process evaluation.

Table 6 – Authentic task design template (SM5.5.1)

Discipline	
Target audience	
Expected competence (to be chosen from the Framework DML (SM5.1)	
Educational objectives (to be chosen from the learning outcomes of the Framework DML	
Level of students	

Training context	
Operational delivery	
Timing and phases of work	
Directions for administration	
Expected product (product constraints)	
Creation of evaluation rubric (see rubric design template, tables 1, 2, 3)	

Below is an example of an authentic task (see table 7).

Table 7 – Example of an authentic task

Discipline	Italian; Computer Science
Target audience	Secondary school
Expected competence (to be chosen from the Framework DML	Creating effective communication
Educational objectives (to be chosen from the learning outcomes of the Framework DML	To be able to create meaning through the use of media. This includes defining intentions, audience and impact, selecting resources and combining elements in a coherent way to express the desired meaning
Level of students	In a class of 21 secondary school students, 5 excel in Italian, showing profound understanding of texts and advanced writing skills, while 8 are good, with sound analysis and writing skills. Another 5 are satisfactory, understanding texts at a basic level with frequent errors, and 3 have significant difficulties. In Computer Science, 4 students excel with advanced programming skills, 7 are good and manage projects successfully, 6 have basic skills with frequent errors, and 4 struggle to understand basic concepts.
Training context	The learning environment provides a combination of face-to-face lectures, hands-on workshops, and collaborative activities, complemented by digital resources to support learning. Diversified teaching methods are used to respond to the various competence levels of the students, fostering an inclusive and participative environment. Subjects such as Italian and Computer Science are taught with a practical and theoretical approach, stimulating both critical and technical skills. Assessments include written tests, practical projects and oral presentations to monitor students' progress.

Operational delivery	Creation of a personal blog with at least three published posts, with the following requirements: - Presentation Post: Detailed personal introduction. - Interest Post: Article on a topic of interest with relevant pictures and links. - Educational Post: Educational article with at least three reliable sources cited and an explanation of how the reliability of the sources was assessed. - Privacy Settings: Blog privacy settings correctly set.
Timing and phases of work	Phase 1 (30 minutes): Theoretical introduction on digital content creation and the use of blogging platforms. Phase 2 (45 minutes): Individual practical activity of creating a blog. Phase 3 (15 minutes): Discussion and presentation of the blogs created.
Directions for administration	The computer lab and the possibility of cooperative working must be available. Provide students with a short lesson on digital content creation, the use of blogging platforms (e.g. WordPress, Blogger) and security and privacy practices. Blog creation: Each student will create his or her own personal blog on a free platform, following the instructions provided.
Expected product (product constraints)	Personal blog with at least three posts published
Design of an evaluation rubric (see table 8)	

2. Design a rubric to evaluate students' digital media literacy competencies

Duration: 30 minutes

Learning outcome(s):

- Be able to design assessment tools to measure the acquisition of digital media literacy skills.
- Be able to identify and choose dimensions, criteria, indicators, descriptors, level of achievement of knowledge, skills, and attitudes of an assessing tool.
- Be able to design an assessment rubric.

Resources & equipment: Personal digital devices, word processor or spreadsheet, LMS or printer and paper

Description:

The instructor describes the rubric's characteristics as an assessment tool, then divides the learners into small groups of 3-4 and simulates the work in a specific learning context.

The instructor explains that for the design of the rubric one must consider that:

- A rubric is a tool used in the **process of assessing students' work** that usually includes Popham's (1997) three essential features: evaluative criteria, quality definitions for those criteria at levels, and a scoring strategy.
- A **design element** is a particular variable, choice or dimension that makes one sort of rubric different to another, for example, the specificity element is concerned with the differences between task-specific and generic rubrics.

Given the Framework of digital media literacy competencies (SM5.1), the instructor asks learners to construct a rubric and invites them to complete the rubric below, describing dimensions, criteria and levels of achievement, choosing the rating scale of the levels.

Work steps to be developed for the construction of the second assessment tool: a rubric:

1. The instructor divides the learners into small groups of 3-4 and simulates the work in a specific learning context.
2. Learners create a competence assessment rubric from the chosen competence and the developed authentic task.
3. Learners use the scheme to design the rubric (see table 8 - SM5.4.1)
4. Learners use the rubric evaluation form (see SM5.4) in the evaluation phase for process evaluation.

The dimensions of the rubric are the competencies, see the Framework DML (SM5.1).

For each dimension identify one criterion from the Framework DML. For each criterion develop 1 or 2 indicators (without level). Choose the rating scale as per the example in point 1 below.

Rubric design

Table 8 – Rubric design template (SM5.4.1)

RUBRIC	
Discipline(s)	
Target audience	
Dimensions/competence	
Criteria	Indicators
(use the verb in the infinitive)	*(use the verb in the third person singular)*

DIMENSIONS				
CRITERIA	***Indicator Levels***			
	1 - Advanced	2 - Intermediate	3 - Basic	4 - Beginner

POINT 1. PERFORMANCE RUBRIC LEVELS	
Levels	**Explanatory indicators**
1 - Advanced	The student carries out tasks and solves complex problems, showing mastery in the use of knowledge and skills; proposes and supports his or her own opinions and makes responsible decisions.
2 - Intermediate	The student carries out tasks and solves problems in new situations, makes conscious choices, showing an ability to use the knowledge and skills acquired.
3 – Basic	The student carries out simple tasks also in new situations, demonstrating fundamental knowledge and skills and the ability to apply basic rules and procedures.
4 – Beginner	The student, if appropriately guided, carries out simple tasks in familiar situations.

**For an example of a developed rubric, see Table 3 in the Theoretical Insights section.*

At the end of the activity, the instructor asks learners:

- What dimensions and criteria have you considered in developing this rubric? Is one of them more relevant than the others?
- Have you given a thought to focusing on evaluating the process and/or the final output?
- Have you adopted a quantitative or a qualitative type of assessment?

Assessment and Evaluation

Evaluation consists of two moments: one looks at process evaluation and one looks at summative evaluation. For this reason, two schemes are made available to the student for critical self-reflection of the two evaluation tools created (*Authentic task evaluation form* SM5.5 and *Rubric evaluation form* SM5.4), which also allow the tools to be reviewed. Furthermore, a questionnaire with closed stimulus questions (SM5.7) is provided to the learners for the final evaluation of the knowledge acquired through the module.

1. Process evaluation

Duration: asynchronous self-study

Learning outcome(s):

- Evaluate the process developed during the creation of the tools.
- Reflect on the strengths and weaknesses of the tools.
- Review the tools in the light of the evaluation schemes provided.

Resources & equipment: Internet connection, personal digital devices

Description:

The instructor asks learners to carry out a critical reflection in asynchronous mode on the instruments created through the *Authentic task evaluation form* SM5.5 and the *Rubric evaluation form* SM5.4. These two forms are designed to encourage learners' meta-reflection and review of identified weaknesses.

Instruction to give to the learners:

Follow the product evaluation forms (SM5.4 and SM5.5) for the critical and systematic analysis of the tools created. These evaluation forms include several indicators that enable the learners to identify strengths and weaknesses.

2. Self-reflection final questionnaire

Duration: 15 minutes

Learning outcome(s): assess learners' knowledge and skills on module contents.

- Self-reflection on acquired knowledge in relation to the theoretical stimuli provided.
- Self-reflection on skills acquired with respect to the exercises provided.
- Self-reflection on acquired meta-evaluative skills.

Resources & Equipment: internet connection, personal digital devices

Description:

At the end of the module, after presenting Theoretical Insights and practical activities, the instructor invites learners to complete an individual self-reflection final questionnaire based on closed stimulus questions and answers (SM5.7).

The questionnaire on the one hand represents an assessment tool for the achievement of areas on the other hand represents a tool for self-assessment.

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6. Explore the Key Media Practices of Children and Students

The Module at a Glance

6. Explore the Key Media Practices of Children and Students	
Abstract	This module offers some theory-based answers to the question why media educators should learn about and engage with students' media practices. Then, a theoretical framework for understanding children's digital practices is presented, highlighting how children's online experiences and its outcomes are influenced by different variables. The module ends with some examples of activities that teachers can use to find out more about their students' digital and media cultures. These activities also make students aware about their digital practices helping them to broader situate them in their lives.
Learning outcomes	• Recognise the importance of exploring students' media practices in teaching media education in general and critical thinking and how to tackle disinformation in particular. • Be able to offer different perspectives and arguments for the importance of exploring children's media practices. • Learn some theoretical anchors and a theoretical framework that help teachers to make sense of various information they get on children's digital lives. • Learn about possible practical activities to be used with their students in order to explore their media practices and to integrate elements from their students' media experiences into their teaching activities.
Resources & equipment	*Resources* ○ PowerPoint presentations, Activities' plans, Reading materials and Handouts (SM6.1 - SM6.14). ○ Internet connection, Laptop, Video projector and screen or smartboard. *Equipment* ○ Digital devices (notebooks, tablets, or smartphones) for learners. ○ Papers (A2 or A3), coloured markers, pen and papers, post sticks.
Total duration	195 minutes

Introduction

Duration: 35 minutes

Learning outcome(s):

- Reflect on the misconceptions on children's and youth's digital practices.
- Reflect on the way in which misinformation on children's digital practices spread and the role society's values play in this process.
- Understand the importance of the context in interpreting a media text or image.
- Reflect on the importance of exploring students' digital practices.

Resources & equipment:

- SM6.1 Module 6 Introduction - PPT presentation.
- SM6.2 Module 6 Introduction - Guidance plan.
- SM6.3 Reading material.
- Video projector and laptop or smartboard.
- (Optional, for digitally collecting learners' feedback) BYOD.

Description:

The Instructor briefly describes the thematic of the module 6, and starts engaging the learners with an ice breaking activity (see SM6.1 & SM6.2) for assessing and challenging learners' view on the importance of engaging with students' digital practices in media education teaching. During the activity, learners are prompted to reflect on two questions:

- Do teachers and adults know about their students' digital practices?
- Should teachers know about their students' digital practices in order to teach them media education (and on disinformation)?

The instructor will use the PPT presentation (SM6.1) and will lead learners through the 6 steps of the introductory section as described in the SM6.2.

The two themes that structure this section are:

- **Youth's information verification behaviour**: Starting from learners opinions on youths' information verification behaviour (how spread it is in youth population and if youths differ in this regard when compared with the general population), the instructor lead learners to reflect on possible factors that spur information verification behaviour (digital skills, critical thinking, trust in media etc.). This activity will allow for a reflection on the intergenerational and cross-country intragenerational situation with regard to information verification behaviour.
- **(Youths') cultural consumption practices**: starting from the deconstruction of a viral misinformation campaign around a photo showing a group of children looking at their smartphone next to Rembrandt's Night Watch masterpiece, the learners will be led to reflect on current misconceptions on children's digital practices and how our interpretation of media texts are shaped by our values (e.g. conservative values). The introductory section ends with the analysis of a text (see SM6.3) written by Tony Wigley, a museum curator, who argues on the importance of empathy in

understanding the prior knowledge and needs of the public (students, when transferred in our course terms) in order to be able to facilitate their access and engagement with the cultural products. The learners will discuss the transferability of the text's argument for a media education class.

Theoretical Insights

Duration: 50 minutes

Learning outcome(s):

- Learn about different theoretical arguments that justify the need for exploring students' digital practices.
- Learn about theories that they can use for understanding children's digital practices.

Resources & equipment:

- SM6.4 Theoretical Insights - The PPT presentation.
- Reading materials (SM6.5 and SM6.6).
- Video projector and laptop or smartboard.
- (optional, for digitally collecting learners' feedback) BYOD.

Description:

In this section, we start by looking at different theoretical perspectives from which one can argue for the importance of exploring students' digital practices. Then we will discuss some common misconceptions regarding children's digital practices mirroring them with data obtained from a child-centred perspective. We will end the section applying the above-mentioned arguments to the situation of teaching critical thinking and supporting students to tackle disinformation.

Why explore students' media practices?

Exploring students' digital practices is crucial for media educators, especially those aiming to teach students how to tackle disinformation. Enhancing the relevance of the learning process, improving student engagement in learning activities, and offering just-in-time knowledge that students can quickly apply in their digital lives are key reasons why engaging with students' digital practices is beneficial. In the following, we will outline some of these arguments, discussing their theoretical foundations to help teachers situate these exploratory activities within their conceptual framework and confidently use them in their classrooms.

Child's rights and child's digital rights perspective

At a general level, teachers need to understand their students' digital and media practices to uphold children's rights effectively, especially considering the new digital environment we all live in nowadays. The United Nations Convention on the Rights of the Child (UNCRC, 1989; see SM6.5 & SM6.6) emphasises the child's right to access information, express themselves, and participate in cultural and artistic life. By understanding how students engage with media in general and digital media literacy in particular, teachers can foster these rights by tailoring educational content that resonates with students' real-life media interactions. This approach ensures that education is relevant and empowering, promoting critical thinking and digital media literacy skills necessary for informed and engaged citizens. Moreover, understanding

students' digital culture is especially relevant in this era characterised by information disorders / pollution (Wardle & Derakhshan, 2017; see also the other modules of this course and especially Module 2) that through their negative consequences on society as a whole and on children put at risk their rights .

Referring to the UNCRC, scholars (see for instance Cannon et al. (2022) plea for reintroducing media education in the UK school's curriculum) argue that understanding students' digital and media practices is especially relevant for children's rights to preserve, express and explore their identity (Article 8 of UNCRC), to freely express their views (Article 12), and to participate in society by engaging with information in any mediated way they choose (Article 13).

As many scholars show, in addition to creating educational experiences that leverage students' familiarity with digital tools, understanding students' media practices allows teachers to support students' critical analysis of media in the most relevant context for them. That helps students recognize and challenge media representations and institutional influences they naturally encounter in their daily life, fostering their civic awareness and promoting social justice (Cannon et al., 2022, Buckingham, 2005, 2003).

The need to consider children's rights in relation to media more broadly overpassing the narrow perspective of the right to protection (important as it is) and adding to it the right to participate in and through media and the right to have access to media and digital technology was a constant battle over the years between researchers, policy makers and other stakeholders (David, 1999, Livingstone & Third 2017), one of the last episodes being the unexpected effect of the GDPR's regulations (EP & CEU, 2016) that arbitrary restricted children's right to participate in society in the name of protecting their personal data (Livingstone & Third, 2017)

Moreover, with the widespread access to and adoption of digital technologies by children from the youngest ages, some voices had called for an update of the UNCRC for ensuring respect for children's rights in the new digital environment (Livingstone, 2014; Livingstone & Third, 2017). A child-centred and evidence-based approach (see Table 6.1) was taken and relying on research data on practices, risks and opportunities children encounter online as perceived and reported by themselves, some of the rights stated in the UNCRC had been adapted. In 2021, after long stakeholders consultation, children included, the UN adopted the General Comment no. 25 on children's rights in relation to the digital environment (see also *In our own words: Children's rights in the digital world*, the summary report on the consultation of children that is a perfect exemplification of this type of engagement and consideration with children's perspective on their digital lives, 5 Rights Foundation, 2020).

In line with the principles stated in the GC 25 of UNCRC, by listening to children and integrating their' digital experiences into the curriculum, teachers not only guide students in navigating digital spaces safely and responsibly, reinforcing the right to a secure online environment, but they also support students' rights to information, freedom (of expression, thoughts and association), and their right to privacy and therefore support the development of responsible digital citizens who understand their rights and responsibilities in the digital age (see the short video *Children's rights in a digital world*, developed as part of the ySkills project).

UN Convention on the Rights of the Child (articles selected and paraphrased)	Evidence-based application of the CRC online (see Livingstone, in press, for citations to evidence)	Internet Rights and Principles Coalition (selected and paraphrased)
Protection against all forms of abuse and neglect (Art. 19), including sexual exploitation and sexual abuse (Art. 34), and other forms of exploitation prejudicial to the child's welfare (Art. 36). Protection from 'material injurious to the child's wellbeing' (Art. 17e), 'arbitrary or unlawful interference with his or her privacy, family, or correspondence, nor to unlawful attacks on his or her honour and reputation' (Art. 16) and the right of child to preserve his or her identity (Art. 8).	• Sexual grooming, sexual exploitation and abuse • Creation and distribution of child abuse images • Online dimensions of child trafficking • New threats to privacy, dignity, identity and reputation • Exposure to (diverse, extreme, illegal) pornography • Personal data exploitation, misuse, unwarranted sharing or tracking • Hostility, hate, harassing and bullying content, contact and conduct • Inappropriate information and persuasion regarding self-harm, violence, suicide, pro-anorexia, drugs	• The right to dignity must be respected, protected and fulfilled online • The right to privacy, freedom from surveillance or censorship and the right to online anonymity • The right to control over personal data collection, retention, processing, disposal and disclosure • The rights to life, liberty and security, including protection against harassment, crime, hate speech, defamation (and, for children, sexual and other forms of exploitation) • Children must be given the freedom to use the internet and protected from the dangers associated with it, the balance depending on their capabilities
Provision to support children's rights to recreation and leisure appropriate to their age (Art. 31), an education that will support the development of their full potential (Art. 28) and prepare them 'for responsible life in a free society' (Art. 29), and to provide for 'the important function performed by the mass media' through diverse material of social and cultural benefit to the child (including minorities) to promote children's wellbeing (Art. 17).	• Availability and distribution of formal and informal learning resources and curricula • Wealth of accessible and specialised information • Opportunities for creativity, exploration, expression • Digital, critical and information skills and literacies • Ways to counter or circumvent traditional inequalities or problems or to address special needs • Expanded array of entertainment and leisure choices • Access to/representation in own culture, language and heritage	• Everyone has an equal right to access and use a secure and open internet and the specific needs of disadvantaged groups must be addressed • Cultural and linguistic diversity on the internet must be promoted and innovation should be encouraged to facilitate plurality of expression • The right to education through the internet; the right to culture and access to knowledge online • Internet standards and formats must be open, interoperable and inclusive
Participation: 'In all actions concerning children… the best interests of the child shall be a primary consideration' (Art. 3), including the right of children to be consulted in all matters affecting them (Art. 12); also the	• Enhanced connections and networking opportunities • Scalable ways of consulting children about governance • User-friendly forums for child/youth voice and expression • Child-led initiatives for local and global change	• The internet is a space for the promotion, protection and fulfilment of human rights and the advancement of social justice • The right to seek, receive and impart information freely, and to associate freely with others for social,

child's right to freedom of expression (Art. 13) and to freedom of association (Art. 15).	• Peer-to-peer connections for entertainment, learning, sharing and collaboration • Recognition of child/youth rights, responsibilities and engagement	political and cultural purposes • Internet governance must be multistakeholder, participatory and accountable

Table 6.1 - An evidence-based translation of children's rights into the digital age (Livingstone, 2014. p.23)

Pedagogical perspectives

Constructivist Learning Approach

Relevance and engagement are for many the key reasons why exploring students' digital practices is an effective approach for media educators aiming to teach about disinformation (Melo-Pfeifer & Dedecek Gertz, 2023). At the most general level, the constructivist learning approach, especially as elaborated in the social constructivism theories (Dewey, 1938, Vygotsky, 1978), has some key characteristics that make it perfectly aligned within the media education activities.

By emphasising that "learning is a social activity," the constructivism learning theory takes on board and values students' digital practices in which they interact with diverse and global communities. This interaction can be harnessed to engage students in evaluating the validity and reliability of information they encounter online, fostering a classroom environment that encourages discussion and collaborative problem-solving.

Vygotsky's concept of the "zone of proximal development" (1978) highlights the role of more knowledgeable others in guiding learners to higher levels of understanding. It is particularly useful in digital media education, where teachers can structure activities that allow students to co-construct knowledge and develop digital media literacy skills together. By situating learning within real-world digital interactions and guided exploration, students can better navigate and critique the media they consume. The active, communal, and scaffolded learning experiences endorsed by constructivism thus equip students with the tools necessary to identify and counter disinformation effectively.

Learning is an active process in which learners do have a role to play, as they co-construct in a guided approach meaning by integrating their prior and new knowledge, both at a cognitive and emotional level. Therefore, although occurring through social interaction, knowledge is personal, reflecting the unique way in which learners make sense, in a scaffolded process, of their personal history and cultural variables. Valuing students' real-life contexts and problems is therefore the way to go according to (Dewey, 1938) in education in general and it is even more relevant for teaching students to tackle disinformation. As students are likely to encounter misleading content that may align superficially with their pre-existing beliefs, prompting their critical engagement with such content is essential, not only by enabling them to understand the factual inaccuracy of such information but also its potential to manipulate emotions and perceptions.

Another theory that developed under the broad umbrella of the constructivism approach is the **Situated Learning Theory** (SLT). Introduced by Jean Lave and Etienne Wenger in 1991, it posits that learning occurs most effectively within a specific context that is relevant to the

learner. According to SLT, learning happens naturally, unintentionally and continuously in the community of practice as learners participate and get engaged in relevant activities. Learning represents the progression from a peripheral or a novice position toward a central or expert position within the community of practice.

A related concept is that of **Situated Cognition** (Brown et al., 1989), that sees learning as deeply embedded in the social and cultural contexts of the activities themselves, rather than being a detached, abstract process that can be directly transferred to different settings such as traditional classrooms.

Exploring students' digital practices in media education activities is well supported by both these theories. By recognizing digital platforms as communities of practice, educators can leverage students' existing digital habits and interactions as valuable learning experiences. This aligns education with students' real-life experiences and digital behaviours, making learning more authentic and effective. The dynamic and interactive nature of digital media provides a rich context for applying SLT, facilitating deeper engagement and practical, context-driven learning outcomes.

As a theoretical framework for discussing their findings from a project that aimed specifically to teach children about disinformation, Melo-Pfeifer and Dedecek Gertz (2023) proposed the **culturally responsive pedagogy,** akin to the above-mentioned situated theories. Moreover, the authors state the need for media educators who teach about disinformation to adopt an **emic perspective** and start from students' experiences and perspectives on disinformation as a prerequisite for timely, situated and responsive information to approach disinformation and misinformation in school curriculum.

Apart from adding relevance, exploring students' digital practices helps with students' engagement in the learning process. For example, Stewart (2007) uses Egan's concept of "**imaginative education**" and highlights the importance for media educators to focuses on students' emotional and intellectual engagement "an educational pedagogy which values students emotional engagement will enhance students' imaginative understanding of their mediated world and engage them in a dialogue regarding their opinions, understandings, preferences and questions about their media saturated environment."

This engagement should not only be emotional, based on students' familiarity with the content, but has to take the form of sharing responsibility and encouraging ownership in learning. Sometimes seen as roles shift, these new forms of learners' engagement in which students and teachers switch their roles, are, as Walker and Shore (2015) argue, better be understood as role diversification, as students and teachers may undertake multiple roles simultaneously in inquiry.

Critical Pedagogy

From a totally different perspective, critical pedagogy also offers theoretical reliable support for exploring students' digital practices in media education activities. Rooted in the work of Paulo Freire (1970), this theory emphasises the role of education in challenging oppressive structures by empowering learners to question and challenge power structures and dominant narratives. Exploring their own digital practices helps students recognize and resist manipulation and bias in media. Moreover, teachers who are aware of their students' digital practices can use this knowledge to critically engage students in discussions about the power dynamics and ideological forces behind disinformation, thus fostering a more critically aware

student body. This approach encourages students to become active agents in their media consumption, developing the skills to discern credible information and counteract disinformation.

Moreover, following this critical approach, by valuing students' media cultures, teachers also disrupt traditional classroom hierarchies (see also Cannon et al., 2022), creating participatory learning environments that are more inclusive and resonate with students' lived experiences. This inclusive approach (see for this topic Module 4 on the importance of a safe and positive learning environment and Module 9 on diversity and inclusion) not only enhances educational outcomes but also empowers all students to articulate their perspectives and engage critically with the world around them.

Media theories-oriented perspective

Apart from considering it from the perspective of children's rights or as aligning with some pedagogical principles or opportunities, the third stream of arguments for exploring students' digital practices can be found in media-oriented theories. More exactly, understanding some relevant theories that describe the way in which users engage with media (in a self-interest driven way, as stated in the uses and gratifications theory or based on a permanent meaning negotiation process, according to the cultural studies theory) helps teachers understand the importance of engaging with their students' media and digital culture (to avoid falsely assuming a direct, hypodermic influence of media messages on their students). In the following, we will briefly present three such theories that can be useful for teachers.

Uses and Gratifications Theory

Developed by Blumler and Katz (1974), this theory highlights the role of personal needs and goals in users' media consumption. It states that users are actively seeking out specific media that satisfy their various needs, such as information, personal identity, and social integration. As such, understanding students' motivations for their media use can help educators tailor lessons that address these needs, making the learning experience more relevant and engaging.

Media Ecology Theory

Media Ecology Theory is a framework that studies the way in which media, technology and communication interact with and shape the cultural and social environments in which they occur. Marshall McLuhan (1964) emphasises that media act not merely as channels of communication but as environments that profoundly influence cultural norms, social structures, and even human consciousness. His famous assertion, "the medium is the message," encapsulates the idea that the characteristics of media technologies themselves, rather than the content they carry, are what impact society most significantly. Although some scholars critic this theory for its techno deterministic approach, it can be relevant in our argument. Thus, adopting a holistic approach and understanding media as environments offer teachers legitimacy in exploring digital landscapes that students inhabit. It also helps teachers accept that platforms like social media, gaming, and virtual learning environments do more than entertain students, they contribute to cultivating specific skills, habits, and ways of thinking.

Switching the focus from the transformative effects of media as environments that alter societal organisation and zooming in from the historical scale proposed by McLuhan, Couldry and Hepp in their book “The Mediated Construction of Reality” (2017) adapt media ecology ideas and focus on how media and communication technologies are deeply embedded in the everyday lives of individuals, shaping our sense of reality. Referring to Berger' and Luckman’s book “The Social Construction of Reality”, Couldry and Hepp suggest that reality today is largely constructed through media processes that not only shape our understanding of the world, but also structure our social relations, and construct our identities within and through media. In their view, media practices weave into the minutiae of everyday life, influencing personal and collective realities. Hepp and Couldry extend the discussion of media's impact to the current digital and networked media contexts and propose a more nuanced view of individual agency and social structure. The educational exercise to explore students’ digital practices is well supported by Couldry and Hepp’s theory, as this process increases both teachers’ and students’ awareness on the subtle yet pervasive way in which media construct for better or for worse our daily lives.

Cultural Studies Theory

According to this perspective, media and cultural texts play a significant role in shaping societal norms and values. Understanding students' digital media practices allows teachers to address how disinformation exploits cultural narratives and to teach students to critically engage with media representations (Hall, 1997).

This approach, as discussed by Hall (1980), highlights the importance of recognizing and valuing students' media cultures. By acknowledging students' digital practices, teachers can create a more inclusive and relevant curriculum that addresses the specific types of disinformation prevalent in students' digital environments.

A theoretical framework to understand children’s digital lives

As important as it might be from a pedagogical point of view, exploring students’ digital practices should be accompanied by some theoretical anchors that can be used to make sense of children’s digital lives. In this section, we will present the research-based theoretical model proposed in the EU Kids Online project (Livingstone et al., 2017) that can help teachers to better understand and lead the exploratory activities in their media education classes.

The **EU Kids Online (EUKO) model** was elaborated, tested and refined during almost ten years by the EU Kids Online researchers network (Livingstone et al., 2017). A first version of the model was proposed in 2010 (Livingstone & Haddon, 2012) and it was based on the results of the literature analysis of more than 400 studies on children’s digital lives available at the time.

The theoretical anchors of the model (see Livingstone & Haddon, 2011) aim to correct some myths about children's online experiences and to root the model in a child-centred perspective. More exactly, through their model, the researchers wanted to:

1. Move away from "essentialist" theories of childhood and also from the techno deterministic theories that view digital technologies as fundamentally disruptive for a

unitary category of ‘children’ (e.g., such as those describing children as "digital natives,[1]" Prensky, 2001a, 2001b), and instead align with new theories of childhood.

2. Avoid moral panics based on adult-defined internet risks and protectionist agendas, proposing instead a foundation in "risk theories" of late modernity.
3. Provide a holistic response to the question of responsibility for children's online safety and access to internet opportunities, using Bronfenbrenner's ecological theory of successive influence levels (1979) to avoid the de-responsibilization of various social actors.

Then, based on the results of a pan-European survey that took place in 25 countries (Livingstone et al., 2011), the model was slightly revised (Livingstone et al., 2015; Livingstone et al., 2017). We will present the revised version of the model, highlighting some of its changes, and discuss some of its derived theories.

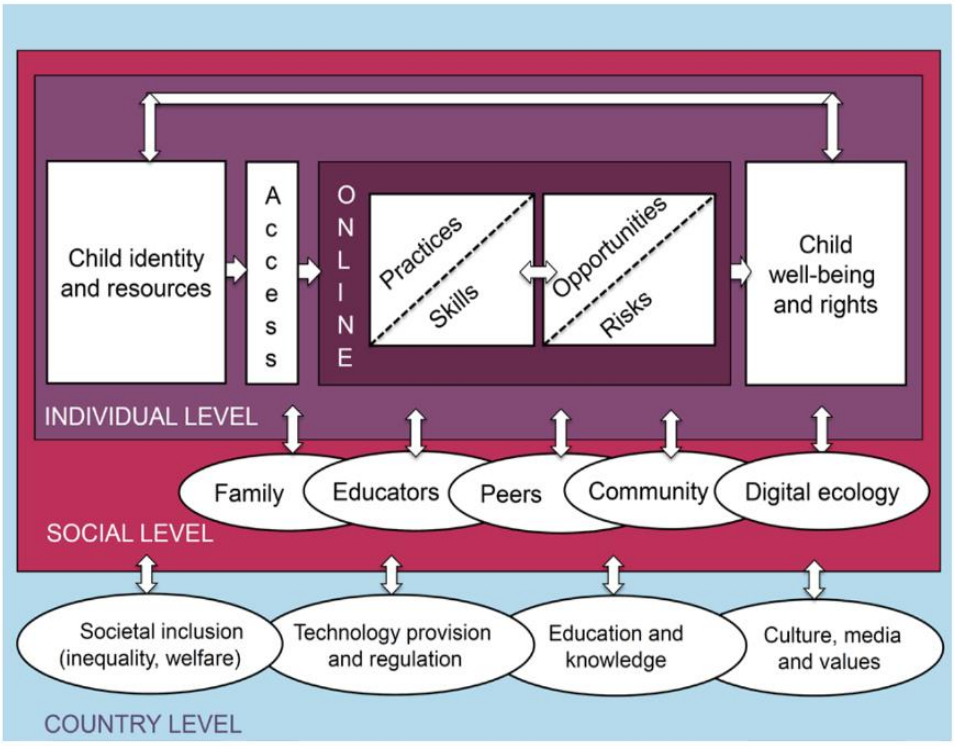

Figure 6.1. The EU Kids Online revised model (Livingstone et al., 2017)

Avoiding a techno-determinist position and favouring the child's point of view, the EUKO model combines the ecological model of child development (Bronfenbrenner, 1979) with a sequential approach that describes the child's digital life answering the question of “whether and how the internet is now playing a role, for better or for worse, in children’s wellbeing” (Livingstone et al., 2015, p.10).

According to the ecological theory, the child is encompassed by successive layers of influence, from the micro level to the meso and then the macro level; the EUKO model adapted these three levels, considering the first level to pertain to individual uses of the internet (i.e., children's online lives), the second to the mediation processes of digital

[1] Against this widespread metaphor, see Eynon, 2020.

technology use by the child (i.e., mediation by parents, teachers, and peer groups), and the third level to the national context (e.g. the influence of factors such as educational policies or social inequalities).

At the individual level, in the inner box, the model proposes a sequential approach that aim to explain, starting from child's identity and resources (e.g., demographics, psychological factors, their capacities, interests, motivations, life experiences or vulnerabilities), "what difference does the digital make in children's wellbeing". Moreover, although studies shows that the vast majority of children, at least in the European countries, are online, the revised model acknowledges "Access"[2] as a distinct and important factor that influences children's online experience.

Children's online experience is structured in the model by two dimensions: that of practices and/or skills and that of risks and/or opportunities. More exactly, children's online practices, that can also be seen as skills, translate into either risks or opportunities depending on the initial conditions (i.e. child's identity and resources). For example, the same practice of getting to know people online can be a risky one for an emotion seeking, unsupported child who already has a problematic group of friends, but could be an opportunity to extend a well curated social network for a child with very present and supportive parents. One of the most innovative ideas that the model proposed and tested was that both risks and opportunities are probabilistic, arising from the interaction between the input factors (child's identity and resources) and the online experience of the child. They also do not necessarily translate into harm and benefits for children. Thus, studies based on the EUKO model moved away both from the panicard narratives that are risk-centred and the optimistic discourse that revolves only around opportunities and does not go deeper to analyse who are those children who seize the online opportunities and benefit from them and who are left behind, despite being online.

One of the explanatory theories that is encompassed in the model is that more internet use leads to more skills but also to more exposure to both online risks and opportunities. As said before, that does not automatically translate neither in harm, nor in benefits, more and complex sets of variables (such as age, the family socioeconomic status, parental support, country related conditions) explaining the final outcome.

Another important theory in the model is the role of the social mediation of children's digital lives, mediation in which educators are included alongside family, peers and community (another argument for exploring students' digital lives not only individually, but also collectively).

Finally, another relevant idea for this course that can be extracted from the model is how the macro-level (described by the model on four dimensions) can shape children's digital experiences and thus their wellbeing.

[2] Access encompasses elements such as the digital repertoire children use (what combination of devices), if they can access only free content or also paid one etc. As Helsper argues (2021), the digital divide should no longer be considered as a dichotomic problem, but a multi folded one in which digital inequalities is a better concept than digital excluded.

Activities

To reach the objectives of this Module, we propose two learning activities that can be either used alternatively or that can be adjusted for time and used together (the instructor can decide to narrow the discussion to only some of the topics proposed and then the duration will change accordingly).

1. My Daily Digital Universe

Duration: 40 minutes (adjustable as needed)

Learning outcome(s):

- Students will become aware of the digital universe they inhabit daily.
- Students will reflect on their social interactions mediated by media, the types of media they use, the needs and gratifications driving their use, and how their digital practices affect and influence them.

Resources & equipment:

- Laptop, projector and screen (or smartboard).
- SM6.7 The activity plan.
- SM6.8 "Digital Universe Diary" worksheets (paper-based or digital).
- Coloured markers or crayons.
- Large sheets of paper (A2 or A3).
- Post Sticks.

Description:

This lesson plan aims to provide learners with a comprehensive understanding of their digital practices and how these practices shape their daily lives, social interactions, and overall well-being, while also addressing the risks of disinformation. The lesson can be later adapted by teachers for students from both lower and higher secondary school.

Introduction (2 minutes)

Objective sharing: Explain that today's lesson will explore the "digital universe" they inhabit daily and how it affects them.

Activity Part 1 - Mapping the digital universe (20 minutes)

Individual task: Provide each student with a "Digital Universe Diary" worksheet. Ask them to list all the digital activities they do in a day, including the devices they use and the people they interact with. Ask learners to reflect on which of their digital practices might expose them to disinformation.

Reflection questions:

- What types of media do you use (e.g., social media, games, educational websites)?
- What type of content do you consume?

- What types of engagement do you have online (passive usage, posting, commenting, rating, reacting to others, etc.)?
- Who do you interact with using these media (e.g., friends, family, teachers, unknown people, groups based on your interests)?
- What needs or gratifications do these activities fulfil (e.g., entertainment, social connection, learning)?
- How do your digital practices affect your and others' lives (e.g., making informed decisions based on online searches, watching recommended videos, befriending suggested people, buying suggested products)?
- Which of these practices might expose you to disinformation or create the conditions for such exposure?
- Which of these practices help you to reduce the risk of being exposed to disinformation or help you to tackle and deal with disinformation?

*Group work**:***

Divide students into small groups and provide them with large sheets of paper and markers. Each group creates a visual map of their combined digital activities, illustrating their daily digital universe. They should clearly mark on the map the most risky and the most safe practices with regard to disinformation.

Activity Part 2 - Analysing the Digital Universe Maps (25 minutes)

Presentation: Each group presents their digital universe map to the class.

Discussion: As a class, discuss some of the following:

- What are the most common digital activities among the groups?
- What is the proportion of social versus individual activities they do online?
- How do these activities fulfil different needs or offer different gratifications?
- How do digital practices affect their social interactions and relationships?
- What are some positive and negative effects of their digital habits (e.g., Positive: learning new things, staying connected; Negative: screen time issues, exposure to misinformation)?
- What are the most "risky" and the "safest" digital practices with regard to disinformation and how common these practices are among learners?

Conclusions and homework (optional) (3 minutes)

- **Recap:** Summarise the day's lessons, emphasising the importance of being aware of their digital universe and its influences, both positive (e.g. social interactions) and negative (especially the risk of disinformation).
- **Homework assignment (optional):** Ask students to keep a "Digital Universe Diary" for the next day, noting their digital activities, interactions, and reflections on how these activities make them feel and any encounters with disinformation. They may share their findings in the next class.

"What Does the Internet Know About Me?"

Duration: 40 minutes (adjustable as needed)

Learning Outcomes:

- Reflect on personal digital practices and the traces they leave online (digital footprints).
- Understand different types of digital footprints and their potential risks, especially regarding disinformation.
- Learn strategies to reduce digital footprints and develop healthier digital practices.

Resources & Equipment:

- Computers/tablets with internet access OR sheets of paper (A2/A3) & coloured markers.
- Laptop, video projector and screen or smartboard.
- Whiteboard and markers.
- SM6.9 The activity plan.
- SM6.10 "Digital Footprint Discovery" Handout.
- Sticky notes or digital note-taking tools.

Description:
Adapted from Livingstone and her colleagues (2019), this activity is suitable for learners as both a learning activity in this course and a possible teaching activity with their future students. The activity can be adjusted for various age groups (from primary to secondary education). It aims to help learners (in the course)/ students (later) understand their digital footprints and think critically about their online behaviours in relation to privacy. The lesson is interactive and thought-provoking, fostering a deeper understanding of internet mechanisms and memory.

***Activity Outline**:*

1. Introduction (7 minutes)

- Task: learners are asked to list their favourite online activities.
- Grouping: The instructor divides learners into groups based on similar activities.

2. Instruction part - What is a Digital Footprint? (8 minutes)

- Recap & discussion: Based on previous knowledge provided in this course, the instructor engages learners into a discussion on types of digital footprints left online by users and their possible relevance for the risk of being exposed to or engaging with disinformation.
- The following concepts can be used in the discussion (they are only indicative and should be adjusted for the specific of the students involved in the activity; see the Activity plan, SM6.9 for other resources): Personal info, identity, profiling, preferences, habits, biometric data, web browsing, device-linked info, social network data, internet searches, location, financial data, health records, school records, sensitive information, data usage; data extraction, data processing (and how it is used for influencing digital experiences). data brokers, and data intermediaries.

3. Groups work - Discover your digital footprints (15 minutes).

- Task: Groups are given a "Digital Footprint Discovery" Handout (SM6.10) and are asked to:
  - Create a map on which to write and organise information they leave online (their digital footprint) during their preferred activities.
  - Discuss any disagreement they have and offer a justification for these disputed situations (e.g. why some argue for some online traces and others disagree? Is it because some are involved in more risky or more safe practices?).
  - Groups should mark such situations on their map and add justifications.
  - identify which of their online traces are likely to expose them to disinformation and mark them on the map; additionally, groups should reflect on strategies for reducing this risk.

4. Group presentation, discussion, and reflection (15 minutes)

- Presentation: Groups share their digital footprint maps, potential implications, and strategies to reduce footprints.
- Class Discussion: the instructor will lead a reflection on activities that leave the most online traces, on strategies to manage online information and on strategies to cope with the disinformation one is exposed to based on their digital footprints.

5. Conclusion and homework (optional) (5 minutes)

- Recap: Summarise key points about privacy, profiling, safety and disinformation.
- Homework (optional): Students are asked to observe and note their family's online activities, focusing on digital footprints. Discuss findings in the next class.

Assessment and Evaluation

(The instructor can choose between the first or the second of the proposed activities)

As the objective of the Module 6 is to help learners to recognise the importance of exploring their students' digital and media practices in teaching media education in general and critical thinking and how to tackle disinformation in particular, we propose two assessment activities from which the instructor should choose one. The first activity is more theory-oriented and helps learners to reflect on their grasp on the content provided in the module and the second one is a more applied activity that can be used both as an assessment or learning activity.

1. Self and group reflection assessment

Duration: 30 minutes in class (+ 30 minutes home work in asynchronous mode)

Learning outcome(s):

- Being able to demonstrate a critical understanding of the importance of engaging with students' digital lives in media education, especially regarding disinformation.
- Being able to apply various relevant theories to support arguments.

- Being able to identify practical ways to integrate students' digital practices into classroom activities to address disinformation and to reflect on how media education activities can be integrated into the subject they teach.
- Promote and engage in peer evaluation to gain different perspectives and improve critical thinking; reflect on personal and peer insights to enhance collective understanding and teaching practices.

Resources & Equipment:

- SM6.11 handout with instructions for writing the essay (to be provided to learners in advance as a homework task) or the digital form of the document.
- SM6.12 The activity plan.
- Pen and paper or digital devices for learners to note down their reflection in the second part of the activity.

Description:

As part of the Module 6 Assessment, this activity comprises two parts: an asynchronous homework essay and an in-class peer presentation and reflection.

Part 1: Homework Essay

The instructor should ask the learners in advance (in the penultimate meeting of the module) to write a short essay arguing for the necessity of engaging with their (future) students' digital lives in media education activities that are intended to teach about disinformation and how to tackle it. In their essays, the learners should also reflect on how such a media education activity fits into the subjects they teach.

Writing instructions:

The essays could fit the following structure:

Introduction:

- Briefly introduce the importance of media education in the context of today's digital age and the prevalence of disinformation.
- State your thesis on why engaging with students' digital lives is essential, particularly in combating disinformation.

Main body:

- Theoretical support:

Refer to at least two theories presented in the Module 6 or other theoretical arguments that you propose).
Explain how these theories support the integration of students' digital practices into media education.

- Practical implications:
  - Discuss practical ways to engage with students' digital lives in the classroom.
  - Highlight potential benefits, such as increased relevance, engagement, and critical thinking skills.
- Subject-specific reflection:
  - Reflect on how incorporating media education activities into your specific subject (e.g., English, History, Science) can help address disinformation.

- Provide examples of how these activities can be integrated into your curriculum.

Conclusion:

- Summarise the key points made in your essay.
- Reinforce your thesis on the necessity of engaging with students' digital lives to combat disinformation.
- Reflect on the broader implications for your teaching practice and student outcomes.

Part 2: Peer presentation and reflection

Activity instructions:

1. Peer Presentation (10 min):
   - Pair up with a classmate.
   - Each pair member will present their essay to the other, summarising key points and arguments (5 minutes each).
2. Peer Reflection (5 min):
   - After both presentations, engage in a reflective discussion with your partner.
   - Discuss the commonalities and specificities of your essays.
   - Reflect on the different perspectives and insights gained from each other's work.
3. Group Reflection (15 min):
   - Participate in a class-wide discussion facilitated by the instructor.
   - Share insights from the paired reflections.
   - Discuss the broader implications for teaching practice and student outcomes.

This self and group reflection activity can be used as an self-assessment activity and it is designed to encourage learners (the future teachers) to critically consider the role of engaging and knowing their students' digital practices in their media education activities and to articulate the theoretical and practical reasons for integrating these practices into their teaching. Through its peer evaluation and group reflection part, the activity also helps learners to take part in an emerging media educators community.

2. Slow Reading Using Critical Friend Conversations

Duration: 30 minutes (+ the preparation in advance; see the Description)

Learning outcome(s):

- Explore slow reading as a way to engage with the news.
- Explore new forms of social non-mediated practices of news consumption and practise healthy social habits around media content consumption.
- Foster critical thinking.
- Practice forms of engaging with other people's media consumed content in the context of tacking disinformation.

Resources & equipment:

- SM6.13 The activity plan.
- SM6.14 Handout with indicative questions.
- Bring your own media content (pieces of media products, digitally, paper-based or else, students are in advance asked to bring for the class).

- Pens and papers or digital devices (BYOD) for students.

Description:

The activity is suited for older students (higher secondary school) and is inspired by Ahmer (2018); it helps students explore new ways of engaging with the news and experiment with peer-supported news consumption, in an attempt at social meaning-making of news and practising healthy media-related habits.
In preparation for this activity, students are asked in advance to bring a piece of media content (audio, video, text, or image-based) that caught their attention in the past week and that they suspect may represent disinformation, although they are not sure about it.
At the beginning of the activity, students will be asked to briefly write down on paper or on a digital device two reasons why they consider the media content as possibly true and two reasons why they have doubts about it.
Then, students will be randomly divided into pairs and prompted to take turns discussing each piece of media content (for 10 minutes each).
In these discussions, learners will either play the role of the reader or the critical friend. Readers bring in their piece of information that they want to spend time thinking about. Critical friends, on the other hand, act as supportive listeners and ask provocative questions, providing data to be examined through another lens. This helps readers go deeper in their understanding of the news and in deciding on its truthfulness.
For this activity, the instructor provides learners with a set of possible questions (paper-based or digitally projected) to be used by the critical friends in the reading process (see some indicative questions proposed by Eisenstock 2019; SM6.14). The instructor should make it clear that these are guiding questions that can be adjusted for the discussion, or new questions can be asked.
After each learner is engaged for 10 minutes in the role of the reader and 10 minutes in the role of the critical friend, they are asked to reflect on their initial arguments and revise them if necessary in light of the new insights facilitated by the discussion.

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7. Teaching Digital Media Literacy and Disinformation

The Module at a Glance

7. Teaching Digital Media Literacy and Disinformation	
Abstract	The module "Teaching digital media literacy and disinformation" helps learners understand the essence of media texts in their various manifestations, recognize cognitive bias, develop critical thinking when dealing with media messages and products, get familiar with different techniques and tools for fact-checking, as well as get an idea about the essence and the specifics of creating and distributing media content.
Learning outcomes	• Understand the intentional nature of media messages and the nature of mediated "text" • Construct and deconstructing media messages • Verify sources to avoid misinformation, disinformation, and malinformation • Analyse media texts to get below the surface of the message
Resources & equipment	*Resources* ○ Additional readings (see References) ○ One PowerPoint presentation (SM7.2) ○ Supplementary materials (SM7.1; SM7.3; SM7.4) ○ Case-study (Activities Media literacy and cultural conversation Art as reflection and provocation) ○ Short video-films (see References) *Equipment* ○ Computer with Internet access ○ Beamer ○ Loudspeaker ○ Smartphones ○ Screen (white-board)
Total duration	195 minutes

Introduction

Duration: 10 minutes

Learning Outcomes:

- Identify details when encountering information.
- Analyse details of information.
- Verify sources about a piece of information, whether it is audio, video, print, etc.

Resources & Equipment:

- SM7.1 & Beamer.
- Smartphones.
- Reverse Image Search Tools.

Description:

The class will start with a “Say What You See” activity where learners will be shown a picture (SM7.1 - a dog and a wolf) that allows various interpretations of its content. The picture in SM7.1 is replaceable with any other picture that influences different interpretations and the instructor may choose a different picture for the introduction. Give the learners one minute to note as many details as possible. Then compare and discuss their answers.

At a later stage, the learners should use any kind of search engine (like Google Images Search, Yahoo Image Search, Bing Image Search, Pinterest Visual Search Tool, Creative Commons Search, Picsearch, TinEye, etc.) in order to collect more data for the image and compare their previously presented assumptions.

This will be a nice entry into the topic, and the idea that media messages may often be perceived differently. It could also shed more light on the fact that what lies on the surface may be pretty different from what it is really. Then the five key questions, i.e. authorship, format, audience, content, and goal will be tackled in detail. Those characteristics of the media content, and how it influences audiences’ perception, will be checked upon on an ad hoc basis by offering various examples (those examples may be different for the participating partners as it is important to be specific and context-related). Thus, disinformation, its characteristics, and generative reasons would become clearer and more easily recognizable.

Theoretical Insights

Duration: 90 minutes

Learning Outcomes:

- Be able to deconstruct media messages.
- Be able to construct media messages.
- Be able to evaluate sources
- Be able to analyse media content critically.

Resources & Equipment: Beamer, SM7.2 - PowerPoint presentation of the Theoretical Insight

Description:

The Theoretical Insight introduces the learners to the characteristics of digital media literacy, the key problems media messages can face consumers regarding their proper and accurate perception, and provides a better understanding of media ethics.

Digital media literacy (SM7.2)

Digital media literacy is closely related to media studies and offers additional insights on important issues, such as media understanding (knowledge and skills needed for a critical analysis of the media tools and content), media awareness (knowledge related to the different types of media and their classification – traditional and online, public and private; the opportunities and challenges consumers encounter when using them), media attitude (the appropriate way people feel about using media, digital technology, and the opportunities they offer), and media behaviour (critical media usage and application for the needs of upward personal and professional development). Those four attributes of media consumption may be referred to as media wisdom, as with, or without our participation, the media exists, it is all around, and will continue to play an important role in people's lives (Celot, 2021).

For some people, the media is interesting, entertaining, and informative, for others it is frightening, scandalous, manipulative, or misleading. The truth is that there is an availability of all these – no exaggeration – even ubiquitous. It is supposed that digital media literacy should provide clarity about their nature, functions, types, classifications, genre diversity, formats, ownership, indicators of degrees of freedom and independence, etc. In this case, it clarifies our relationship with the media - how we can most properly, healthily, and effectively engage actively with the media. Media literacy does NOT tell us what to think or believe in, it provides us with the tools of critical thinking – a methodology for learning and teaching, which offers the skills of such thinking, and those skills, in turn, allow us to make our own choices in a more trustworthy way (Hobbs, 2010). Media literacy encourages healthy scepticism through the process of inquiring, by asking the right questions leading to the right answers. In this way, media literacy provides a distinct pedagogy that pertains to both the process of deconstruction and the construction of media messages. It develops the skills of deciphering media content, which are equally useful and necessary for both the process of critical thinking and for understanding media and consumers' relationships with the media (Centre for Media Literacy, 2012). Therefore, the skills acquired through digital media literacy are precisely the 21st-century skills that provide citizens with the knowledge and competence to participate effectively in modern society. The acquisition of these skills and the knowledge of how to apply them in everyday life are linked to the processes of awareness and understanding, to the formation of attitudes and behaviours that build the so-called spiral of empowerment.

The awareness and understanding of the role the media plays in contemporary life provides the links between media literacy, 21st-century education, and active citizenship (Cortesi et al., 2020). Modern education should prepare learners not simply for collecting facts at their fingertips through the internet and digital technologies, but for processing, analysing, and understanding the available information. In other words, the skills formed through media literacy enable citizens to be:

- Effective managers of information.
- Wise consumers of media.
- Responsible creators and distributors of media content.
- Active citizens participating in a global media culture (Galili, 2021).

From such a perspective media literacy always poses five key questions about any media message (Jolls & Wilson, 2014). They include **authorship**, **format**, **audience**, **content**, and **purpose**.

Authorship

Clarifying the first key issue – authorship – is more complex and goes beyond the name that appears under the film, song, commercial, broadcast, etc. It reveals two fundamental truths that apply to all media – constructiveness and choice. Understanding constructiveness means recognizing that media messages are not "natural" even though they appear "real." They are constructed – like any material thing created by man – they contain a plan, performers to put it into action (and for which they are paid), means by which the performance happens in a given way (and not in another way) and an outcome that different people perceive identically or differently. Whether we are watching the headline news, reading the caption on a billboard in the street, or listening to a campaign speech – it is all about a message written by someone (or possibly by many people), with images not only captured but more likely edited; the whole process of message creation passed through the hands of many people with many different skills and tasks.

When we make choices – the creative decision witnessed is only one of various possible ones. Usually, it gives the chosen solution, presented in a way that remains in the mass consciousness as the only one possible. The media makes many things appear uncontroversial while they are far from it. Media presents representations rather than real things, but the distinction is blurred or non-existent for many people. The truth is that the media is not a real version of the world, since it is mediated, even news that is supposed to present facts, does it through the prism of the many components that distort the real image. The importance of the problem of authorship is that it presents the full complexity of the "constructiveness" of the media and thus helps us create the critical distance we need to distinguish between reality and fiction, object and image, or happened and edited.

Understanding the problem of authorship comprehensively involves finding answers to the following questions:

- Who created this message?
- What creative techniques were used to attract attention?
- How can various people understand this message differently from the one embedded in it?
- What values, lifestyles, and perspectives are represented or omitted from this message?
- Why is this message being sent?

To answer these questions, we should understand:

1. What type of message is this (news, interpretation, provocation, commentary, opinion, etc.)?
2. What elements is it made of (text, drawings, photos, audio, video, etc.)?
3. Is it alike or different from similar messages in the same genre?
4. What technologies were used in its creation?
5. How many people did it take to create this message?
6. Do they work in the same place?
7. What interests are they defending?

Format

The second key issue relates to the form of the media message, and it examines how the message is constructed, i.e. analysing the components used to produce the final product – words, sound, music, vision, colours, movements, camera angle, and many others. Understanding the problem allows users to carry an "internal checklist" in their head to apply to any media message at any time. To design such a checklist, first, we must understand how a media message is created. It's about knowing the different media genres, the symbols and creative language used, being aware of the basics of visual communication – lighting, composition, camera angle, editing, body language, symbols, etc. – and how the use of these elements and techniques affect the different meanings carried by the message. Understanding the grammar, syntax, and metaphorical system of media, especially visual language, is the true path to becoming a "media literate citizen".

The key questions leading to the resolution of the problem are:

- What do you notice about the way the message is constructed?
- What colours are used?
- Are they realistic? Why do you think so?
- What forms of representation are used: testimonial, expert, authority, journalistic? And why?
- What is the font size?
- How are sound pictures and words combined? Why?
- Is there unnatural silence? Why?
- Is there anything special about the clothing?
- What are the movements - natural or not?
- What is the lighting like? Does it help to see the things shown better or not? Why?
- Where is the camera? How is the story being told visually?
- What are the people doing? What points of view are presented: all deliberately selected, or balanced? Honestly?
- Are there any symbols and/or visual metaphors (a figure of speech in which a word or phrase is applied to an object or action to which it is not applicable)?
- What is the emotional state that is evoked?
- Are convincing examples used?
- What makes the message seem real or not?

Audience

The third key issue that needs clarification is how the audience understands the message. Or to put it more precisely, it relates to the unambiguity in interpreting the message, and if it implies a difference in understanding of us, our loved ones, and other people? Two people who have seen the same film together often see different things. Even people close to each other do not "see" the same content in the same way. Each audience member has a unique way of understanding and deciphering, stemming from his or her own life experiences, mode of communication, etc. Supporters and opponents of a particular team, football players and non-football players, likes and dislikes of the sport, view (and experience what they see) during a football match in completely different ways. The more questions we can ask about the differences in experienced sensations, the better prepared we are to evaluate a given message. Such an analysis is important to understand how media target different segments of society, and influence their opinion or - more accurately put - to 'sell' them an idea. Digital

media literacy is not simply about discovering the interpretation of someone's head, but rather it should help people to think through the 'constructiveness' of a media message and then justify their interpretation with evidence.

Leading questions in clarifying this issue are:

- Have you ever experienced something like this in your life?
- How close is this to your experience?
- What did you learn from this media message?
- What did you learn about yourself by watching/listening/reading the media message?
- What did you learn from other people's responses? From their life experiences?
- How many other interpretations might there be?
- How (where) can we learn about them?
- Are other people's perspectives also valid?
- How can you explain different points of view?

The answers bring us closer to possible truths about the media message derived from a precise understanding of the different perspectives.

Content

The fourth key issue that digital media literacy seeks to uncover relates to the content of the message itself: what values it defends; whose interests are implicit in it; through exactly what lens it is conveyed; and who it doesn't represent. i.e. – are all different characteristics of the audience it is representing.

When analysing the content of a media message, it is important to understand that there is hardly any media anywhere that is free of (and neutral towards) given values. And since all media messages are constructed, their construction involves some choice – something is affirmed, something else is rejected. The choice inevitably reflects certain values, attitudes, and points of view – as a rule, those entrusted with the "construction". Even in news coverage - those factually presented stories - values are embedded, at least about the stories selected: which should be first, and which should be further back in the ordering, how long the narrative should be, what pictures/quotes/sound effects should be selected, etc. And despite the existence of concepts such as "journalistic ethics" and media regulation, it is not uncommon for media makers – either out of carelessness or deliberately - to make generalisations that push the audience towards specific conclusions and even to the formation of stereotypes.

Therefore, the audience should constantly seek ethical media standards such as fairness, balance, and pluralism in opinions. That is to say, it is necessary that we – the consumers – consciously seek other alternative sources to understand better and appreciate the alternatives available. The importance of the key content issue should show that the ideas and values embedded in media messages reinforce and therefore validate some existing philosophy underlying the social system in which the media operate. The latter explains more clearly two of the main accusations against the media:

1. That they hardly allow new ideas that challenge the long-standing dominance of commonly held beliefs.
2. Only the public challenging of commonly held beliefs – usually occurring through the media – can prevent the reinforcement of existing stereotypes, thus allowing (and facilitating) the understanding of multiple perspectives and possibilities.

If we have the skills to question everything we perceive through the media and rationally identify both overt and covert messages in mediated representation – no matter how or where we get our information, persuasion, or entertainment – we are likely to be much more discerning in making our own decisions, in accepting or rejecting a claim. Media literacy enables the recognition of missing perspectives or the dominance of others.

The questions we should ask ourselves about content are:

- What kinds of behaviours/consequences does this content represent?
- What type of person is the reader/observer/listener with whom the content implicitly causes them to identify?
- What questions does the content evoke in those who receive it?
- What ideas or values does this content “sell” us?
- What political, economic, and social ideas does it convey?
- What judgments or statements does it make about our attitudes towards a particular type of person?
- What ideas or perspectives are left out of the message?
- How and where can they be found?
- To what extent does discovering the missing perspectives change our overall judgement?

Purpose

The fifth key issue is related to the purpose – why this message is being transmitted. Solving this problem reveals the extent to which a media message has been influenced by money and/or the power of ego and/or ideology. To understand, and respond appropriately to, any message, we should be able to look – and see – beyond the underlying motives of the content - whether it is intended to inform, persuade, or entertain.

Much of the world's media are evolving as business enterprises, the vast majority of whose livelihood is provided by advertising. Advertising – in its many forms – is an essential part of the content of print, electronic, and internet-based media. A quantitative analysis of what is offered in newspapers and magazines, radio and television, and Internet sites is sufficient to establish the proportion between commercial and editorial content. This fact is known to the vast majority of consumers.

What few of them know (understand), however, is that in addition to offering commercial value to audiences, the media sell their audiences to advertisers representing various, non-public interests – personal, private, and corporate. A significant purpose of programs on television (radio), material in newspapers and magazines, etc., and electronic pages on the Internet, is to create an audience that is positively predisposed to the interests of the advertisers. Sponsors pay for the media time/space to display an advertisement, the cost of which is dependent on the number of people consuming the media content in which it is positioned. Understanding the mechanisms by which media content makes audiences receptive to advertisers' goals is among the central tasks that media literacy seeks to address.

Deciphering the purpose of the message lifts the veil that hides secrets about the ownership, structure, relationships, and influence of media institutions in society. This is especially significant today, in the digital culture and environment, where through the technological means of this culture anyone can be a medium, create and disseminate media content,

through which they can convince vast masses of people of the rightness of a point of view, regardless of whether the driving motivations of the author's actions are positive or negative. The digital environment allows the existence of tools for both more precise manipulation and high efficiency in detecting and exposing lies, hatred, and abuse. Therefore, media literacy pays significant attention to the skills of handling digital technologies and devices.

The guiding questions in addressing the fifth core issue the purpose of the media message are:

- Who controls the creation and delivery of the media message?
- Why is a message being sent? How do we know this?
- Who is it being sent to? How do we know this?
- What is being sold in this message? What is being said?
- Who benefits from this message? Individuals, organisations, institutions?
- Who pays for it? Individuals, organisations, institutions?
- Who benefits from the message? Individuals, organisations, institutions?
- What economic decisions may have influenced the construction and delivery of this message – private, corporate, or political?

Completing this issue under discussion may require additional notes on media ethics, i.e. on the requirements related to media messages. Whatever their topic, messages should be accurate, reliable, relevant, and unbiased. Accuracy is paramount to credibility and is connected to significant editorial values such as impartiality and fair dealing. Treating people fairly and presenting the content impartially means getting the facts right. Media accuracy is not simply to offer a fact at hand right or wrong, but more about guaranteeing that media consumers receive a sound picture of reality. This is crucial for informed democratic citizenship. Reliable information is the one that shows the extent to which data can be relied upon and is consistent and free from errors over time. Assessing it means always to consider the following factors:

- **Source**. Reliable information often comes from credible sources. Primary sources (original research, official documents) are considered more reliable than secondary sources (interpretations, summaries).
- **Objectivity**: Objective information is less biased and more credible. Check if the author presents a balanced view or has a clear agenda.
- **Authorship**: Information with a listed author is generally more credible than anonymous content. Be cautious with anonymous or commercial sources.

Remember that assessing reliability involves critical thinking and understanding the context (Jolls & Wilson, 2014).

Relevant information refers to data, which is pertinent, applicable, or crucial for a specific purpose, decision-making situation, or problem-solving process. In the context of decision-making, whether it is in business, personal life, or any other scenario, relevant information can influence the outcome of a decision.

Two primary characteristics define relevant information:

- **Timeliness**: The information is available when needed and is current enough to impact the decision at hand. Outdated information might not be useful and can potentially lead to incorrect conclusions.

- **Ability to Make a Difference**: The information can change or influence a decision. If the data doesn't provide any new insights or won't impact the outcome, then it isn't relevant.

It is important to note that what is considered relevant can be subjective and may vary based on the context or individual perspectives. What is relevant in one scenario may not be in another (BBC Editorial Guidelines).

Finally, bias can be defined as any inclination or prejudice for or against one person or group, especially in a way that may be considered unfair. Information bias refers to the tendency to gather or interpret information selectively, usually led by the assumption of increasing the importance of something for the expense of something else. To avoid bias try always to consider missing perspectives and think to what extent their omission changes the entire picture. Sound scepticism and critical thinking help a lot (Jolls & Wilson, 2014).

Considering all the aspects and factors discussed above allows the systematic formation of media literacy competence. This competence does not represent a complete (final) state, as digital technologies and the practice of their application are constantly being enriched. Something taken for granted today may be challenged tomorrow, and this is its greatest challenge and the main fascination of media literacy as a key component of the modern citizen's personality.

Activities

1. Media and money-making industry

Duration: 30 minutes

Learning outcomes:

- Be able to deconstruct media messages
- Be able to construct media messages.
- Be able to verify sources.
- Be able to analyse media messages.

Resources & Equipment: Media & Money: Crash Course Media Literacy #5 *&* Beamer or a TV screen.

Description:

Each representation is a choice made by the creator to influence people's thinking for gaining a benefit – usually business interests. All media are a kind of business venture and need money to exist. That's why the media-competent person needs to be able to question and answer various questions to make conclusions and decisions and develop an attitude based on true and reliable evidence.

The activity is in **three phases**:

1. Learners watch a short video (Media & Money).
2. They discuss a media product/message previously chosen by the instructor.
3. Each learner (or in a pair) gives examples of a media message and the way it could manipulate the audience.

Learners watch the video *Media & Money* which states some important media and money relations issues. Then they start a discussion about a media product/ message (video, print or audio - ad, book, brochure, a piece of news, etc.) on the following issues:

- Why was that media product/ message created? – its purpose – entertain, inform, persuade, etc.?
- What is the impact of the media product/ message?
- Who created it? How was it created?
- And what was the reason for its creation?
- What is the focus on – what is included, and what is excluded? How does the focus manipulate?

Each representation is a choice made by the creator to influence people's thinking for gaining a benefit – usually business interests. All media are a kind of business venture and need money to exist. Some art products (films, pictures, music, etc.) encourage cultural conversation, and their "reading" should answer the questions:

- What is the focus on – what is included, and what is excluded?
- How does the focus manipulate?

In the last phase of the activity, learners are encouraged to give examples of media messages (ads) and how the focus manipulates their perception. (e.g. gambling ads don't present the possibility of addiction; food ads don't present unhealthy ingredients etc.). Their presentation should answer all the questions stated in the activity and be supported with arguments.

2. Digital Media Skills in Tackling Disinformation

Duration: 30 minutes

Learning Outcomes:

- Develop skills in understanding the intentional nature of media messages.
- Be able to understand the nature of mediated "text".
- Deconstruct media messages.

Resources & Equipment: Media Skills: Crash Course Media Literacy #11 *&* Beamer or a TV screen

Description:

Media literacy is the ability to access, analyse, evaluate, create, and act, using all forms of communication.

1. Who created this message and what is the purpose – to entertain, sell, persuade; cheat, or for other reasons?
2. What techniques does it use to hold and attract attention?
3. What lifestyle, and points of view does it depict?
4. How might different people interpret this message?
5. What is omitted, or left out?

Evaluation of the quality and credibility of the media message:

1. **Relevance**. Does the media serve its purpose?

2. **Accuracy**. How factual is it - evidence or opinion?
3. **Bias** or someone's perspective obscuring reality presenting only the pieces of evidence that support one opinion
4. **Reliability**. How trustworthy is a publisher, or an author?

Learners are supposed to watch the news program, broadcast on one of their national television networks (each partner should choose) - it is preferable if the instructor has a record of a newscast so the learners will work on the same piece of news. They should pay attention to the second story from the news program and make a complete analysis, regarding the five key problems (**authorship**, **format**, **audience**, **content**, and **purpose**), that will help them properly understand the media message.

They also answer the above-mentioned questions to practise all the necessary skills, needed for a media literacy competency attitude and behaviour. If the instructor gives the learners a free choice of news program to watch, it is advisable to ask them for feedback on their choice and analysis, before presenting in front of the whole audience. Many of the topics concerning media literacy are sensitive to culture, religion, beliefs, sexuality, disability, socioeconomic status, physical appearance, etc., which is one of the biggest challenges in teaching media literacy, and the instructor should be prepared to react concerning the specifics of group diversity.

Assessment and Evaluation

1. Media literacy and cultural conversation

Duration: 15 minutes

Learning Outcomes:

- Be able to engage in cultural conversations.
- Be able to deconstruct media messages.

Resources & Equipment:

- Beamer.
- Personal smartphones (or PC).
- SM7.3.

Description:

Some art products (films, pictures, music, etc.) encourage cultural conversation, and their "reading" should answer the questions:

- What is the focus on – what is included and what is excluded?
- What is exaggerated and what is understated?
- How does the focus manipulate the message's proper understanding? etc.

Learners are shown two pictures (SM7.3) one after another.

1. The first picture is an art sculpture by David Černý and represents Bulgaria (one of the countries of the European Union) like a Turkish toilet (the author explains his inspiration from his childhood memories when visiting Bulgaria). The learners are encouraged to explain what they see and how they understand the art of sculpture. Then they are allowed to use their mobile phones to find more information about the

sculpture and answer the questions concerning authorship, format, audience, content, and purpose, including the questions:

- What is the focus on – what is included and what is excluded?
- What is exaggerated and what is understated?
- How does the focus manipulate content understanding?

2. Then the second picture is presented to the learners - again Bulgaria but with its treasures and beautiful sightseeing. Then the learners answer the questions:

- Who created this message and what is the purpose – to entertain, sell, persuade; cheat, or for other reasons?
- What techniques does it use to hold and attract attention?
- What lifestyle, and points of view does it depict?
- How might different people interpret this message?
- What is omitted, or left out? etc.

Learners answer the questions about the authorship, format, audience, content, and purpose of the media message (SM7.3). They are encouraged to support their answers with arguments and appropriate evidence.

2. Art as reflection and provocation

Duration: 20 minutes

Learning Outcomes:

- Be able to deconstruct art media messages.
- Be able to construct art media messages.
- Be able to find the necessary information online using the best keywords.

Resources & Equipment:

- Beamer.
- Personal smartphones (or PC).
- An image editing app.
- Information about Entropa - a satirical sculpture by David Černý from 2009. In line with the motto of the Czech Presidency of the Council of the European Union "Europe without barriers" it was presented with the subtitle Stereotypes are barriers that need to be removed).
- SM7.4

Description:

The instructor is supposed to present the idea of the sculpture “Entropia” created by David Černý:

Entropa is a sculpture by Czech artist David Černý. The project was commissioned by the Czech Republic to mark the occasion of its presidency of the Council of the European Union, and was originally designed as a collaboration for 27 artists and artist groups from all member countries of the European Union. However, as a hoax, Černý and some of his assistants created a satirical and controversial piece that depicted pointed stereotypes of the EU

member nations. Fake artist profiles were also created by Černý and his accomplices, so each country in the EU puzzle is represented by non-existent artists.

The countries were represented as follows: Belgium - a box of pralines; Bulgaria - a series of interconnected so-called “Turkish toilets”; The Czech Republic - a LED display in a golden frame, projecting statements of President Václav Klaus; Denmark - Lego blocks; Estonia - hammer and sickle; Finland - a wooden floor, on which lies a man with a gun; France is covered with the inscription "GRÈVE!" ("STRIKE!"); Ireland - brown bagpipes; Italy - soccer field with several players each holding a soccer ball; Cyprus - cut in two; Lithuania - series of figures similar to Brussels' Manneken Pis statue, urinating towards its eastern neighbours; Latvia - a mountainous country; Luxembourg - a gold nugget with the inscription "For Sale"; Hungary - an Atomium assembled from its signature agricultural products of watermelons and Hungarian salami and built on a floor of paprika.; Malta - a tiny island with a pygmy elephant and a magnifying glass placed in front of the elephant; Germany - a system of interconnected highways; The Netherlands - underwater, with only a few minarets sticking out of it; Poland - priests raising the rainbow flag of the gay rights movement; Portugal - a cutting board with three pieces of meat in the shape of its former colonies Brazil, Angola, and Mozambique; Austria - a green field dominated by the cooling towers of nuclear power plants; Romania - Dracula-style theme park; Greece - burnt forest; Slovakia - Hungarian salami (or a human body tied with the Hungarian tricolour); Slovenia - a rock with the words first tourists carved into it; Spain - completely cast in concrete; Sweden - a large IKEA-style furniture box containing Gripen fighter aircraft; Great Britain - an empty space.
Learners are introduced to representations (SM7.4) of a chosen country of Černý’s art sculpture. They are asked to say what they see and how they “read” the artist’s messages. Then they are asked to find some more online information about the sculpture, its author, the idea behind it, and reflections in the media (e.g. Art Hoax Unites Europe in Displeasure or Modern Art – Entropa).
The instructor discusses with the learners how to choose keywords for finding reliable information online, and they together list some on the current topic.
Finally, each learner is encouraged to pick a country from the sculpture and represent it in its best way in an image version, using free pictures from the Internet and an image app editor, or AI image generator.

The learners assess the work of the other learners with points from 1 to 5 (1=poor; 2=average; 3=good; 4=very good; 5=excellent) according to the following criteria:

1. Presentation skills.
2. The creativity of the idea.
3. Correct implementation of concept ideas.
4. Appropriate format.
5. Credibility of the message.
6. Accuracy of the used sources and authorship.

At the end of the activity, the instructor announces the scores and discusses them with the learners.

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8. Building Digital Media Literacy Competencies in the Classroom: Becoming Digital Citizens

The Module at a Glance

8. Building Digital Media Literacy Competencies in the Classroom: Becoming Digital Citizens	
Abstract	This module aims to build digital media literacy competencies in the classroom, emphasising the importance of becoming responsible digital citizens. It covers essential topics such as understanding digital tools, critical thinking, media message evaluation, and safe online behaviour, ensuring learners can navigate the digital world confidently and ethically by becoming digital citizens.
Learning outcomes	• Understand and evaluate media messages critically • Develop digital skills for information retrieval and content creation • Demonstrate responsible online behaviour and digital citizenship • Engage in critical discussions about media literacy and its societal impact
Resources & equipment	*Resources* ○ Printed handouts and scenario cards ○ Access to online media literacy resources *Equipment* ○ Projector and screen or interactive whiteboard ○ Computers or tablets with internet access
Total duration	195 minutes

Introduction

Duration: 20 minutes

Learning outcome(s):

- Familiarise with the module's objectives and activities.
- Self-assess the pre-existing knowledge on the topic.

Description: The following ice-breaking activity introduces the module's objectives and helps assess the learners' baseline understanding of digital media literacy concepts, providing a foundation for more in-depth exploration throughout the module.

Ice-breaking Activity: *Digital Literacy Snapshot*

Introduction:

- The instructor briefly explains the importance of digital and media literacy in today's world.

- Learners are informed that they will participate in a quick interactive activity to get started.

Group Discussion

- Learners are divided into small groups of 3-4.
- Each group is given a set of questions to discuss for 3 minutes. The questions are:
    1. What is digital literacy?
    2. Can you give an example of a situation where media literacy is important?
    3. Do you verify the information you find online, if not, why, and if yes, how?

Sharing Insights

- After the discussion, each group selects a spokesperson to share one key insight from their discussion with the entire class.
- The instructor summarises these insights and highlights the main objectives of the module based on learners' responses.

Theoretical Insights

Duration: 60 minutes

Learning outcome(s):

- Gain a deep understanding of digital and media literacy frameworks.
- Analyse and compare different media literacy definitions and concepts.
- Develop critical thinking skills regarding media consumption and production.

Resources & equipment:

- An electronic device and internet connection to screen the module and supplementary materials.
- Supplementary reading materials (e.g., academic articles, reports) whose links are embedded with the module.

Teaching Digital Media Literacy

Learners will delve into the essentials of digital media literacy competencies in this module. Considering the constantly evolving nature of technology, these materials should be seen as flexible guidelines rather than rigid content.

Teaching Media Literacy

Media literacy equips individuals with the necessary tools for them to navigate the complex media landscape confidently with critical thinking. Understanding media message construction and distribution brings about informed choices in consumption and creation, thus reducing susceptibility to manipulation and exploitation.

Teaching Digital Literacy

Navigating the digital world effectively requires practice. Having a solid foundation in information retrieval, encouraging learners to learn about digital skills, and constant practice are crucial to fostering digital literacy.

Abilities of a Digital Media Literate Individual

- **Reading the Media:** It involves assessing, analysing, deciphering, critically evaluating, contextualising, and understanding the meaning of messages.
- **Writing with the Media:** It includes creative production skills, technical and digital skills, communicative skills, and considerations regarding self-generated content.
- **Using the Media for Participation:** This promotes active and digital citizenship, responsible content sharing, safeguarding individual rights, advancing personal.

Note: Instructors should integrate digital media literacy concepts into their classrooms daily whenever possible.

Bloom's Taxonomy: It provides a hierarchical structure for cognitive skills by showing that higher levels of learning depend on acquiring essential knowledge and skills at lower levels. Proposed in 1956 by educational psychologist Benjamin Bloom and revised in 2001, it classifies educational learning objectives and helps teachers plan lessons by offering a common language for them to discuss and exchange learning and assessment methods.

The Goal of Using Bloom's Taxonomy: It is to encourage higher-order thinking in students by building up from lower-level cognitive skills. Bloom's taxonomy can be incorporated into broader educational goals.

Figure 1 - Bloom's Taxonomy (Armstrong, 2010)

Conceptual Framework

1. Digital Literacy and Media Literacy Definitions and Concepts

A) Definitions

Media Literacy

The European Association for Viewers Interests - Media Literacy for Citizenship (EAVI) defines the umbrella term media literacy as “an individual’s capacity to interpret autonomously and critically the flow, substance, value, and consequence of media in all its many forms” and suggest that it is quite a “complex construction, expressing intrinsically many different ideas and streams of thought and research” (EAVI, 2009, p. 4). According to EAVI, media literacy’s ultimate focus and ambition is the “development of individual Critical Understanding and Citizen Participation (i.e., the empowerment and interaction of people in public life through media)” (p. 9) through the development of individual capacities for critical understanding and thinking of media literacy in the socio-political realm.

Among many other authoritative definitions of media literacy by other international organisations and scientific and academic institutions, the European Commission (EC) defines media literacy as the competence to cope, autonomously and critically, with the communication and media environment established within and as a consequence of the ‘information society’. The EC proposes a definition in which two fundamental dimensions can be clearly distinguished: (a) Individual Competencies (defined as technical use, critical understanding and social skills); and (b) Environmental Factors (defined as media availability, media education, policies and regulation and other stakeholder roles, i.e., media industry and civil society). For a complete understanding of media literacy, it is necessary to understand the context in which it is developed (p. 21).

The Media Literacy Expert Group of the EC asserts that media literacy is an “umbrella expression that includes all the technical, cognitive, social, civic and creative capacities that allow a citizen to access, have a critical understanding of the media and interact with it” (EC Mandate of the EGML, 2024). These capacities allow the citizen to participate in the economic, social and cultural aspects of society as well as to play an active role in the democratic process. It refers to all kinds of media (television, radio, press), through all kinds of channels (traditional, internet, social media) and to all ages. “Media Literacy means different things for different countries and stakeholders. It is also a dynamic concept that evolves at the same time as technology and society. However, a keystone in all possible definitions of media literacy is the development of critical thinking by the user” (EC Mandate of the EGML, 2024).

Digital Literacy

UNESCO (2018) defines digital literacy as “the ability to define, access, manage, integrate, communicate, evaluate and create information safely and appropriately through digital technologies and networked devices for participation in economic and social life. It includes [and is deeply correlated with] competencies that are variously referred to as computer literacy, ICT literacy, information literacy, data literacy and media literacy” (A global framework of reference on digital literacy (p. 132). International Telecommunication Union (ITU) (2010) argues that digital literacy involves equipping individuals with the knowledge, methods, and skills needed to effectively use and leverage information and communication technologies (ICTs) by being a part of the broader media and information literacies that entail

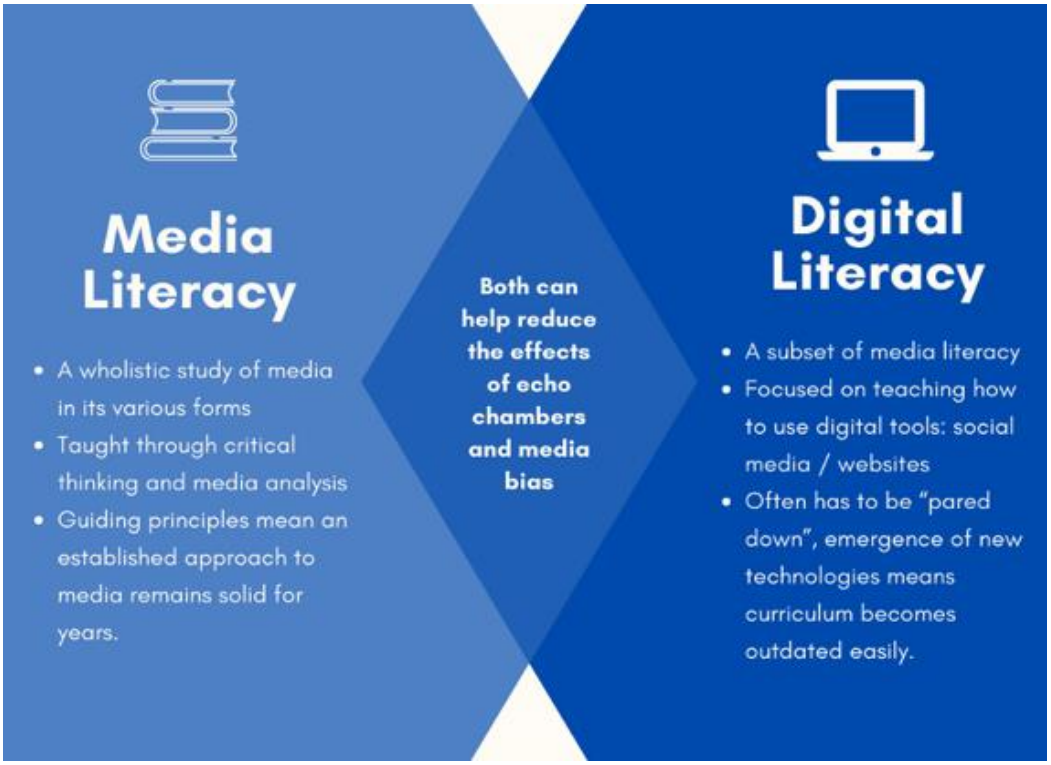
teaching people the concepts and techniques necessary to process data and transform them into meaningful information, knowledge, and informed decisions (p. 32). Accordingly, the Eurostat (2023) proposes that digital literacy lays out five digital competence areas and a total of 21 digital competencies, which will be elaborated on in the following section of this module. The digital competence areas include information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving.

The EC emphasises that "all Europeans need digital skills to study, work, communicate, access online public services and find trustworthy information", and in Europe, "more than 90% of professional roles require a basic level of digital knowledge", just as they require basic literacy and numeracy skills (Digital skills, 2023). However, The Digital Economy and Society Index (DESI) findings show that 4 out of 10 adults and every third person who works in Europe lack basic digital skills (Digital skills and jobs, 2023). Therefore, digital literacy in the EU has gained more importance than ever and "digital skills [have become] increasingly essential for both personal and professional life", considering its importance at societal and individual levels both within the contexts of employment and development and of media literacy and active participation as digital citizens (Digital literacy in the EU: An overview, 2023).

Comparison between Digital and Media Literacies

To compare media literacy and digital literacy, the following should be kept in mind:

- **Premise 1:** Media literacy is the ability to access, analyse, evaluate, create, and act using **all forms of communication** (Safer Internet, 2023).
- **Premise 2:** Digital literacy is the ability to use **digital technology communications tools** and/or networks to access, understand, manage, integrate, evaluate, and create information (UNESCO (2018).
- **Conclusion:** Although digital literacy is also an entity on its own, it is in constant interaction with media literacy by functioning as one of its subsets when the two are compared. Therefore, **digital media literacy** is defined as the ability to access, understand, participate, and create content using digital media.



Media literacy examines media as a whole by considering the entire spectrum of communications to understand how media influences our perception of reality. Whereas digital literacy emphasises understanding the interaction between technology, including digital media tools like social media platforms, websites, and apps, and society at large. These two literacies are taught differently, as well. Media literacy is typically taught through critical thinking, while digital literacy is approached through education involving technologies and various digital communication tools.

Figure 2 - Comparison between Digital and Media Literacies (StudyMassCom)

B) Concepts

Media Literacy

According to EC (2007), media literacy is generally defined "as the ability to access the media, to understand and to critically evaluate different aspects of the media and media contents and to create communications in a variety of contexts" (p. 3). The study of media literacy, however, employs a variety of similar terms and concepts as it is inherently intertwined with a variety of relevant literacies, such as **digital literacy, information literacy, computer literacy, technology literacy, cultural literacy, audio-visual literacy, artificial intelligence literacy, algorithm literacy, news literacy**, and many more.

All of these interactions between these literacies both add to and demonstrate the already existing multilayered and complex nature of media literacy, which offers the most inclusive interpretation, although it is advisable to clarify the meaning of and the relationship between these terms when necessary. For instance, references to computer literacy emphasise the binary character of the signals being transmitted in the context of computing and computer usage. References to audio-visual literacy highlight the importance of language employed in combination with sound and image and do not, therefore, relate to the written or printed word. Whereas the references to 'information literacy' identify the ability of the individual to obtain, absorb and contextualise the multiplicity of information, regardless of its source (EAVI, 2009).

Apart from its fundamental relationships with the aforementioned literacies, media literacy also brings about and emerges from a large scale of broader concepts as it deeply studies each of their respective functions and impacts in order to equip citizens with the necessary skills to navigate in the realm of media.

Some of these concepts include but are not limited to the following:

- **Artificial Intelligence**. Being aware of the potential of, cautiously interacting with, and mindfully consuming and sharing the productions of AI, which is the simulation of human intelligence processes by machines, particularly computer systems.
- **Civic Engagement**. Active participation in community and political activities by fostering informed and engaged citizenship, and critically evaluating information by facilitating meaningful involvement in societal issues through media literacy skills such as critical thinking.
- **Digital Ethics**. Moral principles guiding behaviour in digital environments, including privacy, digital rights, and responsible use of technology by ensuring ethical standards in media consumption, creation, and sharing.
- **Digital Parenting**. The combination of practices that parents use to monitor and guide their children's use of digital technologies. It involves teaching safe, responsible, and balanced media consumption.
- **Digital Privacy**. Protecting personal information in digital environments, understanding how data is collected, used, and shared, and employing measures to safeguard privacy.
- **Digital Well-Being**. Maintaining a healthy relationship with technology, balancing digital activities with real-life activities to promote mental and physical health, which involves but is not limited to the management of screen time and online interactions.
- **Disinformation and Misinformation**. Studying, recognising, and tackling the cases and underlying conditions in which false or misleading information is spread deliberately (disinformation) or unintentionally (misinformation) in order to promote informed decision-making.
- **Elections Integrity**. Through necessary media literacy skills, it is related to ensuring fair, transparent, and accurate electoral processes to help voters get credible information and resist manipulation during elections.
- **Gender, Migration, and Subalternity**. Examining how media represents marginalised groups, including gender minorities and migrants, and promoting critical analysis of these portrayals to foster inclusivity and equity.
- **Media Consumption**. It refers to the process of accessing and engaging with media content by encouraging critical evaluation of consumed content to understand its impact and purpose through media literacy competencies.
- **Media Ownership**. Understanding who controls media outlets and how ownership influences the content produced, along with recognising potential biases and the power dynamics in media production.
- **Media Representation**. Critically analysing and understanding how media portrays various groups and issues and what kind of discourses it (re-)produces accordingly,

as well as being able to evaluate and identify stereotypes, biases, and their impacts on public perception with these portrayals.

- **Mindfulness and Attention Span**. The ability to maintain focus and awareness, especially when interacting with digital media, by practising and promoting mindfulness to enhance concentration and reduce the harmful effects of constant connectivity.
- **Online Safety**. Practices to protect oneself from digital threats like cyberbullying, hacking, and identity theft by understanding potential risks and employing relevant strategies to stay safe online.
- **Social Media Platforms**. Understanding how these digital tools, which are mainly used for creating, sharing, and engaging with content, and their algorithms work, as well as their significant impact on communication and information dissemination.

Digital Literacy

Digital literacy refers to the skills and knowledge needed to effectively access, evaluate, create, and communicate information by using digital tools. It is closely related to digital education, which provides learners with foundational skills for navigating the digital world. It is also crucial for becoming informed digital citizens who can critically engage with media, understand its impact, and contribute responsibly to digital communities. Therefore, enhancing digital literacy fosters critical thinking, ethical behaviour, and effective participation in the increasingly digitalised society.

Here are some concepts related to digital literacy:

- **Algorithm Awareness**. Algorithms play a crucial role in determining the content we see online, and they shape our media consumption by influencing our perceptions. Understanding how these algorithms work equips the users with the ability to recognise the biases and personalised content they encounter, thus promoting more critical engagement with digital platforms.
- **Augmented and Virtual Realities**. Augmented Reality (AR) and Virtual Reality (VR) are technologies that enhance or create immersive media experiences. Awareness of AR and VR potential effects and applications helps users navigate and critically assess these innovative media formats.
- **Big Data**. It refers to the vast amounts of data generated in the digital age. To understand how big data is collected, analysed, and used in media provides individuals with a grasp of the scale of data's influence on content personalisation and media production.
- **Cybersecurity**. It involves the act of protecting oneself from online threats such as hacking, phishing, and malware. Therefore, being informed about cybersecurity practices is vital for safeguarding personal information and ensuring safe engagement with digital content.
- **Data Literacy**. This skill refers to being able to interpret and analyse data accurately, and it is essential for evaluating the reliability of media sources. By understanding data, individuals can discern between credible information and misleading statistics or claims, as well as enhancing their informed decision-making.

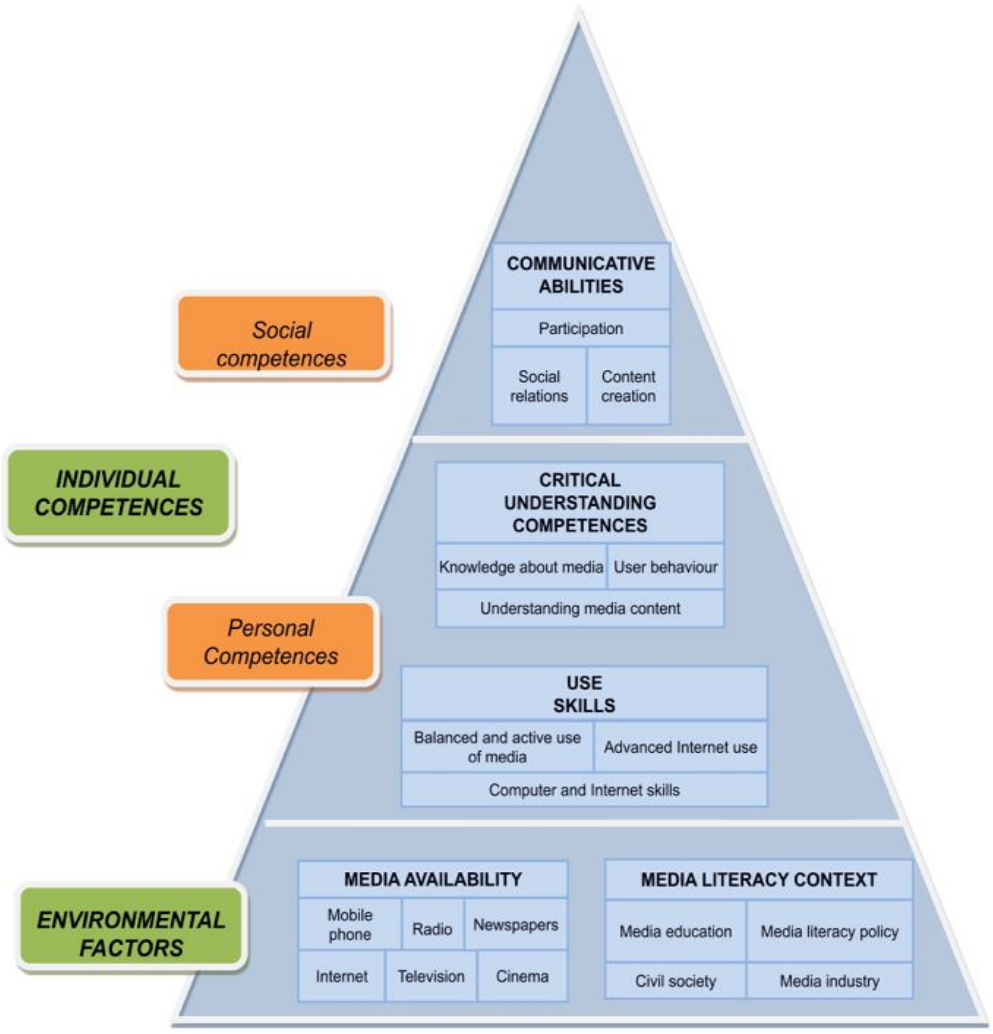
- **Digital Divide**. It highlights the gap between the people who have easy access to digital technologies and those who do not. Recognising this divide is essential for addressing inequalities in access to information and media and advocating for more inclusive technological advancements.
- **Digital Footprint**. Every online interaction leaves a digital trace by forming a 'digital footprint'. As it can impact personal privacy, reputation, and healthy interactions with one another, awareness of this process encourages responsible behaviour online, promotes digital citizenship, and enables managing of how personal information is shared and perceived.
- **Information and Communication Technology (ICT)**. It encompasses the tools and platforms used for creating, distributing, and consuming media content. Familiarity with ICT tools enhances citizens' ability to effectively engage with and produce digital media by promoting a comprehensive understanding of the digital landscape.
- **Netiquette**. It refers to the code of conduct for interacting respectfully online. Proper netiquette ensures effective communication and minimises conflicts in digital interactions since it fosters a positive and productive online environment.

Note: The instructor can find the digital media literacy card game as an activity including the concepts above within the SM8.7

2. European Frameworks of Digital Media Literacy Competencies

A) Media Literacy

The EC (2023) propounds that media-literate people are able to make informed choices, understand the nature of content and services, and take advantage of the full range of opportunities offered by different communication technologies. They are better able to protect themselves and their families from harmful or illegal content. Media literacy can also serve as a valuable tool for combatting the spread of disinformation by enabling users to critically assess the source of information and thus detect false or misleading content.



The rightward European framework of media literacy competencies maps the essential elements for developing digital citizenship skills. By fostering use skills, critical understanding, and communicative abilities, it enables individuals to navigate the digital world effectively. This framework showcases the importance of promoting responsible media use, critical analysis of content, and active participation in digital environments by ensuring that individuals become informed, engaged, and responsible digital citizens. Moreover, access to diverse media and supportive educational policies further strengthens these competencies and deems this framework crucial for thriving in today's digital society.

Figure 3 - The European framework of media literacy competencies (EAVI, 2009)

Individual Competencies:

- **Use Skills**. This level emphasises the balanced and active use of media that encourages individuals to engage thoughtfully with various media forms. It also focuses on advanced internet use and essential computer and internet skills by highlighting the importance of navigating the digital world proficiently and effectively.
- **Critical Understanding Competencies**. At this level, individuals are encouraged to develop deep knowledge about media, including understanding its mechanisms and the behaviour of its users. It also focuses on comprehending media content, which enables individuals to analyse and interpret the information presented in different media formats critically.

- **Communicative Abilities**. The particular top tier emphasises participation, social relations, and content creation. It encourages active engagement in media environments that fosters the ability to build and maintain relationships through media by developing skills to produce and share content effectively across various relevant platforms.

Environmental Factors:

- **Media Availability**. The availability and access to media forms such as mobile phones, the internet, radio, television, newspapers, and cinema are crucial for developing media literacy skills, as these forms provide the necessary resources and platforms for individuals to engage with media content actively.
- **Media Literacy Context**. It involves the broader context that supports media literacy, including media education initiatives that aim to enhance media literacy skills formally and informally. It also includes media literacy policies set by governments and institutions, the role of civil society organisations in advocating for media literacy, and the influence of the media industry in shaping the specific necessities of media literacy practices.

Social and Personal Competences:

- **Social Competences**. This aspect focuses on the ability to interact, collaborate, and communicate effectively within digital environments by promoting social connections and active participation in media landscapes.
- **Personal Competences**. It explores the development of individual skills and knowledge required to use and understand media responsibly and effectively. It highlights the importance of personal growth in media literacy to navigate the digital world confidently and safely.

This overall framework provides a comprehensive approach to media literacy by integrating individual competencies and environmental factors. It underscores the significance of not only acquiring technical skills but also developing critical understanding and communicative abilities to become responsible and informed digital citizens.

Moreover, the European Digital Media Observatory (2021) indicates that media literacy is a complex, intertwined set of skills and competencies that can be framed in different ways, for it includes all technical, cognitive, social, civic and creative capacities that allow citizens to have a critical understanding of and conscious interaction with media.

For example, a 2018 survey of media literacy teaching in schools (McDougall, Zezulkova, van Driel, Sternadel, 2018) defines five essential media literacy competencies based on the *framework* described in a 2010 report by Renee Hobbs: 1) Access; 2) Analysis and Evaluation; 3) Creation; 4) Reflection; 5) Action/Agency.

On the other hand, a 2016 mapping project carried out by the European Audiovisual Observatory identifies five categories of media literacy skills that are generally addressed by a wide range of relevant projects both at national and EU levels, as follows:

1. **Creativity**. Such as creating, building and generating media content.
2. **Critical Thinking**. Such as understanding how the media industry works and how media messages are constructed; questioning the motivations of content producers in order to make informed choices about content selection and use; recognising

different types of media content and evaluating content for truthfulness, reliability and value for money; recognising and managing online security and safety risks.

3. **Intercultural Dialogue**. Such as challenging radicalisation and hate speech.
4. **Media Use.** Such as the ability to search, find, navigate, and use media content and services.
5. **Participation and Interaction**. Interaction, engagement and participation in the economic, social, creative, and cultural aspects of society through the media and promoting democratic participation and fundamental rights.

B) Digital Literacy

The European Framework of Digital Literacy Competencies (DigComp 2.2) is crucial for developing digital citizenship skills, as it empowers individuals to confidently, critically, and safely engage with digital technologies for learning, work, and active societal participation.
By fostering these competencies, DigComp 2.2 equips individuals with the necessary skills to become informed and responsible digital citizens who are capable of navigating and contributing to the digital world effectively. As can be deduced from the figure, the particular competencies consist of the following:

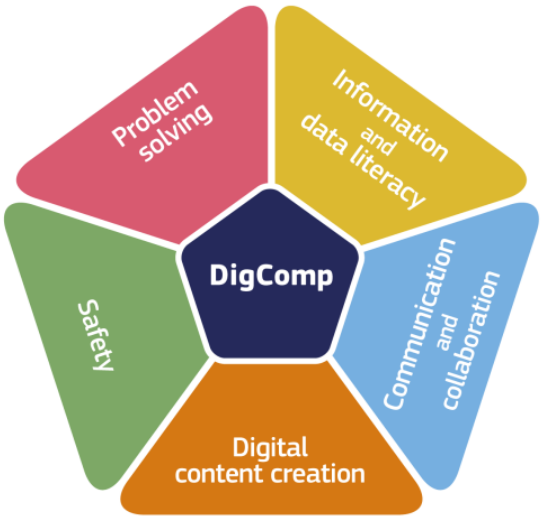


Figure 4 - The European Framework of Digital Literacy Competencies - DigComp 2.2

- **Information and data literacy**. Navigating the digital world and finding the information you need takes some practice. However, to function well and safely in the digital era, one must have a solid basis in information retrieval. This requires us to be able to define the information needed precisely and, at the same time, find the pertinent data and/or digital content using the different search engines at our disposal. In other words, being able to navigate between them easily is essential to building digital literacy.
- **Critical Analysis and Effective Management of Digital Information**. While being able to manage the different digital tools at our disposal, it is necessary to be aware that disinformation is a pressing issue within the digital world. For this reason, young generations must learn how to discern truth from fiction online and critically analyse their sources of information. This critical thinking skill is, in fact, one of the four citizenship competence areas explored in *Citizenship education at school in Europe*. These areas encompass the knowledge, skills, and attitudes necessary to be an informed and engaged citizen. By developing critical thinking skills, learners can effectively evaluate and compare information from different sources (European Commission, Directorate-General for Education, Youth, Sport and Culture, 2019).
- **Online Communication and Collaboration**. In today's highly digitalised world, online interactions are just as important as face-to-face communication. It is essential

to recognise the available communication tools and choose the best ones for each situation while remaining respectful and protecting yourself from potential threats.

- **Discerning and interacting with Online Communication tools**. There are numerous online communication tools within our grasp; for this reason, it is necessary to decide which one is best depending on the situation while developing an understanding of their strengths and weaknesses. This entangles with the way you engage online, acknowledging your target audience. *DigComp 2.2* emphasises responsible sharing practices. Ensuring that information is shared ethically while managing social media platforms is an important part of digital literacy.
- **Culture within the Digital Environment**. In general terms, digital literacy not only includes the technicality exposed in the digital world but also the cultural nuances within this environment. In today's globalised and digitalised world, human rights and violations extend to the internet. Digital platforms can be an empowering tool. They offer people the space to participate in forums and online programs and engage in civic activities while also promoting them online, among others. Online communication and collaboration ultimately aim to foster civil participation through digital tools, actively shaping local and international communities (European Commission, Joint Research Centre, Vuorikari, Kluzer, & Punie, 2022).
- **Digital Content Creation**. Now that using digital tools and learning to understand online communication and collaboration have already been tackled, the new step is to understand digital content creation. Content creation skills are becoming increasingly important in today's world as they empower individuals to express themselves, share ideas, and engage online. Digital literacy is not just consuming information; it's also using your voice. The development of digital literacy focuses on two key aspects: understanding the basic principles of copyright and navigating different types of licences. While copyright directly protects original work, licences play a significant role in ensuring the responsible and ethical use of existing content. Freedom of speech is a right actively enforced by institutions like the EU; however, a structure delimiting author rights, as outlined on the European Commission's website, is needed to foster a healthy online environment (Misheva, 2021).
- **Online Safety**. Interacting in the digital world safely and responsibly requires extra steps that build on basic digital literacy skills. One key aspect is the safety of your devices and digital content, which involves understanding and staying updated on potential risks and threats. Reliable sources such as the European Commission or civil societies can provide valuable information on current safety measures. This includes protecting personal data and privacy and keeping abreast of new legislation and laws on data safety. Additionally, it is crucial to recognise the potential negative impacts of technology use, such as over-exposure, addiction, and online harassment.
- **Problem-solving**. Another essential aspect of digital literacy is problem-solving. This involves navigating the digital landscape as a problem-solver and creative thinker. When encountering technical issues, having the right digital knowledge can help resolve problems efficiently. Problem-solving also extends to identifying your digital needs and finding suitable technological solutions. This could mean selecting the most efficient software or customising your digital environment for better accessibility. Developing these skills is vital for moving from fundamental to expert levels of digital literacy.

Digital Citizenship

Being informed by all the digital media literacy concepts explored above, integrating these concepts into education, and providing learners with the respective knowledge will enable them to develop participation skills in an informed and critical manner, laying the foundations of their journey in becoming digital citizens. Therefore, they will begin to understand the news, which helps shape their ideas, and interact with and share with those around them. These digital media literacy competencies will allow learners to be digital citizens by being an informed part of the society they live in, for example, through interacting with people or voting consciously. These competencies empower learners to effectively engage with media, allowing them to fully participate in democratic life as digital citizens. This involves adopting essential digital and media literacy skills, interacting with others in society as informed citizens, and fostering a sense of responsibility for active participation.

Fundamental skills like listening, observing, and collaborating serve as foundational steps towards developing cognitive abilities such as knowledge and critical thinking. Community values and attitudes like justice, fairness, equality, and civic-mindedness empower learners to meet many of the criteria for self-actualization and personal fulfilment (Council of Europe). Citizenship skills involve the capacity to engage effectively with others on matters of common or public interest, including the sustainable development of society. This encompasses critical thinking, integrated problem-solving abilities, skills to develop arguments, and constructive participation in community activities. Additionally, it includes the ability to access and critically understand both traditional and new media, as well as to comprehend the role and functions of media in democratic societies (European Commission, Directorate-General for Education, Youth, Sport and Culture, 2019).

Digital citizenship is a dynamic, adaptable, and complex concept, constantly evolving and interconnected with individuals' daily online and offline activities (Choi, Glassman, Cristol, 2017). Instructors must possess the knowledge and skills to help learners become responsible digital citizens. This involves demonstrating appropriate online behaviour and incorporating digital and media literacy concepts into their daily teaching practices (Ohler, 2011). Therefore, the European Commission highlights the significance of digital citizenship education in its Digital Education Action Plan. This initiative seeks to improve digital skills and competencies of learners across Europe, with a particular emphasis on promoting critical thinking, media literacy, and responsible online behaviour among learners. (European Commission, Digital Education Action Plan 2021-2027)

Activities

1. AI Image Emotion Match

Duration: 15 minutes

Learning Outcome(s):

- Be able to recognise the emotional impact of visual content generated by AI.
- Learn to be aware, identify, and differentiate among the emotional cues presented in AI-generated images.
- Be able to evaluate media.

- Be able to recognise and articulate one's own emotional responses as well as the potential reactions of others, fostering empathy and emotional intelligence.

Resources & Equipment:

- Projector and screen or interactive whiteboard.
- Two images of AI-generated images (it can be displayed on the screen).

Description:

1. Select AI-Generated Images: The instructor prepares the AI-generated 2 images (See an example set of prompts to create AI-generated images on the SM8.1) that present various scenes, objects, or other choice visuals. The instructor ensures that one image will evoke positive emotions and another will evoke negative ones.

2. Create Emotion Cards: The instructor creates cards with different emotions written on them. Each card should have a single emotion (e.g., happiness, sadness, fear, surprise, anger, disgust, calm).

3. Set Up the Room: The instructor arranges the classroom for learners to work individually or in pairs, depending on the class size.

AI-Generated Images by ChatGPT:

	
The AI-generated image on the left shows a landscape (triggering positive emotions).	AI-generated image showing a famous landmark collapsing (triggering negative emotions).

4. Activity Steps*:*

Introduction:

- The instructor briefly explains the concept of AI-generated images and how they can be generated to evoke different emotional responses for the viewers (SM8.1).
- The instructor emphasises the importance of understanding how images affect emotions, particularly in media and advertising.

AI-generated images are pictures created by computers using artificial intelligence (AI). These pictures can look like anything from realistic photos of people and places to abstract art or entirely imaginary scenes.

Explain the Game:

- The instructor informs learners that they will be shown two AI-generated images.
- For each image, the learners will have 1 minute to decide which emotion the image triggers and write down their response.

Activity:

- The instructor displays the first AI-generated image on the screen.
- The instructor gives the learners a few minutes to write down the emotion they feel in response to the image.
- After 1 minute, move to the following image.

Quick Discussion:

- After all images have been viewed, the instructor quickly asks a few learners to share their emotional responses to the two images.

Conclusion:

- The instructor summarises the critical takeaway: AI-generated images, like all visual content, can evoke many emotional responses.

2. Decode the ChatGPT Propaganda

Duration: 15 minutes

Learning Outcome:

- Be able to recognise and analyse propaganda generated by ChatGPT to intentionally trigger some emotions of the viewers.
- Be able to critically evaluate digital content, assess its influence on public opinion, and apply these insights to navigate complex media landscapes.
- Be able to identify manipulation tactics.

Resources & Equipment:

- Projector and screen or interactive whiteboard (optional to show more AI-generated content).
- Printed "Propaganda Examples" cards.
- Internet access (optional for instructor to show examples).

Description:

1. **Create Propaganda Examples**: The instructor prepares cards with examples of propaganda generated by ChatGPT (See an example set of propaganda scenarios generated by ChatGPT on the SM8.2) . Each card should contain a short text passage or conversation generated by ChatGPT that demonstrates propaganda techniques such as misinformation, emotional manipulation, or biased framing. Ensure a mix of examples covering different topics and propaganda tactics.
2. **Set Up the Room**: The instructor arranges the classroom so learners can work in small groups. The instructor ensures each group has a workspace.
3. **Activity Steps**:

Introduction:

- The instructor explains the potential for AI, such as ChatGPT, to generate persuasive content that may be used for propaganda purposes (SM8.2).
- The instructor emphasises the importance of critical thinking skills in recognising and debunking propaganda.

Group Activity:

- The instructor divides the class into small groups of 3-4 learners and distributes one “Propaganda Examples” card to each group.
- The instructor tells each group to quickly analyse the propaganda example on their card and identify the techniques used.

Group Presentation:

- Each group presents their analysis of the propaganda example to the class.
- The instructor facilitates a brief class discussion about the propaganda examples presented.

Conclusion:

- The instructor summarises the key takeaways from the activity. The instructor emphasises the importance of critical thinking and media literacy in identifying and combating propaganda.

3. Digital Etiquette Detective

Duration: 15 minutes

Learning Outcome(s):

- Be able to identify and correct inappropriate online behaviours.
- Be able to apply the understanding of digital etiquette.
- Understand how to contribute positively to online communities.

Resources & Equipment:

- Projector and screen or interactive whiteboard (optional for instructor to show examples).
- Printed "Mystery Cases" cards.
- Internet access (optional for instructor to show examples).

Description:

1. **Create Scenario Cards**: The instructor prepares a set of scenario cards with different online behaviour cases (See an example set of scenario cards on the SM8.3). Each case should describe a situation involving digital etiquette, both good and bad examples.

2. Activity Steps*:*

Introduction:

- The instructor has to start by explaining the concept of digital etiquette to the learners: Digital etiquette, also known as netiquette, refers to the set of rules and guidelines that govern how individuals interact and communicate in digital environments. This

concept emphasises respect, consideration, and responsibility when using digital tools and platforms.

- The instructor discusses with the learners why it is essential to be respectful and mindful of others when communicating online.
- The instructor provides a PowerPoint slide with the definition of digital etiquette for the learners.

Form Groups:

- The instructor divides the class into small groups of 4-5 learners.
- The instructor distributes one “Mystery Case” card to each group.

Group Activity:

- Each group reads their assigned case and discusses the following questions:
  1. What is happening in this scenario?
  2. Why is this behaviour an example of good/bad digital etiquette?
- The instructor encourages each group to write down their analysis and proposed solution.
- One learner per group will share the conclusions of the group.

Supplementary Individual Activity:

- The instructor assigns a short reflective essay where learners describe an experience they have had with digital etiquette and how they handled it or how they would handle it differently now.

4. Digital Wellbeing Adventure

Duration: 15 minutes

Learning Outcome(s):

- Be able to critically analyse digital scenarios.
- Be able to apply knowledge of digital wellbeing principles to the decision-making processes.
- Be able to evaluate information related to digital wellbeing.
- Be able to assess the credibility of digital tips and advice.

Resources & Equipment:

- Role-play scenario cards
- Whiteboard or flipchart (optional for the instructor to show digital wellbeing tips)
- Markers (optional for the instructor to show write in the whiteboard digital wellbeing tips)

Description:

1. **Create Role-play Scenario Cards**: The instructor prepares a set of role-play scenario cards that describe various situations involving digital wellbeing (See an example set of

scenario cards on the SM8.4). Each card should present a challenge and multiple-choice options for responding to the situation.

2. **Set Up The Room**: The instructor arranges the classroom so learners can quickly move around and participate in role-playing activities. The instructor ensures there is a clear space for group discussions.

3. **Activity Steps**:

Introduction:

- The instructor starts by explaining the concept of digital wellbeing to the learners: Digital wellbeing refers to the impact of technologies on people's mental, physical, and emotional health. It involves maintaining a healthy balance between online and offline activities, managing screen time, and being mindful of how digital interactions affect overall well-being.
- The instructor explains that they will be participating in a role-playing game where they will make decisions to improve their digital wellbeing.

Form Groups:

- The instructor divides the class into small groups of 3-4 learners.

Role-Playing Activity:

- Each group receives a scenario card.
- One learner reads the scenario loud to the group.
- The group discusses the multiple-choice options and decides on the best action.
- The instructor rotates scenario cards among the groups so that each group can discuss multiple scenarios.

Supplementary Activity:

- The instructor creates a "Digital Wellbeing Challenge" where learners commit to practising one or more healthy digital habits for a week and report back on their experiences.

Assessment and Evaluation

1. Are we full digital citizens?

Duration: 35 minutes

Learning Outcome(s):

- Self-assess one’s own digital citizenship competencies and limitations.
- Self-assess one’s own knowledge on the key-ideas of the module.
- Critically reflect on one’s own online habits and knowledge of digital citizenship,

Resources & Equipment:

- Access through the QR code or Link to the SM8.5 Self-Questionnaire.
- Projector and screen or interactive whiteboard.
- Computers or devices with internet access.

Description:

1. **Activity Steps**:

Introduction:

- The instructor re-introduces the concept of digital citizenship, highlighting its importance in today's digital age. Emphasis is placed on understanding one's online habits to become more responsible digital citizens.
- The instructor gives access to the Self-Questionnaire through the following link: https://www.menti.com/al8y425crswc.

Complete Self-Questionnaire:

- Learners will complete the SM8.5 Self-questionnaires individually to assess their digital citizenship skills. This questionnaire covers various aspects, including online behaviour, digital footprint, fact-checking, and EU stance on digital and media literacy. This activity is anonymous to encourage honest and reflective responses.

Review Common Answers:

- The instructor reviews the most common responses from the questionnaire. This step helps highlight the key topics, which are crucial for responsible digital citizenship.
- SM8.5: (This is the document providing further instructions about the activity. Additionally, all questions are answered and explained as reference for the instructor).
- For the Open Questions, the instructor chooses 2 to 3 answers relevant due to their insight on a specific topic, a personal touch, etc.

Class Discussion:

- The instructor facilitates a discussion based on the common responses from the questionnaire. Learners will discuss all questions provided in the Self-Questionnaire one by one. This discussion aims to encourage learners to share their insights and strategies for improving their digital citizenship.

Conclusion:

- The instructor summarises the key takeaways from the activity, emphasising the importance of continuous self-assessment and improvement in digital citizenship practices. This final step reinforces the learning outcomes and encourages ongoing reflection.

2. Digital Citizenship Mind map

Duration: 20 minutes

Learning Outcome(s):

- Be able to collaborate and solidify their understanding of digital citizenship.
- Be able to translate newfound knowledge into practical actions.

Resources & Equipment:

- Access through the QR code or Link to the SM8.6 Mind Map.
- Projector and screen or interactive whiteboard.
- Pen and paper.

- Computers or devices with internet access.

Description:

1. **Activity Steps**:

Introduction:

- The instructor introduces the concept of a mind map and its use in brainstorming and consolidating learning (SM8.6). Emphasis is placed on the importance of understanding and improving digital citizenship skills .

Access Mind Map:

- The instructor gives the learners access to the SM8.6 Mind Map, which will be used to brainstorm key insights and skills gained from the module.

Complete Mind Map:

- Learners provide feedback on two main questions:
    1. What are the key insights or skills you've gained during this module? (1-3 words)
    2. How has this module enhanced your awareness as a digital citizen?

This activity is anonymous to encourage honest and reflective responses.

Review Common Responses (3 minutes):

- The instructor reviews the common responses to the first and second question. This step helps highlight key insights and skills identified by the learners.

Class Discussion:

- The class transitions into a group discussion to solidify learning and encourage peer exchange. Each learner presents their evaluations and thoughts, sparking discussion on responsible digital behaviour. The instructor guides the conversation, highlighting key aspects of digital citizenship such as online respect, protecting personal information, and contributing positively to the digital community. The instructor facilitates a discussion based on the common responses.
    1. For the first question, learners discuss the most frequent answers.
    2. For the second question, the instructor selects 3-4 responses to highlight core concepts like fact-checking, online safety, and online etiquette.

Learners share their insights on these topics, fostering a collaborative learning environment.

Conclusion:

- The instructor summarises the key takeaways from the activity, emphasising the importance of continuous improvement in digital citizenship. This final step reinforces the learning outcomes and encourages ongoing reflection.

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9. Students in all their Diversity

The Module at a Glance

9. Students in all their Diversity	
Abstract	This module begins by defining diversity. It points out why it is important and what diversity and culture mean in an educational context. It characterises the different dimensions of diversity and discusses them in terms of the impact of false information on different social groups in the school environment. Highlights the two perspectives of the teacher and the child. The module ends with some additional activities that teachers can use in the class.
Learning outcomes	• Understand why diversity in the class is valuable • Identify types of diversity • Identify how disinformation and fake news can affect the social groups in the class
Resources & equipment	*Resources* ○ Printed handouts and scenario cards ○ Access to online media literacy resources ○ Canva or another app to create ○ PowerPoint presentation (SM9.1) *Equipment* ○ Projector and screen or interactive whiteboard ○ Computers or tablets with internet access
Total duration	195 minutes

Introduction

Duration: 40 minutes (30 minutes Activity 1 plus 10 minutes: Activity 2)

Learning outcome(s):

- Introduce the topic of diversity, define diversity.
- Reflect on the importance of students diversity, stereotypes, and bias language.
- Appreciate the importance of language in discussing multicultural and social justice.

Description:

At the beginning learners will be asked to define some words connected to the culture and make an attempt to define their own culture, their own social dimension and the characteristics of other groups. Then the students should reflect on the fact that some words may be associated with prejudice and bias language.

Note: For this part Activity 1, Activity 2 and Activity 3 should be used.

Start the module with the short information that individuals who are part of the school body represent a rich tapestry of personalities and unique approaches to learning and assessing the surrounding information.
The first step to understand the culture is to understand your own culture. To do this, the group should agree on a common understanding of expressions or terms.

Start Activity 1 (you can use all the words, or choose some)
Summarise and ask learners how they understand diversity. To define the diversity you can use the PowerPoint presentation (SM9.1) and theory below.

Defining diversity

Diversity is a multi-faceted concept that can contain many elements and levels of distinction OECD defined as *Characteristics that can affect the specific ways in which developmental potential and learning are realised including cultural, linguistic, ethnic religious and socio-economic differences*. This definition emphasises the difference between the concept of diversity, which it identifies as a neutral concept reflecting characteristics of human nature (e.g. height or left-handedness from the concept of 'disparity', in which differential characteristics are associated with different outcomes or different treatment) (OECD, 2010). Three basic principles: Equity, Diversity, and Inclusion (EDI) stands as a guiding APA's framework aimed at ensuring just treatment and fostering full engagement across all societal segments, particularly focusing on those groups traditionally marginalised or faced with discrimination based on attributes such as identity, background, or disability:

- **Equity** emphasises the allocation of resources tailored to individual needs, enabling varied communities to reach optimal health and functionality.
- **Diversity** is concerned with the presence and representation of a wide array of social identity groups within organisations, workplaces, or societal collectives.
- **Inclusion** is dedicated to creating environments that recognize, value, and celebrate differing methodologies, viewpoints, styles, and life experiences.

EDI are also fundamental principles of the EU, the report presenting recent policy initiatives by each EU country can be found in Promoting diversity and inclusion in schools in Europe - Publications Office of the EU (europa.eu).(SM9.2).

Reviewing the definitions of Iniesto and Bossu (2023) emphasis that fundamental to equity is the reality of intergenerational and structural inequalities based on any one or a combination of characteristics such as race, gender, socioeconomic background, culture, and language what in the context of open education, means that free or open does not necessarily translate into access to all learners from all contexts and backgrounds. It also does not inherently eliminate interlocking structures of oppression such as systemic racism, sexism, homophobia, and ableism. In analysing definitions of diversity in the context of open education, Iniesto and Bossu state that it most often refers to diversity of licensing and materials than to diversity in the open education community or diversity as a community goal (although some researchers have referred to diversity as a value, such as openness, and others have talked about the potential to meet the diverse needs of educators and learners). They also note that some authors consider diversity to be more than a value, but an intentional commitment to accommodating differences. In the definition of inclusion, the authors point out that it should be more than just respect for difference and diversity; rather, it should be a critical willingness to challenge and disrupt dominant narratives that promote exclusion and discrimination, such as on the basis of gender, race, culture or language.

Start Activity 2 to show how the language can be harmful to some social groups.

Theoretical Insights

Duration: 60 minutes presentation (plus 40 minutes for Activity 3)

Learning outcome(s): What is students diversity, what are the types of diversity.

- Identify the most common types of diversity.
- Analyse the impact of diversity in the classroom.
- Analyse how fake news affects some social groups.

Resources & equipment: Internet access, PowerPoint presentation (SM9.1)

Description:

Discuss different types of diversity. Focus on how fake news or miss information can affect the group. Spend the time on the topics that are important for the class (60 minutes). After the presentation start Activity 3 (40 minutes)

A reflection on student diversity and the classroom, the benefits of diversity, and the impact of misinformation on students belonging to different groups including stigma.

Why is student diversity important?

The capacity for cooperation, tolerance, and the acknowledgment of diverse perspectives is increasingly important given the rising cultural variety within modern societies. This diversity is largely driven by increased mobility, which attracts individuals and families to the European continent - especially to different countries in the EU.

The phenomenon of student diversity is expanding worldwide, driven by factors such as immigration, socio-economic differences, acceptance of various genders and sexual identities, and the push for inclusive education. Challenges of increased diversity are shared by almost all countries but the context in which they are addressed can be quite different. Some countries like the US have a long history of immigration as well as indigenous populations. European countries also differ in experience: countries with colonial histories

such as France, Cyprus or the United Kingdom have been receiving immigrants since the 1960s. Countries looking for a workforce such as Germany or Norway were used to recruit workers on a temporary basis. Recent years have intensified immigration processes related to the arrival of immigrants from Africa and the hostilities in Ukraine.

Migration is driven not only by the pursuit of improved employment opportunities but also as a refuge from life-threatening conditions or health risks in countries plagued by armed conflict. Around 2015, a massive flow of migrants and refugees started to enter across the Mediterranean and other routes, increasing the presence of immigrants in Europe. Recent migration trends have resulted in a significant increase in diversity, leading to the presence of multiple ethnic, racial, linguistic, and religious communities across many nations. Moreover, societies exhibit distinct socio-economic and regional variations. Modern migration trends show a significant number of migrating families with children, indicating a critical need for receiving nations to implement supportive measures to assist these migrants in adjusting to new surroundings. The experience from countries shows that schools play a pivotal role as the primary state institution in supporting the integration of immigrant children and their families.

The scale of the challenge has a direct impact on the opportunities and thresholds for adequately addressing diversity issues in the school system, which must ultimately be addressed at the classroom level.

Schools are tasked with fostering an inclusive environment for education, upbringing, and adaptation processes, significantly shaping children's perspectives on the world and interpersonal relations. This role underlines the importance of educational institutions in guiding children's understanding and acceptance of diversity. Schools have an important role to play in creating an inclusive society, as emphasised in the European Commission's Green Paper.

The exposure to diverse perspectives facilitates a deeper and broader learning process, fosters critical thinking, and challenges preconceived notions (Black et al., 2018). Diversity can improve students' active thinking skills and affects student learning, but it can also affect tutorial effectiveness and attendance because of cultural differences and age-related factors (Kang'ethe & Muhuro, 2014). The ability of schools to be diverse is related to student achievement, especially for students from low-income families and those who learn in a language other than their own, e.g. English (Min & Goff, 2016). According to the Strategy for Refugee Inclusion introduced by the United Nations High Commissioner for Refugees (2019) "Children and youth have access to all levels of formal and non-formal education within national education systems and under the same conditions as nationals" (p. 22).

Diversity and culture in educational contexts

The concept of "culture" has a divergent meaning. The distinctions between cultures do not align with language boundaries, national borders, or ethnic divisions. In a modern and intricate society, various subcultures exist, each with its own unique interpretation frameworks that form the basis of shared knowledge in everyday life. Individuals within these subcultures rely on these frameworks to guide their actions and shape their perceptions. While culture is often perceived as a system of distinct symbols and meanings, some scholars argue that it is not a static entity but rather a dynamic, evolving concept that eludes definitive interpretation.

The number of cultural groups with regard to cultural diversity in society is in principle incalculable. These groups depend on a great many factors of considerable complexity. There are different regional or local cultures, cultural differences between socio-economic classes and status groups, but also groups with different lifestyles and cultural backgrounds, subcultures and professional cultures, as well as groups that differ from the mainstream in terms of communication and social interaction or sexuality and gender identity.

The understanding of diversity that occurs in schools is usually based on the American contextualised narrative of polarised racial views and assumptions about the contrasting "whiteness" seen in race, culture and socioeconomic status related to skin colour, for example, dark-skinned students are as diverse as teachers, who are seen simply as a large group of "middle class white ladies". It should be emphasised that diversity in the classroom applies not only to students but also to teachers. Teachers' backgrounds also differ and do not share the same common history, culture and ethnicity (Fontenelle-Tereshchuk, 2020).

The diversity of teachers' opinions, including negative attitudes towards students' abilities and the requirement for culturally responsive teaching approaches, is a complex phenomenon, so the impact of teachers' beliefs about students' cultural identity has a significant impact on teaching effectiveness (Davies et al., 2023).

Recent migration trends have resulted in a significant increase in diversity, leading to the presence of multiple ethnic, racial, linguistic, and religious communities across many nations. Moreover, societies exhibit distinct socio-economic and regional variations. The process of overcoming cultural and language differences in the context of schooling may be easier for some groups than others. depending on their relationship to the dominant group ethnic minority (OECD, 2010). How the person conceptualises the cultural distinctiveness of minority and migrant groups and its meaning depends on its definition of culture and collective identity. Levels of culture, which refers to a society's learned behaviours, include the categories of:

- **International** culture, also called universal - the culture that extends beyond national borders, not confined to a country, social group or continent.
- **National** culture - represents beliefs and practices shared by citizens of the same nation.
- **Subculture** - represents beliefs and practices shared by citizens of the same social group.

The three culture levels can are considered as (Hidalgo, 1993):

- **Concrete**: the most visible and tangible level of culture, and includes the most surface-level dimensions such as clothes, music, food, games, and so on. These aspects of culture are often those which provide the focus for multicultural "festivals" or "celebrations".
- **Behavioral**: reflects a person's values, explains how an individual defines their social roles, what language they use and their approach to non-verbal communication. Important aspects to be mentioned in this category include language, gender roles, family structure, political affiliation and other elements that situate a person organizationally in society.

- **Symbolic**: includes a person's values and beliefs. It can be abstract, but it is most often the most important level in terms of how individuals define themselves. It includes value systems, customs, spirituality, religion, worldview, beliefs, mores, and so on.

Diversity within educational settings encompasses variations across all levels and social attributes such as age, ethnicity, economic standing, gender orientation, gender presentation, sexual preference, physical limitations, and citizenship. These aspects of identity are interconnected and may evolve throughout an individual's lifespan. Cultural diversity in the classroom includes exploring the celebration of these differences and creating a culture of inclusion and acceptance among students and the whole school community.

Student's diversity in the classroom

Different perspectives and experiences and diversity enrich classroom discussions and promote critical thinking. Students in classrooms with diverse personalities and cultures can interactively develop skills, learn faster to challenge assumptions, challenge stereotypes and consider alternative viewpoints. As Module 4 introduced the positive learning environment and of safe space are important elements for discussions and teaching sessions related to disinformation.

Starting from early years of education, pupils should learn to appreciate and respect people from cultures other than their own. Diversity is crucial for primary students because it helps them appreciate the differences between people and cultures. In a rapidly diversifying world, students deserve teachers and educational resources that teach diversity in the classroom and affirm the importance of inclusion, respect and equity for all (SOE, 2023):

- Introducing knowledge and respect for diversity from an early age can lead to more inclusive and respectful interactions with others, and can help students develop a sense of empathy and understanding for those who may have different experiences or perspectives.
- Children often express a natural curiosity about food, sports, art, clothes, children's books, games, toys and dances of different cultures. This openness and enthusiasm to learn from and about people who are different is something that teachers need to encourage and nurture.
- Students who learn as children to appreciate and support members of diverse groups can grow up to be strong leaders of diverse and inclusive communities.

The most common types of students diversity that can be present in the classroom include (SOE, 2023):

- **Ability diversity**: differences in students' physical, mental, and learning abilities.
- **Age diversity**: differences in students' ages.
- **Gender diversity**: differences in students' gender identity and expression.
- **Ethnic diversity**: differences in race, ethnicity, national origin, and languages spoken at home.
- **Religious diversity**: differences in belonging to and identifying with the values and/or practices of a particular religion or sect.

- **Socioeconomic diversity**: differences in income, education levels, occupations, and housing security and stability with regard to students or their families.
- **Experiential diversity**: differences in students' life experiences, such as immigration, military service, adoption, or foster care.
- **Sexual orientation diversity**: differences in students' sexual orientations.
- **Geographic diversity**: differences in students' local or regional identity and experiences based on where they live, learn, and play.

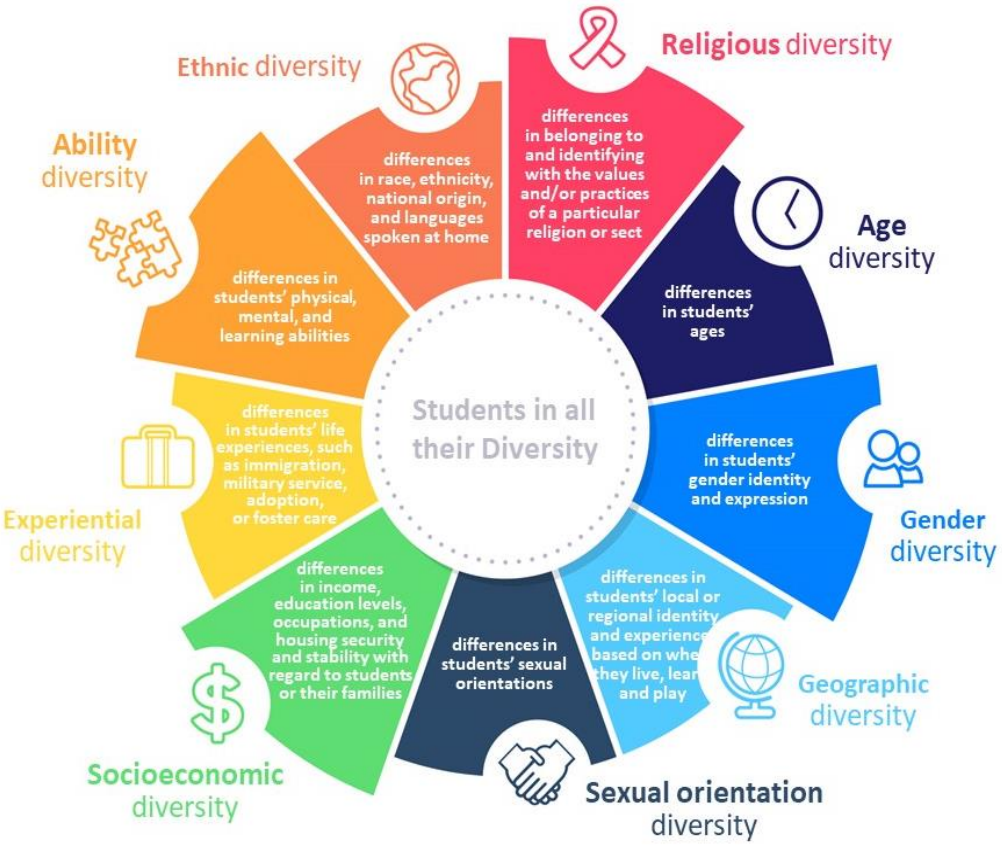


Figure 1 – Teachers 4.0. Digital

The list presented above is open and students can belong to more than one as different dimensions of diversity are intertwined and the experience of exclusion and subordination is based on multiple factors that can be additive or transversal. For example, a female emigrant student may have similar socioeconomic background as a male student but still have unequal treatment if faced with teacher expectations due to her less support by her parents or different gender role expectations in her ethnic community (OECD, 2010).

From the teacher point of view it is important that for some categories, differences in learning styles, personality, mental health and more are often present without being visible.
Members of certain social identities may react differently or be more sensitive to fake news and misinformation of the particular type. Groups, their features and members are also a frequent subject of disinformation, or fake news.

Ability diversity

The ability is defined as the quality or state of being able. Ability diversity refers to varying abilities and disabilities. Differences in cognitive, social-emotional, and physical abilities add to the layers of ability diversity. People have different abilities, and none is “better” than the other. Being “able-bodied” doesn’t make you “normal”, it makes you “common”, as there are simply more people who are able-bodied than there are not (The Last Frontier in Diversity and Inclusion: Ability Diversity | LifeSpeak).

Nowadays the phenomenon of neurodiversity in social and school life is increasingly present. The nature of it comes from the diversity of the human population in terms of the course of brain development and function and the associated ways of experiencing the world and functioning in school, university, work or interpersonal relationships. Both genetic variability and environmental factors are sources of this diversity. It is estimated that approximately 15-20% of the population belongs to the group of people diagnosed with neuroatypicality, including those on the autism spectrum, with ADHD/ADD (attention-deficit/hyperactivity disorder/attention deficit disorder), dyslexia, dyscalculia, dyspraxia or Tourette syndrome. There may be many more people who are undiagnosed but manifest neuroatypical characteristics to a degree that significantly affects them (Pisula et al., 2024).

Awareness of and knowledge about neurodiversity opens up new perspectives in the way we think about other people and social relationships, and often also about ourselves. The concept of neurodiversity frees us from a purely medical view of the autism spectrum, ADHD, specific learning disabilities and other such phenomena. Instead, it highlights the importance of adapting the environment to meet diverse individual needs and the role that this adaptation plays in the context of the development and realisation of individuals’ life intentions and, ultimately, social goals and processes. For schools the presence of such students presents many opportunities - the originality, creativity, sensitivity and unique abilities of many of these individuals inspire and bring unique values to the educational process and to social interaction. [Pisula].

From the other side these personality traits can affect the way people process and evaluate information, making them more likely to believe and share false information. People with schizotypal, paranoid and histrionic personality traits have difficulty detecting fake news. In addition, these individuals suffered more anxiety and engaged in more cognitive biases. But fake news in itself does not directly cause schizotypy, but certain personality traits may make individuals more susceptible to believing and sharing false information. It is important to address both the psychological factors and the spread of misinformation to promote a more informed society (Escolà-Gascón et al., 2023).

The important thing at the school level is learning diversity. In the classroom, each student has his or her own strategy and learning style, which the teacher must also take into account and which have a significant impact on the effectiveness of teaching. For example Chinese learners tend to avoid critical discussions due to the cultural impact of social harmony, but modifying dialogical strategies in instructional settings can improve their critical thinking skills (Chiu, 2014).

Learning diversity can considered in some dimensions:

- **Learning styles diversity**: differences of individual's typical ways of learning and are driven by cognitive and personality factors;

- **Learning strategies diversity**: differences of students consciously manage their learning experiences and efforts;
- **Motivation diversity:** difference in the intensity and orientation of motivation that individual students may possess and demonstrate. Students demonstrate diversity in the form of integrative and instrumental motivations, with integrative motivations widely recognized as associated with improved academic performance**.**

Age diversity

In general, age does not seem to matter much when it comes to disinformation, that both young and old are susceptible to disinformation and misinformation (Guillory & Geraci, 2010). In the experiment the participants of different ages read a passage containing false information that was later corrected. After the correction, both young and old participants were able to recall the corrected facts. However, all age groups still held on to the inferences they'd made based on the original false information.

Millennials and Generation Z are distinct from previous generations. They engage with sophisticated technology and are more accustomed to multitasking than previous generations. They are eager to learn but in ways that align and keep pace with the digital age (Shatto & Erwin, 2017).

Schoolchildren and students of younger years are, as it were, programmed to absorb information without critically analysing it. School children do not analyse the veracity of physical formulas, biological issues or the dates of past battles given in textbooks, but accept them as true and absorb them uncritically. Unfortunately, this is tempted by blind faith and a lack of criticism of every source they encounter, whether in the field of biology and medicine or in the field of (very) alternative medicine - a near example of blatant naiveté on the part of the authors. A naiveté that is also painfully striking when it turns out that even a favourite popular science blog turns out to be full of inaccuracies, inaccuracies, unverified or even erroneous information (Rosińska & Jedynak, 2023).

Gender diversity

Refers to the extent to which a person's gender identity, role, or expression differs from the cultural norms prescribed for people of a particular sex. This term is becoming more popular as a way to describe people without reference to a particular cultural norm, in a manner that is more affirming and potentially less stigmatising than gender nonconformity.

Language on gender and sexuality continues to evolve rapidly. Words and their definitions are changing or being refined as the understanding of complex constructs related to sexuality and gender evolves. Given how rapidly terminology is changing, the list of terms and definitions may change significantly in the future. Understanding of related terms should be subject to constant exploration. You can depend on the list of terms, for example, here [key-terms.pdf (apa.org)].

The goal of disinformation is to provoke emotional responses from the audience. Gendered disinformation draws upon traditional social constructs of femininity, which is even more true for gendered disinformation. Its language is often hyperbolic or used to convey inaccurate or misleading claims, for example the anti-abortion rhetoric equating reproductive rights and infanticide. The gender-based attacks sound both ad hominem against the target and general, playing on stereotypes and bidimensional accounts.

Gendered based disinformation concerns the creation and dissemination of content that encompasses gender-based attacks or weaponizes gender narratives to fulfil political, social, or economic goals. Digital misogynistic harassment comes in many forms, including explicit imagery, graphic comments, and manipulated materials that damage a person's reputation. The term entails falsity, malign intent, and some degree of coordination. In many cases it involves celebrities and politicians, especially women, that ultimately deters women from participating in the public sphere. Three elements which account for identity-based assaults online, counting gendered ones comprise of a combination of feminist values or noncompliance with gender norms, the occupation of already all-male spaces (from legislative issues to sports), and encourage separation from alliance with numerous marginalised social groups. The last mention highlights the multi-layered nature of disinformation and its capacity to sow strife by worsening social divisions and contention. In this respect, GBD adversely mirrors the intersectionality of fourth-wave women's rights, given the abuse of online spaces and different stages, as well as the heightened of badgering focusing on ethnicity, religion, inability or queerness. Within the future, it'll be vital for dissident definitions – utilised to deliberately develop information and engagement among members – to overcome an entirely twofold classification of sexual orientation in order to guarantee acknowledgment and security of all personalities.

The 2019 Impact Threats and Landscape Report found that 96 per cent of deepfakes were non-consensual sexual deep fakes, and 99 percent of them were performed against women. Deepfakes are a relatively new method of gender-based violence, using artificial intelligence to exploit, humiliate and harass women through the centuries-old tactic of taking away their sexual autonomy. One of the examples was observed during the German elections. Disinformation campaigns targeted Green candidate Annalena Baerbock. The dissemination of manipulated nude photos suggesting that she was young and in need of money sexualised her, while false claims that Baerbock had never completed her studies or the attribution of an invented quote containing a nonsensical explanation of climate change called her competence into question. Another one is about Rana Ayyub, a journalist in India who spoke out against the government’s response to the rape of an eight-year-old girl, was the subject of a deepfake video made as part of a coordinated online hate campaign. Noelle Martin, a young woman in Australia who has been advocating about the issue of image-based sexual abuse, also became the subject of manufactured sexual images and deepfaked video. More recently, UK poet and broadcaster Helen Mort found deep fakes of herself online. These videos, besides harming women by co-opting their sexual identities, are used as a form of intimidation to silence the women depicted and to discourage them from acting as public figures (Dunn, 2021).

Boys and girls at school level differ in terms of achievement, with boys at all ages doing less well than girls. They are more likely to be disciplined and diagnosed with learning difficulties. Their test scores and grades are lower and they are less likely to complete secondary school. The same can be observed at university level, where women outnumber men by 16%.

Boys and girls also differ in terms of their presence on certain social media applications. As the US study shows, more girls have an almost constant presence on TikTok, Snapchat, Instagram and Facebook, while boys prefer YouTube (Survey of US teens, 2023). Also in Europe, boys choose YouTube, while girls choose Instagram, where they post twice as many mentions as men and their comments mention the importance of self-esteem in relation to beauty standards and exposure to idealised body images (Aran-Rampsott et al., 2024).

Ethnic diversity

Ethnicity is a category based on common spoken language, religion, nationality, history, and other cultural factors that give people a sense of inclusion into one group and exclusion from another.

While considering ethnicity a strong focus on the immigrant status is usually present, the term can is also defined by examining the participants' race and the genetically transmitted physical characteristics of human groups. The first approach is predominantly utilised in Europe, whereas the latter is utilised in America, and this can be attributed to the distinct patterns of migratory movements across the two continents. The intersections between geographical, economic, cultural, religious, ethnic, and racial factors have had an impact on numerous issues, including negative attitudes, stigma, and racism. Despite living in an environment that is diverse in terms of ethnicity and culture, the human mind frequently relies on categorization processes to organise, simplify, and make reality more predictable. A direct consequence of categorization is the indulgence in social biases and stereotypes, which are typically based on prejudicial attitudes and result in preferential treatment for the ingroup and discrimination against members of the outgroup (Basilici et al., 2022).

It is becoming a popular discursive strategy to mask racism, as well as a powerful means to unleash waves of fake news and outraged comments on social media. They can be latent for a long time, emerge periodically by spreading negative stereotypes wide, and foster a discourse of exclusion on refugees and other minorities (Papapicco et al., 2022). The way in which disinformation during the COVID-19 crisis pointed to the Asian, Muslim or Jewish communities as responsible for the spread of the virus in different regions is a clear example of how lies were put at the service of xenophobia and anti-Semitism.

Students often adopt patterns of thinking about ethnicity from their family. Family value socialisation involves the distinction between parents' personal implementation of these social judgments and the values parents want their children to adopt, and often these values are not the same.

An element that affects variation and raises the risk of hatred is also the very way of speaking and the form of language that students use. Language has many layers in how it is understood, spoken, and used. Exploration of cultural diversity points out the strong connection to linguistic diversity. Linguistic diversity includes spoken language, for example, a child or family who speaks one language but also includes speaking multiple languages. Language and communication may also require adaptive materials or assistive technology, such as sign language or braille, each adding layers to linguistic diversity. Speakers of non-standard varieties face linguistic and social discrimination because standard varieties, which have utilitarian value, are considered correct language use. With this utilitarian value comes high status, offering (socio-)economic and individualistic power. Regional and foreign accents used by immigrants usually deviate from the standard form and stigmatisation of these varieties is sometimes common. This applies not only to the first generation, but subsequent children grow up hearing and using their own variety of the language they may speak at school.

The adolescents are sensitive to the issue of immigration, in some cases, contrasting their family’s values recognizing the strongly manipulative intent of the hoaxes. They are also very

active in denouncing the unjust motivations of the spread and diffusion of anti-immigrant manipulated news, but that they have difficulty in recalling them (Papapicco et. al, 2022).

Religious diversity

It is important to understand that people have different religious beliefs or no religious beliefs, and it may impact their participation in the classroom. Students may react differently to lessons based on their religion or may not be able to be present on certain religious holidays. The number of students for whom religion is personally important has been increased both by immigration, including children born into such families, and by the fundamentalist tendencies found in many religions in recent decades. Furthermore, religious issues now seem to be more prominent both in terms of wearing religious garb (e.g. burqa) or religious symbols (e.g. cross). Students report being focused on since of unmistakable images they wear in agreement with their devout convictions. For example, Jewish boys wearing yarmulkes and Sikh guys who wear patka or dastaar (head covering), encounter bullying based on their clothing. Muslim children are much more likely than those of other beliefs to have experienced bullying at school since of their religion. Youthful Muslim young ladies wearing conventional hijab (head scarves). These things are in some cases commandingly evacuated by other understudies as an implies of bullying and terrorising. Most Muslim bullying is by other students and some incidents involve teachers.

Religion and fake news are intimately entangled in today's world in three important ways (Douglas, 2018):

- Religion is often the subject of fake news.
- Religious believers are often among the targeted audiences for fake news.
- Religion in the particular form of Protestant fundamentalism is an important historical origin of fake news.

Religious disinformation spreads very quickly on social media. These articles are harder to refute and are usually considered a sensitive topic to discuss because people can accuse you of being anti-Islamic. Additionally, platform moderation will not detect this particular type of disinformation, as it is even more difficult for algorithms and human moderators to detect and handle religious content. (Online Temptations: Covid 19 and Religious Misinformation' Social Media + Society, Alimardani Elswah).

Increased belief in religiosity and political identity would contribute to stronger beliefs in pseudoscience and the paranormal. Results revealed that belief in the paranormal was significantly higher for religious undergraduates compared to their non-religious peers (Therriault et al., 2022).

Covid 19 pandemic made a lot of misinformation about coronavirus which were spread by religious leaders. Latin American Christian communities, Mexican pastor Oscar Gutierrez broadcast one of the most-watched videos on Facebook about chlorine dioxide solution, an industrial bleach he promotes as a cure and preventive treatment for Covid-19 pushing unproven and potentially dangerous treatments and capitalising on fear to promote anti-vaccine sentiment. After that the message was checked and marked as false information (see Peligroso Dioxido de... - Ministerio del Buen Discernimiento | Facebook).

In Spain cardinal Antonio Cañizares Llovera declared attempts to find a vaccine the "work of the devil" that would involve "aborted foetuses" in a filmed Mass shared around the world. Church leaders in Australia raised similar concerns recently, apparently unaware that the

practice of using cell lines grown from a foetus in 1972 has been commonplace in vaccine development for decades. In India, Hindu religious and political leaders have promoted cow urine as a cure for Covid-19, inspired by the sacred status of cows in Hinduism, and declared the coronavirus would leave India once a controversial temple was completed. Claims that a polio vaccine contained pork products or toxic ingredients, often circulated by Muslim clerics, have damaged the fight against the disease in Muslim-majority Pakistan. ('An unquestionable truth': Religious misinformation in the coronavirus pandemic (firstdraftnews.org).

In case of Islam prohibits the spread of rumours and encourages believers to verify information, this did not stop the spread of religious misinformation in the region, but in the MENA region religious misinformation has helped exacerbate the Covid-19 infodemic globally.

Experiential diversity

Students of all ethnicities felt the advantages of diversity - but some more than others. Ethnic diversity may constitute a risk factor especially in Europe, where the focus is on immigrant backgrounds. Victimisation, ethnic diversity represents a risk factor at younger ages and turns into a more protective factor in secondary schools (Basilici et al., 2022).

Some of the most common and best-described problems of child functioning with refugee experience, include chronic post-traumatic stress disorder (PTSD), combat stress (combat stress), Stockholm syndrome and survivor syndrome. As a consequence of traumatic experiences most often the individual feels terror and helplessness. This is accompanied by intrusive thoughts, memories, dreams, sudden emotions, fear, numbness often appears, i.e. a decrease in physical and mental activity, physical pain difficult to difficult to diagnose, or symptoms of constant agitation accompanying constant reproduction or avoidance of thoughts of traumatic experiences, i.e. irritability, outbursts of anger, hypersensitivity to external stimuli, difficulty concentrating, panic attacks (Badowska, 2015).

False information targeting immigrants and refugees is not only sensational because of its shock value, but also provides stereotypical, biased and prejudicial falsehoods. From a psycho-linguistic perspective, racial hoaxes can be used to convey stereotypes and prejudices through the manipulation of language. There are typical linguistic forms of stereotypes and prejudices aimed at dehumanising and attributing to them in fake news. In this sense, racial hoaxes can be used to affect anti-immigrant attitudes, as demonstrated in adults as; people have schematic visions of immigrants and refugees especially in the presence of social representations mediated by false news (Papapicco et al., 2022).

Sexual orientation diversity

Gender Identity and Sexual Orientation are different constructs. Transgender people, like cisgender people, may be sexually oriented toward men, women, both sexes, or neither sex, and like most people, usually experience their gender identity (who they feel themselves to be) and their sexual orientation (whom they are attracted to) as separate phenomena. Many transgender people experience a shift in their sexual attractions at some point, indicating that sexual orientation may be more dynamic than previously thought (read more: key-terms.pdf, apa.org). Much of the fake news that circulate social networks is directed against vulnerable groups, such as the LGBTQI+ community (Carratala, 2023).

Geographic diversity

Understanding where students originate from can provide insights into the cultural mix, networking opportunities, and the overall appeal of a college as well as the extent to which a college prioritises geographic diversity.
These data consistently highlight significant differences in the achievement of students in rural schools when compared to their peers in metropolitan schools for a number of countries. It confirms that a school's socio-economic status (SES) is linked to participation and achievement in secondary science programmes, with non-metropolitan schools performing worse than metropolitan schools in these areas. Non-metropolitan schools are less likely to offer advanced mathematics subjects than metropolitan schools, and where they do, their students are less likely to choose these options. Non-metropolitan location has a moderating effect on the impact of SES, pointing the way to potentially fruitful future studies.

Stigmatised minorities

Stigmatisation is a social phenomenon leading to the marginalisation of a specific member or a group of the community. This phenomenon is often observed among children and young people in schools. Fake news and misinformation can become a cause of greater stigmatisation.
Stigma leads to discrimination and loss of dignity as a result of prejudices by other members of the society (Pingani et al., 2015). Stigma uniquely obstructs educational achievement, demanding schools with the capacity to adapt services to meet the varied ways stigma individually affects performance. Moreover, while stigma generally comprises the class wide educational fortunes of minorities, it affects individual children differently. Children have varying abilities to defend themselves from stigmatic harm. Some have access to cultural resources contradicting stigma's ontological challenge; these resources potentially shield minorities from internalising stigma (Jeffries, 2006). The stigmatised individual is assigned an attribute that makes him/her different and usually less desirable than others. The person is thus downgraded from being a full individual to a discredited person. As a result, the stigmatised person is isolated and marginalised. Stigma against persons with mental illness remains the strongest negative connotation of all social relations (Pingani et al., 2015).

People from stigmatised minorities, including neurotypicals, often expect to be rejected or discriminated against, which leads them to withdraw from social interaction and reduces their chances of benefiting from educational or employment opportunities, receiving support or pursuing passions and interests. Research shows that experiencing discrimination based on stereotypes can lead to the internalisation of these stereotypes. Someone who is the object of prejudice starts to agree with its content and treats the stereotypes as an essential truth about themselves, which negatively affects their self-esteem and mood. For example, if a stereotype that reads: 'A person on the autism spectrum/ADHD can't cope with life', a member of this group who internalised this belief would think 'I can't cope with life', which would affect their decision-making and self-image.

It is possible that ethnicity may act as a status characteristic and cause an imbalance of power, especially when the students belong to a minority group. Ethnic bullying is a subtype of bias-based bullying, and it refers to targeting someone because of their/his ethnic background or cultural identity. It may include direct (e.g., racial taunts and explicit references to culture specific habits and costumes) and indirect forms. This behaviour has a negative impact on youth's adjustment, such as internalising and externalising difficulties. Ethnic

bullying leads victims to believe that their own ethnic background and social identity is the cause of victimisation, with consequent self-blame and feelings of inadequacy. The role of in-group favouritism emerges from six years of age, while out-group discrimination becomes evident at older ages. It is therefore possible to hypothesise that the association between ethnic diversity and bullying could be different in relation to school level (Basilici et al., 2022)

It is worth noting that internalised stigma (experienced, internalised, i.e. self-stigma) and public stigma (experienced by others, external stigma) are separate issues (Vogel et al., 2013). It is the internalised beliefs associated with the content of stereotypes that have a stronger negative impact on welfare and well-being than stigmatisation from society itself). Experiencing stigma means being aware of stereotypes about the group to which one belongs, but not necessarily agreeing with their content - it is not uncommon for minority members to respond with protests, self-advocacy or pride movements. Belonging to a stigmatised group and fearing discrimination can lead to feelings of shame and a desire to hide one's identity: neurotypical people often report that they prefer not to inform others that they are on the autism spectrum or have been diagnosed with ADHD, as this may have a negative impact on the way they are treated or evaluated by neurotypical people). The reluctance to explore one's identity (so-called 'outing') may further motivate the use of social camouflage, e.g. by imitating the behaviour of neurotypicals, leading to increased tension and feelings of inadequacy.

Activities

1. Language in discussing multicultural and social justice issues

Duration: 30 minutes

Learning outcome(s):

- Understand the words (prejudice, discrimination, racism, sexism, homophobia, culture, multiculture) and to explore the intricacies and implications of different definitions for each word.
- Learn to appreciate the importance of language in discussing multicultural and social justice issues, and how the process of discussing the definitions adds to the understanding of the terms.
- The major point of this activity is to get learners talking about these terms and realising that different people mean different things even though they are using the same words.

Resources & equipment:

Description:

The instructor should divide the learners into groups of few participants (one word - one group). If possible, groups should have participants from different social groups, at least gender-differentiated. Each group's instructor will begin by having each learner share a definition for “prejudice”. The group will proceed with the rest of the definitions attempting, if possible, to reach a consensus on one definition for each word. All definitions should be discussed then In the whole group.

Instructor notes:

Definitions (use your country dictionary):

- **Prejudice**: an attitude about another person or group of people based on stereotypes.
- **Discrimination**: an action or behaviour based on prejudice.
- **Racism**: the systemic conditions that provide some people more consistent and easier access to opportunities based on (perceived) race or ethnicity.
- **Culture**: the way of life, especially the general customs and beliefs, of a particular group of people at a particular time.
- **Multicultural**: including people who have many different customs and beliefs, or relating to a society, organisation, city, etc.
- **Sexism**: the systemic conditions that provide some people more consistent and easier access to opportunities based on (perceived) sex, gender, or gender expression.
- **Heterosexism**: the systemic conditions that provide some people more consistent and easier access to opportunities based on (perceived) sexual orientation.
- Other can be applied

Teacher's notes are included in SM9.3.

Note: the activity is based on *Exploring Language: Definitions Activity* (edchange.org) and *Understanding "Multicultural"* (edchange.org).

2. Biased Language quiz

Duration: 10 minutes

Learning outcome(s):

- Recognize bias language (biased language is made up of words or phrases that might make certain people or groups feel excluded or underrepresented).

Resources & equipment: computer, access to the platform.

Description:

Online test

Example:

A. Blacklist is a word that can be considered as an example of bias:

- Disability Bias
- Racial Bias
- Age Bias
- Ethnicity Bias

B. Confined to a Wheelchair is the term that can be considered as an example of bias:

- Disability Bias
- Racial Bias
- Age Bias
- Ethnicity Bias

C. Digital Native is the term that can be considered as an example of bias:

- Disability Bias
- Racial Bias
- Age Bias
- Ethnicity Bias

D. English Native Speaker is the term that can be considered as an example of bias:

- Disability Bias
- Racial Bias
- Age Bias
- Ethnicity Bias

E. Illegal Aliens is the term that can be considered as an example of bias:

- Disability Bias
- Racial Bias
- Age Bias
- Ethnicity Bias

Note: In the online test an explanation on what phrase is recommended will be displayed.

The activity is based on *25 Examples of Biased Language* | Ongig Blog

Optional: You can practise Ongig's *Text Analyzer software*, which flags these and many more exclusionary words and phrases, and provides suggestions for alternatives to such biased words.

3. What are your social identities?

Duration: 40 minutes

Learning outcome(s):

- Understand and appreciate learners' own culture.
- Learn to appreciate the other learners' culture.
- Understand diversity in the classroom.

Resources & equipment: Paper and pen or computer with word processor.

Description:

"To understand and appreciate fully the diversity that exists among the families served, service providers must first understand and appreciate their own culture".

Understanding yourself helps to understand others. The first stage leading to cultural understanding is to reflect on one's own values and culture. Every individual, instructor or learner has his or her own system of perceiving the world and other people. Reflecting on

one's own culture and values and values can help build bridges to understanding the culture and values of others similar or different to one's own.

Step 1
Ask learners to think about the groups, identities, and dimensions they belong to based on classification explained.

Suggest them to consider gender, ethnicity, race, religion, region/roots (where they were born and lived/where other family before lived), family structure, family relationship (mother, daughter, etc.), language(s), abilities, disabilities, sexual orientation, birth order, political ideals, work experience, education, language they speak, hobbies.

Step 2
Ask learners to think about the various groups, identities, and dimensions that best describe them. They should write down as many as they can think of.

Step 3
Ask learners to reflect on the following questions and write down the answers:

1. What pieces are most important in shaping who you are? Try to draw a scheme.
2. Do you know others who have similar pieces? How are the pieces the same?
3. Do you know others who have different pieces? How are the pieces different?
4. Which social groups do you think you belong to?
5. Do you remember any information (fake news, disinformation, misinformation) that particularly affected you because you belonged to a certain social group?

Step 4
Identify the social groups present in the class.
Ask one learner to share his notes and write the list on the black/whiteboard. Ask who has similar groups identified, then ask for different groups.
Create a list of fake news, disinformation, misinformation connected with the particular group.

Instructor Notes:
Emphasise how important it is to understand your own culture.
Point out how many different groups can be identified even in a small group.
Note: the activity is based on:
https://extension.psu.edu/programs/betterkidcare/news/clad-cultural-linguistic-ability-diversity-are-you-self-aware)

Assessment and Evaluation

1. Myth/Stereotype Debunking Poster Assignment

Duration: 55 minutes in class (plus 150 minutes for project homework)

Learning outcome(s):

- Practise using fact-checking tools to verify information.
- Apply knowledge and skills from the course.
- Learn how to dispel myths/stereotypes in this case connected to diversity groups (mental ability or racism, gender,…).
- Use a form of visualisation to combat misinformation and fake news.

Resources & equipment: computer, internet, access to the platforms Canva, PowerPoint or any other drawing tool.

Description:

The assessment is a project. Learners develop myth/stereotype debunking posters and then assess the impact of a brief presentation of these posters in the group.

Step 1 (15 minutes in class)
Explain the idea of the debunking project. Create groups of learners : 4-5 learners (if the group is 30 – 5 to 6 groups). Random selection is recommended. Each group is going to work on one myth/stereotype.

The list of myths/stereotypes (the instructor can prepare the list or ask learners to browse the web and search for the topic they want to work on. The list below is a proposal can be changed by the instructor):

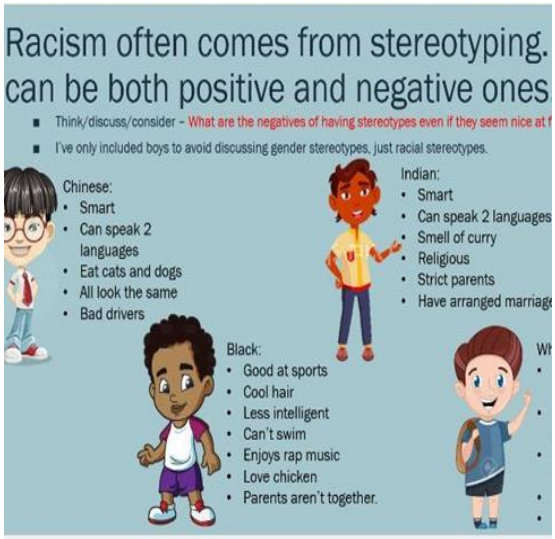
- **Ability:**
  a. Persons with mental illness are unpredictable, dangerous, and incurable.
  b. People with mental health conditions cannot work.
  c. Mental health problems are a sign of weakness.
- **Sex and gender**:
  a. There are biological differences in men's and women's brain (Busting Myths About Sex and Gender – SAPIENS)
  b. Stereotype words associated with genders include bubbly and bossy for women, and dominator or aggressive for men.
  c. Eating disorders only affect females.
- **Ethnic:** The DNA of white and black people is completely different.
- **Religious and ethnic**: all Muslims are Arabs.
- **Socioeconomic**:
  a. Individuals from lower-SES backgrounds are as less capable than those from higher-SES backgrounds (here there is an example you can verify the fact Educators' Beliefs About Students' Socioeconomic Backgrounds as a Pathway for Supporting Motivation - David M. Silverman, Ivan A. Hernandez, Mesmin Destin,

2023 (sagepub.com.)
b. Migrants are a burden on economies.
c. Migrants spread disease.

Learners should be encouraged to alter the appearance and text on the template to suit their messages.
While constructing their posters and providing targeted feedback, learners should focus on:

- Accuracy of information.
- Clarity of information and layout (based on previous topics, you can also use The Debunking Handbook 2020. Available at https://sks.to/db2020. DOI:10.17910/b7.1182 available in different languages, SM9.4).
- Use of images or effects to supplement the message and help clarify concepts.
- Message captured attention while being sensitive to diverse perspectives and potentially someone who may be affected by this misconception.
- Free from misspellings, typos, or blurry/poor quality images.
- Use proper size and type (FB, Instagram, …).

Some examples of the poster can be given:

	
Source: Psychological myths, mistruths and misconceptions. Curriculum-Based Strategies for Knowledge Change. Edited By: Karla Lassonde and Melissa Birkett, Society for the Teaching of Psychology - Psychological Myths, Mistruths, and Misconceptions (teachpsych.org)	*Source:* Racial stereotypes - racism information for children | Teaching Resources (tes.com)

Step 2 (60 minutes project homework)
Each learner in the group should design a poster to target a particular myth (PowerPoint, Canva or other tools can be used).

Step 3 (20 minutes in class or platform plus 60 minutes project homework and poster update).
This step should be scheduled a week after Step 1.
At the beginning, learners should share their posters between the members of the group.
This activity should be placed on the platform. The instructor should create space for each group. The meeting should be scheduled on the platform.
Learners should collect the feedback and make the decision which poster will be updated and posted to other groups. The instructor can create an activity on the platform to vote for the best one.
(*Note*: The instructor can decide to work with one poster per group from the beginning and skip voting).
Following peer feedback, the instructor should also provide the feedback.
(The instructor should book the last 10 minutes of the meeting for the feedback per group).

Step 4 (20 minutes in class plus 30 minutes project homework)
Share the updated poster with the other groups.
The instructor should create dedicated space on the platform and schedule the meeting.
Learners should collect the feedback from the other groups and update the final version of the poster.
While discussion ask learners if they have ever encountered a given myth/stereotype in the media, and if they tried to find out the fact or post against.
All uploaded posters should be possible to use by other users. Encourage learners to share them by social media.
The assessment sheet is included in SM 9.5.

Source: The activity is based on LaCaille, R. A., and Hessler, E. E. (2021). To refute or not refute, that is the question: The case for creating myth debunking posters with psychology learners in K. Lassonde, and M. Burkett (Eds.), *Psychological Myths, Mistruths and Misconceptions: Curriculum-based Strategies for Knowledge Change* (pp. 62-70). Society for the Teaching of Psychology (SM9.6).

Additional Activities

(optional)

2. Verify information on social media and web

Duration: 15 minutes

Learning outcome(s):

- Learn how to verify information you can read on social media posts or web using trusted sources of information and fact checking websites.

Resources & equipment: Internet connection, computer/laptop/smartphone.

Description:

Apply several good practices to verify the information.

Step 1

Go to: http://www.thedogisland.com
History of the Fisher-Price Airplane (Tu-164 / FP-72) (weathergraphics.com)

Step 2

1. Check **credentials**. Is the author specialised in the theme that the article or post addresses?
2. Does the **author** currently work in that field? Check LinkedIn or do a quick Google search to see if the author can speak about the subject with authority and accuracy.
3. Look for **bias**. Does the article or post seem to lean toward a particular point of view? Does it link to sites, files, or images that seem to give a one-sided view? Biased articles may not be giving you the whole story.
4. Check the **dates**. News and articles might have an expiration date. What is relevant one day might not be the next day. Use the most up-to-date information you can find.
5. Check out the **source**. When an article or post cites sources, make sure to check them. Be aware that official-sounding sources and institutions can in reality be biased think tanks or represent only a restricted vision. Read as much about the topic as you can to be able to state for yourself if the information is accurate or not.
6. Check **urls**. Domain manipulation exists. For instance, what looks like an .edu domain, followed by .co or “lo” is likely a fake or deceptive site. If you see a slightly variant version of a well-known URL, do a little investigating.
7. Suspect the **sensational**. Exaggerated and provocative headlines with excessive use of capital letters or emotional language are serious red flags.
8. Verify **pictures**. Images can be edited or processed, sometimes they are digitally manipulated. A Google reverse image search can help discover the source of an image and its possible variations

Instructor notes: Analyse the answer with learners. The short yes/no test for 8 questions can be implanted on the platform. Focus more on the wrong answers.

3. Diversity and inclusion in schools in Europe

Duration: 15 minutes

Learning outcome(s): become familiar with the diversity in the EU.

Resources & equipment:

Description:

Use EU publications to find out some data and facts about diversity in schools in Europe. Download the file Promoting diversity and inclusion in schools in Europe - Publications Office of the EU (europa.eu) or you can open SM9.2.

Find answers to the following questions:

1. What are the main **grounds** on which discrimination cases in schools are based? (Chapter 2.2)

2. What **individual learner characteristics** the top-level education authorities across Europe have access to? (Chapter 2.3)
3. What **types of learner's social groups** were targeted in school curricula addressing diversity and inclusion? (Chapter 5.3)
4. What are the **teacher competences** related to diversity and inclusion promoted through top-level competence frameworks for ITE and/or top-level CPD programmes? (Chapter 7.2)

(Check some other statistics regarding your country).

4. Virtual Game: Escape Fake

Duration: 150 minutes

Learning outcome(s): be familiar with the diversity in the EU.

Resources & equipment: Mobile phone or tablet, application download from https://escapefake.org/

Description:

The game, course and presentation are available after logging in. It can then be used as classroom material in schools - recommend ages 12 to 18. Dedicated also for tablets and phones, can be played offline.

Game activity time: approx. 6 hours. You can use only a part (3 parts available).

Escape Fake draws on expertise in game-based and experiential learning. Through a captivating storyline, narrative, and characters, deeply engage learners. It is a free-to-play augmented reality game, guides players through digital escape rooms where they solve puzzles, answer quizzes, and combine 3D objects to uncover the truth and 'escape the fake'. Co-funded by the European Union through the Creative Europe programme.

The game is available in several languages including Italian and English. Can be used as part of the credit for the whole course, or as an optional lesson plan. Some training available on demand.

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Multimedia Resources

25 Examples of Biased Language

CLAD – Cultural, Linguistic, Ability Diversity – Are you self-aware?

Busting Myths About Sex and Gender – SAPIENS)

Dunn, S. (2021, March 3). Women, Not Politicians, Are Targeted Most Often by Deepfake Videos. https://www.cigionline.org/articles/women-not-politicians-are-targeted-most-often-deepfake-videos/
Educators' Beliefs About Students' Socioeconomic Backgrounds as a Pathway for Supporting Motivation - David M. Silverman, Ivan A. Hernandez, Mesmin Destin, 2023
Gen-Z-Diversity-and-Fake-News-3.pdf (ilctr.org)
Exploring Language: Definitions Activity (edchange.org)
Ongig's Text Analyzer software
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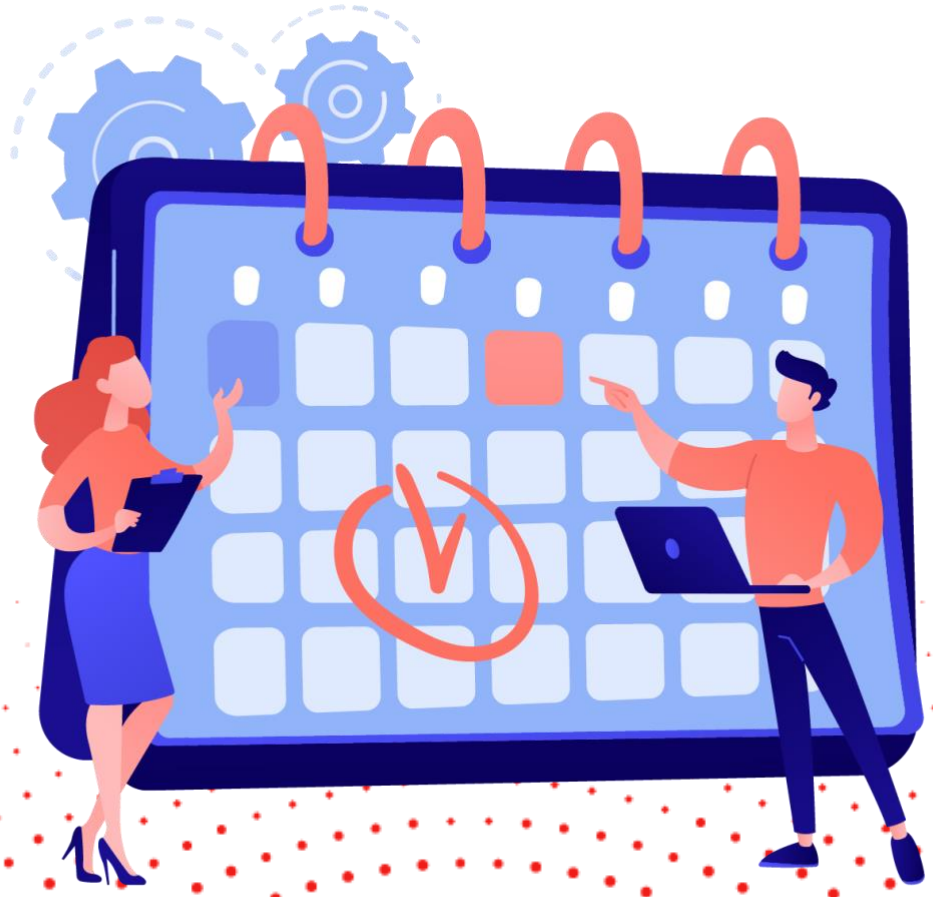
Study.com (primary school Levels of Culture: National, International & Subcultural - Lesson): some examples of PowerPoint presentation you can use in the classroom teaching young children.

10. Practical Examples of Lesson Plans



The Module at a Glance

10. Practical Examples of Lesson Plans	
Abstract	Teaching requires careful planning, from the Informational content to the selection of the best methods, materials and setting for Its delivery. Disinformation is an especially difficult subject to tackle, requiring more complex materials and methods compared to traditional instruction. To support teachers in their effort to turn students into responsible internauts, this module proposes an instructional model for designing effective lesson plans as well as practical examples to be used, adapted or serve as inspiration.
Learning outcomes	• Learn about essential characteristics of lesson plans • Learn about an instructional model for lesson plan designing • Learn to develop a lesson plan to instruct students in tackling disinformation
Resources & equipment	*Resources* ○ *Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training* ○ *EU citizen Handbook of instructional strategies on evidence-based foundation for teaching in primary schools.* ○ These resources can be found in SM10.8 *Equipment* ○ Internet connection, video projector ○ Digital devices (laptops, tablets or mobile phones) for learners
Total duration	195 minutes

Introduction

Duration: 20 minutes

Learning outcome(s):

- Acquire a basic knowledge of the module's content and activities.

Resources & equipment: laptop, e-learning platform

Description:

a) Introduce the topic.

b) Present the activities of the module.

Theoretical Insights

Duration: 60 minutes

Learning outcome(s):

- Learn about essential characteristics of a lesson plan.
- Learn about an instructional model for lesson plan designing.

Resources & equipment: Laptop, PPT presentations.

Description:

In a world of information disorder and infodemics, researchers and authorities call for actions against misinformation (European Commission, 2018; Wardle & Derakhshan, 2017; Zarocostas, 2020). In this call, education is described as a key defence against disinformation (European Commission, 2018).
Young people growing up in a digital world, need updated knowledge, skills, and attitudes to use new media wisely (Carlsson, 2019; Mihailidis, 2018).

Nowadays, any teenager between the ages of 11 and 16 has the same access and exposure to media content as any adult. As many as 94.8% of adolescents have a mobile phone with internet connection and the average age at which they access these devices is around 11 years old, or even younger (UNICEF, 2021).
Fifteen-year-olds have gone from spending 21 hours a week on the internet in 2012, to 35 hours a week in 2018, according to data provided by the OECD. These data demonstrate that there is a need to train students to discriminate between information and opinion and to enhance their critical thinking in the face of information 'ambiguity' (PISA in Focus, 2021). In other words, media education involves a "critical analysis of messages, ethical and responsible creation of content and citizen interaction" (Marta-Lazo, 2018: 48).

The proliferation of misinformation and disinformation vis-a-vis digital means are causing what has been called "truth decay," where there is an increase in disagreement amongst citizens about what is opinion and fact as well as declining trust in previously respected sources of evidence and factual information (Rich & Kavanagh, 2018).
While research from around the world has long pointed to the need for such information literacy skills to be taught early on in students' formal schooling experiences (e.g. Batool & Webber, 2019; Bowler et al., 2001; Moore & Kearsley, 2005), widespread K-12 instructional practice remains wanting and inconsistent. Over a decade ago, one of the top concerns teachers reported in an early study was that many "students lack skills to critically evaluate online information" (Vega & Robb, 2019). More recently, studies showed that students can

now quickly and easily seek out online information about any topic of interest, but a significant percentage do not accurately distinguish real from fake information (Kahne & Bowyer, 2017; Wineburg et al., 2016).

At the same time, there is substantive research showing instructional practices that develop digital media literacy do work. Indeed, several studies show that when students are given such literacy learning opportunities to practise their skills, their abilities do in fact improve (Echeverria et al., 2018; Kohnen et al., 2020; McGrew, 2020).
For example, supporting students in evaluating information online has been documented to promote both increased online political engagement and exposure to diverse viewpoints, as well as improve students' abilities across grade levels (Kahne et al., 2012; McGrew et al., 2018; Walraven et al., 2013; Wiley et al., 2009; Zhang & Duke, 2011). In addition, explicit teaching of information and media literacy has been found to increase the likelihood that students will correctly distinguish between accurate and inaccurate online content (Kahne & Bowyer, 2017).

Taken together, these studies show that middle school, high school, and college students who received lessons designed to improve their abilities to judge digital content became more able to do so. This work suggests that teaching weak heuristics (e.g. basing credibility only on web address or ease of access) or teaching vertical reading without lateral reading can serve to reinforce superficial or even fallacious analyses of sources (Kohnen et al., 2020; Lynch, 2016; McGrew, 2021, 2022; McGrew & Byrne, 2022; McGrew & Chinoy, 2022). In this study: 90.6% teachers recognised that they planned few activities, or no activities at all, on disinformation. Thus, the society of knowledge is giving way to the society of disinformation and information overload (Amorós, 2018). To help students to acquire these skills, educators should be digitally literate first.

According to Cebrián-Robles (2019), the fact that students have digital skills does not mean they are responsible, critical users of the internet and social media. Romero- Rodríguez et al. (2019) have coined the term *analfanautas* (illiterate net when consuming information on social media or digital platforms; surfers) to refer to users of information and communication technologies who lack the necessary skills to use these technologies adequately (p. 387). *Analfanautas*: (a) are **proficient in technical and instrumental uses of technology**; they have **deep knowledge of platforms, devices and social media**; (b) are loaded with more content than they can process – a situation leading to information overload; (c) **prefer pseudo-information**. and (d) tend to share content without analysing it first (Romero-Rodríguez et al., 2019)

Lee (2018) and Shu et al. (2020) both suggest that media and information literacy can help mitigate the effects of disinformation and misinformation at an early age.

Ennis defines critical thinking as "reasonable reflective thinking focused on deciding what to believe or do" (1996, p. 166). Machete & Turpin (2020) construe the concept as "the ability to analyse and evaluate arguments according to their soundness and credibility, respond to arguments and reach conclusions through deduction from given information" (p. 4). In both definitions, the emphasis is on reasonableness, reflection and the process of decision making (Ritchhart & Church, 2020).

The use of critical thinking against fake news, disinformation, misinformation, clickbaits and information overload has been dealt with in the literature (Díaz & Hall, 2020; Gallardo-

Camacho & Marta-Lazo, 2020; Herrero-Diz, Jiménez, Frade & Aramburu, 2019; Machete & Turpin, 2020; Weiss, Alwan, García & García, 2020).

Critical thinking promotes "active, responsible and critical citizenship, as well as the ethical values needed to make progress, both individually and socially" (Ventura, 2019, p. 71). In the words of Jiménez (2020), "if students do not develop the dispositions and skills required to deal with this type of information, the societies of the future will fall easy prey to manipulation, unable to identify fake news" (p. 13).

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has published a media and information literacy (MIL) curriculum for educators and learners under the title *Media and Information Literate Citizens: Think Critically, Click Wisely!* (Grizzle et al., 2021). MIL learning outcomes include: to critically evaluate information, media and digital content; to analyse, share, organise and store information, media and digital content; to synthesise or operate on the ideas abstracted from information and media content; and to be able to protect oneself from risks online in relation to software, content, contacts and interaction, among others.

The ubiquity of the internet and social media in everyday life means greater access to knowledge and communication, but also greater risks in terms of information pollution, fake news and clickbaits (Romero-Rodríguez et al., 2019). Likewise, UNESCO lists seven media and information literacy (MIL) competences for teachers (Grizzle et al., 2021):

1. **Understanding the role of information, media and digital communications** in sustainable development and democracy.
2. **Understanding content** and its uses.
3. **Accessing information effectively** and efficiently and practising ethics.
4. **Critically evaluating information** and information sources and ethical practices.
5. **Applying digital and traditional media formats**.
6. **Situating the sociocultural context** of information, media and digital content.
7. **Promoting MIL** among learners/citizens and managing required changes.

Weiss et al. (2020) identify different factors that explain the spread of disinformation among citizens:

a) The "**principle of minimum effort**" and the rise of **pseudo-contents**: Information consumers prefer easily accessible resources, regardless of their intellectual value or relevance.

b) The use of **logical fallacies and excessive trust**: Repeated manipulated arguments about misleading or invented news encourage disinformation. The Kruger-Dunning effect suggests that people can overestimate their informational skills and knowledge of a subject, leading to misjudgements about the veracity of information.

c) Use of **propaganda**: It is used for partial presentation of facts, to distort the relationship with reality and to draw biased and inaccurate conclusions.

d) Acceptance of **rumour**: Rumours are distortions derived from ignorance and repetition of misinformation in an involuntary manner.

e) **Parody, satire, and simulation** of likelihood in political discourse: A joke, caricature, or irony, due to the loss of context, can be interpreted as valid information and, even if identified correctly, can be used as a partisan excuse to attack the ideological adversary.

The results of the systematic review done by Valverde-Berrocoso, González-Fernández, and Acevedo-Borrega (2022) allows us to conclude that an adequate educational approach to the phenomenon of disinformation requires:

a) A **didactic approach** with a broad vision of the disinformation phenomenon that enhances **critical thinking**, generates **information production experiences** and promotes **attitudes compatible with a civic education**.

b) Initial and ongoing **teacher training** that fosters the development of **media and information literacy and digital competence**.

c) The development of **interdisciplinary education and communication teams** for research and teaching.

Examples of effective pedagogical approaches

- **Teaching Students to Think Like Fact Checkers**. Teaching students how to combat the perpetual onslaught of mis/disinformation requires more skill-building than having them use a checklist or inventory (Brodsky et al., 2021; Caulfield, 2017a, 2017b; Wineburg & McGrew, 2017). There is compelling evidence that helping students **think like professional fact checkers**, to leave an online article or story to see if anyone online has already fact-checked it (e.g., “lateral reading”), is an **effective pedagogical strategy** (Breakstone et al., 2018; Brodsky et al., 2021; Wineburg & McGrew, 2017).

- **Teaching Triangulation: Unpacking Confirmation Bias and Selecting Search Results**. In addition to helping students think more like fact checkers, researchers and pedagogues from the Stanford History Education Group (2017) suggest **teaching students about confirmation bias**, which is when people seek out information that confirms their existing beliefs (Nickerson, 1998). Additionally, students need help identifying credible information from search results. For example, knowing that sites listed do not appear in rank order by quality, but can appear first because of paid search optimization, might help people take more time to scroll down, explore, and to scrutinise multiple sites instead of clicking on the first one that appears. Further, McGrew et al. (2017) emphasise the need for *source triangulation*, encouraging students to compare multiple sources.

- **Applying the SIFT Method**. Caulfield suggests a few steps for navigating the vast ecosystem of online information effectively. The key term is “few,” as Caufield argues that requiring lengthy checklists for evaluation can lead to cognitive overload, poor decision making, and less likelihood that people will adopt intended behaviours long-term (Caulfield, 2017a). Caufield’s suggestion is to **teach students four moves, called SIFT** which include the following:

    1) **Stop.**
    2) **Investigate** the source.
    3) **Find** better coverage, and

4) **Trace** claims, quotes, and media to the original source and context.

- **Various digital tools and platforms** (Table 1, see SM10.12).
- **Using Gamification to Teach About Mis/Disinformation**. Gamification has emerged as a **powerful and effective approach** for teaching about mis/disinformation, engaging learners through interactive game elements to enhance their **media literacy skills**. Gamified exercises include strategies such as: online or on-site scavenger hunts, story-based scenarios, puzzles, self-quizzes, and simulations. Games can challenge students to **evaluate the credibility** of different sources, **analyse media messages**, and **make informed judgments** (Roozenbeek et al., 2020). (Ex. Bad news and Escape rooms).
- *In Junior (2020),* it was proposed **The Fake News Detective**, a game which is based on principles of critical thinking pedagogy. In this game, **players behave as fact checking professionals** who must evaluate and classify as false or not, the stories sent by their followers through a social network. The game scores the players' performance according to their successes and failures in the classification of the stories.
- In Katsaounidou et al. (2019), the players are first taught some **fact-checking procedures** to identify false news articles. Next, the players are invited to play the MathE The Game DEG. This game presents news articles that must be checked and classified as fake or not by the players.
- Created by Factchekers.it for the International Fact Checking Networking (IFCN) event, the **Cheque Isso role-playing game**, proposed by Abreu et al. (2018), was developed in order to **encourage the habit of checking information** among young people.
- In the **DEG Fake It to make It** proposed by Urban et al. (2018), the players must behave as **disinformation entrepreneurs**, i.e., they must spread false news using some manipulation techniques, including emotion-based ones. The reactions generated in the face of news articles are used to calculate the participants' financial profits (i.e. their scores).

What is lesson planning?

The lesson is defined as a system of structured educational actions aimed at achieving predetermined learning objectives (Ilie et al., 2012, p. 58). Lesson plans represent a fundamental tool used in the teaching profession, they aid teachers in their attempt to organise the instructional process in terms of instructional objectives, learning contents, instructional strategies (methods and instructional materials) and assessment strategy (methods and assessment tools).

What instructional models exist and should be used?

Lesson plans are extremely diverse, all teachers having the option of designing a lesson fit for their specific context depending on preference, subject matter, students' characteristics etc. However, for a lesson plan to be effective it is recommended to design it based on an instructional model proven empirically to be effective. In this regard there is no shortage of models for teachers to choose from.

For starters, one of the oldest and best-known instructional models is the Direct Instruction (DI) proposed by Bereiter and Engelmann (1966). Key components of DI include “modelling, reinforcement, feedback, and successive approximations” (Joyce, Weil, & Calhoun, 2000, p. 337).

Joyce and colleagues specified the instructional design principles, which include the framing of learner performance into goals and tasks, breaking these tasks into smaller component tasks, designing training activities for mastery, and arranging the learning events into sequences that promote transfer and achievement of prerequisite learning before moving to more advanced learning. The general process in DI includes: (a) an introduction to the new content to be learned, (b) the main presentation of the lesson, and (c) practice with immediate feedback. With time variations of this model came to light, proposing additional instructional events. Four such models reporting high success rates were: (a) Engelmann’s (1980) DI model, (b) Rosenshine’s (1979) explicit teaching model, (c) Good and Grouws’s (1979) strategies for effective teaching model, and (d) Hunter’s (1982) design of effective lessons model. The different approaches employed by each of these models compared to the classic DI model can be observed in **Table 2** and **Table 3.**

Table 2 - Comparison between Basic DI, Engelmann's DI and Rosenshine's model

Basic Direct Instruction	***Engelmann’s Direct Instruction model***	***Rosenshine’s Explicit Teaching model***
Introduction	1. **Introduction** of new concepts based on previously mastered skills and knowledge.	1. **Review**: Review homework. Review relevant previous learning. Review prerequisite skills and knowledge for the lesson.
Main presentation of the lesson	2. **Presentation**: Fast-paced, scripted explanation or demonstration designed to elicit only one interpretation of concept. The target concept must be reinforced with appropriate examples and nonexamples.	2. **Presentation**: State lesson goals and/or provide outline. Teach in small steps Model procedures. Provide concrete positive and negative examples. Use clear language. Check for student understanding. Avoid digressions.
Practice	3. Students are provided with opportunities to verbally **respond**, either through a set of questions or tasks, in order to indicate their learning of the concept and their ability to connect it to further examples. 4. **Feedback**: Teacher either confirms correct student response or provides corrections and repetition of the missed items.	3. **Guided practice**: More time. High frequency of questions or guided practice. All students respond and receive feedback. High success rate. Continue practice until students are fluid. 4. **Corrections and feedback**: Give process feedback when answers are correct but hesitant.

	5. **Independent practice**: After group work, students engage in self- directed practice in workbooks. Teacher monitors progress and provides guidance when needed.	Give sustaining feedback, clues, or reteaching when answers are incorrect. Reteach when necessary. 5. **Independent practice** Students receive help during initial steps or overview. Practice continues until students are automatic (where relevant). Teacher provides active supervision (where possible). Routines are used to give help to slower students. 6. **Weekly and monthly reviews**

Table 3 - Comparison between Basic DI, Good & Grouw's model and Hunter's model

Basic Direct Instruction	*Good & Grouw's Strategies for Effective Teaching model*	*Hunter's Design of Effective Lessons model*
Introduction	1. **Daily review** (first 8 minutes except Mondays): Review concepts and skills associated with the homework Collect and deal with homework assignments. Ask several mental computation exercises.	1. **Anticipatory set**: Provide a mental set that causes students to focus on what will be learned. Use to glean diagnostic information about students' ability to connect with topics. 2. **Objective and purpose**: Present objective to students to clearly communicate what they are supposed to learn from the lesson. Present purpose to students so they know why the information is relevant to them.
Main presentation of the lesson	2. **Development** (about 20 minutes): Briefly focus on prerequisite skills and concepts. Focus on meaning and promoting student understanding using lively explanations, demonstrations, process explanations, illustrations, etc. Assess student comprehension using process/product questions (active interaction); using controlled practice Repeat and elaborate on the meaning portion as necessary.	3. **Input**: Conduct a task analysis on the final objective to determine the knowledge and skills that need to be acquired. Use pedagogies that will facilitate the kinds of learning intended (e.g., discovery, discussion, reading, listening, lecture, observation). 4. **Modelling**: Demonstrate the processes and products that facilitate learning - these can be live or filmed, but must enable students to perceive directly what is to be learned.

Practice	5. **Seatwork** (about 15 minutes): Provide uninterrupted successful practice. Momentum - keep the ball rolling - get everyone involved, then sustain involvement. Alerting-let students know their work will be checked at the end of period. Accountability - check the students' work. 6. **Homework assignment:** Assign on a regular basis at the end of each maths class except Fridays. Should involve about 15 minutes of work to be done at home. Should include one or two review problems. 7. **Special reviews** *Weekly review & maintenance*: conduct during the first 20 minutes each Monday, focus on skills and concepts covered during the previous week. *Monthly review & maintenance*: conduct every fourth Monday, focus on skills and concepts covered since the last monthly review.	5. **Checking** for understanding: Determine if the students understand what they are supposed to do in the lesson's task through questioning. 6. **Guided practice**: Practise the new knowledge or skill under direct teacher supervision. 7. **Independent practice**: Assigned only after the teacher is reasonably sure that students will not make serious errors.

Out of all, Robert Gagné's instructional model brought the greatest contribution to instructional theory literature. In the instructional design field, Gagné's instructional model is one of the most widely known and used instructional models (Smith and Ragan, 2000). Gagné and Briggs (1974, p. 135) proposed 9 instructional events, which can be seen in **Table 4** being compared to the Basic DI model. Gagné stated that these 9 events could be applied to any type of teaching activity and learning, even if their use and order are different. It is possible to vary the use of these events depending on the objectives, teacher, learner, and instructional materials: "The events apply to the learning of all types of learning outcomes. The order of these events for a lesson or lesson segment is approximate, and may vary somewhat depending upon the objective. Not all of them are invariably used. Some are made to occur by the teacher, some by the learner, and some by the instructional materials" (Gagné and Briggs 1974, p. 135).

Table 4 - Comparison between Basic DI and Gagné's instructional model

Basic Direct Instruction	*Gagné's Events of Instruction model*
Introduction	1. **Gaining** attention 2. **Informing** the learner of the objective
Main presentation of the lesson	3. Stimulating **recall** of prerequisite learning 4. **Presenting** the stimulus materials 5. Providing learner **guidance**
Practice	6. Eliciting the **performance** 7. Providing **feedback** about performance correctness 8. **Assessing** the performance 9. Enhancing **retention** and transfer

Gagné's instructional model was further developed by Ilie et al. (2012, pp. 61 - 63). The author adapted the model to a version with 12 instructional events, namely:

1. Gaining **attention**
2. **Informing** the learner of the objective
3. Stimulating **recall** of prerequisite learning
4. **Presenting** the stimulus material
5. Providing learning **guidance**
6. Eliciting the **performance**
7. Providing **feedback** about performance correctness
8. **Assessing** the performance
9. Enhancing **retention**
10. Enhancing **transfer**
11. Learning **organisation**
12. Final **appreciation**

This model was validated and proven to increase teaching effectiveness (Ilie, 2014a). Also, the model was deemed fit to be used in pre-university educational settings (Ilie, 2014b, pp. 25-26).

An in depth description of the **12 lesson events** can be viewed in SM10.1. These 12 events are classified in three distinct categories, as can be seen in **Table 5**. The first category comprises 3 lesson events which are considered mandatory for all lesson plans, regardless of their type (Ilie, 2014a). Regarding the type of lesson plan, Ilie et al. (2012, pp. 65-68) proposes 4 types of lessons depending on the major event implemented (second category), these are:

1. **Lesson of acquiring knowledge**. The major event is "Presenting the stimulus material", the objective of this lesson is to stimulate the students' mental development by helping them acquire new knowledge about a subject.
2. **Lesson of consolidation**. The major event is "Stimulating recall of prerequisite learning", the objective is to make sure the information learned by the students in a previous lesson is properly fixed in their memory.
3. **Lesson of training skills and abilities**. The major event is "Providing learning guidance", the objective is carrying out independent activities with the aim of developing certain intellectual or non-intellectual work skills and abilities.
4. **Lesson of assessment**. The major event is "Assessing the performance", the objective is to assess the learner's understanding of the information and how he/she works with it.
5. The third category, optional events, are implemented as the teacher deems fit based on the objectives targeted for the lesson.

Table 5 - Lesson events classification according to Gagné's adapted model

CATEGORY OF EVENTS	*LESSON EVENTS*
First category Mandatory events (in any type of lesson)	Learning organisation Informing the learner of the objective Final appreciation

Second category Major events (mandatory depending on the type of lesson)	Presenting the stimulus material (Lesson of acquiring knowledge) Stimulating recall of prerequisite learning (Lesson of consolidation) Providing learning guidance (Lesson of training skills and abilities) Assessing the performance (Lesson of assessment) OBS: beside the lesson for the major sequence any other sequence from the second category can be optional.
Third category Optional events	Gaining attention Enhancing transfer Ensuring performance Providing feedback about performance correctness Enhancing retention

The lesson plans to be presented as examples will be based on this adapted instructional model.

Therefore, prior to introducing the activities, the instructor needs to establish the overall approach to be taken in designing lesson plans.

Thus, the instructor starts by highlighting that in order to design an effective lesson plan a teacher should always ensure there is a connection between the essential elements of a lesson:

- Operational objectives
- Learning content
- Instructional strategy
- Assessment methods.

To ensure all elements are accounted for, Ilie (2012, pp. 60-63) proposes a 6 step algorithm of lesson planning. The instructor makes the steps of the algorithm visible using a PPT and video projector for all students to see.

The steps are as follows:

I. Establishing the **lesson's place** within the learning unit and identifying the **type** of lesson to be conducted out of the four possible ones (Lesson of acquiring knowledge; Lesson of consolidation; Lesson of training skills and abilities and Lesson of assessment).

II. Setting **operational objectives** based on the lessons learning content and type of lesson. To be valid, an objective needs to be SMART: **S**pecific, **M**easurable, **A**chievable, **R**ealist and **T**ime-bound (achievable during the time of the lesson). For a more thorough description of each concept check SM10.6.

III. Selecting and processing **curricular content** in accordance with the school curriculum, but also considering certain aspects such as: students' motivation, interests, abilities, previous knowledge etc. In this context, the teacher needs to **identify the disinformation related content** he wishes to address and make sure to properly connect it with the specific of the discipline.

IV. Developing the **instructional strategy** by selecting the system of **methods** (e.g., Conversation, interrogation, exercise etc.), **materials** (e.g., PPTs, access to technology), and forms of **organising** the student group, as well as the types of learning specific to them. In the SM10.7 instructors and students can find descriptions of student-centred teaching methods to serve as inspiration for lesson planning.

V. Establishing the **procedural structure** of the lesson, in accordance with the type of lesson that the teacher and students will follow and the specific stages of each type of lesson.

VI. Establishing the **evaluation/self-evaluation strategy** by continuously comparing the results obtained with the pre-established operational objectives.

Regarding step V, the instructional model we propose to be used is Gagne´'s adapted instructional model (Ilie, 2014a). The 12 instructional events proposed by the model are described in detail in SM10.1. Also, based on the type of lesson targeted, the framework explaining which major instructional event from this model to be used is described in **Table 5.**

After taking into consideration these aspects, the lesson plans' structure may take various forms depending on the variables the teacher wishes to integrate. We propose the structure recommended by Ilie et al. (2012, pp. 146-147). This lesson plan structure contains two parts:

1. The **introductive component** of the lesson plan, containing the location of the activity, class, subject of instruction, topic or theme of the lesson, type of lesson based on the fundamental teaching task, operational objectives, didactic strategies used during the lesson, and bibliographic material consulted for the respective lesson. A model for this component is presented in **Table 6**. The instructor briefly presents each section and the kind of information to be inserted in each of them. A description of the information to be added to each section can be found in the SM10.2.

Table 6 - Introductory component of a lesson plan

LESSON PLAN

Educational Unit:
Proponent:
Date:
Class:
Curricular Area:
Subject/Discipline:
Topic/Theme:
Type of Lesson:
Operational Objectives:

Instructional Strategy:
Didactic Methods and Procedures:
Didactic Means and Materials:
Forms of Class Organization:
Types of Learning:
Evaluation:
Bibliography:

2. The **descriptive component** that focuses on the actual unfolding of the lesson events. The structure of this component varies depending on the fundamental objective, the nature of the scientific content, the type of didactic strategies, the level of students' preparation, and often even the subject/discipline of study. There are several possible models, but the one we chose to use is the following, presented in **Table 7**.

Table 7 - Descriptive component of a lesson plan

Instructional events	Time	Ob.	Learning content	Instructional strategy						Teacher-student interaction
				Instructional methods	Instructional materials	Type of learning	Class organization			
							C	G	I	

A detailed description of each section from table 6 can be inspected in SM10.3. Also, a practical example of a lesson plan completed according to the structures presented in tables 6 and 7 can be found in SM10.4.1, SM10.4.2, SM10.4.3 and SM10.4.4. The learning materials used to deliver the example of a lesson plan from SM104.1 can be accessed in SM10.5.

One last aspect to be expressed by the instructor is that while lesson plans can help teachers create an overall view of how the instructional process can be organised, from the content to be approached to the way it will be delivered and assessed, when it comes to the actual implementation of said lesson plan, it is up to the teacher to identify the best pedagogical approaches, to determine how students should engage during the lesson (independently or collaboratively) or the degree of freedom they have. For this reason, to support teachers in the process of teaching, there are various principles proposed by experts to guide the instructional process. Some of the most fundamental didactic principles are: J. A. Comenius's

classical principles (1970), David M. Merrill's (2002) First principles of instruction, and Patrick E. Parrish's (2009) Aesthetic principles for instructional design. All these principles are presented in more depth in SM10.9 to serve as inspiration for lesson design.

While each model brings its own unique take in organising the didactic activity, one concept present within all of them is the idea that students should be actively involved in the educational process, whether through problem solving, role playing, asking questions etc., teachers should always ensure they are actively engaged. Thus, to ensure this principle is respected, we bring forward two educational approaches recommended by Tomé and his collaborators (2022) as being especially effective in teaching about tackling disinformation, namely: Learning by doing and game based learning. Learning by doing promotes students' active participation through various hands-on, creative activities (ex. creating materials, role playing, concept mapping, etc.) while, in a similar manner, game based learning encourages students' participation by using online and offline games to improve learning and make it more engaging for individuals.

After establishing the main components of the lesson plan (introductory and descriptive) the instructor announces that the following activities will be centred around the introductory component. Specifically, students will be organised in groups between 3-5 members and tasked to complete the different sections of the introductory component. Afterwards, the completion of the descriptive component will be assigned as a final evaluation, meant to be completed outside the module.

Activities

1. Designing a lesson plan - Establishing the context

Duration: 20 minutes

Learning outcome(s):

- Learn about essential characteristics of lesson plans.
- Learn to develop a lesson plan to instruct students in tackling disinformation.

Resources & equipment: Internet access, SM10.2, learners' personal devices (mobile phones or laptops), Google documents, Google drive.

Description:

In this activity the students will complete the first part of the introductory component, from the educational unit to the type of lesson, in order to establish the general context within which the lesson will take place. Using SM10.2 the instructor will present the type of information to be completed in each section, using relevant examples and answering possible questions to ensure the task is well understood. Each group has to complete only once this section, even if group members have different specialisations, they will have to decide on only one discipline for which to complete the sections. Students can use the internet to search specific information about their curricular area and the information from table 5 to determine the type of lesson they prefer. All groups need to decide on a topic/theme specific for tackling disinformation (ex., defining disinformation, prebunking, debunking etc.).

In short, using the SM10.2, personal knowledge about the discipline taught and the information from the internet, learners will complete the first part of the introductory section using Google documents (so that the instructor can check the progress and collect the

information). All documents will be created in a Google drive made by the instructor. The instructor will play the role of support and give indications and answer questions as necessary.

2. Designing a lesson plan - Creating operational objectives

Duration: 20 minutes

Learning outcome(s):

- Learn about essential characteristics of lesson plans.
- Learn to develop a lesson plan to instruct students in tackling disinformation.

Resources & equipment: Internet access, SM10.2, SM10.6, students' personal devices (mobile phones and/or laptops), Google documents, Google drive

Description:

In this activity students will continue working in the same groups to create one operational objective based on the SMART model. To be valid, the objective needs to be aligned with the content elements established in the previous activity. Firstly, the instructor will present the SMART model and explain the meaning of each of the elements. The acronym is described shortly in SM10.2 (Specific, Measurable, Achievable, Realist and Time-bound), but the main source for this activity is SM10.6 where each component is described in more detail and examples of SMART operational objectives for tackling disinformation are given. Once again, the same Google documents file is used by each group so that the instructor can observe and intervene as necessary. The instructor will use a video projector to present the objectives and discuss with the students regarding the objectives' strong and weak points. The activity ends when all groups have a properly structured objective.

3. Designing a lesson plan - Elaborating the Instructional strategy

Duration: 25 minutes

Learning outcome(s):

- Learn about essential characteristics of lesson plans.
- Learn to develop a lesson plan to instruct students in tackling disinformation.

Resources & equipment: Internet access, SM10.7, students' personal devices (mobile phones and/or laptops), Google documents, Google drive.

Description:

In this activity, based on the content and objective established earlier, learners will develop the instructional strategy necessary to deliver the content and reach said objective. The instructional strategy contains 4 sections: **Didactic Methods and Procedures; Didactic Means and Materials; Forms of Class Organization** and **Types of Learning.**

The instructor starts by explaining the great diversity of possible didactic methods and stresses the close relation between them and the contents and operational objectives. For example, if completely new information about disinformation is delivered an objective aimed at students' understanding of the new concepts would be needed. To ensure the objective is reached, the teacher uses methods that promote students actively searching or using the new information (e.g., exercises where students search the internet or play a game about disinformation, brainstorming or mind mapping to discuss the new concepts, etc.).

The main point is that there is no universal solution, the right method is decided considering various aspects specific to the teacher and his students (e.g., access to materials, students' previous knowledge, teachers' digital competencies etc.). To aid learners in deciding on the methods to be used, SM10.7 presents various student-centred teaching methods they can apply and adapt. The didactic means and materials comprise the objects, software, apps, materials etc. needed to deliver the lesson. For example, the mind mapping method requires either an app students can use (e.g., Coggle, Mindomo, Padlet etc.) or physical objects (e.g. pens and paper).

Forms of class organisation indicate in what manner students will interact with the teacher and each other. The possible ways are **Collective** (all students at once), **Individually** (each student works by himself) and **Groups** (students form small groups), and within each of these students work in either an **independent** (little to no support from the teacher) or **directed** (high, almost constant, support from the teacher) **manner**. Table 8 presents all the possible ways of organising the activities based on the two indicators mentioned (classroom organisation and teachers' support).

Table 8 - Forms of class organisation

Teacher support	**Classroom organisation**		
	Collective	**Individually**	**Groups**
Independent	Collective-independent	Individually-independent	Groups-independent
Directed	Collective-directed	Individually-directed	Groups-directed

Lastly, learners will have to determine exactly the type of learning students are expected to experience during the delivery of certain activities. The four types of learning are: **receptive-reproductive** (students memorise and repeat information); **intelligible** (students understand the meaning of the delivered content, being able to transfer the information to new contexts); **operative (**students can use the information to solve specific problems) and **creative** (students can use the knowledge to create new meanings and materials).

Finally, based on the information presented by the instructor and the support of the SM mentioned previously, each group will complete the four sections in the Google documents file. The instructor will give indications as necessary and make sure that by the end all groups have developed an instructional strategy capable of reaching the operational objectives set.

4. Designing a lesson plan - Formative and summative assessment

Duration: 30 minutes

Learning outcome(s):

- Learn about essential characteristics of lesson plans.
- Learn to develop a lesson plan to instruct students in tackling disinformation.

Resources & equipment: Internet access, SM10.10, SM10.11, learners' personal devices (mobile phones and/or laptops), Google documents, Google drive.

Description:

Assessment can take many forms depending on the factors involved (e.g., time, objective set, environment, resources etc.). However, for the purposes of this activity the learners will be required to implement **formative and summative** assessment methods to ensure the completion of the operational objective set previously. **Formative assessment** refers to the actions conducted by the teacher during the lesson to verify students' understanding of the content and engagement in the activities. This assessment uses short interventions meant to collect information necessary to adjust the instructional process to the needs of the students. **Summative assessment** takes place at the end of the lesson and determines the students to prove they have attained the knowledge, skills, attitudes etc. taught by the teacher, in other words the overall results. For this kind of evaluation, regardless of its form (e.g., oral, written exam, project etc.) the teacher should always have an assessment grid and make it known to all students.

For this activity all groups need to describe in a few sentences how they would implement formative and summative assessment methods for their lesson plans. The instructor highlights the importance of the assessment methods being in direct correspondence with the operational objective set. All methods are to be written in the Google documents file. To help learners in completing the activity, we compiled a number of formative and summative assessment methods in SM10.10 and SM10.11 respectively. The instructor will observe each group's progress and give aid where necessary.

Assessment and Evaluation

1. Designing a lesson plan - Writing the entire plan

Duration: 20 minutes

Learning outcome(s):

- Learn to develop a lesson plan to instruct students in tackling disinformation.

Resources & equipment: The Introductory component developed during the module, Document containing an incomplete Descriptive component, Examples of lesson plans (see SM materials), Google documents, Google drive, Google form.

Description:

During the last 20 minutes of the module, the instructor explains the final task to be completed by the learners. Each learner will have to complete the introductory and descriptive component for the lesson plan using for inspiration the introductory component written in groups and the examples of lesson plans given in SM10.4.1, SM10.4.2, SM10.4.3, SM10.4.4. This activity takes place outside of the module, all learners will have to design and upload individually the completed document in the Google drive created by the instructor as a word document. A deadline will be set for this activity of approximately one week from the moment the module is completed.

At this moment, the instructor will also collect feedback from the participants regarding their experiences during the module, whether there are still questions left unanswered and ask them to propose aspects that should be changed or on the contrary require more attention in the future. To collect this feedback, a google form will be created to collect open ended answers.

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Multimedia Resources

The following were used to identify examples of misinformation, disinformation and malinformation:

Carbon Market Watch (https://carbonmarketwatch.org/): An organization that monitors and advocates for fair and effective climate policies, particularly focusing on carbon markets, carbon pricing, and environmental justice. They provide reports, analyses, and campaign resources to ensure that carbon markets contribute to meaningful climate action.

EU vs Disinfo (https://euvsdisinfo.eu/): An initiative by the European Union aimed at combating disinformation, particularly related to EU policies and the broader European region. The platform provides resources, news, and analysis to help citizens identify and counteract misinformation, especially that which is spread by foreign actors.

NBC News (https://www.nbcnews.com/): A major American news organization that provides breaking news, analysis, and reports on a wide range of topics, including politics, world events, business, technology, and entertainment. NBC News is a trusted source for comprehensive news coverage in the U.S.

The Guardian - Europe Section (https://www.theguardian.com/europe): The Europe section of The Guardian, a British news outlet, offering news, analysis, and in-depth reports on European affairs. The coverage includes politics, economics, culture, and social issues across European countries.

The following were used to create didactic materials:

Mentimeter - https://www.mentimeter.com/: Mentimeter is an interactive presentation software that allows users to create dynamic presentations with real-time audience engagement. By using smartphones or other devices, audience members can participate in polls, quizzes, word clouds, and Q&A sessions, providing instant feedback and enhancing the overall presentation experience. It's widely used in educational settings, corporate meetings, and events to foster interaction and gather valuable insights.

Padlet - https://padlet.com/ : Padlet is a digital collaboration tool that allows users to create and share virtual bulletin boards. Users can post notes, images, links, and other content to a shared space, facilitating interactive and visual collaboration.

QR code generator - https://www.qr-code-generator.com/: This online free resource can be used to create QR codes for any online resource, making the distribution of materials much easier by using students' mobile devices scan function.

The following are our recommendations of useful resources for lesson planning (also presented in Table 1, SM10.12), including a variety of resources from educational games to informational articles:

AllSides (https://www.allsides.com/): A website that presents news from multiple perspectives by showing articles from the left, center, and right viewpoints. It aims to reduce bias and help readers understand different political perspectives.

Check Please Starter Course (https://checkpleasecc.notion.site/Check-Please-Starter-Course-ae34d043575e42828dc2964437ea4eed): An online course designed to teach people how to verify the credibility of online information, recognize misinformation, and develop digital literacy skills.

Center for an Informed Public (http://cip.uw.edu): A research center based at the University of Washington that focuses on combating misinformation and promoting an informed public through research, education, and outreach.

Countering Digital Hate (http://counterhate.com/our-work/): An organization that focuses on combating online hate and misinformation. Their work involves research, advocacy, and campaigns aimed at reducing the spread of harmful digital content.

Critical Thinking about Sources Cookbook (http://alastore.ala.org/content/critical-thinking-about-sources-cookbook): A resource from the American Library Association that offers strategies and activities for teaching critical thinking and evaluating sources, particularly in an academic setting.

Verification Handbook (http://datajournalism.com/read/handbook/verification-1): A comprehensive guide for journalists and researchers on how to verify information in real-time during emergencies or breaking news events. It provides best practices for fact-checking and source validation.

FactCheck.org (https://factcheck.org/): A non-partisan website that monitors the factual accuracy of statements made by politicians, public figures, and media outlets. It aims to reduce the level of deception and confusion in U.S. politics.

First Draft (https://firstdraftnews.org/): A non-profit organization that focuses on research, training, and resources to combat misinformation and improve the quality of online information, especially in journalism.

Gapminder (http://gapminder.org/): A non-profit organization that provides tools, resources, and data visualizations to promote a fact-based view of the world. It aims to reduce global ignorance by providing accurate global statistics and trends.

Bad News (https://getbadnews.com/): An online game designed to teach players how misinformation and fake news are spread. It helps users recognize tactics used in the creation and dissemination of fake news.

Loki's Loop (https://www.lokisloop.org/): A website focused on critical thinking and digital literacy, offering tools and activities to help users navigate and question the information they encounter online. It promotes the development of skepticism and analytical skills.

ROFT (https://roft.io/): A game that tests your ability to distinguish AI-generated text from human-written content across different categories like short stories, news articles, and speeches. It's designed to improve awareness of AI capabilities and potential biases.

Poynter's MediaWise (http://poynter.org/mediawise): A digital literacy project by The Poynter Institute that aims to teach people how to spot misinformation and fake news online, especially targeting young audiences, educators, and the elderly.

Livresq (https://livresq.com/ro/): An eLearning authoring tool that allows users to create and publish interactive courses and lessons in multiple languages. It features advanced capabilities such as AI-generated images and videos to enhance the learning experience.

Human or Not (https://humanornot.so/): A game that challenges players to determine whether a given text is written by a human or generated by AI, aiming to sharpen users' skills in distinguishing between AI and human communication.

Human or AI (https://humanorai.io/): A website dedicated to exploring the impact of AI on humanity, featuring articles, interviews, and various resources that discuss the ethical, societal, and technological implications of AI.

Google AI Music Quiz Article (https://www.abc.net.au/news/2023-02-15/google-ai-music-quiz-musiclm-humans-artificial-intelligence/101967746): An article about a quiz developed by Google that tests whether people can tell the difference between AI-generated music and human-composed music, highlighting the advancements in AI's creative abilities.

MediaWise Romania (https://mediawise.ro/resurse-educationale/): A collection of educational resources in Romanian focused on media literacy, designed to help users critically evaluate media content and develop informed perspectives.

OER Commons Courseware (http://oercommons.org/courseware/lesson/78295/student/?section=0): An Open Educational Resource (OER) that provides lesson plans and educational materials, freely available for educators and students, focusing on a wide range of subjects.

Web Literacy for Student Fact-Checkers (https://pressbooks.pub/webliteracy/): An open-access book that teaches students how to critically evaluate the credibility of information found online, with practical tips on fact-checking and verifying sources.

Public Health Collaborative (https://publichealthcollaborative.org/): An organization providing evidence-based information and resources to public health professionals, particularly focused on improving communication strategies and public health outcomes.

RAND Corporation Research Report (http://rand.org/pubs/research_reports/RR2314.html#download): A research report from RAND Corporation offering in-depth analysis and findings on specific policy issues, available for download. The focus of this report might vary, depending on the title.

Stanford History Education Group (SHEG) (https://sheg.stanford.edu/): An initiative at Stanford University that develops history education resources, including assessments and curriculum materials designed to enhance critical thinking and historical understanding.

Shorenstein Center on Media, Politics and Public Policy (https://shorensteincenter.org/): A research center at Harvard University that studies the impact of media on politics and public policy, offering research, events, and resources on media literacy and political communication.

Snopes (https://snopes.com/): A fact-checking website that investigates and debunks myths, rumors, and misinformation circulating online, providing reliable information to help users discern the truth.

Further References and Resources

https://eavi.eu/lesson-plans/ - Lesson plans on media literacy and critical thinking from the European Association for Viewers Interests.

https://euvsdisinfo.eu/ - A European Union initiative to counter pro-Kremlin disinformation.

https://prebunking.withgoogle.com - A website focused on prebunking, which aims to inoculate people against misinformation by exposing them to weakened versions of misleading arguments.

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