ISTVAN ZSIGMOND (ED.)

# CRITICAL THINKING IN THE INFORMATION SOCIETY

## A GUIDE FOR CLASSROOM ACTIVITIES

PRESA UNIVERSITARĂ CLUJEANĂ

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# Introduction

The flipped classroom is an educational approach that reverses the traditional model of teaching. In a typical classroom, students listen to lectures and receive direct instruction from the teacher during class time, and then work on assignments and projects independently at home. In a flipped classroom, the instructional content is delivered to students outside of the classroom, often through video lectures or online materials, and class time is dedicated to interactive, collaborative activities and discussions.

Although using flipped classroom method has multiple benefits and is growing popularity, researchers and practitioners indicate that among impediments of widespread usage of this method are the additional time and technological support in relation to development of flipped learning activities. The flipped approach often involves the investment of significant time and energy on the part of instructors (e.g., recording video lectures; designing additional in-class activities).

It is therefore recommended for teachers flipping their courses in team. By working in team, teachers can share their experiences of implementing flipped classrooms as well as their teaching resources. In the course of the "Critical Thinking in the Information Society" project flipped learning pedagogical material (out-of-class tasks, preassessment tools, in-class activities) were developed for teaching subjects in critical thinking during an academic year. By collaboration of five education institutions the developed materials are available in seven languages (English, Romanian, Hungarian, Lituanian, Bulgarian, Polish and Greek), tackling a gap between educational research and practice. The main intellectual output of the project are the pedagogical materials for teaching 20 introductory subjects in psychology with flipped classroom methods.

The educational materials developed help overcoming the difficulties of elaborating multiple materials for teaching with flipped classroom design. Each pedagogical material is composed of an instructional video associated with low-stakes formative assessments as well as a proposal of in-class activities (described in this guide) and assessment tools, for evaluating results of learning.

The 10-15-minute-long educational videos can be accessed at the *Critical Thinking in the Information Society* YouTube channel. They are narrated in one of the following English, and translated (subtitled) to Romanian, Hungarian, Greek, Lithuanian, Polish and Bulgarian.

The present guide contains recommended classroom activities for teaching some basic concepts in psychology. The annex contains pre-class and post-class tests associated to each subject. Pre-class test includes at leaast eight closed questions, with single-choice of multiple-choice answers. They are recommended to be completed by students after watching the educational video (usually at home, before in-class teaching activities begins). Post-class test is composed of at least four open-ended questions, to be used after ending teaching activities related to the specific subjects. The tests are intended to be used as starting points for interested teachers, which can be used for elaborating their own tests.

Teachers from higher and secondary education institutes are provided with the necessary materials for teaching the subject of psychology with flipped classroom methodology. Studies indicate that when changing traditional methods to flipped classroom student's performance and satisfaction will improve. FC methods increase student's motivation and their self-confidence, their commitment to learn. Please use this guide a starting point for flipping your psychology class.

This guide can be downloaded from the project homepage:

Partner institutions who contributed in elaborating the guide:

- Sapientia University (Romania)
- Burgas Free University (Bulgaria)
- University of the National Education Commission in Krakow (Poland)
- Vilnius University (Lithuania)
- Aristotle University of Thessaloniki (Greece)

***Istvan Zsigmond***

# Topic 1: Introduction to Media Literacy through Critical Thinking

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## Background and Rationale

The rapid expansion of online digital environments has profoundly transformed how we access, evaluate, use, and share information. In this context, fostering students' critical thinking skills is more essential than ever. These skills enable individuals to thoughtfully assess and filter the information they receive and share, while also identifying the manipulative techniques employed by media and understanding their influence on daily life. Media messages often carry commercial, ideological, and political undertones, conveyed through distinctive "languages" designed to advance specific agendas. Recognizing the power of symbols and their impact on how we interpret these messages is a key component of media literacy. At its heart, media literacy is deeply intertwined with critical thinking skills and attitudes. Recent empirical studies focusing on adolescents aged 12 to 18 have highlighted a strong correlation between high levels of news media literacy and advanced critical thinking skills. These findings underscore the importance of cultivating critical thinking in the analysis and consumption of real-world news (Ku et al., 2019).

### *The need for Media Literacy Education*

Media can be understood as channels for conveying meaning or as tools through which information and entertainment are delivered to audiences. They are commonly categorized into Print Media (e.g., books, newspapers, magazines), Audio Media (e.g., music, radio), Visual Media (e.g., photography, movies, television), and Interactive Media (e.g., the internet, video games, augmented reality) (Pavlik & McIntosh, 2017). Every form of media serves a purpose, which is shaped or adjusted based on the target audience. This purpose may include entertaining, informing, explaining, generating profit, or persuading. To communicate effectively, creators of media select the most suitable medium and utilize various symbols or "languages" -such as words, sounds, graphs, images, emojis, Instagram photos, and more- depending on their goals and audience. The choice of media and symbols, whether as a producer or consumer of media messages, is significant. It relies heavily on an individual's media literacy skills and education, which enable critical and informed use of media (Ku et al., 2019; Su, Kee, & Xiao, 2022).

Media literacy has been defined in various ways, often emphasizing either the ability to critically access, analyze, evaluate, and create media messages or the awareness of their significance and influence on public life (Sartori et al., 2022). In the information age, it is crucial to recognize the emergence of a new form of media literacy (Chen, Wu, & Wang, 2011). New media are dynamic platforms that facilitate social interaction, information sharing, and collaborative content creation, serving commercial, political, social, and educational purposes. According to Chen et al. (2011), it is essential to progress from a functional understanding of media literacy -focused on using new media and interpreting their messages at a textual level- to critical media literacy, which involves recognizing their ideological, cultural, social, and commercial agendas. This critical perspective enables both thoughtful consumption and responsible content creation. Empirical studies indicate that enhanced media literacy skills can help young people identify and mitigate misperceptions arising from misinformation on social networking platforms (Su, Lee, & Xiao, 2022; Xiao, Su, & Lee, 2021). Developing critical media literacy fosters awareness of the media's impact, both as consumers by reflecting on the information we receive, and as producers by considering the implications of the content we share.

### *Promoting Media Literacy through Critical Thinking*

"*CT is a mode of thinking that can be applied in any subject, content, or problem, in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it*." (Paul & Elder, 2007, p. 2). Critical thinking is a lifelong learning objective and one of the four essential skills for the 21st century. The rapid expansion of online digital environments has profoundly altered how we access, evaluate, use, and share information. While digital technologies have broadened the availability of information and enhanced productivity, they also pose significant risks to well-being, including cyberbullying, the proliferation of misinformation and disinformation, and cyber-hacking (OECD, 2019). Search engines and social media platforms deliver millions of results within seconds, but their processes are often personalized and lack transparency. This leads to information overload, making it challenging to identify misinformation, particularly when it intersects with a lack of expertise, wishful thinking, or cognitive biases. The COVID-19 pandemic exemplifies this phenomenon. The World Health Organization (WHO, 2020) described it as an "infodemic," marked by the rapid spread of misinformation across social media platforms. In this context, enhancing digital information literacy and fostering critical thinking skills are more vital than ever. Universities and organizations worldwide are prioritizing critical thinking development, recognizing its importance for improved academic performance and workplace success. Promoting these skills is now a central focus for educational institutions globally.

Critically analyzing media involves asking key questions that uncover deeper meanings and motivations (Pavlik & McIntosh, 2017, p. 56). These questions include: *(a) What is the purpose of the media content?* Is it intended to inform, entertain, or persuade? Are there hidden messages or underlying objectives? For example, consider an article about vaccination. Is its sole purpose to inform the public, or does it aim to persuade readers to adopt the writer's perspective? *(b) What is the source of the media?* Does the information originate from a reputable and reliable organization, or from bloggers known for their views on this specific topic? Assessing the credibility of the source is essential. *(c) How is the media content framed?* How does the choice of words shape the audience's perception? Are there logical fallacies, emotional appeals, or loaded language influencing how the information is received? *(d) What stereotypes are presented?* Does the content rely on or promote stereotypes about certain groups? How are these groups represented, and do you agree with that portrayal? *(e) Who stands to profit?* Is a specific group, organization, or individual benefiting from the promotion of a particular idea, product, or stereotype? Asking these questions fosters a deeper understanding of media content and encourages critical engagement with the messages being conveyed.

### *Conclusion*

In conclusion, fostering media literacy through critical thinking equips students to navigate the complexities of today's world and prepares them for the challenges of tomorrow. Media shape our perception of reality, constructing versions of the world that influence how we think and act. It is essential to understand how and why these messages are crafted. Critical thinking skills are vital for analyzing, interpreting, and evaluating the diverse representations found in media messages. Media literacy, underpinned by critical thinking, cultivates the awareness needed to recognize the profound impact media have on all aspects of our lives -from what we choose to buy, believe, and support, to how we vote and engage with society. To be effective media consumers and creators, we must remain mindful of our own thought processes and the content we encounter or produce. By directing attention to these processes, we can act with greater intentionality and insight in our interactions with media.

## Key topics

- Definition of Media as ways of communicating meaning
- Purposes of Media
- Types of Media (Printed, Audio, Interactive)
- Media Ethics
- Traditional vs Digital Literacy
- Media Literacy and Media Literacy Skills
- Constructed Realities in Media
- Critical thinking and Media Ideologies
- Questioning the Media Ecosystem

## Learning objectives

The overall goal of this lesson is to help students:

- (a) Understand the role of media in the digital era, recognizing media products as constructed representations of reality that carry commercial, ideological, and political implications.
- (b) Develop critical media literacy skills to analyze, interpret, and evaluate the diverse representations and influences of media messages, shaping how we perceive and understand ourselves and the world around us.

## Expected results

By the end of this module, students should be able to:

- Understand the Multifaceted Role of Media: Grasp the diverse purposes of media in the digital age, shaped by the nature of the message and its intended audience.
- Recognize the Power of Media Symbols: Acknowledge the influence of media "languages" and symbols and understand how these elements are strategically used to shape opinions, evoke emotions, and elicit specific reactions.
- Appreciate the Importance of Media Literacy Skills: Recognize the necessity of acquiring media literacy skills to critically engage with media as both informed consumers and responsible content creators.
- Identify Media as Constructed Realities: Analyze media messages as constructed interpretations of reality, and evaluate their potential commercial, ideological, ethical, or political implications.
- Critically Evaluate Media Impact: Interpret and assess how specific media messages influence our perceptions, emotions, and reactions in everyday life, shaping how we see ourselves and the world.

## Pedagogical approaches and activities

The Flipped Classroom (FC) is an innovative teaching method designed to introduce learning materials in a way that reverses traditional classroom practices. In this pedagogical approach, students engage with the material prior to class by watching short instructional videos. This preparation allows classroom time to be dedicated to deeper exploration of concepts through discussions, debates, collaborative work, and other interactive activities (Chen et al., 2018). The primary goals of the Flipped Classroom are to maximize the effectiveness of teaching time, actively involve students in the learning process, and enhance their knowledge acquisition and skill development.

## Pre-Lesson Activity – at home

Students are instructed to watch the video lesson *Introduction to Media Literacy through Critical Thinking*, available on the YouTube channel *Critical Thinking in the Information Society*. After viewing the video, they are required to complete an online self-assessment quiz, such as a Google Form, consisting of 8–10 multiple-choice questions. This quiz serves as a pre-test, enabling teachers to identify challenging concepts based on students' responses and tailor classroom activities accordingly (see Annex). Additionally, these questions can be used as assessment tools by teachers or as a self-evaluation resource for students. The quiz focuses on key concepts covered in the video lesson, reinforcing comprehension and critical engagement with the material.

## In-class activities

### During the lesson *"Introduction to media Literacy through Critical Thinking"*

Before beginning the lesson, the teacher could review and analyze the students' responses to the quiz completed at home, identifying the concepts or questions where students struggled the most. The class could then start by addressing these misconceptions, fostering a discussion around the knowledge students gained from watching the video and their impressions of its content.

The following classroom activities would focus on exploring the impact of media on both private and social life, as well as examining our dual role as consumers and creators of media messages.

#### *Activity 1. Debate on the role and impact of Interactive Media in the digital era*

Objective of the activity: to help students identify and critically evaluate the positive and negative impacts of media on both private and public life. The focus is on the influence of various types of social media—dynamic forms of interactive media such as email, discussion boards, web forums, chat rooms, blogs and microblogs, wikis, and social networking platforms (e.g., Facebook, LinkedIn, Instagram).

Students are divided into two groups: one representing the "pros" and the other the "cons" of social media, simulating real-life debates between opposing viewpoints. To foster critical thinking, students with strong personal opinions are instructed to join the group advocating the opposite perspective. This approach encourages them to set aside their own biases and consider the issue from an alternative angle.

Each group is tasked with identifying five strong arguments supporting their assigned stance (positive or negative) on the role of social media. Students are encouraged to incorporate real-life examples and evidence to illustrate their points. These examples could explore the influence of social media on personal needs, self and body image, human rights, solidarity, social relationships, social justice, political opinions, ethics, and consumer behavior.

One student from each group is responsible for compiling the arguments and presenting them to the class. Following the presentations, a class-wide discussion is held to assess the soundness of the arguments, explore the multifaceted roles of social media, and highlight the importance of critically evaluating its impact on both private and public life.

Expected learning outcomes: Upon completing the activity, students should be able to: (a) Recognize that social media use has both positive and negative effects on private and public life. (b) Understand that complex issues in real life can be viewed from multiple perspectives. (c) Acknowledge that each perspective is supported by strong, reasoned arguments. Additionally, the activity fosters students' cooperation, cognitive empathy, and argumentation

skills, encouraging them to engage with differing viewpoints and think critically about the issues at hand.

### *Activity 2. Recognizing Media "languages" and their impact*

Objective of the activity: to encourage students to critically analyze the power of various symbols and explore how media uses these symbols to shape opinions, evoke emotions, or trigger specific reactions.

The teacher introduces examples of media content that communicate messages to a target audience using specific symbols, such as words, sounds, graphs, images, emojis, or Instagram photos. Students, working in small groups of 3-4, are tasked with the following:

1. Analyze Impact: Identify and discuss how each symbol could influence their opinions, emotions, and attitudes toward the presented information.
2. Provide Examples: Share their own examples of symbols or "languages" (e.g., words, sounds, graphs, images, emojis, or social media visuals) employed by different media outlets. Explain how these symbols might shape perceptions, opinions, or attitudes.
3. Create and Justify a Message: Act as content creators by designing a media message. Select specific media platforms and symbols (verbal, visual, or acoustic) to communicate their message. Explain their choices and predict the reactions or emotions these symbols might evoke in their target audience.

Expected learning outcomes: Upon completing the activity, students should be able to: a) Recognize that media employs distinct "languages" or symbols to communicate messages. b) Understand and evaluate the power of different symbols or "languages" to influence opinions, emotions, attitudes, and actions. c) Effectively use these symbols to create and convey media messages while considering their potential impact on audiences. This activity fosters collaboration and enhances critical thinking by encouraging students to analyze, interpret, and evaluate media messages and the symbolic "language" they use.

### *Activity 3. Media Literacy through critical thinking: A practice Guide*

Objective of the activity: to identify key critical thinking skills essential for Media Literacy Education and to characterize the qualities of a Media Literate Person in everyday life. *(Approx. 30 minutes).*

Students are tasked individually with synthesizing their knowledge from the video lesson and in-class exercises about the role of critical thinking in Media Literacy into actionable guidelines. Specifically, they will:

1. Create a Profile: Write a detailed description of a Media Literate Person in everyday life, incorporating:
    - Knowledge: For example, understanding how and why media content is produced.
    - Skills: For example, critically analyzing the techniques, languages, and conventions used by media and the messages conveyed.
    - Attitudes: For example, questioning media content and services that may be unsolicited, offensive, or harmful.
    - Actions: For example, making informed choices or using media creatively to express and communicate ideas, information, and opinions.

2. Provide Real-Life Examples: Support their descriptions with examples from real-life scenarios to illustrate the importance of these characteristics and their practical applications.
3. Collaborative Discussion:
    - After completing their descriptions, a group discussion is held.
    - The teacher records each new characteristic (knowledge, skill, attitude, or action) mentioned by students on the board.
    - For each characteristic, students indicate whether they included it in their descriptions.
    - Points are tallied to identify the most frequently mentioned traits, and the group collectively agrees on the most critical characteristics of a Media Literate Person in real life.
4. Add Examples: The final step involves adding as many real-life examples or evidence as possible to each agreed-upon characteristic to highlight its importance and practical application.

Expected learning outcomes: Upon completing the activity, students should be able to: a) Synthesize the knowledge gained from the video and in-class activities into practical guidelines for media literacy. b) Develop mindfulness, directing attention to their own cognitive processes and outcomes when acting as a consumer or producer of media messages. This activity enhances awareness of the critical use of media as both a consumer and producer, fosters the critical thinking skill of synthesizing information, and encourages creativity in applying these concepts to real-life contexts.

### *Activity 4. The power of visual arguments – optional homework*

Objective of the activity: To help students recognize visual arguments and understand the persuasive techniques used to influence beliefs or prompt specific actions.

Students work in groups of 3-4 to identify a visual argument, such as an advertisement, poster, or social media comment, that combines various "languages" (e.g., words, images, emojis, or photographs). Each group will:

1. Analyze the Argument:
    - Identify the purpose of the argument.
    - Determine the target audience.
    - Reflect on its potential impact on viewers.
2. Write a Paragraph: Summarize their findings in a brief paragraph, highlighting the argument's purpose, target audience, and potential effects.
3. Optional Presentation: Selected groups may present their chosen visual arguments and analyses in the next class, fostering collaborative learning and discussion.

Expected learning outcomes: By completing the activity, students will be able to: a) Identify and interpret visual arguments and the persuasive techniques embedded in them. b) Recognize strategies such as emotional language and symbolic imagery employed by creators to influence opinions or actions. c) Enhance their critical thinking skills, including analysis, interpretation, and evaluation, while also improving their ability to construct and articulate arguments

effectively. This activity fosters a deeper understanding of media influence and promotes analytical and argumentation skills essential for media literacy.

## After the lesson - Testing

The post-class activity, *Introduction to Media Literacy through Critical Thinking* (see Annex), assesses students' understanding through a quiz. Unlike the pre-lesson test, the post-lesson quiz features open-ended questions that require students to provide detailed responses.

## Interaction model

- Group Work: Students collaborate during in-class activities to exchange ideas and discuss arguments.
- Individual Work: Students independently complete tests and watch video materials at home.
- Optional Homework: Students have the option to complete additional assignments individually.

## Evaluation and recommendations

- The students' performance on the multiple-choice quiz, conducted after they watch the video, provides an opportunity for qualitative feedback during class.
- Post-class activities, including the post-test quiz and optional homework, serve as tools for evaluating student progress. The evaluation can be qualitative, focusing on depth and understanding, or quantitative, based on scoring, depending on the course requirements.
- Teachers should establish clear evaluation criteria tailored to the learning objectives and expected outcomes of the post-test. These criteria should ensure that students' answers reflect their comprehension and critical thinking developed through the lesson and related activities.

## Notes to the lecturer

The teacher should foster an environment that encourages students to actively engage in in-class activities, offering them the freedom to question common beliefs, express their opinions, present arguments, and respect differing viewpoints. Critical thinking involves being mindful, self-reflective, open-minded, and committed to seeking the truth. It also requires understanding others' perspectives and reasoning, even when in disagreement, while acknowledging the complexity of human issues.

Key Considerations for the Teacher:

1. Preparation: Ensure thorough preliminary preparation to effectively introduce the topic.
2. Material Selection: Choose materials that align with the students' educational needs and abilities.
3. Time Management: Allocate sufficient time for in-class activities to allow meaningful engagement and discussion.
4. Clear Instructions:
    - Provide concise, straightforward guidance for the pre-lesson and post-lesson tests.

- Outline specific aspects of the video lesson that students should focus on to enhance their understanding.

By creating a supportive and structured learning environment, the teacher can guide students in developing the critical thinking skills necessary for thoughtful analysis, respectful dialogue, and independent reasoning.

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# Topic 2: Personality and Behavioural Differences – Thinking Patterns in Media

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## Background and rationale

Social media (SM) is an important part of our lives and has a significant impact on us as individuals and on our behaviour and decisions. The topic of personality and behavioural differences on social media is important and relevant as it is an essential aspect of the contemporary world, when people post and exchange information and communicate with each other on a regular basis. In the virtual space, personality and behavioural differences are especially prominent, affecting both an individual and a collective. Knowing the analysis of different personality types it is understood that each has a certain way of acting within the social media, and how personality traits are the driving force to behaviour, communication and reaction of users within the on-line platform. SM has changed the behaviour of people in that they have become more accepting and tolerant of each other and more respectful. However, this also led to some negative changes in the personality: people became more selfish, lazy and aggressive; their behaviour was dictated by low self-esteem, mental issues and trust issues. It is only through critical reflecting on ourselves as personalities and knowing our ways of thinking in SM that we can better judge ourselves and the information that we get from SM.

### *Personality and different thinking patterns in media*

It is important to understand how people interact on social networks and what influences their decisions to share content or follow different accounts. Knowing one's personality helps predict such aspects of life as academic success, work performance, health, success in romantic relationships, and behaviour in SM. It has been proven that there is a direct connection between behaviour in SM and the personality's individual traits, especially our cognitive style and thinking peculiarities.

According to trait theorists, personality traits are key determinants of people's behaviour in each situation and in SM too. They are important in predicting various behavioural outcomes, including the way of using SM and the type of behaviour in SM as well as the impact of media itself on the personality. The most used is the so-called Big 5 model ('Big5'), consisting of five main dimensions: 1) Extraversion vs Introversion; 2) Emotional Stability vs Neuroticism; 3) Openness to new experience; 4) Conscientiousness. Agreeableness.

### *How are these traits related to SM Behaviour and what can we learn about people personality?*

The Big 5 traits have a direct impact on SM usage intentions and specific behavioural tendencies in SM. Ordinary people can also use the insights from this research to understand their social media friends better. Three personality traits that are central to SM use: extraversion, neuroticism, and openness to experience. People open to experience and the ones with high neuroticism are the most frequent visitors of social networking sites. It seems that the said groups of people also use instant messages more often. Extraversion is positively correlated with SM use and with the number of interactions with other people. Extroverts have more friends on social platforms and spend more time compared with others.

High Extraversion and low Conscientiousness are associated with greater social media use and addictive tendencies. People with high level of Neuroticism, Agreeableness and

Conscientiousness are more prone to reject all kinds of social media platforms. The combination of high Neuroticism and Agreeableness is associated with elevated cortisol levels in the human body, the main hormone associated to stress. High levels of Neuroticism may be exacerbated by real or perceived rejection online, also known as "cyberostracism", which corresponds to rejection in real life, resulting in reduced self-esteem and decreased sense of belonging. Negativity Bias: given two facts of equal importance, there is a human tendency to count more heavily the one with a negative connotation.

Personalities with a high level of openness to new experiences seek innovations, are highly interested in novelties and have a positive relationship with the use of SM. Openness pertains to the use of broader peculiarities offered by SM. Individuals who are characterized by the traits of agreeableness distinguish themselves by a considerably higher number of contacts and followers on SM. They easily find friends and maintain long-term relationships in the virtual space. Conscientious individuals tend to avoid all social platforms in cyberspace – they believe that this distracts from more important responsibilities and activities in life. There is a negative correlation between conscientiousness and taking advantage provided by SM. Involvement in the virtual world may result in different personality traits. Thus, it is relevant to establish consistency of personality features in various settings or give alternative explanations for different traits of individuals in online environment.

However, there are several ways to prevent this. Our own interests and partiality determine who we engage with. We tend to interact with those who share similar opinion with us. There is a tendency of creating an environment where our viewpoints are reinforced, and all opposing opinions are rejected. However, we must mitigate and reduce the effect of online anger. For our own sake, we must learn to notice when social media is about to shape our perceptions, limiting our meaningful communication with others or making us feel angry, anxious, vulnerable or too materialistic.

### *Conclusion*

Understanding how personality differences function in the virtual space, we can develop better interventions and support mechanisms in order to reduce social and psychological problems that may arise from the negative effects of social media. By understanding personality and behavioural differences, we become more conscious and critically thinking users of social media, contributing to positive communication, mutual understanding, and strengthening the global community.

## Key topics

- Individual differences in personality thinking and behaviour on media.
- Thinking errors and behavioural tendencies in the reception and interpretation of digital information.
- Trends in cognitive processes and behaviour of different personality types (Big 5 traits) on social media.
- Analysis of individual critical thinking and personal behaviour on social media.
- Impact of social media use on critical thinking ability.

## Learning objectives and expected results

### *Knowledge*

- Understanding the Relationship Between Personality and Social Media Behaviour: Gaining knowledge of how personality traits, particularly those from the Big Five

model (Extraversion, Emotional Stability, Openness, Conscientiousness, Agreeableness), influence behaviour on social media.
- Analysis of Personality Types in Social Media: Understanding how different personality traits, such as extraversion, neuroticism, and openness, determine social media usage, behaviour, and reactions.
- The Impact of Social Media on Personality Development: Recognizing how social media can shape personality traits, both positively and negatively (e.g., self-esteem, responsibility, addiction tendencies).

***Attitudes***

- Behavioral Analysis and Evaluation Skills: Developing the ability to analyze and assess one's own behavior and the behavior of others on social media using personality trait theories, understanding how these traits influence social media usage.
- Critical Thinking and Reflection: Cultivating the ability to critically assess information and interactions on social media, recognizing how personality traits and thinking patterns shape our reactions and decisions online.
- Psychological Self-Awareness and Resilience: Developing the ability to recognize negative psychological reactions that may be triggered by social media and implementing strategies to manage and reduce these effects.

***Skills***

- Behavioral Analysis and Evaluation Skills: Developing the ability to analyze and assess one's own behavior and the behavior of others on social media using personality trait theories, understanding how these traits influence social media usage.
- Critical Thinking and Reflection: Cultivating the ability to critically assess information and interactions on social media, recognizing how personality traits and thinking patterns shape our reactions and decisions online.
- Psychological Self-Awareness and Resilience: Developing the ability to recognize negative psychological reactions that may be triggered by social media and implementing strategies to manage and reduce these effects.

## Pedagogical approaches and activities

## Pre-Lesson Activity – at home

- Before the class: students are asked to watch a video lesson *Personality and Behavioural Differences – Thinking Patterns in Media* video available on the YouTube channel *Critical Thinking in the Information Society*.
- Pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.
- Students are invited to complete a Pre-test as a starting point. Test results will give an approximate idea on what difficulties students have faced in understanding the topic, therefore, class activities should focus on difficult concepts.

## In-class activities

### *Activity 1: Ad Analysis Workshop*

Objective: To help students analyze how different personality traits (Big 5 model) affect behavior, communication, and interactions on social media platforms.

*Step-by-Step Guide:*

1. Divide students into small groups and assign each group one of the Big 5 personality traits: Extraversion, Neuroticism, Openness to Experience, Conscientiousness, or Agreeableness. Provide each group with printed or digital examples of social media posts (e.g., from Instagram, Facebook, Twitter) that represent different types of user behavior.
2. Ask students to analyze the posts by answering critical thinking questions such as:
    - How does the personality trait assigned to your group influence the behavior of the user in these posts?
    - What type of content does this person share or engage with on social media? (e.g., selfies, emotional posts, informative content)
    - How does this trait affect the interactions (likes, comments, shares) with other users on social media?
    - Are there any potential negative or positive impacts of this behavior on the user's online experience and well-being? (e.g., stress, validation, self-esteem issues)
    - How might the behavior of a person with your assigned personality trait influence others in their social media network?
3. Have each group presents their findings to the class, focusing on the impact of the assigned personality trait on social media behavior, including the type of content shared, the level of engagement and the nature of interactions with others. The potential positive or negative consequences of this behavior, both for the individual user and for their social media network.
4. Conclude with a class discussion on the prevention implications of social media behaviors associated with each personality trait, including the potential effects of certain behaviors on mental health and online relationships, considering how these behaviors can shape self-perception, online identity, and interactions with others.

### *Activity 2: Individual reflection and solution of real situations*

Objective: To help students gain self-awareness by reflecting on how their personality traits, as identified through the Big5 model, influence their behavior and interactions on social media.

*Step-by-Step Guide:*

1. Have each student complete an online self-assessment questionnaire to identify their personality traits based on the Big5 model. Recommended test include: IPIP-BFFM Test or Psyculator Big Five Personality Test.
2. Ask students to reflect on how their identified personality traits (e.g., Extraversion, Neuroticism, Openness, Conscientiousness, Agreeableness) influence their behavior on social media. Any insights they gained about themselves from completing the Big5 test and how these traits affect their online behavior. Students should consider:
    - How do they react to feedback, criticism, or interactions in their social media environments?

- How do their personality traits influence their social media activity? How often they post content, the type of content they share, and the level of interaction they have with others online.

3. Conclude with a class discussion on the implications of personality traits in social media behavior, addressing the role of self-awareness in shaping healthier and more mindful social media habits.

### *Activity 3: Interactive group workshop and projection task*

Objective: To deepen students' understanding of how different personality traits (based on the Big5 model) influence behavior on social media, and to encourage reflection on the potential challenges and opportunities.

*Step-by-Step Guide:*

1. Divide students into five groups based on the personality traits they identified through the Big5 model questionnaire (Extraversion; Neuroticism; Openness to new experience; Conscientiousness; Agreeableness).

2. In each group, students discuss the following questions related to their assigned personality trait:

- What are the main characteristics of the personality dimension (e.g., traits associated with Extraversion or Neuroticism)?
- How do these traits influence behavior in various real-life situations and online interactions?
- How do specific personality traits impact a person's behavior on social media? What kinds of actions or interactions are most influenced by these traits in virtual environments?
- What can we infer about a person's personality from their social media activity? How do specific traits manifest in online behavior (e.g., type of posts, frequency of sharing, interactions with others)?
- What challenges might people face on social media because of their personality traits?

3. After group discussions, conduct a projective task: a) each group creates a detailed personality profile based on their assigned trait, highlighting typical behaviors and tendencies on social media related to their dimension (e.g., high Extraversion might lead to frequent posting and social engagement). The profile should include a visual representation (e.g., a drawing of a human figure) where students project key personality features and behaviors (e.g., large eyes for curiosity, wide smile for openness to social interactions).

4. Have each group presents their findings to the class, focusing on key personality traits and behaviors associated with their assigned dimension. How those traits influence social media behavior and potential challenges associated with those traits in online interactions. The insights gained from understanding these personality influences on social media.

5. It is important to discuss the question of what critical thinking strategies can be recommended, depending on the personality type, that would help to solve specific problems more successfully.

## After the lesson - Testing

The post-class activity called *Personality and Behavioural Differences – Thinking Patterns in Media* (see Annex – Post-test) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation guide

Assess students on their ability to articulate their group's ethical stance, the strength of their arguments, and their ability to consider diverse perspectives. Focus on critical thinking and ethical reasoning.

## Notes to the lecturer

- Encourage students to reflect on how their own personality traits influence their behavior and interactions on social media, both positively and negatively.
- Challenge students to think critically about how different personality types may experience social media in unique ways, leading to different outcomes in terms of mental health and social relationships.
- Guide students to consider the ethical implications of personality-based behaviors on social media, such as oversharing or seeking validation, and discuss ways to promote healthier online interactions.

## Further readings

Bowden-Green, T., Hinds, J., & Joinson, A. (2020). How is extraversion related to social media use? A literature review. *Personality and Individual Differences, 164*, Article 110040, https://doi.org/10.1016/j.paid.2020.110040

*This journal article explores the relationship between extraversion and social media use, focusing on how extraverted individuals tend to engage more frequently and interactively with social media platforms, often seeking social validation*.

Bowden-Green, T., Hinds, J., Joinson, A. (2021). Understanding neuroticism and social media: A systematic review. *Personality and Individual Differences, 168*, Article 110344, https://doi.org/10.1016/j.paid.2020.110344

*This journal article examines the role of neuroticism in social media usage, highlighting how neurotic individuals may experience higher levels of anxiety, seeking reassurance through online interactions, and engaging more with social media due to emotional instability.*

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*This study investigates how personality traits correlate with social media use across 20 countries, revealing that traits like extraversion and openness are associated with higher social media engagement, particularly for social interaction and news consumption.*

Hamburger, Y.A., Ben-Artzi, E. (2000). The relationship between extraversion and neuroticism and the different uses of the Internet. *Computers in Human Behavior, 16*, 441-449, https://doi.org/10.1016/S0747-5632(00)00017-0

*The study examines the relationship between extraversion, neuroticism, and internet use, finding that extraverts are more likely to use the internet for socializing, while neurotic individuals tend to use it more for seeking emotional support.*

Lampropoulos, G., Anastasiadis, T., Siakas, K., & Siakas, E. (2022). The impact of personality traits on social media use and engagement: An overview. *International Journal on Social and Education Sciences (IJonSES), 4*(1), 34-51. https://doi.org/10.46328/ijonses.264

*This overview discusses the impact of various personality traits on social media behavior, emphasizing how traits such as agreeableness and openness can shape both the frequency and the type of social media engagement.*

Personality & social media: how & who you are changes your online experience (2021). Available at: https://www.waypointwellnesscenter.com/personality-social-media-how-innate-traits-affect-your-online-experience-and-what-can-you-do-about-it/

*This article explores how intrinsic personality traits—like introversion and openness—affect online behaviors, highlighting the different ways people interact with social media depending on their personality type*.

Wu, L. (2023). Relationship Between Social Media Use and Personality. *Lecture Notes in Education Psychology and Public Media, 9,* 325-330. https://doi.org/10.54254/2753-7048/9/20230238

*This study explores the relationship between social media use and personality traits, particularly how traits like openness and neuroticism impact both the frequency and the emotional quality of social media interactions.*

# Topic 3: Critical Selection of Information

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## Background and rationale

The Internet and other new media are a rich source of information on almost all areas of knowledge, science, politics or social life. However, the information provided is not always true and may sometimes be completely wrong. In order not to cause harm to ourselves or others and to avoid relying on such information it is crucial to have critical thinking. Analysis is the ability to reason and select the best information in a given field of study.

The ability to select critical information helps in the management of the information overload. It is a component of a skill referred to as information competence which is one of the most important competences in the information society. It means that those receiving information are able to judge the credibility and reliability of the information including its relevance to them. This cannot be done without creative thinking, critical thinking and logical thinking. Such a scheme allows to select, to follow the rules when choosing reliable news or not (Lipman, 2014).

### *Understanding model CRAAPO in critical selection of information*

A key element of critical thinking is, among other things: the ability to recognise that acquired information may be true and to attempt to falsify it (Kuhn, 2009). It is worth noting that critical thinking is also a kind of 'research'. as it requires the individual to search for the answer at what point one has sufficient arguments that something is true or is mere misinformation (Kirwan, 1995, after: Mulnix, 2010). Such a skill requires continuous improvement. And the selection process itself is an essential activity for students, especially in today's digital environment rich in ambiguous content. The essence of the skill of critical information selection is to teach students such skills that will enable them to continuously acquire knowledge, rather than just , 'hunting and gathering' in a digitised world of electronic information. Furthermore, critical information selection will protect young Internet users from manipulation and misinformation.

In the modern world, literacy is also about being able to use new technologies (IRA, 2002). The use of new media in relation to the critical selection of ninformation should refer, among other things, to: asking important questions, locating information and, above all, critically assessing the usefulness of information (Leu, Kinzer, Coiro and Cammack, 2004). The ability to critically select information is becoming increasingly difficult due to the fact that, despite the growth of the Internet, effective access to reliable information is becoming increasingly difficult (Nachmias & Gilad, 2002). It is hard to disagree that results from a single issue searched on the Internet generate an overwhelming number of searches and keywords - often unnecessary and unrelated to the information sought (Brandt, 1997, Nachmias & Gilad, 2002).

Critical evaluation of information presented assumes currency, relevance, authority, accuracy, purposefulness and objectivity. This model is called CRAAPO created by Sarah Blakeslee at the Meriam Library at the University of California at Chico (Shapiro Library website B).

First - currency - this is one of the factors supporting the critical selection of information. It is important to check such factors as the timeliness of the site, the date of publication of the information, as well as the validity of the reported results or information (known as no statute of limitations). In the modern world, new knowledge is created extremely quickly and information becomes outdated even faster. It is important to determine whether the information is topically up-to-date and the frequency with which the presented content is updated. In the

case of content presented on the Internet, frequent updating of the website increases its credibility.

Second - relevance - considers the relevance of the information to the research; it refers to how closely the information is related to the problem at hand. When selecting the information that arrives, special attention should be paid to such aspects as the relevance of the information to the topic and events or relevance. it refers to how close the information is to the problem in question. Relevant information meets the needs of the seeker.

Third - authority - an author who presents credible, reliable information and/or is an authority in the field subscribes to his work. This simple principle is the first step in critically evaluating information. Credible, identifiable authorship is an attribute of information that implies the author's responsibility for the published content.

Fourth - accuracy - is related to the degree to which the information meets the needs of the recipient - the degree to which it is needed. It is also the precision of presenting information. Critically selecting information, it is worth paying attention to: clarity, logicality and comprehensibility of the message.

Fifth – purposefulness - refers to the reason for the existence of information. Determining the purpose of the information found, helps readers know whether the information they are looking for is relevant to their search. Certain aspects should also be taken into account, such as whether the information provided is fact, opinion, or presents propaganda, and takes into account political, personal, religious or ideological biases. Knowing the purpose of the information greatly facilitates the search for sources.

The last important factor is - objectivity - which allows to assess the quality of the information obtained. Good quality information should be unbiased, objective, based on facts and separated from the author's opinion. Ideally, the author presents different points of view on an issue.

One of the most important skills that students can develop is the ability to navigate locating and selecting information on the Internet. Without this skill, it is possible to spend hours trying to obtain specific information on the Internet, but end up never accessing what has been found. Critical selection of information found on the Internet should be central to teaching students search skills and strategies.

### *Conclusion*

Young people who are just entering adolescence are constantly attacked by fake news and manipulation. Due to their age, they are not yet able to resist pressure and do not verify the origin of the information they read. For students, the Internet is a natural environment and source of knowledge. Critical thinking competences in the context of critical information selection become crucial due to the fact that in the postmodern world, information spreads very quickly. Current approaches to knowledge are shifting the emphasis from knowing how and knowing what to knowing where? Interpretation is the set of skills that distinguishes relevant information from that which is useless or deceitful (Olszowy, Kozieja, 2024).

Critical information selection is an important part of critical thinking competence. It can be said to be a sub-competency that is a response to the information chaos we are witnessing today. The ability to critically analyze/evaluate content allows us to extract necessary, reliable and credible information from this chaos. In order to learn how to critically select information, it is useful to know the CRAAPO model for proper evaluation and selection of information.

It seems clear that teaching students how to teach skills should be an important part of critical thinking as students face a future filled with technology.

## Key topics

- The concept of critical selection of information
- Critical selection of information as a sub-competency of critical thinking
- The importance of critical information selection in the modern world
- The CRAAPO model as a tactic for analyzing, interpreting and selecting information appropriately.

## Learning objectives and expected results

### *KNOWLEDGE:*

- students will become familiar with the essence of critical information selection, the CRAAPO model,
- know techniques and good practices of information selection.

### *SKILLS:*

- students are able to distinguish reliable information and select it critically;
- they are able to apply the CRAAPO model in everyday life.

### *ATTITUDES:*

- students are able to make information selection related to real situations from the surrounding environment and propose techniques to distinguish reliable information from unreliable information.

## Pedagogical approaches and activities

## Pre-Lesson Activity – at home

- students are asked to watch a video lesson *Critical selection of information* available on the YouTube channel *Critical Thinking in the Information Society*
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

## In-class activities

### *Activity 1.*

1. Divide the class into smaller groups. Each group draws one event that happened recently in the real world. The task from each group is to collect more information on the drawn topic.
2. Leaders of each group present the results of their work.
3. The other groups are to check and ask the presenting groups on what basis they selected the rest of the found information (e.g., where such information came from? who is the author? etc.).
4. The teacher, after presenting the work of all groups, begins a discussion of why in-depth questions are so important during critical selection of information.

### *Activity 2. Critical selection of information program*

1. After the discussion, the topic of critical selection of information is raised.
2. This is followed by a new division of the class into teams of 5-6 people.
3. The task of each team is to develop their own program of critical information selection based on the previously learned CRAAPO model.
4. The teacher introduces the participants to the basic steps in developing their own program:
5. Self-assessment of reactions to incoming information (emotions - frustration, anxiety, etc.).
6. Analysis of one's own knowledge on the topic sought.
7. Identify the basic factors that make up the reliability of the information provided)
8. Establishing a contract with oneself regarding the lack of rashness in selecting and spreading the information obtained.

## After the lesson - Testing

The post-class activity called *Critical selection of information* (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation guide

- Evaluate students on their ability to select information appropriately and critically.
- Focus on critical thinking, undertaking reflection, seeking and analyzing information for credibility and reliability.

## Notes to the lecturer

- Encourage students to consider searching for and selecting the messages that reach them.
- Encourage students to think from multiple perspectives and consider the impact on society.
- Guide students to question their assumptions, deepen content with questions, and check information in other sources.

## Further readings

Filipović, J. & Jovanović, A. (2016). Academic Maturation and Metacognitive Strategies in Academic Research and Production. Universal Journal of Educational Research 4(6), 1442-1451

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Mastilo, M. (2023). Finding the Right Literature. *Research Is Back.*

Smith, L. (2013). Towards a model of critical information literacy instruction for the development of political agency. Journal of Information Literacy, 7 (2), 15–32

Tewell, E. (2015). A decade of critical information literacy: A review of the literature. *Communications in information literacy*, *9*(1), 2.

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# Topic 4: Developing Active Learning and Critical Reading Skills

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## Background and rationale

The world of today is complex and interconnected and there are unique challenges that cannot be addressed through a conventional perspective. Systems thinking is a way of looking at these systems as a network of interconnected elements that work together as a system. This approach offers a set of tools for studying the relations, processes and links between the elements of the system in order to understand the system's processes and mechanisms.

Systems thinking is not the traditional approach of looking at the components in isolation but how are these components related and how one component can affect other components and hence the entire system. This is why the approach is useful in problem solving and decision making processes that entail a systems approach and integrative and long-term thinking.

Systems thinking is critical to solving the multifaceted challenges of the 21st century including climate change, globalisation, social and economic inequalities, and complex organizations. In each of these areas, systems thinking aids in the recognition of the underlying problems, the determination of the cause and effect relationships, and the formulation of sustainable solutions.The applications of systems thinking are numerous and cover a variety of fields:

- Education: Teachers and educators use systems thinking to help students understand the interrelationships between different concepts and how a change in one unit of the learning process can affect a student's overall development.
- Management and Business: Managers and leaders apply systems thinking to optimise organisational processes, improve communication and coordination and effectively deal with complex problems such as crisis situations or global markets.
- Engineering.
- Health and social services: Systems thinking is used to analyse and improve health services and social systems by identifying the key factors that affect people's health and well-being.

The application of systems thinking leads to a better understanding of overall processes and the creation of sustainable solutions that address the causes, not just the symptoms, of problems. With its ability to reveal the complex relationships and interactions between different elements, systems thinking is becoming a fundamental approach to managing and solving contemporary global and local challenges.

## Key topics

**1.** Fundamentals of systems thinking - what is its nature and how it develops. Systems thinking is an approach to analysing and understanding complex systems by looking at the interrelationships between their parts and their influence on the overall behaviour of the system. It encourages a holistic view of problems rather than focusing on individual elements, and allows analysis of interactions, dependencies and dynamics. Systems thinking is developed by exploring causal relationships and uncovering the ways in which individual components influence the structure and behaviour of the system.

**2.** Systems, subsystems and their interrelationships. A system consists of interrelated components that work together to achieve a common goal. Subsystems are smaller structures within a larger

system that may perform independent functions, yet contribute to the functioning of the overall system. The interrelationships between systems and subsystems determine how a system functions, responds to change and adapts. These links can be linear or non-linear and influence the performance and sustainability of the system.

3. Principles of systems thinking (global vision, analysis of interrelationships, recognition of elements, etc.). The principles of systems thinking include:

    - Global vision: Focusing on the whole picture of a system, rather than just its parts. This helps reveal complex dependencies and long-term effects.
    - Interrelationship analysis: Evaluating the interactions between the different components of a system and how they affect each other.
    - Recognition of elements: Identifying the key components and their functions within the system.
    - Studying cause-and-effect relationships: Examining how changes in one element can lead to changes in other parts of the system.
    - Feedback control: Analysing the feedback within the system (positive and negative) that governs its behaviour.

4. Tools for applying systems thinking in practice

Different tools and methodologies can be used to put systems thinking into practice, such as:

- Causal Loop Diagrams: allow the visualisation of interrelationships and feedback in the system.
- System Maps: Help to depict the structure of the system and identify key elements and relationships.
- Simulation and modelling: using software tools to simulate the dynamics of systems and explore the potential consequences of changes.
- Stakeholder analysis: Identifying and analysing the roles and influence of different stakeholders in the system.

5. Examples of the application of systems thinking in different domains

- Education: It is used to improve curricula by integrating different disciplines and analysing students' needs.
- Business: It is applicable for work process optimisation, project management and strategic planning.
- Health: Helps analyse and improve health systems, identify factors affecting health and create effective public health strategies.
- Environmental Management: Systems thinking allows for the analysis of ecological systems and the development of sustainable solutions to protect natural resources.
- Social projects: Helps to analyse social challenges and develop policies and initiatives that address deep and complex problems in society.

These key topics present key aspects of systems thinking and its application to solving contemporary problems through an integrative and analytical approach.

## Learning Objectives

Introduction to the nature and importance of systems thinking: Students are introduced to the fundamentals of systems thinking, its nature, principles and its importance for understanding and managing complex systems. They learn how this approach helps to make better sense of interrelationships and dynamics in different contexts, while providing the opportunity to solve multi-component problems.

Developing skills to identify and analyse interrelationships in complex systems: Students develop skills to recognise and analyse interactions between elements in complex systems. They discover causal relationships, interactions between subsystems, and factors that influence the behaviour of the whole system. These skills help them identify the key components and factors that determine the effectiveness and sustainability of systems.

Mastering methods and techniques for applying systems thinking to problem solving: Students learn to use a variety of methods and techniques related to systems thinking, such as causal diagrams, systems maps, simulation and feedback analysis. They understand how these tools are applied in practice to analyse and solve real-world problems in different fields, such as management, education, business and social projects.

Improve the ability to think critically and strategically in complex situations: Students develop critical thinking skills that allow them to view problems from multiple perspectives and evaluate the impact of different factors on the overall system. They learn to take a strategic approach to planning and decision-making, considering the possible consequences and long-term effects of their actions.

## Expected outcomes

### *Knowledge:*

- Students understand the nature of systems thinking and can explain how it is applied in a variety of situations. They learn about the basic concepts, principles and approaches of systems thinking and demonstrate the ability to use it to analyse different problems and contexts. Students are introduced to the fundamentals of systems thinking and how they can be applied to understand and manage complex systems in a variety of fields such as education, business and social projects.

### *Skills*

- Students develop skills to identify elements, subsystems and their interactions in complex systems. They acquire the ability to recognise key components and analyse how their interrelationships affect the functioning of the whole system. In addition, students use systems thinking to analyse and solve specific problems by applying a variety of methods and tools to structure and evaluate causal relationships and interactions in a system.

### *Attitudes*

- The course promotes the development of critical thinking and the students' ability to view problems from different perspectives. They are encouraged to ask questions, analyse complex situations and seek innovative solutions, focusing on long-term effects and interrelationships. Students develop the ability to objectively evaluate information, seeking to distinguish key dependencies and make informed and strategic decisions. This mindset strengthens their ability to manage complex situations and adapt their approach to dynamic and multi-component environments.

## Pedagogical approaches and activities

## Pre-Lesson Activity – at home

- students are asked to watch a video lesson *Developing Active Learning and Critical Thinking Skills* available on the YouTube channel *Critical Thinking in the Information Society*.
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

### *Activity 1: Pre-lesson activity - Preparatory test and preliminary study*

Description: The purpose of this activity is to prepare students for the introduction to the topic of systems thinking through independent study and knowledge expansion. This activity is structured to introduce the basic concepts and principles of systems thinking and to stimulate critical thinking before the main lesson begins.

*Tasks and instructions:*

1. Preparatory test: Students will be given a quiz that includes closed and open-ended questions to test their prior knowledge and understanding of the basic concepts of systems thinking.
   Instructions:
   - Step 1: Open the quiz, which contains questions about basic concepts and terms related to systems thinking (e.g., "What is a system?", "What are the basic components of a system?").
   - Step 2: Answer the closed-ended questions by selecting the correct answer from the options provided.
   - Step 3: Answer the open-ended questions by formulating concise and clear answers to the questions related to the application of systems thinking in different contexts.
   - Step 4: Submit the test to the instructor for pre-assessment.
2. Watch an educational video. Students are requested to watch a short introduction to systems thinking - a video on YouTube or another online platform.The video serves as a visual and clear representation of the concept and application of systems thinking in real life.
   Instruction:
   - Step 1: Access the link to the video provided by the instructor.
   - Step 2: Watch the video carefully, paying attention to the definitions, explanations and examples related to systems thinking.
   - Step 3: Make brief notes about the key points and principles addressed in the video.
   - Step 4: Prepare to share your observations and notes during the lesson.
3. Read the text or article provided.

*Instructions:*

- Step 1: Receive the provided material (text or article) from the instructor or through an online platform.
- Step 2: Read the material carefully, paying attention to the key concepts, principles and examples of applying systems thinking.

- Step 3: Prepare a brief summary of the main ideas you have learned from the text and note any questions or discussion points that arise during the reading.
- Step 4: Be prepared to present your summary and participate in a discussion during the next study session.

*Objective of the activity:*

This activity aims to provide students with a basic understanding of systems thinking prior to the main lesson by engaging them with interactive materials and enabling them to make sense of key concepts. The preparatory quiz, video and text material stimulate exploration of the topic in advance, facilitating deeper participation during the lesson and extending their readiness to engage in practical tasks.

### *Activity during the lesson - Interactive activity using the "Jigsaw method"*

Description: The "Jigsaw Method" is an effective collaborative and interactive learning approach that encourages the active participation of each participant in the group and develops communication, collaboration and critical thinking skills. The approach is particularly well-suited to applying systems thinking because it requires consideration of individual elements of a complex system, which are then combined into an overall model. Each participant is responsible for learning and sharing a certain part of the material, which makes them engaged and motivated to contribute to the team's success.

*Technology for applying the "Jigsaw Method" method:*

1. Group formation – basic groups. Students are divided into basic groups, each group including 4-6 participants. Each group receives a complex study material that is divided into as many parts as there are participants in the group. For example, if the topic is "Systems Thinking," the individual parts might include:

    - An introduction to systems thinking and its principles
    - Examples of systems and subsystems
    - Principles of systems thinking and interrelationships between components
    - Tools for applying systems thinking in practice
    - Examples of application in different areas

*Instructions for implementation:*

- Step 1: The teacher explains the purpose of the activity and the meaning of the "Jigsaw method".
- Step 2: Students are divided into groups and each group is assigned the task to study one part of the material.

2. Constituting expert groups. Participants with the same parts of the material (for example, all who work on "Principles of Systems Thinking") are gathered in expert groups. In these groups, they deepen their understanding of the subject through discussion, information exchange, and analysis. The goal for each participant is to become an „expert" in his or her part of the material.

    Instructions for implementation:

    - Step 1: Each student joins the relevant expert group.
    - Step 2: Panel members discuss, exchange ideas and clarify key concepts and examples.
    - Step 3: Students record the key findings and prepare a brief presentation to share with the focus group.

3. Return to basic groups and knowledge sharing. After the students have completed the work in the expert groups, they return to their basic groups and present what they have learned. Each participant must explain his/her part of the material and answer questions asked by the other members.

*Instructions for implementation:*

- Step 1: Each "expert" presents their knowledge to the core group, using visuals or other aids as needed.
- Step 2: The rest of the participants ask questions, discuss and note how the different parts of the material connect to form the whole picture.
- Step 3: The group works together to integrate the different parts of the system and create a common understanding.

4. Discussion and summary. After all the basic groups have finished their presentations, the teacher organises a general discussion that highlights the key aspects of systems thinking and how different elements fit together into a single system. This allows students to make sense of the importance of interrelationships and how their understanding can be applied in practice.

*Instructions for implementation:*

- Step 1: The teacher asks questions that encourage analysis and reflection on the process of bringing the different parts of the system together.
- Step 2: Students share their findings and discuss how the “Jigsaw method” helped to better understand systems thinking and the interrelationships between components.
- Step 3: Based on the discussion, students could be given additional tasks or case studies to analyse to develop further their understanding of systems concepts.

The aim of the actvitity is to develop teamwork, communication, analysis and critical thinking skills, with an emphasis on collaborative consideration of complex systems and interactions. The the “Jigsaw method” provides an opportunity for a deep understanding of systems thinking through active participation and collaboration.

### *An example of a scenario for applying the “Jigsaw method” in a systems thinking lesson*

Topic: Systematic analysis of ecological crisis

*Aspects to consider:*

- Causes of the environmental crisis (expert group 1): This group analyses the main factors that lead to environmental crises, such as industrial pollution, deforestation, climate change, uncontrolled use of resources, etc.
- Impact on Ecosystems (Expert Group 2): The group examines how the environmental crisis affects biodiversity, the flora and fauna, aquatic and terrestrial ecosystems, including long-term consequences.
- Social and economic consequences (Expert Group 3): This group focuses on the effects of the environmental crisis on society and the economy – poverty, health, migration, economic losses and others.
- Possible Solutions and Coping Strategies (Expert Group 4): The group explores various strategies to reduce environmental damage, including international agreements, green technologies, environmental policies and campaigns for sustainable development.

*Implementation:*

- **1**. Distribution of students by aspects. The teacher divides the students into the four aspect groups, with each "expert group" working on its own topic.
- 2. Work in expert groups. In the expert groups, students are given materials (texts, statistics, video materials) that they have to research. They conduct discussions, summarise information and prepare key findings to present to their focus groups.

*Instructions for the expert groups:*

- Step 1: Review the materials provided and identify key discussion points.
- Step 2: Conduct a discussion to understand the depth of the problem and its various aspects.
- Step 3: Prepare a short presentation that includes the key points supported by facts and examples.

Return to the main groups. After completing their work in the expert groups, students return to their basic groups. Each group includes representatives from the different aspects so that all participants present their findings.

**Instructions for presenting:**

- Step 1: Each "expert" presents the key points related to his/her aspect, the aim is to be clear and concise.
- Step 2: The other members ask questions and supplement the information with other examples or related facts.
- Step 3: The group summarises what they have learned and looks for connections between the different aspects of the problem.

Summary and discussion**.** After the presentations in the main groups, the teacher organises a general discussion in which the interrelationships between the different aspects of the environmental crisis are considered. The possibilities for joint solutions and strategies to deal with the problem are also discussed.

**Discussion guide:**

- Step 1: The teacher asks questions that encourage an integrated consideration of the different aspects, for example "How do the causes of the environmental crisis lead to social and economic consequences?"
- Step 2: Students comment on the interrelationships between the different aspects and discuss possible solutions.
- Step 3: The teacher summarises the discussion, emphasizing the importance of a systems approach in analysing complex problems such as the environmental crisis.

**Objective of the scenario:** This activity helps students to develop systems thinking skills, analyse complex problems from different perspectives, and seek integrated solutions through collaboration. The “Jigsaw method” actively engages them in the learning process and emphasises the importance of the interrelation of the different aspects of the systems.

## Assesment and recommendations

**Assessment of individual performance:** The assessment of the students can be done on the basis of their individual contributions in the expert and basic groups. This includes their ability to understand and explain their aspect of the topic, clarity of presentation to the core group and active participation in discussions. The teacher can assess the quality of the analysis, the depth of knowledge and the readiness of the students to answer questions from the other participants.

**Group Work Activity:** Group work is an important aspect of the "Jigsaw method". The assessment of group work activity may include participation in expert group discussions, interaction with other members, and the ability to collaborate and exchange ideas. The instructor can observe how students collaborate and contribute to the group process, noting how they handle various challenges and whether they support and motivate their classmates.

**Understanding of the overall topic:** The assessment should reflect the students' understanding of the overall topic as well as their ability to integrate knowledge from different aspects into an overall picture. The teacher can ask questions during the discussion or conduct a short reflection after the activity to check that the students understand the interrelationships between the different aspects of the topic under consideration.

**Encourage active participation and questions:** It is important that the teacher creates an atmosphere of openness and activity where students are encouraged to ask questions, express opinions and discuss different points of view. This will stimulate critical thinking and help to gain a deeper understanding of the topic.

**Additional materials:** If needed, the teacher may provide additional materials, such as articles, videos or examples, to support a better understanding of the topic. This is particularly important for students who face difficulties in understanding specific aspects of complex systems or who want to delve deeper into the subject.

The purpose of assessment and feedback is not only to assess the level of the students' knowledge and skills, but also to encourage their active participation and critical thinking, while providing support for a better understanding of complex systems and their interrelatedness.

## Post-Lesson Activity – Final Assessment and Analysis

This activity aims to assess the acquired knowledge and skills of the students after the lesson on systems thinking by completing a test, like *Developing Active Learning and Critical Thinking Skills* – Post-test (see Annex) and analysing a real problem. The assessment allows the teacher to assess the level of understanding of the concept and the students' ability to apply what they have learned in practice.

### *Post-test*

Assignment: Answer the quiz questions using the knowledge and reasoning gained during the lesson.

Test Format: Open-ended questions require the formulation of reasoned responses that demonstrate an understanding of the key principles of systems thinking. Examples of questions might include:

- Explain what systems thinking is and why it is important to the analysis of complex systems.
- Give an example of a systems approach to solving a problem and describe the main steps for its implementation.
- Completion Time: A time limit is set for the students to complete the test and they are encouraged to formulate complete and clear answers.

## Analysis of a real problem using the systems approach:

Students are assigned the task to analyse a real-world situation or problem using the principles of systems thinking. They present their analysis in writing or through a presentation to the class.

*Instructions for implementation:*

**Task:** Choose a real problem or situation, for example an environmental crisis, a social problem, an organizational issue, etc.

- Step 1: Describe the selected problem by viewing it as a complex system with various components and subsystems.
- Step 2: Identify the key elements and the relationships between them using systems analysis (for example, by creating a diagram or map of interactions).
- Step 3: Describe the cause-and-effect relationships and the factors that influence the development of the problem.
- Step 4: Suggest possible solutions or strategies for dealing with the problem by applying the principles of systems thinking.

Format for presentation: Your analysis can be presented in written form (a report with explanations and diagrams) or through a presentation that includes visual elements and argumentation.

Purpose of the Final Assessment and Analysis: This activity aims to validate the acquired knowledge and assess the students' ability to apply systems thinking in a variety of real-world situations. This not only confirms theoretical knowledge, but also develops their analytical and practical skills for solving complex problems. The instructor can provide individual feedback to the students, highlighting the strengths of their analysis and offering directions for improvement.

### *Model for Interaction*

Introductory and discussion-based learning: The teacher introduces the topic through a short presentation or discussion that introduces the main concepts and objectives of the lesson. Students have the opportunity to ask questions and engage in dialogue to clarify key points and prepare for upcoming group assignments.

Group work using the "Jigsaw method": Students are divided into groups and work using the "Jigsaw method", which is aimed at cooperation and integrated understanding of the topic. Each member of the group plays the role of "expert" on some aspect of the topic and is responsible for sharing his knowledge with other team members. The group work promotes the distribution of tasks, the exchange of knowledge and the development of a common picture of the topic by synthesizing the different aspects.

Individual performance of evaluation and analysis tasks: After completing the group work, each student performs individual evaluation and analysis tasks. This involves completing a test with questions to assess knowledge and analyze a real-world problem by applying the principles of systems thinking. This part of the model allows students to demonstrate their individual skills and understanding of the subject by applying what they have learned in a practical context.

## Assessment and recommendations

- Participation in group work: Monitor and evaluate each student's activity during group activities. The assessment should reflect their ability to collaborate, contribute to the discussion, and be able to explain and present their part of the material.
- Quality of Concept Analysis and Representation: Assess students' ability to analyse and represent systems thinking concepts. Assessment can be based on clarity of presentation, depth of understanding of the concept, and ability to integrate different aspects into one overall picture.

- Test Results: Individual performance on the test, which contains open-ended questions, will be an important indicator of how well the students understand and apply systems thinking. Evaluate the reasoning and accuracy of their answers.

### *1. Assessment of participation in group work:*

Observe the work of the groups during the interactive activities and use specific evaluation criteria such as activity, contribution and clarity of speech.

Engage in discussions when necessary to encourage in-depth discussion and understanding of the topic.

### *2. Evaluation of the quality of analysis and presentation:*

After the students present their findings, ask questions to test their understanding and depth of analysis.

Assess their ability to explain complex concepts and demonstrate the interconnectedness of different aspects of systems thinking.

### *3. Using Structured Feedback:*

After the presentation and tests are completed, provide structured feedback using the following scheme:

- Performance strengths (e.g. good explanation of key concepts, effective collaboration).
- Areas for improvement (e.g. need for deeper analysis, better structured presentation).
- Recommendations for better application (e.g. how to use diagrams to visualise relationships).

### *4. Encourage questions and engagement:*

Create an environment where students feel comfortable asking questions and participating in the discussion. This will help them to grasp better the concepts and develop critical thinking skills.

### *5. Provision of additional materials:*

Prepare additional resources to offer students if needed, such as articles, case studies, and other materials for in-depth study and understanding of systems thinking.

## Instructions for the teacher

Additional resources for further in-depth study and understanding of systems thinking:

### *1. Books and articles:*

- "Thinking in Systems: A Primer" by Donella H. Meadows - A seminal book on systems thinking that presents the basic principles, examples, and its application in various fields.
- "The Fifth Discipline: The Art & Practice of The Learning Organization" by Peter Senge - In this book, systems thinking is seen as a key element in creating "learning organizations".
- Article: "System Dynamics: Theory and Applications" by John Sterman - An introduction to system dynamics and its modelling, with an emphasis on using systems thinking to analyse complex problems.

- Article: "Why Systems Thinking is Essential for Tackling Complexity" (available on online platforms such as Medium) - Explains the role of systems thinking in solving complex and interconnected problems.

### *2. Case studies and examples:*

- Case Study: "A Systems Approach to Water ResourceS Management" - Exploring water resources management through systems thinking, including analysis of the interrelationships between natural resources, economic and social factors.
- Case Study: "Crisis Management in a Global Supply Chain" - A case study that examines how systems thinking can be applied to analyze and find solutions in complex supply chains.
- Case Study: "Environmental Sustainability and an Integrated Approach" - Exploring the impact of human activities on ecosystems and strategies for their conservation using systems thinking.

### *3. Video resources and lectures:*

- "Introduction to Systems Thinking" - Video lecture from MIT OpenCourseWare - Introduction to the basics of systems thinking with practical examples.
- "Systems Thinking Explained" – A YouTube video by Kumu - Video explanation of systems thinking and its application through graphic and easy to understand examples.
- "The Systemic Design Approach to Complex Problems" - TEDx Talk - Looks at how systems thinking and systems design can be used to solve complex problems.

### *4. Online Courses and Resources:*

- Course: "Systems Thinking for Sustainability" (available on platforms such as Coursera and edX) - An online course that examines systems thinking and its application to sustainable development.
- System Dynamics Society (https://www.systemdynamics.org/) - Resource for articles, materials, and learning tools related to system dynamics and systems thinking.
- "Leverage Points: Places to Intervene in a System" by Donella Meadows (online article) - Presents opportunities to intervene in complex systems and change their behaviours.

### *5. Interactive tools and simulations:*

- STELLA or Vensim – Software for system modeling and simulation – Allows students to create models and simulate the behaviour of complex systems.
- Kumu - a tool for system map visualisation and analysis - Enables the creation of interactive system maps and visualisation of complex relationships.

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# Topic 5. Analyzing arguments and recognizing inferences and fallacies in Media

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## Background and Rationale

Media employs both verbal and visual arguments to influence and persuade us. Whether in political speeches, advertisements, or casual social media debates, media argumentation plays a significant role in shaping our perceptions and decisions (Walton, 2007). For students, understanding the persuasive techniques used in media is crucial for success. It is essential to recognize that not everything we see, hear, or read constitutes an argument; some content may simply express a preference, opinion, or fact. In everyday communication, many arguments are incomplete or crafted to subtly imply a conclusion without explicitly stating it. Often, the conclusion is left to be inferred by the context. Critical Media Literacy begins with the ability to discern whether an argument is present and extends to assessing its strength and validity.

### *The art of argumentation and persuasion*

Whether the media's purpose is to entertain, inform, explain, or profit, its primary goal is to persuade the target audience to make a specific decision -whether that's choosing one product over another, supporting a particular idea, or changing opinions on a public issue. However, persuading someone to alter his/her preferences, attitudes, beliefs, or behaviors is not easy, particularly without presenting a tangible threat or benefit. People are naturally resistant to radical change and dislike being coerced into doing or believing something. But what if they believe they are choosing freely? The belief in free will is deeply ingrained in human social life, and making rational choices is seen as a fundamental expression of that freedom (Baumeister, Sparks, Stillman, & Vohs, 2008). Therefore, people must feel as though they are making decisions on their own. To achieve this, persuaders need to present their argument in a way that encourages individuals to view agreeing with them as simply a matter of common sense. This technique is a hallmark of persuasive media communication. The art of persuasion is not new, nor is it unique to the media. Its origins trace back to the ancient Greek Sophists, who studied rhetoric and believed that truth was subjective -shaped by individual perspective (Pavlik & McIntosh, 2017, p. 262).

### *Recognizing sound arguments and fallacies in Media*

"*An argument consists of one or more statements that are used to provide support for a conclusion. The statements that provide support for a conclusion are called the reasons or premises of the argument*" (Halpern, 2014, p. 233). Determining whether an argument has a premise (reason) and a conclusion is often more challenging than it appears. The first step is to assess the strength of the argument. Not all arguments are logically sound, and in real-life situations, arguments are often only partially sound. A sound argument typically meets three criteria to some degree (Halpern, 2014, p. 257):

1. *The premises are true or acceptable.* Part of evaluating an argument involves determining whether the premises are acceptable, based on common sense knowledge or expert testimony.

2. *The premises are relevant to the conclusion and provide sufficient support.* However, determining the relevance between the premises and the conclusion can be tricky, especially with complex issues like ethics, health, justice, or politics. Our assessment of an argument's strength is influenced by our prior knowledge, expertise, personal values, and biases.
3. *Have missing components been considered?* Many arguments aim to persuade the audience that a conclusion is true or likely true (e.g., to buy a product or support a political candidate). This goal is often achieved by presenting only the positive aspects, leaving out counterarguments or negative information. However, this represents only a partial truth. The critical question is: what is missing? Are there counterarguments that could change the conclusion? To thoroughly evaluate an argument, we must consider the "other side." Like scientists, we should look not only for evidence that supports the conclusion but also for evidence that might refute it. This is particularly important in complex, contentious issues like vaccination, insurance policies, or migration, where disagreement is common.

Argumentation on social media serves as a prime example of the importance of critical thinking in evaluating the quality of arguments (Schneider, Davis, & Wyner, 2012). Social media is a space filled with disagreements about evidence (whether facts are accepted as true) and the expression of opinions (what people believe or prefer). Users not only share their opinions constantly but also justify them by providing reasons. These social media arguments offer valuable insights for companies seeking to understand customer needs and for politicians aiming to grasp the desires and concerns of citizens. However, understanding argumentation on social media is complex, due to both individual factors and the unique nature of the medium. In many cases, inferring implied information from the context is necessary. Therefore, critical thinking plays a crucial role in comprehending how statements are justified and identifying the core or source of disagreement.

Media often relies on fallacies to persuade us to take certain actions or adopt specific beliefs. Fallacies are arguments that seem valid at first glance, but are ultimately flawed. They may appear convincing, but they lack sufficient or relevant evidence to support the conclusion (Hassen, 2023, 2024). While not necessarily "wrong," fallacies often fail to provide the necessary proof, and their premises may be either unacceptable, irrelevant, inconsistent, or incomplete. For example, do we reject an idea simply because we dislike the person who supports it? This is the essence of the ad hominem fallacy, which undermines an opponent's argument by attacking their character instead of addressing their ideas—often seen in political advertisements. Similarly, do we choose a product or adopt a belief because we admire someone who endorses it, like a celebrity or respected public figure? This reflects the testimonials fallacy (or appeal to authority), where authority figures or celebrities promote a product or idea outside their area of expertise. Most fallacies are designed to appeal to our emotions rather than our logic. Advertisements, for instance, frequently use emotional appeals to persuade consumers to buy a product, support an idea, or take a position on a social issue. These emotional tactics often overshadow rational analysis, making it crucial for audiences to be aware of how such fallacies are used to influence their decisions.

## *Conclusion*

In conclusion, critical thinking is an essential mental tool that enables us to evaluate what and whom to believe. It begins with asking the right questions about the sources of information presented in an argument and distinguishing between the truth or acceptability of a conclusion

and the soundness of the argument itself. Students particularly benefit from critical thinking skills in two key ways: (a) by assessing the strength of arguments through careful analysis of both reasons and counter-reasons, and (b) by avoiding the influence of media propaganda that manipulates emotions (Halpern, 2014, pp. 256-258).

## Key topics

- Understanding Arguments and Argumentation
- The Art of Persuasion
- Persuasive Technics in Media
- Recognizing arguments
- Analysing arguments: Criteria of Sound Arguments
- Argumentation in Social Media
- Recognizing Fallacies in the Media
- The role of Critical Thinking in Countering Emotionally Manipulative Media Propaganda

## Learning objectives

The overall goal of this lesson is to introduce students to (a) the techniques of argumentation in the media, and (b) critical media literacy skills for analyzing, interpreting, and evaluating media arguments. Additionally, students will learn to identify fallacies that appeal to emotions rather than logic.

## Expected results

By the end of this module, students should be able to:

- Understand what constitutes an argument and the role of arguments in the media.
- Distinguish between sound arguments, weak arguments, and fallacies.
- Recognize persuasive techniques used in media argumentation.
- Identify various types of fallacies that appeal to emotions rather than logic in media content.
- Critically analyze, interpret, and evaluate the quality and impact of media arguments on shaping beliefs and decisions.
- Develop argumentation skills for constructing sound, reasoned arguments in everyday life.

## Pedagogical approaches and activities

The Flipped Classroom (FC) is an innovative teaching method designed to introduce learning materials in a way that reverses traditional classroom practices. In this pedagogical approach, students engage with the material prior to class by watching short instructional videos. This preparation allows classroom time to be dedicated to deeper exploration of concepts through discussions, debates, collaborative work, and other interactive activities (Chen et al., 2018). The primary goals of the Flipped Classroom are to maximize the effectiveness of teaching time, actively involve students in the learning process, and enhance their knowledge acquisition and skill development.

## Pre-Lesson Activity – at home

Students are required to watch the video lesson *"Analyzing Arguments and Recognizing Inferences and Fallacies in Media"*, available on the YouTube channel *Critical Thinking in the Information Society*. After viewing the video, students should complete an online self-assessment quiz (e.g., via Google Forms), consisting of 8-10 multiple-choice questions(see Annex). This quiz serves as a pre-test, allowing teachers to identify areas where students may struggle with key concepts. Based on the students' responses, teachers can then plan classroom activities to address these challenging concepts Additionally, the quiz questions can be used for assessment purposes or as a tool for students to evaluate their own understanding. The questions cover the main concepts discussed in the video lesson.

## In-class activities

### *During the lesson "Analysing arguments and recognizing inferences and fallacies in Media"*

Before starting the class, the teacher could analyze the students' quiz responses to identify common areas of difficulty. Classroom activities can then focus on the concepts or questions where students gave the most incorrect answers. This approach allows the teacher to address specific misconceptions. The session could begin with a discussion of the knowledge students gained from the video, along with their impressions of its content. A key topic for discussion could be the distinction between reasoning and rationalizing. In additon, to discuss how the media often exploit our tendency to rationalize our choices. This enables people to believe they have good reasons for their actions or beliefs. Additionally, the class could explore examples of how even traditional media have historically used argumentation to promote political agendas by presenting "justified reasons" for certain positions.

The following classroom activities are designed to help students recognize arguments, assess their quality, identify fallacies, and understand how these fallacies influence our beliefs, attitudes, and actions by appealing to emotions rather than logic.

### *Activity 1. Recognizing arguments*

Objective of the Activity: The goal is to help students distinguish between arguments and opinions or justified opinions presented in the media. The focus is on identifying the premises, conclusions, and possible assumptions (i.e., implied premises) within each argument. Students will be trained to evaluate the strength of an argument using the quality criteria outlined in the video: *(a) premises must be true or acceptable*, *(b) premises should be relevant to the conclusion and provide sufficient support*, and *(c) identifying missing information*.

Activity Description: The teacher will present examples of opinions, justified opinions, and arguments commonly found in the media. In small groups (3-4), students will be assigned the task of:

- Distinguishing the arguments and identifying the premises, assumptions, conclusions, and target audience.
- Analyzing the arguments' strength using the established quality criteria.
- Identifying how the argument might influence opinions or attitudes.

- Creating one weak and one strong argument to promote an idea or product, and sharing them with the class.

Expected Learning Outcomes: Upon completing the activity, students should be able to: (a) Recognize and analyze arguments in the media. (b) Evaluate the quality of these arguments and understand their potential impact on their beliefs and decisions. (c) Develop their cooperation, analytical thinking, and argumentation skills through group discussions and the creation of their own arguments.

## Activity 2. Argumentation in opposing views

Objective of the Activity: The aim of this activity is to encourage students to critically evaluate contrasting arguments on controversial issues encountered in daily life.

The teacher will present two opposing views on a political issue (e.g., a proposed piece of legislation on higher education) and two opposing views on a controversial social or health issue (e.g., migration, vaccination) from the daily press. In groups of 3-4, students will be asked to identify the arguments supporting each viewpoint and evaluate the strength of these arguments. They will analyze each argument and decide which one is more convincing, providing reasons for their conclusions. Each group will then present their findings briefly to the class. The discussion will focus on how prior knowledge, biases, and political positions influence our argumentation and decision-making. The teacher may introduce scientific evidence on cognitive biases (e.g., confirmation bias, familiarity bias) to illustrate how these factors shape the way we evaluate arguments.

Expected Learning Outcomes: Upon completing the activity, students should be able to: **(a)** Evaluate the quality of contrasting arguments on complex issues. **(b)** Recognize how their previous knowledge and biases -beyond the quality of the arguments- affect their decision to adopt one position over another. **(c)** Acknowledge that complex human issues can be understood from multiple perspectives. The activity will also foster students' cooperation and enhance their critical thinking skills, including their ability to analyze, interpret, and evaluate conflicting arguments presented in the media. Additionally, it will promote cognitive empathy by encouraging students to appreciate different viewpoints.

### *Activity 3. Recognizing Fallacies in Media*

Objective of the Activity: The goal of this activity is to help students recognize the use of fallacies in everyday life and media, and understand their impact on opinions, attitudes, and actions by triggering emotional responses.

The teacher will present various scenarios that include different fallacies (e.g., false analogies, appeals to popularity, ad hominem attacks, appeals to ignorance, slippery slope arguments, guilt by association, etc.), as well as control scenarios that do not involve fallacies. Students, in groups of 3-4, will be tasked with identifying the fallacies in these scenarios and discussing how they are commonly used in the media—such as in political TV panels, social media, or advertisements. Each group will brainstorm and write down examples they can think of and then present them to the class. After the presentations, a discussion will focus on the emotional power of fallacies—how they evoke strong emotional responses (either positive or negative). Students will be encouraged to explore how each fallacy might be linked to a specific emotion.

Expected Learning Outcomes: By the end of the activity, students should be able to: (a) Recognize the use of fallacies in everyday life and the media. (b) Understand the impact of fallacies on their opinions, attitudes, and actions by triggering emotional responses. This activity will promote cooperation, critical evaluation of media messages, and reflection on the role of emotions in thinking, decision-making, and behavior.

## After the lesson - Testing

The post-class activity, *Analyzing Arguments and Recognizing Inferences and Fallacies in Media* (see Annex), is designed to assess students' understanding by having them complete a quiz. Unlike the pre-class test, this post-class quiz consists entirely of open-ended questions, encouraging deeper reflection and analysis.

## Interaction model

- Group Work: Students will collaborate in groups to complete in-class activities, discuss their ideas, and present their arguments.
- Individual Work: Students will complete the post-class quiz and watch the video material at home.

## Evaluation and recommendations

Students' performance on the post-video quiz can provide valuable qualitative feedback, which the teacher can use during class to clarify concepts and guide discussions. Additionally, the post-class quiz, along with any optional homework assignments, can be used to evaluate students' performance. This evaluation can be both qualitative and quantitative, depending on the course requirements.

The teacher should develop specific evaluation criteria based on the expected outcomes from students' responses to the quiz, ensuring alignment with the learning objectives of the video lesson.

## Notes to the lecturer

The teacher should encourage active student participation in class activities, providing students with the space and freedom to question common beliefs, express their opinions, engage in constructive debates, and respect differing viewpoints. A critical thinker is mindful, self-reflective, open-minded, and a truth-seeker, able to understand others' perspectives and reasoning—even when in disagreement—and to appreciate the complexity of human issues.

To support this process, it is important for the teacher to focus on the following:

- Preliminary preparation: Ensure thorough preparation before introducing the topic.
- Material selection: Choose content that is tailored to the students' educational needs and developmental level.
- Time management: Consider the time required for in-class activities to ensure they are effective and engaging.

The teacher should also provide clear, concise instructions for implementing the pre-lesson and post-video quizzes, along with guidance on what students should focus on while watching the video lesson.

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# Topic 6: Stereotypes and Media Literacy

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## Background and rationale

Media as a platform for positive change in one hand, but media is a basis for manipulation. It is a platform through which stereotypes are constructed and supported with quite harmful influence on our thoughts and minds. Critical media literacy focuses on unpacking hidden power messages in the media and learning to resist the messages (Share, 2009). The main questions we should consider: how to recognize gender, ethnicity, disability and ect. based stereotypes, how to deconstruct these stereotypes and to understand why stereotypes are problematic?

### *What is a stereotype?*

A stereotype is a fixed general image or set of characteristics, over-generalized belief about a particular group in the society[1]. Stereotypes involve associating a group with a general characteristic (for example: being good or bad at something, being poor or violent, smart, or less intelligent). A stereotype assumes that anyone in a group is very likely to have certain characteristics. People do not usually state a stereotype explicitly: people can say, "Women are bad drivers." Therefore, stereotypes are fixed and rigid descriptions of groups of people that allows to distinct 'us' from 'others'.

Stereotypes can be rooted in all of us often without our knowledge and could be quite harmful. When we accept and respond to stereotypes, we risk making assumptions about people that can harm individuals or members of that group. Also, stereotypes are harmful to people outside of the affected groups[2].

### *Stereotypes and media: why is it important to consider about it?*

Some of the stereotypes have a grain of truth but too much exaggerated. Others are merely a tool for transferring feelings of animosity and anger onto objects that are not the real cause of these feelings. Stereotypes are deeply rooted in cultural attitudes, and it is difficult to break even when it strongly misrepresents reality.

Why stereotypes in the media are important to be considered? In one hand stereotypes are important because of what they do, and on the other hand - stereotypes are important because of what they mean (Bradley & Gorham, 1999). It's obvious, that stereotypes in the media can influence our interpretations of media content in a way that supports dominant myths about race, gender, disability and etc. and maintain unjust, harmful, and dominating understandings. Such automatic priming can occur whether or not the individual involved necessarily endorses the stereotype, and although people can subsequently argue against the automatically primed constructs, in a sense the damage has already been done.

Social dominance theory proposes that human social systems tend to organize themselves as group-based hierarchies of status and power, and dominant groups have greater access to material and symbolic resources than do subordinates (Bradley & Gorham,1999; Ghavami & Peplau, 2013) . Social hierarchies are created and maintained by legitimizing myths that include stereotypes, attitudes, and values that provide justification for current social inequalities. Based

[1] https://www.collinsdictionary.com/dictionary/english/stereotype

[2] https://projects.iq.harvard.edu/files/gse-mcc/files/stereotype_exercise_0.pdf

on social dominance theory, we expect that gender and ethnic stereotypes will map onto the social hierarchies of gender and ethnicity.

There are research data indicating racism and sexism in films, video games, advertisements. Some examples of stereotypes' manifestation in media:

- • Some research on inequalities in Hollywood film and television production, for example, demonstrates how lack of diversity in entertainment media content: Hollywood to be a predominantly White sphere, where racial and ethnic minorities are highly underrepresented in various roles, including acting, writing, and directing (Erigha, 2015).
- • Regardless of medium, the media generally (re)present gender stereotypical images of males and females (Gainer, 2010). For example, males are more commonly presented as the main subject, engaged in action behaviours, portrayed as financial providers, and shown in occupations related to science, technology, engineering and/or blue-collar fields. Though females are often portrayed as wives, mothers and/or sex objects; when in occupations, females are often presented in fields perceived as nurturing: teachers, nurses, social workers, sex workers or secretaries (Puchner, Markowitz, & Hedley, 2015)

### *How to deconstruct stereotypes and to understand why stereotypes are problematic? How to challenge and change such stereotypical representations?*

Critical thinking is a process that involves asking appropriate questions, gathering and creatively sorting through relevant information, relating new information to existing knowledge, re-examining beliefs and assumptions, reasoning logically, and drawing reliable and trustworthy conclusions. The cognitive skills of analysis, interpretation, inference, explanation, evaluation, and of monitoring and correcting one's own reasoning are at the heart of critical thinking (UNESCO).

Critical media literacy focuses on unpacking hidden power messages in the media and learning to resist the messages (Puchner, Markowitz, & Hedley, 2015; Share 2009). Critical thinking as a basis to disclose imposed generalizations (circulating as stereotypes in society) about who is "us" and who is "them", who is "normal" and who is „not normal". Critical media literacy requires recognition of how media texts normalize specific identities – and affirm their social status – through the assignment of cultural values to various social groups through stereotyping, among other methods. This construction particularly stigmatizes vulnerable groups of society, also distancing them from opportunities to participate equally in the life of society.

In order to resist the construction of stereotypes, it is necessary to deconstruct them — to see what is wrong with them. We have to try to focus on how to analyse cultural texts in terms of social injustice. Critical media literacy calls for social activism, transforming us from passive consumers of media to active participatory-democratic citizens. Some have argued that new digital media might provide an effective challenge by enabling spaces for alternative, grass-roots storytelling and a democratization of content from a more diverse range of producers. Some researches argue that the media can either promote or call into question racial and ethnic stereotypes, and there is potential for media to use their influence positively to mitigate the effect of social stereotypes

An appropriate attention to acquisition of intercultural competences (linguistic, cultural and communicative) may serve as an effective condition for the devisualisation and deconstructing of stereotypical behaviour and thus to ensure a proper and full-scale communication and cooperation among representatives of different cultures (Pruskus, 2010).

### *Conclusion*

Critical thinking skills are seen as one of the key skills for recognizing different kind of stereotypes and enabling him/her to deconstruct all those over-generalized believes about "others".

## Key topics

- Stereotypes.
- Over-generalized believes.
- Gender based stereotypes.
- Ethnicity based stereotypes;
- Disability and ect. based stereotypes.
- "We" and „Others ".
- Deconstructing stereotypes.
- Critical thinking.
- Media literacy.

## Learning objectives

The overall objective of the class is to familiarize the students with stereotype phenomenon, stereotype patterns and its impact to our understandings as well as the possibilities and the meaning of the deconstruction of stereotypes.

## Expected results

Knowledge, skills and attitudes that students will acquire at the end of this module:

At the ***knowledge*** level:

- Become familiar with the essence of stereotypes phenomena.
- Understand media messages as social constructions (CT);
- Understand how different audience groups view messages differently, revealing the values and ideologies (ML[3])

At the ***skills*** level:

- Critically analyse and evaluate the causes and effects of stereotypes social construction mechanism (CT).
- Critically analyse cultural texts in terms of social injustice, discrimination (ML)
- Actualize media literacy interventions in reducing race/ethnicity/(dis)ablity/ age/ sexual orientation based stereotype (ACT - essential competencies) (ML)
- Deconstruct hidden messages in the media and the tools, means perpetuating gender/ race/ ethnicity/ (dis)ability/ age/ sexual orientation based stereotypes (CT[4])

At the ***attitudes*** level:

- Recognize and reflect on one's own attitudes and values towards particular social groups and stereotypes (Reflect) (ML)
- Recognise colleague's attitudes and discuss about it in respect way.

[3] Media literacy

[4] Critical thinking

## Pedagogical approaches and activities

### Pre-Lesson Activity – at home

- Before class: in order to help students - prepare for in-class activities and maximize the time spent in class, ask them to watch the *Stereotypes and Media Literacy* instructional video on the Flipped Methods YouTube channel (narrated in Lithuanian, subtitled in English, Romanian, Bulgarian, Greek, Polish languages).

- Students are invited to complete a PRE-TEST. Before class make a quantitative analysis of the results. The questions are aimed at the most general parameters of the topic. Test results will give an approximate idea on what difficulties has faced students in understanding the topic, so class activities should focus on difficult concepts, methods and ways.

### In-class activities

The flipped classroom strategy is proposed for lectures. Before the lecture, students should familiarize themselves with the content of the upcoming lecture - watch the VIDEO.

The most important advantage of the flipped classroom approach - that students from being passive listeners can transform to active once, who organize their own learning process. It could make learning more effective and helps students develop important independent learning skills.

Also, students can study at home at a proper time and could be not distracted by various factors. As well, they have a possibility to watch the material as many times as needed.

#### *Activity 1. Work in pairs: What's wrong with this example*

This activity – discussions may involve three parts.

1. *Presentation of the stereotypical statement. Discussions in pairs.*

You can start with some statements based on gender, ethnicity and ect. variety.

It's better to start with neutral statements that could not be applicable for anyone in the class. The first statement could be: „*People with disabilities are poor"*. Ask the students with the following question:

- "Is there anything wrong with this statement?"

Let the students discuss in pairs what is wrong and not wrong with this statement.

2. *The second discussion*

After first discussion, write the following:

- All people with disabilities are poor
- Most people with disabilities are poor
- Some people with disabilities are poor

Students may return to the pair discussion with the following questions:

- "What are the differences between these three statements?"
- "How is it different to say that - Most people with disabilities are poor and that some people with disabilities are poor?"

3. *Discussion in class.*

After second discussion, bring students back together as a whole and have students share their reasoning about which of the three statements they think is meant by the general statement "*People with disabilities are poor*."

We can solidify students' understanding an appreciation of the differences among the three statements and three scope indicators.

***Activity 2. Work in-group (3-4 members). Group discussion: how to deconstruct the stereotype?***

During the lecture, students work in groups to come up with examples from social media. Students had to choose one article from social media and identify some stereotypes they recognize.
Organize a discussion in the group and an assignment about this example:

- Trying to find out the indicators that allow identifying stereotypes.
- Trying to rewrite the article avoiding stereotyping.

After this assignment, bring students back together as a whole and ask students:

- To share their reasoning about what makes stereotypes recognizable.
- To share with a new approach of the message without stereotyping.
- To share their feeling about the case.
- To share their understanding about the lesson they have been taught through this case and assignment.

## After the lesson - Testing

The post-class activity called *Stereotypes and Media Literacy - Post-test* (see Annex) involves assessing students' knowledge by completing an open-ended test. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation and recommendations

Assess students on their ability:

- to recognize stereotypes in social media, identifying the indicators of stereotyping,
- to actualize proper arguments for the statements,
- to consider divers perspectives,
- to reflect on his/her own attitudes, experience,
- to find out a non-discriminatory way of the message.

Also focus on critical thinking and ethical reasoning should be considered.

## Notes to the lecturer

Teachers must not only find or prepare material for home learning, but also be prepared to answer a variety of student questions in class, which may often be unexpected, and to cover broader connections to particular topics, sources, etc.
It is important for the teacher to pay attention to:

- The preliminary preparation for work on the topic.
- A selection of case studies for the peer discussions involving race, gender, disability, ethnicity issues.

The teacher should prepare short and clear instructions regarding the implementation of the test before the lesson and the test after the video lesson; instruction about the video lesson (what the students should pay attention to).

## Further readings

Bond, K.T., Leblanc, N.M., Williams, P., Gabriel, C-A., & Amutah-Onukagha, N.N. (2021). Race-Based Sexual Stereotypes, Gendered Racism, and Sexual Decision Making Among Young Black Cisgender Women. *Health Education & Behavior*, *48*(3), 295-305. https://doi.org/10.1177/10901981211010086

*Study explores the impact of race-based sexual stereotypes and gendered racism on the sexual decision-making of young Black cisgender women. It highlights how stereotypes, such as the hypersexualization of Black women, intersect with racism and sexism to shape societal pressures and limit personal agency*.

Ghavami, N., & Peplau, L. A. (2013). An Intersectional Analysis of Gender and Ethnic Stereotypes: Testing Three Hypotheses. *Psychology of Women Quarterly, 37*(1), 113–127. https://doi.org/10.1177/0361684312464203

*This research examines how gender and ethnicity intersect to produce complex stereotypes, revealing that expectations vary significantly across identities. It underscores the persistence of traditional roles and biases, highlighting the need for an intersectional approach to understanding stereotypes*.

How to guide deconstructing stereotypes. https://projects.iq.harvard.edu/files/gse-mcc/files/stereotype_exercise_0.pdf

*The guide provides practical strategies for identifying and challenging stereotypes, promoting critical thinking about implicit biases. Through exercises and dialogue, it aims to help individuals recognize the impact of stereotypes and develop tools to counteract them.*

Puchner, L., Markowitz, L., & Hedley, M. (2015). Critical Media Literacy and Gender: Teaching Middle School Students about Gender Stereotypes and Occupations. *Journal of Media Literacy Education, 7*(2), 23-34. https://doi.org/10.23860/jmle-7-2-3 .

*Focusing on middle school education, this study demonstrates how critical media literacy can help students deconstruct gender stereotypes in media and occupations. It advocates integrating media analysis into education to encourage critical engagement with societal norms*.

Ross, T. (2019). Media and Stereotypes. In: Ratuva, S. (Eds.) *The Palgrave Handbook of Ethnicity*. Palgrave Macmillan, Singapore. https://doi.org/10.1007/978-981-13-0242-8_26-1

*This chapter explores how media historically reinforces ethnic stereotypes, often rooted in cultural biases. It discusses strategies for countering stereotypes by promoting authentic and diverse representations, aiming to reduce their harmful effects*.

Unesco (2013). Glossary of curriculum terminology. http://www.ibe.unesco.org/en/glossary-curriculum-terminology/c/critical-thinking

*The glossary emphasizes the role of critical thinking in deconstructing stereotypes within education. It advocates for curricula that encourage questioning biases and developing skills to challenge societal norms and prejudices*.

# Topic 7: Propaganda in Media: Playing with Emotions

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## Background and rationale

### *What is propaganda and how it relates to our emotions?*

Emotions are considered as the reactions that we experience in response to a situation, the internal condition of a person. Usually they appear suddenly and it's difficult to control. Phenomena related to positive emotions are perceived as useful, necessary and desirable. Emotions, like a compass, can help us navigate in different situations, in our case, social media. When a person does not have enough information to make the right decision, emotions become a kind of information supplement.

Studies show that even 95 percent of human beings are not fully aware of the thoughts they have, and we react emotionally to everything within three seconds - i. e. three thousand times faster than a conscious response could be given.

Most of the time, propaganda is defined in a negative context. It is illegitimate, disinformation-based tools promoting the formation of public opinion. The synonyms used to describe propaganda are lie, deception, distortion, manipulation, brainwashing, mind control, psychological warfare. However, propaganda is also used for marketing, social, and educational purposes. Therefore, propaganda can also work in a positive context - the most important thing is purposes. For example, the harm of smoking on cigarette is also propaganda, as it tries to affect people emotionally and change their behaviour - to force them to quit smoking. However, most of the time, propaganda is used for negative purposes - to incite hatred and enmity.

Most of the time, disinformation seeks to arouse our emotions. And when emotions run high, we often make improper or wrong decisions. Right now, we all are feeling mixed emotions when we hear about military factors. The stronger our emotions, i.e. we worry more, we feel great anger, sadness, the harder it is for us to understand our emotions, the more we begin to trust fake news. The literature on the relationship between emotions and credulity reveals that a negative mood state tends to increase skepticism, while a positive mood state increases credulity and decreases the ability to detect deception.

### *Types of Propaganda. How it works?*

Propaganda plays on human emotions – fear, hope, anger, frustration, sympathy – to direct the audience towards a desired goal. In its deepest sense, propaganda is a mind game - a clever propagandist exploits people's fears and prejudices. Successful propagandists understand how to psychologically tailor messages to people's emotions to create a sense of excitement and excitement that stifles critical thinking

Propaganda can be divided into white, grey and black according to objectivity:

- White propaganda is related to the maximally transparent and open representation of facts, cultural news that appear to be harmless, e.g.: lifestyle, presentation of personalities that can serve as an example for the cultural, sports and musical life.
- Grey propaganda. Representatives of grey propaganda purposely link confirmed facts with unconfirmed ones, present only an interpretation favourable to themselves, and

purposely misrepresent the context of the fact. Grey propaganda is intensively applied in managed/controlled informational, political or economic conflicts.

- Black propaganda. It is based on deliberate lies and falsification of events and facts.

Propaganda is a type of communication that is used to promote a particular point of view with a purpose to influence people's opinions or to control their behaviour. According to the experts of propaganda, it often relies on disinformation and misinformation, which can be very effective in shaping people. Practically we can deal with variety of Propagandas' techniques (overgeneralization, Glittering generalities, Card-stacking, pinpointing the enemy, name calling, bandwagon, Testimonials, Plain folk), that may have different effects on humans' emotions and behaviour.

Social media provides a platform for self-expression, allowing people to share their creativity, ideas, and opinions, thereby fostering creativity and self-expression. It also helps to build communities based on interests or hobbies, strengthening social ties and helping to find like-minded individuals. Propaganda on social media is significant due to its ability to quickly and widely disseminate information, shape opinions, and influence behaviour, especially by manipulating our emotions. Due to the threats of false information and manipulation, it is crucial to control propaganda, recognize its forms and types, and understand its mechanisms.

### *Conclusion*

Understanding propaganda techniques and how they can affect our emotions creates the conditions to control and manage them, without succumbing to the flow of false information. Critical thinking and education are essential elements in the fight against propaganda, as they allow for independent evaluation and analysis of the information received.

## Key topics

- Concept of propaganda
- Types of propaganda
- White propaganda
- Grey propaganda
- Black propaganda
- Propaganda techniques
- Playing with emotions
- Disinformation
- Trolls and bots
- Ways to counter propaganda
- Critical thinking
- Social media

## Learning objectives and expected results

### *Knowledge*

- Understanding Propaganda Techniques and Types: Recognizing common strategies used in propaganda, such as emotional manipulation, fearmongering, scapegoating, and appeals to authority; understanding the different forms of propaganda (white, grey, and black) and how they vary in terms of transparency, factual accuracy, and intent.

- Psychological Impact of Emotions on Decision-Making: Understanding how emotions such as fear, anger, and sympathy can influence individuals' responses to information and their susceptibility to manipulation.
- Social Media and Propaganda: Understanding the role of social media in disseminating propaganda and how its speed and reach can amplify emotional appeals to influence public opinion and behavior.

### *Attitudes*

- Critical Thinking and Ethical Awareness in Media Consumption: Developing the ability to critically analyze messages and sources of information, particularly in the context of propaganda, while remaining open to diverse perspectives; cultivating awareness of the ethical implications of propaganda, including the potential harm caused by misinformation, disinformation, and the manipulation of emotions for political or social gain.
- Emotional Resilience and Self-Control: Strengthening the ability to recognize and manage emotional reactions to external stimuli, such as news stories or social media content, to make more rational and informed decisions.
- Responsibility in Sharing Information: Encouraging responsible behavior when sharing information online, including verifying sources and considering the emotional impact that shared content may have on others.

### *Skills*

- Identification of Propaganda Techniques: Developing the ability to identify various propaganda techniques such as overgeneralization, name-calling, bandwagon, and emotional appeals, and understanding how they are used to manipulate emotions.
- Evaluating Emotional Appeals: Learning to assess the emotional underpinnings of messages, distinguishing between genuine emotional responses and those crafted specifically to manipulate opinion or behavior.
- Fact-Checking and Verification: Acquiring the ability to fact-check information, verify sources, and cross-check multiple perspectives to avoid falling prey to disinformation and misinformation.
- Decision-Making Skills: Strengthening the ability to make independent, well-informed decisions in situations where emotions may cloud judgment, especially in politically or socially charged contexts.

## Pedagogical approaches and activities

### *Pre-Lesson Activity – at home*

- Students are asked to watch a video lesson, *Propaganda in Media: Paying with Emotions* educational video, available on the YouTube channel *Critical Thinking in the Information Society.*
- A pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic. Test results will give an approximate idea of students' difficulties in understanding the topic. Therefore, class activities should focus on difficult concepts.

## In-class activities

### *Activity 1. During the lesson "Debate"*

Objective: to create conditions for understanding propaganda methods and types and to recognize common strategies used in propaganda; will develop the ability to critically analyze messages and sources of information, especially in the context of propaganda, while maintaining an openness to diverse perspectives.

*Step-by-Step Guide:*

1. Introduction
    - Topic and question introduction: Explain what propaganda in the media is and how it manipulates people's emotions. For example, "How can the media shape opinion through emotional reactions?"
    - Emphasis of importance: Emphasize the relevance of this question in today's world, where emotions often become a tool for manipulation.
2. Discussion format
    - Presentations: Allow both sides (pros and cons) to present their arguments about the impact of propaganda on emotions. Each side is given 5-7 minutes.
    - Questions and answers: After the presentations, allow the audience or moderators to ask questions to determine how strongly propaganda techniques can affect emotional perceptions and decisions.
3. Arguments for and against
    - Pros:
        - Propaganda manipulates emotions to increase engagement and reach.
        - Emotions can be used as a tool to expand the flow of knowledge and encourage certain reactions.
        - Emotional manipulation can have a significant impact on public opinion and decisions (e.g. in political campaigns).
    - Against:
        - The media should promote critical thinking, not just emotions.
        - Propaganda can lead to social division and a negative impact on democracy.
        - Emotional manipulation often leads to misinformation and unfair decisions.
4. Conclusions and discussion summary
    - After reviewing the main arguments, stimulate a discussion about the responsibility of the media and how the public should respond to emotionally manipulated information.
    - Finally, the moderator can ask participants to give their opinions on possible solutions to combat emotional manipulation in the media.

### *Activity 2. During the lesson "Case study"*

Objective: to create conditions for students to understand the impact of emotions on decision-making; will develop an understanding of the consequences of propaganda, including the potential harm caused by disinformation and the manipulation of emotions for personal gain.

*Step-by-Step Guide:*

- Case: The impact of emotions on decision-making and susceptibility to manipulation.

- Situation: Tom and Elena are two individuals watching the same piece of media coverage about a recent environmental disaster – a massive oil spill that has affected coastal ecosystems. Tom views this information with fear because he is very concerned about the environment and his future. On the other hand, Elena views it with compassion because she is sensitive to animal suffering and ecological change. However, the media uses these emotions in different ways – Tom responds to the information to take action and demand strict laws to prevent such incidents. Elena, although compassionate, relies on more humanitarian measures, believing that helping people help the victims can help resolve the situation.
- The impact of emotions:

Fear: Tom reacts to this situation with a sense of fear, leading him to make quick decisions, such as signing up for stricter laws or voting for more environmentally friendly policies. Fear can make him more sensitive to false or distorted news that emphasizes the dangers of disasters.

Anger: If Tom were angry about unfair environmental practices, his reactions would be more polarized and could promote hostility towards various sectors or political forces that he believes contributed to the disaster. Anger often reinforces people's tendency to make extreme decisions that may not be suitable for long-term impact.

Compassion: Elena responds with compassion, but this may lead her to make decisions more focused on helping people or animals in distress based on an emotional response. However, compassion can also be manipulated: if the media only shows very emotional images related to shocking photos, Elena may make decisions that are not rational but based solely on an emotional reaction.

### *Case Study Steps*

1. Problem Presentation:

- Explain how the media often manipulates emotions to cause people to react.
- Define the main emotions influencing decision-making: fear, anger, and compassion.
- Present a situation where Tom and Elena react to the same information, but their emotional reactions differ.

2. Investigating the Effects of Emotions: analyze how fear, anger, and compassion can affect individuals' attitudes toward information and their decisions.

- Fear: Fear often leads to impulsive decisions focusing on quick action or protection.
- Anger: Anger can motivate actions that seek to punish or eliminate a threat, sometimes without considering the long-term consequences.
- Compassion: Compassion can motivate decisions that aim to right wrongs or help others, but it can be manipulated.

3. Assessing Real Reactions and Impact:

- Review how Tom and Elena respond to this emotional manipulation. Are they making decisions based solely on emotions, or are they trying to balance rationality?
- Identify how these emotional factors make them vulnerable to manipulation.

4. Conclusions and Recommendations:

- Explain how emotions can be both a useful tool and a dangerous manipulation strategy.
- Emphasize the importance of being critical and resilient to emotional manipulation, developing the ability to analyze information and make decisions based on both emotions and logic.

5. Critical Thinking and Responsibility:

- Encourage consideration of reactions to emotions and the ability to distinguish between real and imagined threats that may arise from emotional manipulation.
- Review the responsibility of both the media and individuals to be aware and able to resist manipulation.

## After the lesson - Testing

The post-class activity called *Propaganda in Media: Paying with Emotions* – Post-test (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation and recommendations

Each student receives an individual grade based on the test results before the lesson.

After each assignment, students receive evaluation criteria that relate to critical thinking and the arguments presented. Students are also given the opportunity to evaluate each other's work.

## Notes to the lecturer

It is important for the teacher to pay attention to:

- The preliminary preparation for work on the topic.
- The preparation of the preliminary preparation of the teacher's preparation for the teacher's lesson.
- to think of appropriate cases that encode the problem.
- to present the cases to the students in a way that does not violate each learner's ethical attitudes and values.

The teacher should prepare short and clear instructions regarding the implementation of the test before the lesson and the test after the video lesson, as well as instructions about the video lesson (what the students should pay attention to).

## Further readings

Allcott, H., Gentzkow, M. (2017). Social media and fake news in the 2016 election. *Journal of Economic Perspectives, 31*(2), 211–236. https://doi.org/10.1257/jep.31.2.211.

*The authors focus on how fake news stories, particularly those shared on platforms like Facebook and Twitter, may have influenced public opinion and voting behaviour. They analyze the prevalence of fake news, its sources, and how it spreads across social networks.*

Cherry, K. (2022). Emotions and Types of Emotional Responses. The Three Key Elements That Make Up Emotion. https://www.verywellmind.com/what-are-emotions-2795178

*The article explores the concept of emotions, their psychological underpinnings, and the various types of emotional responses individuals experience.*

Forgas, J. P. (2019). Happy believers and sad skeptics? Affective influences on gullibility. *Current Directions in Psychological Science, 28*, 306–313. Recognizing Propaganda. Available at: https://propaganda.mediaeducationlab.com/techniques

*The article explores how emotional states—specifically happiness and sadness—affect people's susceptibility to believing in false or misleading information, also known as gullibility.*

Rosas, O. V., Serrano-Puche, J. (2018). News media and the emotional public sphere – introduction. *International Journal of Communication, 12*, 2031–2039.

*The article lays out the significance of the emotional dimension of news media and its impact on how people engage with public life.*

Serrano-Puche, J. (2021). Digital disinformation and emotions: exploring the social risks of affective polarization. *International Review of Sociology*, *31*(2), 231-245, DOI: 10.1080/03906701.2021.1947953

*The piece likely explores how spreading false or misleading information, especially on social media, contributes to emotional divides within society and deepens political or social polarization.*

Steinert, S., Marin, L., Roeser, S. (2022). Feeling and thinking on social media: emotions, affective scaffolding, and critical thinking. *Inquiry*, DOI: 10.1080/0020174X.2022.212614

*The interplay between emotions, affective processes, and critical thinking in the context of social media use is presented in the article.*

# Topic 8. Distinguishing Facts from Opinions

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## Background and Rationale

Not everything we see, hear, or read in the media is factual, and we all know this from personal experience. This is especially true in the age of "new" media, where anyone can voice their opinion on a person, policy, public issue, or recent event. Social media has become a platform where personal opinions are shared and spread instantly across the globe. The critical question, however, is why do we so often equate opinions with facts? Distinguishing between facts and opinions is not as simple as it seems, and it requires a deeper awareness of how our minds work and the factors that shape our beliefs. To navigate this challenge, we must recognize the role of cognitive biases in how we search for, evaluate, and interpret media messages. Developing skills in critical reading, inquiry, and scientific thinking is essential for becoming aware of biased thinking and learning to discern facts from opinions in the media.

### *Different kinds of facts and opinions*

A fact is defined as something that is known to have happened or to exist, particularly when there is proof or verifiable information supporting it. In the media, facts can be categorized in several ways: *(a) proven facts*, which are easily verifiable, *(b) probable facts*, which are statements that are likely true but cannot be fully proven due to a lack of access to specific information, and *(c) probable untrue facts*, such as fake news that spreads false or misleading information. Regardless of the type, facts are verifiable, whereas an opinion reflects an individual's belief or perspective, which may or may not be true. Opinions represent how we interpret and evaluate information and evidence. But how are opinions formed? To answer this, it's crucial to distinguish between two types of opinions: those of experts and personal opinions. Experts' opinions are based on their specialized knowledge and experience in a particular field (e.g., a doctor's diagnosis of a disease). Such opinions are reliable when the expert is objective, follows evidence, has no personal stake in the outcome, and adheres closely to their area of expertise. Personal opinions, on the other hand, are often shaped by individuals after considering available facts and drawing conclusions based on their own perceptions and experiences. This distinction underscores the importance of recognizing true versus false facts in the media, as it directly affects our decisions and actions. Scientists, for instance, base their conclusions on facts and evidence. So, do we approach our daily decisions with the same scientific rigor? If not, why might people form differing opinions when presented with the same set of facts?

### *Biased thinking and searching for information in Media*

Our personal opinions are shaped not only by facts but also by our prior knowledge, values, and beliefs, as well as the way our minds operate when we need to make judgments, decisions, or draw conclusions. The human mind tends to favor mental shortcuts -quick, effortless ways to make judgments without considering all alternatives (Kahneman, 2011). While these shortcuts can make decision-making easier, they also come with a downside: they can lead to errors, biased judgments, and logical fallacies. Biases are inevitable, as our thinking is influenced by past experiences, culture, and education. The real challenge, however, lies in our lack of awareness about the limitations of our minds and how they shape our thinking.

One of the most common biases related to media consumption is *confirmation bias*, which refers to our tendency to seek out information that supports our existing beliefs while disregarding

information that contradicts them (Halpern, 2014). We often prefer to avoid opposing viewpoints, which limits our ability to make well-rounded decisions or draw informed conclusions in everyday life. As a result, we miss out on alternative perspectives and may end up misinformed or misled. In the world of new media, the line between facts and opinions is increasingly blurred, particularly on the Internet. Anyone can create content and present it as a fact, without the obligation to clarify whether it's an opinion or a verified truth. Can we distinguish between facts and opinions when they are presented together, often with the intent to deceive? If we only seek information that aligns with our views, we are likely trapped in an echo chamber -an environment that reinforces and repeats our own perspective, systematically validating our opinions and pre-existing beliefs. Recognizing this can be challenging unless we are aware of how it operates. Even more difficult is identifying when we are caught in a filter bubble, where algorithms track our online activity, personalize our web experience, and deliver content tailored to our preferences -ultimately showing us only what we want to see, hear, and read!

A second type of biased thinking is *familiarity bias*, which occurs when prior exposure to something creates a sense of familiarity, leading us to develop a preference for it. This is known as the *mere exposure effect* (Halpern, 2014, p. 420). Social media is a prime example of how information, when presented in high volume over a short period, can be perceived as true and quickly spread by millions without verifying its accuracy. Another common bias is the *anchoring effect*, which refers to our tendency to rely heavily on the first piece of information we receive about a topic, often assuming it is the most reliable (Furnham & Boo, 2011). A recent study on numerical misinformation in news articles about migration and criminal behavior demonstrated the anchoring effect in action (Stubenvoll & Matthes, 2022). Even when participants were shown a retraction and learned that the initially presented numbers were misleading, they continued to favor the inaccurate information they had first encountered. Critical thinking serves as a powerful tool in developing *cognitive bias literacy*, helping us recognize and counter these biases.

### *Conclusion*

In conclusion, critical thinking is an essential skill for: (a) distinguishing between facts and opinions, and addressing opinions that obscure facts in the media, and (b) reflecting on our cognitive biases, understanding the factors that trigger them, and recognizing their impact on how we evaluate information presented by the media. The first step in overcoming these mental pitfalls is becoming aware of their existence. The second step is actively de-biasing our consumption of media, ensuring we approach information more thoughtfully and critically.

## Key topics

- Types of Facts: Proven facts, probable facts, and factually untrue claims
- Types of Opinions: Expert opinions and personal opinions
- Cognitive Biases: Confirmation bias, familiarity bias, and the anchoring effect
- Biased Information Searching in Media: Echo chambers and filter bubbles in digital environments
- Critical Thinking for Recognizing Cognitive Biases: Enhancing awareness of cognitive biases through critical thinking

## Learning objectives

The overall goal of the lesson is to (a) introduce students to various types of factual and opinion statements, (b) enhance their ability to distinguish evidence-based statements from opinions,

including expert opinions that may lack supporting evidence, and (c) develop their critical thinking skills to objectively analyze, evaluate, and synthesize information.

## Expected results

By the end of this module, students should be able to:

- Understand the distinction between factual statements and opinion statements.
- Identify various types of factual and opinion statements in the media.
- Seek evidence to support factual claims.
- Develop fact-checking skills to verify information.
- Evaluate the credibility of expert opinions.
- Critically examine their own beliefs and the processes that shape them.
- Recognize biased thinking and its influence.
- Consult multiple sources when seeking new information or forming opinions.
- Look for consensus across different media outlets.
- Identify echo chamber environments online and avoid them.
- Search for, interpret, and evaluate media information objectively.

## Pedagogical approaches and activities

The Flipped Classroom (FC) is an innovative teaching method designed to introduce learning materials in a way that reverses traditional classroom practices. In this pedagogical approach, students engage with the material prior to class by watching short instructional videos. This preparation allows classroom time to be dedicated to deeper exploration of concepts through discussions, debates, collaborative work, and other interactive activities (Chen et al., 2018). The primary goals of the Flipped Classroom are to maximize the effectiveness of teaching time, actively involve students in the learning process, and enhance their knowledge acquisition and skill development.

## Pre-Lesson Activity – at home

Students are required to watch the video lesson, *Distinguishing Facts from Opinions*, available on the YouTube channel *Critical Thinking in the Information Society*. After viewing the video, they will complete an online self-assessment quiz (e.g., in Google Forms) consisting of 8-10 multiple-choice questions (see Annex, for a proposed example). This quiz serves as a pre-test, allowing teachers to identify challenging concepts based on the students' responses and plan classroom activities accordingly. The primary goal is to address areas of difficulty revealed by the results. Additionally, these questions can be used by teachers for assessment or by students for self-evaluation. The quiz covers key concepts presented in the video lesson.

## In-class activities

### *During the lesson "Distinguishing Facts from Opinions"*

Before starting the class, the teacher can conduct a quantitative analysis of the students' quiz responses completed at home. Based on the areas where students provided the most incorrect answers, the teacher can begin the classroom activities by addressing these concepts or questions. A discussion can be initiated about the students' takeaways from the video and their impressions of its content.

The following classroom activities will focus on enhancing students' critical thinking skills, helping them distinguish between facts and opinions, and enabling them to recognize biased thinking when searching for, selecting, and interpreting media messages.

### *Activity 1. Chasing the facts and evidence*

Objective of the Activity: To help students distinguish between objective factual statements and subjective opinions.

The teacher provides a handout containing various factual statements (proven, probable, and probably untrue) and opinions (personal and expert) related to a controversial issue (e.g., social, health, political, ethical) relevant to the students' field of study. Working in groups of 3-4, students are tasked with identifying the different types of facts and opinions and justifying their classifications. Each group will present their analysis, while the teacher records points of agreement and disagreement. A discussion will follow, with each group defending their classifications.

Expected Learning Outcomes: After completing the activity, students should be able to accurately identify different types of factual statements and opinions and understand the importance of evidence-based reasoning. The activity will also foster collaboration, improve argumentation skills, and enhance critical thinking and analytical reasoning.

### *Activity 2. Recognizing different perspectives and opinions for the same issue*

Objective of the Activity: To help students understand that issues can be approached from multiple perspectives and to develop their ability to reason critically about different viewpoints.

Students are first asked to express their opinion on various topics (e.g., "Do you think a candidate's alcohol problem in national elections is a valid reason to not vote for them? What additional information would you need to make your decision?"). Then, the teacher reads different opinions from well-known figures (e.g., actors, politicians) on a related issue (e.g., "Should politicians' private lives be exposed by the media or kept private?"). These opinions are taken from various sources such as social media, magazines, or newspapers.

Next, students engage in a discussion about when expert opinions are necessary and what to do if two experts disagree on an issue, especially in media, where personal opinions often dominate, particularly on social media. Students will be encouraged to consider questions like: Who is the "right" expert? How can we verify their credentials? The discussion will focus on the kinds of knowledge or evidence required to form an informed opinion and the importance of recognizing diverse perspectives and being open-minded in forming a justified, evidence-based opinion.

Expected Learning Outcomes: After completing the activity, students should be able to: (a) Recognize that complex human issues can be viewed from multiple perspectives. (b) Seek out and consider different viewpoints on the same issue. (c) Evaluate the quality of reasoning behind opinions, considering the evidence presented and the expert's knowledge, experience, and motivations. This activity encourages open-mindedness, critical inquiry, and the analysis and evaluation of information sources.

### *Activity 3. Recognizing Biases in Media Sources*

Objective of the Activity: To help students recognize biased media sources and critically evaluate the credibility of information.

The teacher provides students with worksheets containing current news articles on the same issue from both reliable and unreliable sources. Information about the author and the source of each article is also provided. Working in groups of 3-4, students are tasked with analyzing the

language, arguments, and evidence presented in each article. Each group completes a worksheet, identifying which parts of the articles are factual and which are opinion-based. They also underline emotional language, logical fallacies, one-sided evidence, or any other signs of bias. Following this, a discussion can be initiated on how biased media can influence our opinions and decisions in real-life situations.

Expected Learning Outcomes: After completing the activity, students should be able to: (a) Recognize the impact of misinformation on the formation of beliefs. (b) Develop scientific and critical thinking skills. (c) Seek valid empirical evidence to make informed decisions about complex human issues. This activity fosters collaboration, scientific thinking, and decision-making skills.

### *Activity 4. Identifying the Anchoring effect – optional homework*

Objective of the Activity: To help students recognize the influence of biased thinking on academic outcomes and learn to resist the tendency to accept the first piece of information they find online as the most reliable for academic work.

The teacher asks students to search the internet for academic sources related to a given topic (e.g., *"Scientific empirical articles about academic anxiety in university students"*) and evaluate the first three results they find. Students will assess the quality and relevance of these sources using various indicators, such as:

- Is the article published in a scientific journal, a website, or a blog?
- Is the journal or organization reputable and well-known?
- Is the source recent or outdated?
- Is the content directly related to the issue, or does the title or content seem irrelevant or misleading?

Expected Learning Outcomes: After completing the activity, students will have developed critical reading and scientific thinking skills for academic purposes, enabling them to evaluate sources more effectively and avoid biased thinking when conducting research.

## After the lesson - Testing

The post-class activity, titled *Distinguishing Facts from Opinions* (see Annex), involves assessing students' understanding through a quiz. Unlike the pre-lesson quiz, this test consists of open-ended questions, allowing students to demonstrate a deeper level of comprehension and express their reasoning more fully.

## Interaction model

- Group work: Collaborate to complete in-class activities and engage in discussions to share ideas and arguments.
- Individual work: Complete tests and watch video material at home.
- Optional individual homework: Complete additional assignments as needed.

## Evaluation and recommendations

Students' performance on the multiple-choice quiz after watching the video can be used to provide qualitative feedback during class.

Post-class activities, including the post-test quiz and any optional homework, can serve as tools for evaluating students' performance. Evaluation can be either qualitative or quantitative, depending on the course requirements.

The teacher should develop personalized criteria tailored to the expected outcomes of students' responses to the quiz after watching the video lesson.

## Notes to the lecturer

The teacher should encourage active student participation in class activities by providing space for students to question common beliefs, express their opinions, engage in thoughtful arguments, and respect differing viewpoints. Critical thinking involves being mindful, self-reflective, open-minded, and a seeker of truth—understanding others' perspectives and reasoning, even in disagreement, while recognizing the complexity of human issues.

To ensure the success of the lesson, the teacher should focus on:

- Preparing thoroughly for the topic.
- Selecting materials that align with the students' educational needs and characteristics.
- Considering the time required for in-class activities.

The teacher should also provide clear, concise instructions for the pre-lesson test, the post-video test, and guidance on what students should focus on during the video lesson.

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## Topic 9: Evaluating the reliability and validity of evidence presented in media

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### Background and rationale

Every day, millions of people are getting their information from media content. The Internet and digital technologies have changed the way of news receiving and exchange of information about the current events and local issues. It is crucial to learn how to read and analyse media texts in the modern world, full of information. It is crucial to be able to identify bias, manipulation, and vague messages in the media as a way of encouraging people to be critical thinkers.

On the other hand, the availability of the databases and online tools helps in fact checking, analysis of different viewpoints and identification of fact from fiction. This competence is useful in the formation of a less biased and more critical global view of young people in a world where it is difficult to distinguish between correct information and false or biased information, between news and advertisement, and between serious and humorous content.

Furthermore, media literacy is not limited to only recognising fake news. It also includes effective communication skills, the ability to analyse messages, and the recognition of cultural, social and political aspects that influence the way the media present information. By understanding these aspects, young people can develop better critical thinking and be better equipped to navigate the complex media landscape.

Thus, integrating media literacy and critical thinking into educational curricula and everyday life becomes an essential part of preparing the future generations to successfully meet the challenges of the modern world.

### Key topics

1. Basic principles of critical reading of media texts. Critical reading of media texts is a process that requires a careful and analytical approach to the content we receive from different media sources. This includes recognising the authorship of the text, determining its purpose (e.g., informative, manipulative, or entertaining), identifying emotional triggers, and evaluating the arguments used to support a position. In addition, critical reading requires insight into the language used - for instance, whether the text is presented objectively or whether biased expressions and suggestive words are used to guide the reader to certain conclusions. Understanding the context in which a text is published also plays a key role in the correct interpretation of information.

2. Recognising the credibility and validity of the evidence presented. The credibility and validity of the evidence presented are crucial in assessing the quality of media texts. Media sources often provide data, statistics and testimony to support their claims but it is important to assess whether this evidence comes from reliable sources, if it is objectively presented and is corroborated by more than one source. Recognising potentially false information or deliberately distorted data is an essential part of media literacy and helps people build a better informed position on issues. It is important to pay attention to the motives behind a publication, considering financial interests, political views and other factors that may influence the presentation of evidence.

3. Comparing media texts and looking for differences in the presentation of the same topic. Often the same topic may be presented differently in different media. Comparing several media texts

on the same topic allows readers to identify differences in the way the information is presented. This may include emphasizing different aspects of the story, choosing specific facts, excluding certain information, or using different styles and tones of expression. Such analysis allows for the identification of tendencies of bias and possible manipulation, while helping to build a more balanced and critical view of the topic presented.

4. Use of databases and digital applications to check facts and sources. In an age of rapidly disseminating information, the access to reliable fact-checking tools is essential. Databases and digital applications such as FactCheck, Snopes and various other platforms allow users to verify the veracity of the information presented and the credibility of the sources used. These tools offer transparency and make it possible to distinguish real news from manipulated information or fake news. Being able to use these platforms not only helps young people to build an objective worldview, but also provides them with effective strategies to recognise and deal with misinformation in the media environment.

## Learning objectives

**Developing skills in critical analysis of media texts.** The aim is to develop the learners' ability to analyse media texts thoroughly by distinguishing between objective information and biased information, to be able to recognise the author's intentions and identify various manipulation techniques. This includes the development of critical thinking and the ability to recognise the main characteristics of media messages, such as context, structure, language used and style of presentation.

**Becoming familiar with fact-checking tools and applications**. An important objective of the training is to provide knowledge and skills to use modern digital applications and fact-checking tools such as FactCheck, Snopes and other reliable platforms. This helps learners assess the veracity of information, identify fake news and manipulated data and navigate confidently through the 'sea' of online content. Knowledge of these tools enables a deeper and more critical understanding of the media context.

**Comparing different sources of information to evaluate their credibility.** The aim is to enable learners to develop the skills to compare different sources of information to identify differences in the presentation of the same topics, to distinguish fact from opinion and to detect possible bias and manipulation. This will enable them to assess the reliability and credibility of media sources and help them to develop informed and balanced points of view on current issues.

## Expected outcomes

### *Knowledge:*

Students will be familiar with the basic criteria for evaluating the credibility of media sources, including identifying authorship, the source of the information, the evidence used, and the context in which the information is presented.

Students will learn about a wide range of databases and fact-checking applications that can be used to identify false information, misinformation or manipulative messages in the media.

### *Skills:*

Students will develop the ability to analyse and compare media texts, identify differences in the presentation of the same topics, recognise bias and evaluate the validity of arguments and evidence presented.

They will be able to use fact-checking tools effectively to assess the credibility of media content and to verify the veracity of the presented information.

### *Attitudes*

Students will form a critical approach to information presented in the media, recognising the need to distinguish objective facts from subjective claims and manipulations.

They will understand the importance of reliable and verified information in forming an objective opinion and will take an active role in seeking and analysing quality sources of information, contributing to a better informed society.

## Pedagogical approaches and activities

### *Pre-lesson activity.*

Students will receive two or three media texts addressing a similar topic, such as climate change, presented in different media. The aim of this activity is to introduce students to different approaches to news presentation, develop critical thinking and provide opportunities to compare and analyse information.

Sample media texts on the topic of climate change:

### *Text 1: 'Global warming accelerates Arctic ice melting' – a news website*

Recent scientific studies reveal that Arctic ice is melting twice as fast as predicted. According to the International Panel on Climate Change (IPCC) report, Arctic temperatures have risen by more than 3°C over the past 50 years. Scientists warn that melting ice could cause sea level rise and threaten coastal areas around the world. Dr John Smith, a climatologist at Harvard University, stresses on the importance of urgent action to reduce carbon emissions, as without it climate change will continue to have a significant impact on people's lives.

### *Text 2: 'Climate change: a new green movement seeks solutions for the future' – a blog article*

Young people around the world are uniting in actions and campaigns to tackle climate change. Initiatives such as 'Fridays for the Future' demonstrate the desire of younger generations for stronger action to reduce carbon emissions and greater investment in green energy. The protests bring together tens of thousands of participants who demand immediate action from governments. One of the leaders of these protests, 19-year-old activist Emily Brown, stresses that the climate crisis is not a future danger, but a present reality. She believes that only through awareness and education can long-term change be achieved.

### *Text 3: 'Economic costs of climate change will affect the world economy' – an economic analysis in a specialised journal*

According to a *World Bank* report, climate change poses significant risks to the global economy. Increased temperatures and frequent natural disasters are leading to losses in the agriculture, tourism and infrastructure sectors. The report notes economic losses of more than USD 200 billion over the last decade. The authors of the report argue that investments in sustainable technologies and green solutions can mitigate the effects of climate change and provide opportunities for growth. However, the lack of coordination among governments remains a serious problem.

### *Text 4: 'Climate change - myth or reality?' – a social media post*

Skeptics on social media often claim that climate change is an exaggeration or a hoax. "Global warming is fabricated by vested interests," a number of posts say, citing ambiguous scientific claims. The debate in the comments to the publication includes opinions that the issue is being used to manipulate the public opinion and introduce new environmental restrictions. Opinions are often subjective and lack concrete scientific data or substantiated claims.

### *Students' Assignment:*

Analyse the texts according to the following criteria:

- What is the source of the information in each text? Is it an official source, expert opinion, user comment or something else?
- How are the facts and evidence presented? Are there reliable sources and scientific data, or is the text based on subjective opinions?
- Is there a manipulative or subjective tone? Examine the language used to influence the audience.
- Identify potential bias, preconceived or skeptical claims in the text. How does this affect the way the topic is perceived by the audience?

### *Class activity: Critical reading and analysis of media texts*

The teacher begins the lesson with a brief introduction to the basic principles of critical reading and analysis of media texts. This includes an explanation of key concepts such as identifying the sources of information, assessing the credibility of data, analysing the style and tone of the text and recognising possible manipulation or bias. The teacher provides examples and emphasises the importance of these skills to better understand and interpret media messages.

*Group work:*

Students are divided into small groups (4-5 people) and given the prepared texts to analyse (e.g. texts related to climate change). Each group analyses the texts using predefined criteria to assess the reliability and validity of the information. These criteria may include:

- Who is the source of the information and what is its level of credibility?
- What data and evidence is presented and how reliable is it?
- Is there an emotional or manipulative tone in the text?
- What potential biases or skeptical claims can be identified?

Each group records their observations and main conclusions.

*Comparison and discussion:*

Once the groups have completed their analysis, they come together for discussion. Each group presents its conclusions, giving examples of reliable information found or of misleading content. The groups compare their analyses and discuss the differences in their observations. The teacher guides the discussion by asking questions, drawing attention to specific details and provoking deeper reflection on the reasons for differences in the presentation of the same topic by different media sources.

### *Becoming familiar with digital tools:*

The teacher introduces students to a variety of digital apps and platforms for fact-checking and verifying sources. The demonstration may include sites such as FactCheck.org, Google Scholar, Snopes, and other tools for verifying information. Students receive instruction on how to use

these platforms to verify data and identify false or manipulated information. The teacher can point to specific examples from the texts being analysed and demonstrate how to check their credibility using these resources.

*Instructions for the Activity:*

- The teacher introduces the topic and explains the principles of critical reading.
- Students are divided into groups and given the texts to analyse.
- The groups analyse the texts according to the set criteria and record their conclusions.
- After the analysis, the groups present and discuss their findings with the others.
- The teacher demonstrates digital fact-checking tools and guides students in their practical application.
- Conclude with a summary of the importance of a critical approach and of using reliable sources to form an objective opinion.

### *Activity: analysis and evaluation by Padlet*

Students will use the Padlet platform - an online interactive whiteboard that allows for a collaborative and visual work environment - to analyse and evaluate provided media texts. The aim of this activity is to create a collaborative atmosphere where students not only share their findings but also learn from each other by commenting and building on their knowledge.

*Steps for implementation:*

1. The teacher uploads different media texts, articles and news to Padlet.

At the beginning of the activity, the teacher creates a Padlet board and uploads prepared in advance media texts related to the topic (e.g. texts related to climate change, technological innovation, social issues, etc.). Each text should be tagged with a title and a brief description for context.

2. The students, divided into groups, should post short analyses of the texts, annotating:

What is the source of the information? Students will research who is behind the creation of the text (media organization, blog, official report, etc.) and comment on the reputation, objectivity, and potential bias of the source.

Which facts or statements seem implausible or unclear? Students will note parts of the text that seem questionable or insufficiently supported by data and explain why these aspects raise doubts.

What evidence is presented and is it valid? The groups will analyse the arguments and evidence used, assess their validity and share their conclusions.

3. Each group can comment on the analyses of the other groups and ask questions or suggest corrections. Once they have published their analyses, each group will have the opportunity to review the other groups' publications, comment and ask questions or suggest alternative viewpoints. This encourages active discussion, critical analysis of different approaches and collaborative learning. The teacher can moderate the discussion by guiding the questions or giving feedback.

4. Outcome:

Students will learn how to evaluate and analyse information from a variety of media sources, collaborate actively in a group setting, and develop their critical thinking skills through the use of the *Padlet* interactive tool. They will gain experience in recognising the reliability of sources and in arguing their conclusions in the context of group work.

## Post-lesson activity.

In this activity, students will engage in independent research that will give them the opportunity to apply the skills they have learned to verify and analyse information in a real-world setting. They will need to select a current news story from the media, research the evidence presented and verify the information using reliable online databases and digital fact-checking tools.

### *Steps to follow:*

- The students select a current news story as per their choice of preference, which should be related to a public issue, technology, politics or other relevant topic.
- They use digital fact-checking tools, such as FactCheck.org, Google Scholar, Snopes, or other platforms to verify the accuracy of the information in the news story.
- The students produce a brief analysis that includes an assessment of the reliability of the sources, an analysis of the validity of the evidence presented, and a conclusion about whether the news story is objective and credible.

## Model for Interaction:

**Face-to-face learning:** The teacher introduces the topic and organises the group work, providing guidance and support.

**Individual Assignment**: The students complete their independent research outside class, applying the skills learned and using digital tools to verify information. Results can be presented in a subsequent lesson or via an online feedback platform.

## Assessment and recommendations

The assessment will be based on the following criteria:

- **Activity in group work:** Students will be assessed according to their participation in group work, their ability to collaborate with other group members, present their findings and participate in *Padlet* discussions. It is important that students demonstrate active listening and constructive interaction.
- **Analysis of texts:** assess the quality of the analysis of the media texts provided. Students must demonstrate the ability to identify sources of information, check the validity of evidence and identify any manipulation or bias. The ability to draw reasoned conclusions will be an important criterion.
- **Individual Assessment Task:** Students' independent research on a current news story is assessed. This will assess whether reliable online fact-checking tools have been used, whether the analysis is well argued and whether a clear assessment of the reliability of the information has been made.

### *Recommendations for the Teacher:*

- Encourage critical thinking and the discussion of different perspectives on the given topic, creating an atmosphere of open dialogue and mutual respect.
- Pay attention to including students with different perspectives to ensure that everyone participates actively and that all opinions are considered and analysed.
- Encourage constructive criticism and the students' ability to question information, encouraging them to think independently and objectively.
- Prepare a variety of media texts with varying degrees of credibility: This will allow students to analyse a variety of sources, including objective, biased and manipulative texts, and will enhance their understanding of different levels of credibility.

- Demonstrate the use of online fact-checking tools: Demonstrating the practical application of these tools will give students the confidence and skills to check information independently.
- Encourage discussions that consider the ethical aspects of media information: This could include topics such as misinformation, manipulation of public opinion, media responsibility and ethical standards in journalism. Such discussions will help students to understand better the social and moral aspects of media information.

## Further readings

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# Topic 10: Constructive formulation of critical assesement

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## Background and rationale

People have a natural desire and a right to express their opinions and to make evaluations. The mediatized reality especially makes people judge others on the Internet. Nevertheless, they do not always do it in a positive and proper way. We are not only passive recipients of the information provided by various sources, especially online, but can also give our opinion on the results of the work of the creators, expressing our appraisal of the works of others, pointing out what we like, and what we think they should refrainer from or avoid. It is important to mention that the ability to provide positive criticism is one of the skills which enable us to express our own point of view without offending the other person.

The ability to think critically is becoming increasingly important not only in learning but also in work and life. Critical assessment means making reasoned judgments of information, arguments and evidence through systematic evaluation. However, existing approaches to critical assessment are often detrimental, as they are often focused on criticising or finding faults, which can be perceived as antagonistic or negative. In this regard, scholars and instructors are recommending a constructive formulation of critical assessment, which equitably combines critique and constructive feedback for the purpose of increasing understanding and production of positive change.

Criticism can be constuctive or destructive. The former is the situation where our message is: sincere, clear and beneficial. It is defined by honesty and the possibility to easily understand and follow the instructions provided. The second is usually expressed in the form of general, subjective comments focusing on personal qualities; it takes the form of non-objective comments. The line between positive, constructive criticism and its negative counterpart is often drawn based on the phrasing of the comment. The message is usually depressing and always focuses on the worst that can happen.

When giving criticism to your audience during an interpersonal communication process whether face to face or via the media, you will destroy the relationship. It should be noted that criticizing also leaves emotional trauma in the recipient, which is why it is so important to give feedback consciously. This skill is possible mainly through the development of critical thinking.

Constructive critical assessment aligns with the principles of constructivist learning theory, which emphasizes active engagement, collaboration, and the co-construction of knowledge. By focusing on solutions and actionable insights, constructive critical assessment supports a positive learning environment, cultivates critical thinking skills, and builds confidence in individuals. This approach has implications for educational settings, professional training, and interdisciplinary research, where the aim is not only to identify deficiencies but also to propose pathways for advancement.

The concept is further bolstered by the integration of feedback for learning, a framework that emphasizes the dual functions of feedback: providing critique and offering guidance for future improvement. Effective constructive assessment incorporates both reflective and forward-thinking elements, ensuring that critiques are not merely evaluative but also developmental in nature.

### *How to build a constructive criticism?*

Constructive criticism is a message that not only does not insult or offend others, but indicates how they can improve their creations, their work, enrich their thinking with the principles of critical thinking. It is also a powerful tool for improvement, fostering growth, and enhancing collaboration across various fields. Unlike destructive criticism, which focuses solely on fault-finding, constructive criticism emphasizes actionable feedback, encouragement, and a forward-looking approach. Constructive criticism refers to feedback provided with the intention of helping an individual or group improve performance, address weaknesses, or refine ideas. Its purpose is to encourage progress by maintaining a balance between identifying shortcomings and offering actionable solutions.

Key characteristics of constructive criticism include:

- Specificity: Clearly identifying the issue or area for improvement.
- Supportiveness: Maintaining a positive and encouraging tone.
- Actionability: Providing practical recommendations for improvement.
- Respectfulness: Ensuring the critique is framed in a way that respects the recipient's efforts and capabilities.

To ensure feedback is constructive, several principles should be adhered to:

- Start with Positives: Begin the critique by acknowledging strengths or successes. This establishes a collaborative tone and makes the recipient more receptive to feedback.
- Be Objective: Focus on observable behaviors, specific examples, and verifiable facts rather than personal attributes or assumptions.
- Encourage Reflection: Frame feedback as a dialogue. Use open-ended questions to encourage self-assessment and active participation.
- Focus on Improvement: Ensure the feedback is solution-oriented. Highlight specific steps that the recipient can take to address the issues.
- Maintain Emotional Sensitivity: Deliver criticism in a manner that considers the recipient's emotional state, avoiding language or timing that could escalate defensiveness (Kluger & DeNisi, 1996).

Building constructive criticism involves thoughtful preparation, clear communication, and continuous evaluation. One of the most popular key strategy to provide a constructive feedback is called the "Sandwich Method". This method involves: (a) Starting with positive feedback; (b) Offering constructive criticism in the middle; (c) Ending with a reaffirmation of confidence in the recipient's potential.

To give critical feedback person should be clear and concise - should avoid ambiguity by using specific examples and focusing on one or two critical points. Overloading feedback can overwhelm the recipient. Also, it is worth to focus on behavior, not personality: for instance, instead of saying, "You're careless," say, "I noticed some errors in this report that could be avoided by double-checking the figures." This kind of communication is called "I-language" and means type of communicate that concerns the feelings, emotions, opinions of the sender of the message.

Also, to give constructive but critical feedback, the person should provide opportunities for follow-up. That means offering support or additional resources to help the recipient act on the feedback. For example, the message sender can suggest training, mentoring, or further discussion.

### *Conclusion*

Each of us is entitled to our own opinion, an opinion on a given subject; we may not like many things, especially if we are critical thinkers. However, it's up to us how we communicate criticism to other people.

When implemented effectively, constructive criticism offers several advantages. First fo all, it promotes growth – helps individuals identify and overcome weaknesses while building on strengths. Also, it enhances relationships: feedback given constructively fosters trust and collaboration. Constructive feedback improves outcomes – both, organizations and teams benefit from enhanced performance and continuous learning.

Constructive criticism is an essential skill for educators, leaders, and collaborators. By adhering to principles of respect, specificity, and actionability, individuals can foster an environment where feedback drives continuous improvement and mutual respect. While challenges exist, a deliberate and thoughtful approach ensures that criticism remains a catalyst for growth.

## Key topics

- The concept of constructive criticism
- Types of constructive criticism
- Consequences of destructive and constructive criticism
- Ways of expressing constructive criticism
- The role and consequences of constructive criticism in the modern world

## Learning objectives and expected results

### *KNOWLEDGE:*

- students will become familiar with the essence of constructive criticism, types of criticism and how to provide it.

### *SKILLS:*

- students will be able to distinguish between types of criticism,
- students will be able to apply techniques for giving constructive criticism.

### *ATTITUDES:*

- students are able to give cosntructive criticism with real situations from the surrounding environment,
- students will able to construct an opinion using “I-language” messages.

## Pre-Lesson Activity – at home

- students are asked to watch a video lesson *Constructive formulation of critical assesement* available on the YouTube channel *Critical Thinking in the Information Society*
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

## In-class activities

### *Activity 1: Feedback Role-Play*

Objective: Practice delivering and receiving constructive feedback in real-time.

Description: Divide the class into pairs. Assign one person in each pair as the "presenter" and the other as the "reviewer". Provide the presenter with a simple task (e.g., present a brief idea for a product, summarize a concept from class, or explain a topic in 3 minutes). The reviewer observes and prepares constructive feedback, ensuring they use techniques such as the feedback sandwich (positive comment -> critique -> positive comment). After the feedback is given, roles are switched, and the process is repeated. Debrief as a class, discussing the challenges and successes of giving and receiving feedback.

Materials Needed: None (or optional note cards for feedback prompts).

Learning Outcome: Students learn to balance critique with encouragement and practice structuring their feedback effectively.

### *Activity 2. Peer Review of Written Work*

Objective: Foster constructive feedback in a collaborative, written context.

Description: Have each student write a short paragraph or essay on a topic relevant to the class. Pair students and have them exchange their work for peer review. Provide students with a checklist for constructive feedback (e.g., "Is the main idea clear? Are there specific examples? Suggest one improvement while acknowledging strengths"). Allow time for discussion so students can clarify and ask questions about the feedback they received.

Materials Needed: Students' written work and a checklist/template for feedback.

Learning Outcome: Students develop skills in analyzing others' work and offering actionable, respectful suggestions for improvement.

### *Activity 3. Group Feedback Analysis*

Objective: Collaborate to evaluate and refine feedback delivery.

Description: Divide students into small groups (4-5 people per group). Present the groups with a fictional scenario where feedback is required (e.g., a colleague's presentation that missed key points). Each group collaborates to draft constructive feedback using principles from class (specificity, respectfulness, actionability). Groups share their feedback with the class for discussion and refinement.

Materials Needed: Pre-written scenarios for critique and feedback guidelines.

Learning Outcome: Students learn to work collaboratively, refine their understanding of constructive feedback principles, and apply them in different contexts.

### *After the lesson - Testing*

The post-class activity called *Constructive formulation of critical assesement* (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation guide

Evaluate students on their ability to express constructive criticism, their ability to argue, consider different perspectives, and apply constructive criticism techniques (sandwich and "I-language" method). Focus on critical thinking and communication skills.

## Notes to the lecturer

- Encourage students to consider the long-term consequences of giving destructive versus constructive criticism.
- Encourage students to think from multiple perspectives, arguing appropriately in a way that is: clear, logical and honest.
- Guide students to construct criticism in a way that is empathetic and focuses on the behavior/action rather than the individual.

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# Topic 11: Critical Thinking and the use of the Internet

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## Background and Rationale

Technological advancements have significantly enhanced our reliance on external tools to perform tasks that are too complex, or beyond the capabilities of our cognitive systems. Today, individuals can access a wide range of cognitive aids through digital devices, such as the Global Positioning System (GPS), language translators, and the Internet—an expansive source of information and storage. The Internet functions as our "transactive memory partner" (Ward, 2021), offering an expertise and data storage capacity far surpassing that of any individual. As a result, we often conflate the knowledge available online with our own personal understanding.

The Internet has become an integral part of daily life, offering open access to information, yet it is largely unregulated and not subject to quality control (Paris, 2002). As the most dominant platform for electronic mass communication, with billions of users, it allows anyone to publish content, creating both vast opportunities and significant risks. Consequently, the responsibility of evaluating the accuracy, morality, and legality of online information now falls on the user. This is where critical thinking becomes crucial. Developing the skills to select, assess, and interpret information presented on the web is essential. This need is especially pressing when considering that, although nearly 60% of the global population uses the Internet, media and information literacy education remains inadequate (Grizzle, Wilson, & Gordon, 2021).

### *The Internet: An environment that challenges out critical thinking*

Critical thinking when navigating the Internet involves scrutinizing the credibility of sources, identifying biases, and assessing the logic behind arguments. The key question, however, is how easy it is to obtain reliable and accurate knowledge in the vast digital landscape. With just a few clicks, we can find information on virtually any technical, social, or scientific topic within seconds. This instant access to knowledge is incredibly empowering, particularly for individuals in remote areas or those facing serious physical health challenges. But the real question is: are we prepared to effectively evaluate and handle this flood of information? This is a complex issue.

The web is a dynamic and intricate environment that poses many challenges to our critical thinking skills. While it offers a wealth of information from around the globe, not all of it is relevant or trustworthy. There are countless unreliable websites, propaganda, and fake news, all contributing to a confusing information landscape. Additionally, online communication platforms—such as emails, chats, and forums—connect people across the world, changing how we interact and giving everyone a voice, regardless of age, gender, race, or appearance. In this space, people can remain anonymous, but this also opens the door for deception. Anyone can create a false identity, pretending to be a credible expert, such as a health professional, by fabricating a profile. Furthermore, online services like e-commerce, e-banking, and e-ticketing save time and offer convenience, allowing us to compare prices, products, and make informed purchasing decisions through reviews. However, these services also expose us to various types of fraud targeting users of all ages and backgrounds, including phishing, fraudulent investment schemes, internet banking scams, and malicious emails.

### *Misinformation and Disinformation on the Internet*

One of the most prevalent misconceptions about online information is the assumption that everything we find on the internet is true and reliable. While this may seem like a simple error, it is not always easy to spot misinformation or disinformation, especially when compounded by our lack of expertise or influenced by wishful thinking and biases. The key distinction between misinformation and disinformation is that disinformation is intentionally created and shared with the aim of deceiving others, whereas misinformation is typically spread without intent to mislead, often due to inadequate fact-checking.

Universities around the world maintain websites that educate students and the general public about different types of misinformation, such as fabricated, misleading, or manipulated content. These resources also offer strategies for evaluating online information, such as using lateral reading techniques to trace the source of content, accessing fact-checking tools to verify its accuracy, and utilizing various digital tools to uncover the truth.

It is essential for students, and for everyone in a democratic society, to understand the various motives behind misinformation. These motives can include commercial, social, or political interests, as well as intentional harm aimed at individuals, groups, institutions, or entire nations. Misinformation can sometimes cause direct harm to people, as seen in the case of misleading medical advice. This is a clear example of how dangerous misinformation can be when individuals lack the necessary scientific and media literacy skills (Siani & Green, 2023). For instance, someone researching health advice might come across professional medical websites, anecdotal blog posts, and pseudoscientific claims. Without the proper critical thinking skills, distinguishing between these sources becomes challenging, potentially leading to the spread of harmful misinformation.

Moreover, it is important to recognize that online searches often present challenges that can hinder users' ability to find accurate, reliable, and unbiased information. Among the most common pitfalls are confirmation bias, where individuals seek out or give undue weight to information that aligns with their pre-existing beliefs while dismissing contradictory evidence; information overload, which may cause us to rely on the first search result without critically assessing multiple sources; and misleading headlines, which grab attention but can distort our understanding of the subject.

Research consistently shows that many university students fail to check the reliability of the information they find online and seldom verify their sources. Instead, they tend to trust search engines and depend on the Internet as the primary source for academic work (Graham & Metaxas, 2003; Metzger, Flanagin, & Zwarun, 2003; Yang, Chen, & Tsai, 2013). Critical thinking, as a key component of information literacy, is crucial for engaging critically with online content. It has been widely recognized as an essential skill, particularly for identifying fake news, and is especially important for students (Machete & Turpin, 2020).

### *Conclusion*

In conclusion, the Internet offers an abundance of information and entertainment, but it also presents significant challenges to our critical thinking. Given that university students often rely heavily on the web without verifying the truth, reliability, or validity of the information they encounter, it is crucial to equip them with critical thinking skills for web searches. Critical thinking is an essential tool for navigating the internet responsibly and effectively, ensuring that users can make informed decisions and engage with online content thoughtfully.

## Key topics

- The Internet: Our powerful "Cloud Mind"
- The Internet: An Open, Accessible Resource for all
- The Internet: An Environment that challenges our Critical Thinking
- Internet Fraud and the role of Critical Thinking
- Misinformation vs Disinformation: Understanding the difference
- Types of Misinformation: Fabricated content, Misleading content, and Manipulated content
- The need of strong Web Search Skills

## Learning objectives

The overall goal of this lesson is twofold: (a) To help students recognize the most common pitfalls encountered during online searches. (b) To enhance their critical thinking skills for evaluating online information in both academic and personal contexts.

## Expected results

By the end of this module, students should be able to:

- Understand the characteristics of the Internet as an open, unlimited source of information accessible to all.
- Recognize the various challenges the Internet poses to critical thinking.
- Identify different types of misinformation and disinformation found online.
- Apply critical thinking strategies to assess the reliability and validity of online information and develop effective fact-checking skills.
- Critically search for, interpret, and evaluate online information in both academic and personal contexts.

## Pedagogical approaches and activities

The Flipped Classroom (FC) is a teaching method designed to introduce learning material in a more interactive and engaging way. In this pedagogical approach, the traditional classroom-learning model is reversed. Students are first introduced to the material by watching a brief video prior to the class session. Class time is, then, dedicated to deepening their understanding through discussions and interactive activities such as debates, collaborative work, and group discussions (Chen et al., 2018). The goal of this approach is to maximize teaching time, foster active student engagement, and enhance both knowledge retention and skill development.

## Pre-Lesson Activity – at home

Students are instructed to watch the video lesson on *Critical Thinking and the Use of the Internet*, available on the YouTube channel *Critical Thinking in the Information Society*. After viewing the video, students are required to complete an online self-assessment quiz (e.g., using Google Forms), consisting of 8-10 multiple-choice questions (see Annex). This quiz serves as a pre-test to help instructors plan classroom activities based on the students' responses, focusing on challenging concepts that emerge from their answers. Additionally, these questions can be utilized by teachers for assessment purposes or by students for self-evaluation. The quiz covers the key concepts presented in the video lesson.

## In-class activities

### *During the lesson "Critical Thinking and the use of Internet"*

Before starting the class, the teacher could analyze the students' quiz responses to identify common misconceptions or errors. The classroom activities could then begin by addressing the concepts or questions where students gave the most incorrect answers. This could lead to a discussion about the knowledge students gained from watching the video, as well as their impressions of the content. The discussion could specifically focus on issues of quality control, such as who is responsible for the information presented on the internet, how easy it is to post content across various platforms, and the importance of evaluating the credibility of online information.

The subsequent classroom activities will aim to enhance students' critical thinking skills, helping them effectively assess online information while conducting internet searches.

### *Activity 1. Resist to Clickbait*

Objective of the activity: To help students recognize and critically analyze misleading headlines and sensationalism in online media.

The teacher begins by explaining the logic and motives behind clickbait—such as commercial, religious, ideological, or political interests—that drive online content designed to attract attention and encourage clicks. The teacher then distributes handouts containing either misleading clickbait titles or non-misleading titles/stories. In small groups of 3-4, students are asked to identify which titles or stories are clickbait and to explain why they believe each one is either credible or misleading.

Afterward, the teacher reveals the sources of the information and leads a discussion on: (a) how clickbait materials present biased information, use emotional or ambiguous language, and appeal to our emotions, particularly epistemic emotions like surprise, curiosity, and wonder; (b) strategies for recognizing and resisting clickbait content online.

The discussion can focus on sensationalism as an editorial tactic aimed at attracting the highest number of readers or viewers, often at the expense of truth, manipulation, or distortion of the story. Students are encouraged to share examples of clickbait from their everyday experiences (in scientific, social, or political contexts). The goal is to challenge the misconception, "Of course, it's true; I saw it on the Internet!" and help students develop a more critical approach to online content.

Expected learning outcomes: Upon completing the activity, students should be able to: (a) Identify various types of clickbait material and recognize them as misleading content, (b) Develop an understanding of the motives behind such content, (c) Apply critical thinking skills to resist and disregard clickbait. The activity fosters collaboration, critical analysis, and the ability to interpret and evaluate information presented on the web.

### *Activity 2. How can I evaluate information presented on the Internet?*

Objective of the activity: To familiarize students with a technique for evaluating the credibility of information on the Internet.

The teacher introduces the CRAAP method, a tool for assessing the reliability of online information. The acronym stands for:

- Currency (When was it published? Has it been updated?)
- Relevance (Does the information relate to your topic or answer your question? Who is the intended audience?)

- Authority (Who is the author, publisher, source, or sponsor? What are their credentials? Does the URL provide insight into the author or source?)
- Accuracy (Is the information reliable and truthful? Is it supported by evidence? Can you verify any of the details from another source or your own knowledge?)
- Purpose (What is the purpose of the information: to inform, teach, sell, entertain, or persuade? Is it biased, e.g., politically, ideologically, culturally, or religiously?)

Next, the teacher selects a controversial topic based on the students' field of study (e.g., climate change, genetically modified food, video games and health, the use of drugs for chronic pain, COVID-19 vaccines, life on other planets, the use of AI technology) and provides five sources of information related to that issue.

In small groups of 3-4, students apply the CRAAP method to evaluate the credibility of the sources. Afterward, they share their findings and compare their evaluations in class, discussing the criteria they used in their assessments.

Expected learning outcomes: After completing the activity, students should be able to: (a) Distinguish credible sources of information from non-credible ones, (b) Evaluate online information based on the quality and reliability of its source. The activity fosters collaboration and enhances critical thinking skills, particularly in analyzing, interpreting, and assessing the credibility of information found on the Internet.

### *Activity 3. Searching on the Internet in periods of crisis*

Objective of the activity: To highlight the importance of critical thinking when searching for information on the Internet, particularly during times of crisis, in order to make informed decisions.

The teacher begins by discussing the significance of critical thinking during the COVID-19 crisis, using the latest evidence from studies such as Lee et al. (2022), which examines the role of media in spreading vaccine misinformation (e.g., claims that COVID-19 vaccines contain microchips to track individuals) and its link to vaccine hesitancy. Other similar empirical studies may also be presented.

In small groups (3-4 students), participants are asked to list the most important critical thinking skills and dispositions needed during crises like COVID-19 to make well-informed decisions. Afterward, a class discussion follows on the factors that influence personal opinions on scientific evidence and trust in science.

The teacher writes the students' contributions on the board and encourages them to include the following skills and dispositions, if not already mentioned:

- The ability to evaluate information and make decisions based on facts,
- Understanding the complexity of the situation,
- Assessing personal risks and benefits (e.g., pros and cons of lockdown measures),
- Understanding scientific processes (e.g., how variants of a virus develop and spread),
- Developing scientific thinking skills and resisting conspiracy theories,
- Cultivating empathy for those with different perspectives,
- Recognizing and addressing personal biases (e.g., how confirmation bias might lead to ignoring contradictory evidence).

Expected learning outcomes: After completing the activity, students should be able to: (a) Recognize the impact of misinformation on shaping beliefs, (b) Develop scientific thinking and critical thinking dispositions, (c) Seek valid empirical evidence to make informed decisions on complex human issues. The activity fosters cooperation, enhances scientific thinking, and improves decision-making skills.

### *Activity 4. Finding reliable sources for academic work – optional homework*

Objective of the activity: To help students evaluate the reliability and validity of web pages and documents when searching for academic sources on the Internet.

In groups of 3-4, students will write a short review article (2,000 words) on a topic related to their field of study, the role of critical thinking in media literacy, or the role of critical thinking in decision-making, among other possible topics. For example, they may be tasked with writing a review of empirical evidence on the role of critical thinking in university students' academic outcomes.

Expected learning outcomes: Upon completing the activity, students will enhance their skills in critical searching, reading, and writing for academic purposes.

## After the lesson - Testing

The post-class activity, titled *Critical Thinking and the Use of the Internet* (see Annex), involves assessing students' understanding through a quiz. Unlike the pre-lesson test, this quiz consists entirely of open-ended questions, allowing for a more comprehensive evaluation of students' knowledge and their ability to apply critical thinking skills.

## Interaction model

- Group work: Collaborate with peers to complete in-class activities and engage in discussions, sharing ideas and presenting arguments.
- Individual work: Complete tests and watch the video material independently at home.
- Individual work: Complete optional homework.

## Evaluation and recommendations

Students' performance on the multiple-choice quiz, completed after watching the video, can be used to provide qualitative feedback during class discussions.

Post-class activities, including the post-test quiz and any optional homework, can be used to assess students' performance. The evaluation may be qualitative or quantitative, depending on the course requirements.

The teacher should establish criteria for evaluation, tailored to the expected outcomes based on students' responses to the test after watching the video lesson.

## Notes to the lecturer

The teacher should encourage active participation in in-class activities, providing students with the space and freedom to question common beliefs, express their opinions, engage in debate, and respect others' views. Being a critical thinker involves being mindful, self-reflective, open-minded, and a truth seeker. It means understanding others' perspectives and reasoning, even when there is disagreement, and recognizing the complexity of human issues.

It is essential for the teacher to pay attention to the following:

- • Preliminary preparation for work on the topic.
- • Selection of materials that are appropriate and aligned with the students' educational characteristics.
- • Time management to ensure sufficient time for in-class activities.

The teacher should also prepare clear and concise instructions for implementing the pre-lesson and post-video quizzes, as well as guidance on what students should focus on while watching the video lesson.

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# Topic 12: No - to distorted facts! Data-based decision making

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## Background and rationale

Every day, people solve many problems, i.e. address various issues of varying criticality by choosing among several options. This way, the decision maker has the chance to think and plan for a particular action that may in turn alter the course of events in the personal and group contexts. Hence, data-driven decision making is particularly significant for people as it helps them avoid biased thinking and instead seek to explain the problem and look for solutions that are backed by evidence. The biggest advantage of this approach is the minimization of cognitive biases. It is impossible for a person not to experience confirmation bias, emotional thinking, or any other form of subjectivity that results in wrong decisions in the society on a daily basis. In this case, a person is able to minimize these biases and come up with better decisions that are informed. For instance, a person would not make an investment decision out of fear or excitement but would instead analyze the market and make a calculated risk (Kahneman, 2011).

Furthermore, data-driven decision making enhances critical thinking as it requires that people think critically through the possible causes of a problem and the likely consequences of the possible solutions. This is particularly important in everyday life when deciding on health, financial or career issues. A data-driven decision maker understands their choices better and therefore bears more responsibility for the consequences of their choices. This means a more intentional way of living and learning from experience in the process (Facione, 2015).

An important benefit is related to improving the quality of decisions. Data allows people to more accurately predict the consequences of a decision, assess potential risks, and act responsibly. This is especially useful in stressful or complex situations, where intuition often becomes unreliable. For example, in health issues, relying on scientific research and objective data can avoid wrong decisions based on false myths or emotions.

Evidence-based thinking makes people more confident in their decisions and achieve personal goals. By tracking data on progress, for example, in sports or education, a person can objectively evaluate their achievements and adjust their actions to achieve better results. All this helps to develop awareness, improve problem-solving skills and reduce the influence of emotions on everyday decisions. A data-based approach becomes a person's ally, helping to make rational, thoughtful and long-term beneficial decisions (Schwartz, 2004; Tetlock, Gardner, 2015).

### *How do preconceptions mislead people to make decisions?*

Preconceptions or "hunches" often strongly influence people's decisions, but they can also be misleading and lead to wrong choices. This tendency is known as cognitive bias. Preconceptions are based on emotions, past experiences or limited data rather than objective facts and can hinder correct, rational decision-making.

One of the main mechanisms behind the impact of preconceptions is confirmation bias. This is the tendency to seek out and prioritize information that confirms existing opinions while ignoring contradictory evidence. In this way, people often ignore relevant data that could change their preconceptions and make decisions based on a distorted interpretation of reality. For example, if a person believes that a certain investment is profitable, they may ignore market analyses or unfavorable financial indicators because they contradict their preconceptions (Kahneman, 2011).

In addition, early decision-making based on emotions rather than analytical thinking can lead to impulsive choices. This is particularly true regarding health, finances or career decisions. Research shows that people who rely solely on their intuition and ignore objective data often make mistakes. For example, in health, preconceived ideas can lead people to choose alternative therapies without considering research-based evidence on the effectiveness of traditional medicine. Such decisions can have serious negative consequences.

Preconceptions can also be influenced by social influences. This is the tendency to make decisions based on other people's opinions, often without checking the reliability of the data obtained. People often rely on what the media tells them because it gives them confidence. However, if this information is incorrect or not based on facts, it can lead to wrong decisions. For example, myths about health risks repeated repeatedly on social networking platforms can influence people's opinions, even if these myths contradict scientific research (Schwartz, 2004).

Early preconceptions based on mere hunches can also be dangerous because they do not allow a critical assessment of the possible consequences of a decision. This can lead to decisions that are not well thought out and ultimately lead to negative long-term consequences. People who rely solely on intuition and do not consider objective data tend to make sub-optimal decisions and are more likely to get lost in unsuccessful decision cycles (Tetlock and Gardner, 2015).

To fully understand the decision-making mechanism, we need to remove preconceptions, update information on issues of concern, and see the real world. This is why researchers (Rosling, et al., 2018) propose the formation of a fact-based worldview, which they named DATA AS THERAPY (factfulness).

### *Data as therapy (facfulness)*

As the authors (Rosling, et al., 2018) state, data as therapy (facfulness) is an understanding that acts as a source of peace. The power of facts, such as a healthy diet and regular exercise, can and should become part of our daily lives. When we start basing our decisions on data, on facts rather than opinion, we will make better decisions, be more alert and avoid the constant stress of doing the wrong thing. This topic will focus on ways of using data - data as therapy (factfulness). The following will be analyzed: gaps in wrong decision-making, ways to correct them, and strategies for critically evaluating information and data. As decision-making is inseparable from people's everyday activities, analysis and study of this phenomenon is relevant and necessary.

### *Conclusion*

In summary, in a world of rapid change, you must learn critical thinking skills to help you make the right decisions. Knowing the gaps in decision-making, how to correct them, and what strategies are available to assess information and data critically will help us make better decisions based on facts and in line with reality, not on false hunches.

## Key topics

- Ways of using data - data as therapy
- Gaps in wrong decision-making
- Ways to correct gaps
- Strategies for critical evaluation of information and data

## Learning objectives and expected results

### *Knowledge*

- The importance and methods of data collection and analysis: to make informed decisions, it is necessary to know how to collect and analyze data. This includes searching for appropriate information, assessing its quality, and performing the necessary calculations or analysis to extract useful insights. One must understand how data is collected, its limitations, and the importance of data reliability in decision-making.
- Decision-making gaps: understand that the human brain has certain gaps; know 10 brain gaps that hinder decision-making.
- Ways to correct thinking gaps: One of the main ways to correct decision-making gaps is critical thinking and knowing how to correct these gaps.
- Critical evaluation of information and data: know certain evaluation strategies (e.g., assessing the reliability of the source, approaches for performing data analysis, data contexts - i.e., understanding the conditions under which the data was collected, what their limitations are, and how they may affect the final decision.

### *Skills*

- To reflect decision-making gaps: apply thinking tools (What do I know? What do I know now? or "See-Think-Wonder" and etc.).
- To adapt the methods of decision-making: learning to make decisions based on objective data and logic, using visual decision-making methods, and working in groups.
- To evaluate the information provided: to analyze texts and arguments, to recognize assumptions and logical fallacies (e.g., ad hominem arguments, false causality, etc.). The difference between fact and opinion is how to correctly interpret the data presented. Apply methods that help overcome bias gaps and make decisions based on objective facts.
- To analyze the quality, correctness, and reliability of the information while taking into account the possible impact or consequences: Assess the authority of the source: who provides the information (experts, academic institutions, informal source, etc.). Assess the purpose of the source and possible biases (commercial interests, political ideologies, etc.). Check the facts and authenticity of the information (e.g., by comparing it with other reliable sources).
- To recognize overly dramatic stories: analyze the structure of arguments: premises, conclusions, strength and consistency of arguments; identify logical fallacies, such as false causality, misleading comparisons, etc.; verification procedures: how to verify sources, data and facts using independent means (e.g. fact-checking websites, expert opinions); Learning to rely on evidence, not gut feelings, especially when dealing with complex or controversial topics.

### *Attitudes*

- Openness to new ideas and information: critical decision-making requires that a person be open to new ideas and possibilities. This means recognizing that our opinions and beliefs are not infallible and may be wrong. Being open means actively seeking information and being prepared to change one's opinion when presented with evidence or contradicting arguments.

- Self-reflection and continuous learning: critical decision-making is also based on the value of reflection. This means that a person must be prepared to analyze their attitudes, beliefs, and decisions. The constant question "Was my decision based on objective facts?" encourages a person to constantly improve and seek new knowledge and insights.
- Responsibility and commitment to making the right decisions: Decision-making always involves taking responsibility for the decisions made and their consequences. In developing critical decision-making, it is important that a person understands their responsibility for how their decisions can affect themselves and others. Responsibility for their choices requires a commitment to making decisions that will bring long-term benefits and will be based on rational assessment rather than momentary emotions or impulsive decisions.
- Empathy and valuing other opinions: critical decision-making involves empathy and the ability to evaluate other people's opinions and perspectives. This helps not only to make balanced and considered decisions but also to respect different perspectives when they are based on different experiences or knowledge. Empathy is especially important when decisions impact a community or collective, as it encourages consideration of the interests and needs of other people, which is important for making ethical and fair decisions.

## Pedagogical approaches and activities

### *Pre-Lesson Activity – at home*

- Before the class: students are asked to watch a video lesson *No - to distorted facts! Data-based decision making* educational video available on the YouTube channel *Critical Thinking in the Information Society*.
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.
- Students are invited to complete a pre-test as a starting point. Test results will give an approximate idea of students' difficulties in understanding the topic. Therefore, class activities should focus on difficult concepts.

## In-class activities

### *Activity 1. During the lesson "Group discussion"*

Objective: create conditions for students to recognize gaps encoded in the media that prevent them from making appropriate decisions or forming opinions.

*Step-by-Step Guide:*

1. Before the discussion: Preparation
   1.1. Presentation of the task: inform students about the task: to select an article from social media, identify the knowledge gap the article addresses, and prepare for a group discussion.
   1.2. Selection of material:
   - Let students select an article that they find relevant or intriguing.
   - Indicate the main questions for analysis:
   - What is the knowledge gap the article addresses?
   - What is the main message of the article?

- - How does the article attempt to fill the gap (e.g., headline, content structure, arguments presented)?

2. Organizing the discussion
   2.1. Group formation: Divide students into small groups (3-5 people) so that everyone can actively participate. Ensure that the groups are mixed to allow for different perspectives.
   2.2. Discussion structure:
   - Presentation: Each student briefly presents their article and answers the main questions (3-5 minutes per participant).
   - Group discussion: Group members discuss whether they agree with the presentation, raise additional questions and provide alternative insights.
   - Discussion is made about how effectively the article fills the reader's gap, whether the methods used are convincing and what impact this may have on the reader.
   - Argumentation: The group decides together which article most effectively fills the reader's gap in the brain and prepares arguments to support their decision.

3. After the discussion: Summary
   3.1. Presentation of results: each group briefly presents the results of their discussion and the chosen article, providing sound arguments as to why their article best fills the brain gap. Groups can also share insights on the most common strategies used in articles.
   3.2. Reflection: Ask reflective questions:
   - What new things have you learned about article strategies?
   - How has this experience helped you better understand your readers' needs?
   - What criteria would you use to evaluate a good article in the future?

## Activity 2. During the lesson "Work in pairs"

Objective: create conditions for students to recognize gaps in the brain that prevent them from making appropriate decisions and apply critical thinking tools to address these gaps.

*Step-by-Step Guide:*

Task progress:
1. First stage: Creating a list of TOP 10 facts
   1.1. Choose a topic: choose a topic that is relevant or of interest to you (e.g. science, technology, history, environment, popular culture).
   1.2. Create a list of 10 facts. Of these 10 facts:
   - 5 facts must be true, based on reliable sources.
   - 5 facts must be false but presented convincingly (so that they seem true).

   Code the facts: Do not indicate which facts are true or false.
   1.3. Provide sources: Next to each fact, indicate whether it is based on a specific source or "hypothetical" (false) information.
2. Second stage: Exchange with a friend
   2.1. Exchange lists: exchange your list of facts with a friend.
   2.2. Fact Assessment: each student analyzes their friend's list of facts and:
   - Identifies which facts are true and which are false.
   - Provides a brief argument for why they think so (based on knowledge, logic, or critical thinking).

   Results: after the assessment, the friends return to their work and review each other's observations. Discuss areas of disagreement.
3. Stage Three: Reflection

3.1. Critical Thinking Assessment: each student answers the following reflection questions:

- Which facts were easily recognized as true or false?
- Which facts raised the most doubts? Why?
- How would you improve your critical thinking process?

3.2. Group Discussion: if time permits, organize a group discussion to discuss:

- The most common mistakes in recognizing false facts.
- Effective strategies that help you determine the truth of facts.

Assessment criteria:

- Quality of the list of facts: Are the correct facts based on reliable sources? Are the incorrect facts convincingly formulated?
- Critical thinking skills: could the student distinguish between correct and incorrect facts in a reasoned manner? Did they present a logical and well-founded argument for their assessment?

Post-task reflection questions:

- What helped you distinguish between true and false facts?
- What tools or methods could improve your ability to analyze information critically?
- How would you apply this experience to analyzing information on social media or other sources?

### *Activity 3. During the lesson "Group work"*

Objective: create conditions for students to apply critical thinking tools.

*Step-by-Step Guide:*

- Group work: each group is tasked with coming up with creative and clear examples that illustrate different brain gaps (e.g., negativity instinct, fear instinct, etc.). The groups prepare a short presentation in which they present their created examples.
- Presentation: groups take turns presenting their examples to other groups. During the presentation, the brain gap illustrated in the presented example is not revealed.
- Decoding: other groups analyze the presented examples and try to guess which brain gap is depicted. After each guess, the presenting group explains the gap in their example and why.
- Discussion: the most creative examples are discussed, which gaps were easiest to recognize and which were more difficult.
- Reflection: at the end of the assignment, students reflect on how knowledge of brain gaps helps create engaging information and how they could apply it in real life.

## After the lesson - Testing

The post-class activity is called *No - to distorted facts! Data-based decision making* -Post-test involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation and recommendations

- Each student receives an individual grade based on the test results before the lesson.

- After each assignment, students receive evaluation criteria that relate to critical thinking and the arguments presented. Students are also given the opportunity to evaluate each other's work.

## Notes to the lecturer

It is important for the teacher to pay attention to:

- The preliminary preparation for work on the topic.
- The specifics of working in groups, pairs (how will the grouping be done, pairs, etc.).
- How will the conditions be created to meet the special needs of all learners?
- How will an inclusive learning environment be created?

## Further readings

Facione, P. A. (2015). Critical Thinking: What It Is and Why It Counts. Insight Assessment.

This journal article provides a broad description of critical thinking, its importance, and its application possibilities.

Kahneman, D. (2011). Thinking, fast and slow. Farrar, Straus and Giroux.

This book describes the thinking process, thinking gaps, and thinking techniques.

King, T. (2024). Kritinis mąstymas. Alma Litera.

This book argues for the importance of having a voice in the information flow and of being able to choose the right and verified information. Lacking critical thinking, people are unable to distinguish between fiction and fact and are therefore inclined to believe conspiracy theories and lies and to seek support and refuge in religious communities, gangs or books of dubious value.

Mclendon, L. (2020). The Social Media Dilemma: A decision maker unknown to man. Salined, YU.

*The book examines the impact of social networks on human relationships and society. It highlights how social media, while designed to facilitate communication, can be addictive, negatively affect real social relationships and hinder good decision-making.*

Rosling, H., Rosling, A., Rosling, O. (2018). Factfulness: Ten Reasons We're Wrong About the World-and Why Things Are Better Than You Think. New York, NY: Flatiron Books.

The book explores why people often have a false and overly pessimistic perception of the world and presents ten instincts that lead to these mistakes. They also suggest methods to avoid these thinking traps and to view the world more objectively.

Saulius, T. (2021). Kritinio mąstymo metodai. LSU

The book covers a wide range of critical thinking topics, including: what critical thinking is and why it is important, how to use language clearly and accurately to communicate effectively, and methods for visually analyzing and understanding texts.

Schwartz, B. (2004). The Paradox of Choice: Why More Is Less. Harper Perennial.

The book discusses how a plethora of choices can lead to "analysis paralysis", where a person cannot make a decision because of too much information. The book offers strategies to simplify decision-making.

Tetlock, P. E., & Gardner, D. (2015). Superforecasting: The Art and Science of Prediction. Crown

The book offers practical advice on improving your forecasting skills, such as developing critical thinking, collaborating with others and continuous learning. This book is a valuable resource for anyone who wants to understand the art and science of forecasting better and improve their ability to predict future events.

# Topic 13: How to deal with fake news?

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## Background and rationale

In the age of globalization, everyone is guaranteed to have unlimited and continuous access to information from all over the world. Therefore, it is not only journalists or scientists who can provide it, but almost every person who is connected to the Web. Therefore, how does one know that all the information is true? Fake news is false information in the form of text, memes, graphics, gifs, sounds or even videos. Fake news has become a common and complex problem in the age of constant digital connectivity (Talwar et al.,2019 ). However, the propagation of fake information is not a new phenomenon. This phenomenon is usually linked to the use of the Internet, social networking, and hyperconnectivity, which help in spreading fake information on digital platforms not including traditional mass media (Alonso-López et al.,2021; Keys, 2004).

However, the threats are called what? What is fake news? It will certainly include false information (from fake - false, artificial), and therefore, it is untrue and does not correspond to the reality. Nevertheless, taking a more general view, the concept of fake news is not easy to define because of its ambiguity. An example is satire, which also has false information in its assumptions, but it is not fake news. Fake news is defined as the process of conveying fake information to the public and influencing social or political processes (MCNair, 2018). It is very important to emphasize that the key feature of fake news is the awareness of the user being misled for a certain purpose. It is most often used to create certain social attitudes. This happens by shortening, filtering or expanding the misinformation (Martens, Aquiar, Gomez-Herrera, & Mueller-Langer, 2018). It should be highlighted that fake news is not an outright lie; there is always some truth in fake news, but it is usually misrepresented or taken out of context (Gilin, 2017).

This is why critical thinking is particularly important, especially with regard to identifying fake news and not reproducing it further. It makes it possible to analyse, evaluate or question the news received on the web and on various portals.

### *Understanding the mechanism of fake news production*

Users contribute in various digital spaces, create their own messages based on the information they receive, and by participating in dialogues through various channels, they often create their own information - sometimes distorted or even false (Yao and Ngai, 2022). The most susceptible social group to fake news is precisely the youth, who, due to the passive consupmtion of information, duplicate the content provided (Fletcher and Nielsen,2018 ). This phenomenon is explained as a consequence of heuristic rather than analytical thinking, where the basis for credibility becomes emotional ties, the authority of influencers or sympathy, rather than critical thinking, where the basis is the analysis of content and its sources (Nygren et al.2020). Students will therefore stumble upon alternative news sources, bots and algorithms, conspiracy groups, and individuals toiling to speculate on fake news every so often carrying the inevitable risk of fraud.

In addition, disinformation results in the creation of untrue reality and, in extreme cases, aims to denigrate others, usually anonymously. Undoubtedly, fake news can lead to hegemony, harm to others and even death. Fake news can be created through bots and cyborgs, i.e. automated accounts that are designed to resemble the accounts of real social network users as closely as

possible. comments, so as to prompt discussion by other participants, and manipulation for various purposes. Their increased reactions result in increased interest in various content through the algorithm of social media platforms. We then have a snowball effect.

Another type of fake news is the so-called deep fake, which is the combination of a soundtrack with a video or animation. Today, with the development of artificial intelligence technology, this is particularly difficult to verify.

One of the most well-known mechanisms for producing disinformation is buying (usually by large companies) likes or comments. The mechanism for this kind of fake news is driven by specialized software that creates non-primary content, and then replicates it and misleads web portal users.

Social media are an integral part of people's social life. It goes without saying, therefore, that stirring up strong emotions, polarizing society, diverting attention from important topics, and pathostreaming are just a few of the dangers to which students may be exposed by becoming the target of a disinformation campaign.

### *Reasons and activities of fake news*

Most often, fake news works because of various social influences and it has a specific purpose: to evoke intended attitudes, behaviour or reactions. In order to achieve this, fake news has to have an interesting form and become fixed in the memory of the audience Usually, an individual makes such a decision as close people, well-known politicians, businessmen or influencers. This is due to social conformism, which is most often linked to the need for recognition, expectation or prejudice. Fake news is sometimes based on partially true infomation in order to satisfy the need for belonging or security. This is most often in the case of difficult situations that evoke strong emotions such as chaos, disinformation, war, environmental disaster, etc.

Secondly, low levels of social trust. This most often includes people who show low trust in Institutions, scientists or other authorities. Therefore, they look for information that forms outside the system and the general public. This is how conspiracy theories are formed, which usually rank higher in the hierarchy than in official discussions.

Thirdly, strong social polarisation. This is a rift that arises in the value system in different areas of social life. As a result, it creates a schism in society and democracy. It arises most often through strong fanaticism or radicalism.

Such flamboyant advertisements, slogans or films carry a particular risk of not only being manipulated, but even manipulated or defrauded. The above danger is also related to the speed at which fake news spreads. Unlike regular information, fake news spreads much faster. This is primarily due to the fact that disinformation is much more catchy and interesting than real information (Salevsky & Müller, 2011). In view of this, a young audience can satisfy its own curiosity very quickly without having to verify whether this information is true or not.

### *Conclusion*

In conclusion, critical thinking in relation to the identification of fake news is particularly important, especially in the age of the information society. Social media can have many benefits, including the rapid delivery of important information or mediated communication in the digital space. However, without critical thinking and the ability to recognise disinformation, an individual can be very quickly manipulated, which can lead to information chaos, radicalisation or even attempted deception. Nowadays, with the development of artificial intelligence, it seems that we may face an even greater escalation of the fake news phenomenon in the near future. This is why it is so important to develop a set of good practices that will help not only to identify fake news, but also to stop the spread of false information.

Despite the harmful effects of the spread of fake news on online social media, it is largely unknown whether young people are aware of the presence and spread of fake news on these platforms. Among other things, this is why it is worth introducing preventive measures to develop critical thinking. So that students are aware of the mechanisms of spreading fake news and have the ability to recognize them.

## Key topics

- Theoretical framing of fake news
- Mechanisms of fake news production
- Types of fake news
- Reasons and activities of fake news
- Factchecking - principles for the recognition of incorrect information
- Role and importance of critical thinking towards fake news

## Learning objectives and expected results

### *KNOWLEDGE:*

- learning about the nature of fake news, techniques and manipulation mechanisms of fake news;
- to recognise common strategies used to spread disinformation, such as bots, cyborgs, deepfake or attempts to polarise society.
- knowledge of techniques for the recognition of fake news.

### *SKILLS:*

- students are able to distinguish between types of fake news;
- be able to apply techniques and practices for recognising and dealing with fake news

### *ATTITUDES:*

- students are able to solve cases related to real situations from the surrounding environment and propose techniques for recognising fake news.

## Pedagogical approaches and activities

### *Pre-Lesson Activity – at home*

- Students are invited to watch the video lesson Feke news available on the YouTube channel *Critical Thinking in the Information Society.*
- a test with closed questions has been prepared for students before the lesson (see appendix). Questions relate to the most general parameters of the topic.

## In-class activities

### *Activity 1. Fake news mechanism*

Aim: to understand the mechanism of fake news.

- Divide students into smaller groups. Give students worksheets divided into areas: health; education; sports; celebrities; science; online games. Each team will work on one issue. The students' task is to come up with and write fake news.
- Group leaders then read it out to the class. Point out that nowadays, with the use of the internet and access to mobile devices, false information is created and spread at a very fast pace.
- Encourage discussion - how do you know it is fake news and not real information?
- Create your own code of good practice in identifying fake news.

### *Activity 2. Workshop on identifying fake news*

Aim: To help students identify fake news techniques and manipulative tactics used on social media.

*Step-by-step guide:*

1. Divide students into small groups and provide each group with a variety of printed social media posts containing fake news.
2. Ask students to analyse the posts, answering critical questions such as:

- What emotions is the post trying to evoke?
- What techniques are being used (e.g. bots, deep fake, emotional manipulation)?
- Does the posting contain any biases or assumptions?
- Does the content contain language errors?
- Does the information obtained appear in other sources or sites?
- Is the date of the published content reliable?

3. Have each group present their findings to the class, focusing on the identified techniques and potential mechanisms of fake news.
4. Conclude with a class discussion on the ethical implications and tactics used in these posts.

## After the lesson - Testing

The post-class activity called *Fake news* (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation guide

Evaluate students on their ability to analyze, process and interpret and the strength of their arguments. Focus on critical thinking, reflectiveness and nterpretation.

## Notes to the lecturer

- Encourage students to consider the long-term consequences of spreading fake news and the ability to recognize them.
- Encourage students to think from multiple perspectives and consider the impact on society.
- Guide students to question information reaching them, the ability to check the credibility of information and its authors.

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# Topic 14: Critical Thinking in Relation to Entertainment-Content

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## Background and rationale

To relax and have fun, it is a natural human need. It is a good feeling to be able to do something that is not work, something that can help relieve stress, focus the mind, calm the spirit, give new energy, and share new information in a way that does not seem like much effort. People are having fun, telling jokes, relaxing, and chatting. It seems to be a common feature of all entertainment that we don't focus on specific issues, but rather float the topics that are of interest to us. It helps to relieve the stress and tensions of the day. The same is true of playing a game because while playing, you can sort out the important issues in a lighter way.

Here are several tips that will help you have fun and play well. Perhaps one of the most important things to know is that having fun is not something to be taken lightly. Entertainment is very important, it is meaningful, and it is worth taking seriously. Once you start playing a game, you cannot stop playing it at any time.

So in this chapter, we look at what we need to know about entertainment media content, its common characteristics, if we are to understand what happens to us while we are having fun consuming media content.

Entertainment today may take the form of going to a shopping mall, attending a cultural event, taking part in a festival, being on the grandstand of a football match among the crowd of supporters of the two teams, playing basketball on the backyard with kids or scrolling through and consuming media content. We will analyze why this last type of entertainment takes most of our time, and how we can achieve a healthy balance with the help of critical thinking.

Today there is a wide range of possibilities one can choose from: different channels, media, platforms and prices. It is also true that even in the new media context of our times, one can consume media in a conservative way, as if the context were still one, back when that media was the most important one. However, in the context of new media, whatever the receiver's choice is – ranging from a book to a VR-experience –, there are some common characteristics that should be discussed. Media consumed for entertainment purposes can take different forms.

Transmedial means that the content appears on many platforms, it is connected to a wide variety of texts, pictures or multimedia.

Serial means that the content can be continued and is actually continued, so we have series instead of stand-alone volumes or movies. Media content is also spreadable, some of its elements might go viral by using and also creating a receptive network, where users actively participate in the circulation of content.

Infotainment means that there is a constant blend and mix of documentary and fiction, news and entertainment. Present-day media promises that it brings us everything worth knowing, and nothing is more entertaining than everyday life unfolding in front of our eyes in a fantastic synchronicity.

Personal means that media platforms today are responsive to the choices of the users, creating the illusion that every recommended item is exactly what they need.

Participatory means that users are invited to engage with the content in an active, creative, personal and shareable way.

Affective means that users respond to the content with their feelings and attitudes. Entertainment results in a special mood of relaxation, but may also enables the consumers to experience intense emotions.

When a person chooses the media of a book and reads a novel, the unfolding narrative triggers the desire to be in the world of the story as much as possible. In today's new media context writers and publishers alike welcome this desire, and respond to it by bringing series of volumes on the market. One prominent example may be the *Harry Potter* series with millions of fans waiting for the next volume. The readers not only read, but also live in the story world thanks to different merchandized items put on sale. Furthermore, they may visit the theme park where this world can be physically experienced. They can participate at debates, play games, be part of fandoms, write parts or episodes of the story, or even try new endings and personal perspectives of the official narrative. This expansion of the storyline constructs a narrative spanning through different platforms and media, resulting in the permissive, inclusive and emancipatory transmedial character.

In the case of streamed media, the seriality means that the episodes of a TV series seem to form an endless stream, but also the fact that different episodes are often watched in a single sitting. This phenomenon is referred to as binge-watching. The term is of the same age as the term *selfie*, even if it is less widespread.

Our scrolling habits may also display this binge-feature on various social media platforms. We turn to the social media to be informed and entertained simultaneously. But can social media offer us up-to-date information about what is going on? Everything is interesting, but also irrelevant, and – paradoxically – every marginal aspect can gain high importance in a matter of seconds due to a comment, a personal matter or a timing issue. We constantly have the feeling that we are offered exactly the content we crave for.

Social media – "the blizzard of everything" as Patricia Lockwood names it in her novel *No One Is Talking About This* – is extremely entertaining, giving us a feeling of being present in a chaotic life, watching the others in what they consider important enough to post about. We cannot be bored; we do not have to decide about important or even painful events in our lives and we can postpone dealing with our problems. We might even consider writing posts, editing videos and making beautifully filtered photographs, herewith participating in the social media blizzard. Seeing how other people react is fun, and it's entertaining to observe all the differences between people. One may feel alive, connected and in control.

However, social media brings lots of hours spent in the network. Extreme users of social media lose track of time because the timeline has no end, the scrolling brings new content on and on. The algorithms behind social media platforms have numerous addictive built-in features. One of these is the echo-chamber character of social media: consumers see content that is close to what they like, read about and spend time with. Another example is the design of information: every scroll we make, brings not only the next post on our screens, but also a part of the following post. Just enough to make us curious to see that one too. The bigger picture here is that all the platforms want us to be on the platform as much time as possible. They do not help the users in making conscious decisions. But is up to the users, how they receive and interpret the content.

VR (virtual reality) represents a new form of entertainment. Experiencers use headsets and different consoles to enter fictional, digital and programmed worlds immersing in faraway realities. Users can have different degrees of freedom regarding their actions in the virtual environment. This type of media requires full attention from the users, hence they totally cut themselves off from the actual physical reality. We will know more about the possibilities of VR and its integration in the society once an institutionalized form takes place.

## Key topics

- Concept of new media
- Transmedial
- Serial
- Infotainment
- Personal
- Participatory
- Affective
- Binge-watching
- Scrolling habits
- Irrelevant content
- Social media
- VR
- Rules for conscious entertaining

## Learning objectives

The overall goal of the lesson is to help the students to ask the right questions and find their personal answers. They will understand why they make certain choices, to which degree these are their own choices, predefined by algorithms and informational design or not.

Specific goals are setting a few rules for media consumption. The techniques for dealing with social media and the addictive elements of entertainment today will help students in achievieng a healthy balance and a conscious lifestyle regarding different aspects of life (entertainment, work, learning, news, family, friends etc.).

## Expected results

### *KNOWLEDGE*

- learners become familiar with the notions describing new media, they have the dictionary to speak about social media and they know the rules for a healthy entertainment through media content

### *SKILLS*

- learners are able to recognize addictive features of social media, they are able to decide for themselves how to spend their time

### *ATTITUDES*

- learners are able to interpret social media phenomena, they are able to choose from different media content, they can critically judge the different aspects of the entertaining aspects of media

## Pedagogical approaches and activities

### *Pre-Lesson Activity – at home*

- students are asked to watch the video lesson *Critical Thinking and Entertainment* available on the YouTube channel *Critical Thinking in the Information Society*.

- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

## In-class activities

### *Activity 1: Reflecting on Social Media*

Objective: To help students identify addictive elements of social media and gain a bigger picture.

### *Step-by-Step Guide:*

1. Divide students into small groups and provide each group with the handout of the following passage: "She opened the portal, and the mind met her more than halfway. Inside, it was tropical and snowing, and the first flake of the blizzard of everything landed on her tongue and melted. Close-ups of nail art, a pebble from outer space, a tarantula's compound eyes, a storm like canned peaches on the surface of Jupiter, Van Gogh's The Potato Eaters, a chihuahua perched on a man's erection, a garage door spray-painted with the words STOP! DON'T EMAIL MY WIFE!" (Patricia Lockwood starts her novel *No One Is Talking About This*)
2. Ask students to reflect on the passage by answering critical thinking questions such as:
    - How is the platform called portal described?
    - Do you find the description accurate? Why?
    - How would you describe the social media you use? What examples of content mix there together?
3. Ask each group to make a presentation with visuals that illustrate the description they made about social media. Let them present their work to the class, focusing on chaotic mix, on the "blizzard of everything".
4. Conclude with a class discussion on the implications of this type of content and presentation on our behavior, thoughts, decisions.

### *Activity 2. Entertainment and healthy decisions*

Objective: To help students create a healthy coping system with media content produced and consumed to have fun.

*Step-by-Step Guide:*

1. Divide students into small groups and ask them to discuss about their habits of using media for fun. They should include in their discussion the following questions:
    - What is my screen-time? What do I do on my Phone? What is my purpose when I am doing that?
    - What is entertaining for me?
    - What would I do if I had some extra free time?
2. Ask students to reflect on media use and healthy lifestyle, and answer the following questions:
    - Should we have some rules regarding social media use? On individual or on societal level?
    - What would be the important aspects in the regulation?
    - What rules do you follow in your practice?
3. Ask each group to make a poster with possible rules, then present their set of rules in front of the whole class.

4. Conclude with a class discussion about the impact of regulations.

## After the lesson - Testing

The post-class activity called *Stress and Coping - Post-test* (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Interaction model

- Face-to-face training during the introductory activities
- Groups work by interpreting media phenomena and developing a set of rules.
- Individual work - to complete the tests and watch the video material at home.

## Evaluation and recommendations

- Each student receives an individual feed-back based on their overall performance.
- Each team, based on the performance of the task in the classroom, receives a qualitative assessment of their work based on the presentations presented by the individual teams.
- The teacher must develop his own criteria, adapted to the age and individual characteristics of the students and related to the expected results of the answers to the test after the students have watched the video lesson.

## Notes to the lecturer

It is important for the teacher to pay attention to:

- The preliminary preparation for work on the topic. Read the mentioned novel if possible.
- A selection of entertaining forms and examples, oriented to the individual and educational characteristics of the students.
- The team task - to think about the way in which the students will be divided into teams.
- To take into account the time needed for work and for presentation.
- The teacher should prepare short and clear instructions regarding the implementation of the test before the lesson and the test after the video lesson; instruction about the video lesson (what the students should pay attention to).

Encourage students to consider the long-term consequences of their decisions.

Challenge students to think from multiple perspectives and consider societal impacts.

Guide students to question their assumptions and consider alternative solutions.

## Further readings

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# Topic 15: How to not be manipulated by the media?

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## Background and rationale

This paper shall examine the impact of media in the contemporary world as a tool of shaping public opinion, driving individual and societal behavior, and setting social norms and values. The development of the Internet and the emergence of the social media has greatly expanded the quantity and ease of access to information in the society, such that news and stories are released at a very high speed. Nevertheless, like any other tool, this wealth of information comes with its advantages as well as disadvantages. At one hand it equips people with information on the other hand people are made vulnerable to misinformation, propaganda and reporting prejudices. The media have already penetrated into the society for the past and, therefore, when people want to search for information they usually start from the media. They affect culture and education and are one of the most important tools of a cultural and social nature. On the other hand, new media are not always applied effectively. And because they are characterized by the speed of information transfer they carry many dangers and manipulation.

News media play a significant role in shaping the perception of events by the public. Classic channels including television, radio, and print media have traditionally been viewed as reliable sources of information. But with the emergence of platforms that function based on the algorithm, including Facebook, Twitter, and TikTok, the creation and dissemination of information are dependent on the engagement rates and not the credibility of the information. Headlines that grab attention, shocking and controversial stories and the echo chambers have become the norm, which only complicates the distinction between news and propaganda.

The challenge of misinformation is one of the most critical issues in the contemporary world, especially concerning the use of media. According, to the Pew Research Center, a large number of adults have accepted to have shared false information with others, and this has happened without their knowledge. The concept of ‘fake news’ not only distort the public debate but also erodes the credibility of the traditional news media. Governments, corporations and other interest groups have realized this weakness and have started using it to push their agendas, create division and stir societies, and manipulate democratic processes.

Media manipulation often exploits cognitive biases and psychological tendencies inherent in human behavior. Techniques such as framing, selective reporting, and emotional appeals tap into confirmation bias, anchoring bias, and fear responses, leading audiences to accept information without critical evaluation. Studies in behavioral psychology suggest that individuals are more likely to believe information that aligns with their pre-existing beliefs, making them susceptible to manipulation despite the availability of contradictory evidence.

This topic is crucial in the current socio-political context, where misinformation has been linked to public health crises (e.g., vaccine hesitancy), political polarization, and the erosion of trust in democratic institutions. By addressing "how to not be manipulated by the media," individuals can develop a robust framework for navigating the complex information landscape. This, in turn, fosters a more informed and resilient society capable of discerning truth from distortion and holding media outlets accountable for their role in shaping public narratives.

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can develop a robust framework for navigating the complex information landscape. This, in turn, fosters a more informed and resilient society capable of discerning truth from distortion and holding media outlets accountable for their role in shaping public narratives.

### *Understanding what manipulation is*

Manipulation is a complex and multifaceted phenomenon that exploits human vulnerabilities to achieve hidden agendas. Recognizing its characteristics, mechanisms, and consequences is the first step toward resisting its influence. By fostering critical thinking, emotional awareness, and media literacy, individuals can empower themselves to navigate a world rife with manipulation and make informed, autonomous decisions. In this way, we can mitigate the harm caused by manipulative tactics and contribute to a more transparent and ethical society.

Manipulation is a deliberate and often covert strategy employed to influence the thoughts, emotions, or actions of others to serve a specific agenda, frequently at the expense of the manipulated party. Unlike overt persuasion or honest communication, manipulation is characterized by its use of deceptive, exploitative, or unethical tactics. It thrives on exploiting vulnerabilities, biases, and cognitive blind spots to achieve desired outcomes, often bypassing rational decision-making processes.

The term "manipulation" originates from the Latin word manipulus, meaning "handful" or "to handle skillfully." In modern contexts, manipulation transcends its literal meaning to encompass psychological and social dimensions. It typically refers to actions or strategies employed to influence another's behavior, emotions, or decisions without their full knowledge or consent. According to Baron (2003), manipulation "involves tactics that are designed to exploit or control another person in ways that prioritize the manipulator's interests, often at the expense of the manipulated individual".

Manipulation can be overt or covert. Overt manipulation is direct and recognizable, such as when someone uses threats or bribes to influence another's actions. Covert manipulation, on the other hand, is subtle and hidden, making it more insidious. It often involves techniques such as gaslighting, guilt-tripping, or emotional blackmail, which distort the victim's perception of reality and impair their ability to make autonomous decisions.

The key fatures of manipulation are:

- Intentionality: Manipulation is typically intentional and goal-directed. The manipulator consciously employs strategies to influence the target.
- Exploitation: Manipulation often exploits the vulnerabilities, emotions, or cognitive biases of the target.
- Deceptiveness: A hallmark of manipulation is its reliance on deception or withholding of information to achieve desired outcomes.
- Power Imbalance: Effective manipulation usually involves an asymmetry of power, where the manipulator holds a position of advantage over the target.

Modern media manipulation aims to tie an individual to a permanent attitude that has been deliberately created and based on lies by others. The fact is that manipulation can be recognized as the small and the large. The first is limited to a smaller environment – neighbors, school community, colleagues or family. The second refers to the majority of society, e.g. political manipulation.

There are also some types of manipulation:

- Psychological Manipulation: it occurs in interpersonal relationships and involves tactics that undermine a person’s mental or emotional stability.

- Social and Cultural Manipulation: in this contexts, manipulation can involve influencing public opinion, shaping societal norms, or controlling group dynamics.
- Political and Media Manipulation: often involves strategies to shape public perception, sway elections, or consolidate power. Media manipulation amplifies this effect by leveraging platforms to spread misinformation, sensationalism, or selective narratives.

In addition, due to the effectiveness, we can distinguish three types of manipulation - effective, futile and with boomerang effect. Effective manipulation refers to that which brings about the intended goal. Futile is the one that, through various factors such as poorly chosen technique, does not succeed. A boomerang-effect manipulation, on the other hand, is one that produces the opposite of the intended effect.

Not surprisingly, through flashy titles, images or videos, an individual can easily succumb to various manipulation techniques, which include - the power of suggestion (based on propagandize), framing (distortion of facts) or ingratiation (based on sympathy or authority).

It should be noted that there are many more methods of online manipulation, which can lead to such negative consequences as online 'hate', spreading disinformation, chaos, health or even death threats.

### *Conclusion*

The ability to critically analyze and question media content is no longer just a desirable skill – it is a necessity for preserving individual autonomy and informed citizenship. As manipulation tactics grow more sophisticated, the need for media literacy has become urgent. Teaching individuals how to identify bias, fact-check information, and approach content critically can empower them to resist manipulation, make informed decisions, and contribute to healthier public discourse.

Learning critical thinking skills in relation to manipulation in new media is particularly important and should be given priority in school prevention. Social media and new technologies are not inherently evil; they can provide useful information and support the communication of people who remain at two different poles of the world. However, without critical thinking, Internet users can be easily manipulated, leading to bad decisions of online hate speech, phishing, misinformation and the spreading and life-threatening new trends on various social networks among young people.

By developing the ability not to be manipulated can ultimately lead to the formation of a responsible society. Critical thinking with regard to recognizing and dealing with manipulation is not only a valuable skill, but is an essential skill in everyone's life.

### Key topics

- The concept of manipulation,
- The impact of manipulation on society,
- Techniques of manipulation,
- Manipulation strategies in the mass media,
- Manipulation persuasion,
- Importance of critical thinking in relation to manipulation in new media,
- Good practices in anti-manipulation prevention.

## Learning objectives and expected results

### *KNOWLEDGE:*

- students will learn about the essence of manipulation and persuasion, manipulation techniques in the digital space, the ways in which it manifests itself,
- students will know techniques for dealing with manipulation.

### *SKILLS:*

- students will be able to distinguish between types of manipulation,
- students will be able distinguish manipulation vs. persuasion,
- will be able to apply techniques for dealing with manipulation.

### *ATTITUDES:*

- students will be able to propose techniques to protect themselves from manipulation.

## Pedagogical approaches and activities

### *Pre-Lesson Activity – at home*

- students are asked to watch a video lesson *How to not be manipulated by the media?* available on the YouTube channel Critical Thinking in the Information Society
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

## In-class activities

### *Activity 1. Role-Playing Scenarios*

Objective: Identify and respond to manipulative tactics in real-life situations.

Description: Divide students into small groups. Assign one student the role of a manipulator and the others as targets or bystanders.

Provide scenarios, e.g., a friend pressuring another to lend money, a co-worker taking credit for someone's work, or a salesperson using high-pressure tactics.

After acting out the scenario, discuss the manipulative tactics used and brainstorm ways to respond assertively.

Outcome: Students develop critical thinking and assertiveness skills.

### *Activity 2. Analyzing Media Manipulation*

Objective: Recognize manipulation in media and advertisements.

Description: Show students examples of advertisements, political campaigns, or social media posts. Ask them to identify manipulative techniques, such as emotional appeals, selective editing, or misinformation. Have students propose alternative ways the message could be framed ethically.

Outcome: Students build media literacy and critical analysis skills.

### *Activity 3. Debate: Ethical vs. Unethical Persuasion*

Objective: Understand the thin line between persuasion and manipulation.

Description: Divide students into two teams. One argues that persuasion is a necessary life skill, while the other argues that it easily becomes manipulation. Encourage them to use real-world examples to support their arguments. Facilitate a reflection session afterward to consolidate learning.

Outcome: Students develop argumentation and ethical reasoning skills.

## After the lesson - Testing

The post-class activity called *How to not be manipulated by the media?* (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation guide

Evaluate students on their ability to recognize manipulation and persuasion techniques. Focus on critical thinking and ability to recognize and deal with situations of attempted manipulation.

## Notes to the lecturer

Encourage students to look at different perspectives, broader analysis of information and the principle of limited trust online.

Encourage students to think from multiple perspectives and consider the impact of manipulation and persuasion on society.

Guide students in questioning online information and anti-manipulation prevention.

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# Topic 16. Active Citizenship though social networks

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## Background and rationale

In today's digital world, social networks are a major source of information for many people, providing access to news, opinions, public debates and personal stories in real time. They play a key role in shaping public opinion while enabling communication and the exchange of ideas on a global level. However, as these platforms evolve, so does the spread of misinformation and fake news, which can negatively affect public attitudes, undermine trust in institutions and create divisions in society. Misinformation often spreads quickly due to the viral nature of social networks, where the sharing and promotion of content can reach millions of users in a short time.

For young people who spend most of their time on social media, it is important for them to know how to tell the information that is credible from that which is not. They are exposed to a large amount of content that is often emotionally impactful, biased or manipulative. In this context, it is important that young people are able to think critically so as to be able to tell the difference between objective facts, subjective opinions and content that is clearly designed to push some agenda. The capability to analyze the source of information, challenge the credibility of the claims made and identify the agenda of the content protects them from being misled and helps them form their own opinions.

In order to be an active citizen, one has to be conscious of the impact that the information we receive has on our perception and actions. When young people are able to pay attention and critically assess social media content, they can help fight misinformation, have a productive public debate and become part of a better informed and sustainable society. This includes fact checking, source evaluation and understanding the ethical and social implications of sharing information in this manner. In this way, social media can be made to serve the common good and democratic process instead of being used to manipulate the masses and peddle misinformation.

## Key topics

**1.** Reliability of information - criteria and ways of verification. The credibility of information in the media and social networks is a key aspect of media literacy. Students will be introduced to key criteria for assessing credibility, including authorship of the text, the source of the information, support with facts and evidence, and the availability of scientific or expert data. Various methods of verification will also be addressed, such as searching primary sources, using reliable databases, and consulting independent sources. This will help young people navigate the vast media landscape and avoid misleading information.

2. Risks of misinformation and manipulative content. Misinformation and manipulative content can have a serious impact on public attitudes, behaviour and political processes. The topic will examine different forms of disinformation, from fake news to manipulated images and propaganda. Students will learn how and why misinformation is spread, how to recognise manipulative techniques, and what the consequences of accepting misinformation as truth can be.

3. Main sources of information in social networks and their reliability. In social networks, information comes from multiple sources, such as news sites, blogs, influencers and ordinary users. The different types of sources and their reliability will be discussed. Students will learn to distinguish between information shared by professional journalists and news agencies and content created by users without expert knowledge or fact-checking. They will also discuss the phenomenon of viral content and how it can influence public opinion even when there is no objective basis.
4. Fact-checking tools and sources. Various fact-checking tools and online platforms such as FactCheck.org, Snopes, Google Fact Check and others will be presented on this topic. Students will learn how to use these tools to check the credibility of news, articles, and other types of media content. In addition, primary source search techniques and ways to track information will be explored, helping students make informed decisions about which content is credible and which is not.
5. The role of critical thinking in evaluating media content. Critical thinking is an essential part of the process of evaluating media content. Students will learn about the approaches and strategies for critical thinking, including asking questions, analysing language, examining evidence and considering alternative viewpoints. This will enable them to better understand how different media influence their attitudes and perceptions, encourage them to think independently and be active participants in the information society.

## Learning objectives

### *To develop critical thinking skills and evaluation of information.*

The training aims to develop the students' ability to analyse the information they consume by asking critical questions and evaluating different aspects of media content, including sources, purpose and presentation style.

### *To learn about strategies for verifying the credibility of information on social networks.*

Students will learn how to use digital tools and techniques to verify facts and credibility of sources on social networks. They will be able to recognise potentially misleading content and make informed choices about what information to accept as truth.

### To form attitudes towards responsible sharing and consumption of media content.

The training will encourage students to be careful and responsible when sharing content on social media and to understand the importance of truthful information in building an informed society. This will make them more aware citizens who actively contribute to the fight against misinformation.

## Expected results

### *Knowledge:*

Students will acquire the ability to identify the key characteristics of credible information, such as objectivity, backing up with reliable sources and verifiable facts. They will learn methods for verifying sources, including how to recognise signs of credibility and how to identify questionable or manipulative sources of information. Students will be introduced to the differences between fact, opinion and manipulative content and understand how these categories can influence public opinion.

### *Skills:*

Students will develop practical skills in detecting questionable facts and evaluating media publications using a critical approach to the content they encounter. They will be able to analyse media texts, distinguishing fact from opinion, identifying manipulation and checking the reliability of the evidence presented. In the process of learning, students will acquire competences in the use of online fact-checking tools and platforms, which will improve their ability to navigate the information environment.

### *Attitudes:*

Students will become aware of the importance of responsible use of information on social networks and will be motivated to avoid spreading unreliable news. They will adopt a proactive and critical approach to consuming and sharing content, seeking to support informed and evidence-based public opinion. Awareness of the impact of misinformation on society will make them more conscious consumers and creators of information.

## Pedagogical approaches and activities

### *Pre-lesson activity: Preparatory task - Media content analysis*

Students will be given several examples of social media posts that have varying degrees of credibility. The posts may include news, advertisements, comments or opinions, some of which will contain objective facts and others manipulative or dubious claims. The students' task will be to examine each publication and evaluate it according to predefined criteria, such as:

- Who is the source of the information?
- Is the content supported by evidence or based on personal opinions?
- Are there signs of manipulation or bias?

This activity will help them to become familiar with the key concepts that will be explored during the lesson and will stimulate their critical approach to the content they encounter on social media.

### *Examples of social media posts with varying degrees of credibility*

1. **High credibility**

Example: 'The World Health Organization (WHO) has announced new recommendations for healthy eating aimed at reducing sugar consumption. According to the latest report, people should limit their daily sugar intake to 10% of their total calorie intake. You can read more about the recommendations on the official WHO website: [link to source].'

**Credibility Characteristics:**

- A specific and verifiable source is cited (WHO).
- A link for further information is provided.
- The information is presented objectively and clearly.

2. **Medium level of credibility**

Example: 'A new study shows that drinking coffee may reduce the risk of heart disease. Researchers at a US university observed a group of 1,000 people and found that those who drank two cups of coffee a day had a lower risk of heart problems. More information will be published in an upcoming issue of the scientific journal 'Health Research'.'

*Features:*

- The publication provides data and sources, but no specific link to verify the information.
- The study references a future publication, which may cast doubt on the accuracy of the data.
- Information on the exact university and study authors is missing.

**3. Low credibility**

Example: 'Drink three glasses of water with lemon every day and you will burn 10 kilos in a month! This is a secret revealed by 'famous doctors'. All celebrities do it and the results are impressive! Share with friends to help them lose weight too!'

**Characteristics of untrustworthiness:**

- No credible sources of information or scientific evidence cited.
- Sensational and misleading language is used to attract attention.
- Promises unrealistic results that are not supported by concrete facts or research.
- The publication lacks specificity about 'famous doctors' or named individuals.

**4. False or misleading information**

Example: New 'evidence' has been revealed by unnamed sources. Share to warn everyone!"

*Features:*

- Absolutely no evidence and citations to actual sources.
- Contains conspiracy theories and misleading information that causes panic.
- Uses suggestive and creepy language.

**5. Satirical publication (misinformation found)**

Example: 'Scientists have confirmed that if you eat pizza every day, it leads to amazing mathematical abilities. All schools are expected to introduce 'pizza therapy' as a compulsory subject from next year.'

**Features:**

- The publication contains obvious humorous or satirical information that makes no claim to veracity.
- It is usually distributed for entertainment purposes but may be misleading to people who do not recognise satire.

### *Lesson activity: group work - Identifying reliable information*

*Introduction to the topic.*

- Identifying credible sources: the teacher explains what constitutes a credible source - e.g. official news agencies, reputable experts, scientific publications, etc. He/she stresses on the importance of distinguishing between professional journalistic material and content created by unknown or irrelevant sources.
- Fact-checking: Presenting methods for verifying claims in media publications, such as using fact-checking platforms (e.g. FactCheck.org, Snopes) and searching for primary sources.
- Recognising manipulative tactics: The teacher explains how to recognise elements of manipulation, such as sensational headlines, distorted data, emotionally targeted language, and highlighting biased opinions.

*Group work:*

- Students are divided into small groups (e.g. 4-5 people) and each group receives a different social media post. The posts may include examples of news articles, commentaries, opinions and advertisements, some of which will contain truthful information and others misleading or manipulative statements.
- Each group is given the task to analyse the publication using the criteria presented to assess credibility. They should consider the source of the information, check that the claims are supported by evidence, and try to identify any signs of manipulation or bias. Students record their observations and conclusions.

Technology aspect of the activity: Each group can use devices such as laptops or tablets to access online resources, including fact-checking platforms and databases. The teacher can provide a pre-compiled list of resources or tools to help students carry out the check.

*Discussion:*

- After all groups have completed their analysis, each group presents their findings to the class. They should explain why they have classified the publication as credible or non-credible and support their analysis with specific examples. The teacher leads the discussion by asking questions and encouraging students to consider different points of view and share their thoughts.
- The discussion also includes an exchange of ideas about how to verify information they encounter online. Students can suggest strategies for checking sources, detecting manipulative elements and avoiding misinformation. The teacher can give feedback and provide additional tips.

*Instructions for the activity:*

- Listen carefully to the teacher's introduction about the criteria for assessing the credibility of information.
- Split into small groups and obtain your publication for analysis.
- Use the criteria and online resources provided to check the credibility of the publication.
- Record your observations and conclusions about whether the information is credible and provide evidence for your analysis.
- Present your conclusions to the class, explaining how you derived them and why you think the publication is credible or misleading.
- Participate in the discussion and share your strategies for verifying the information.

## Activity after the lesson: Individual assignment - Checking information

Studens are given the task of selecting a current news story or social media post that has caught their attention. It could be related to topics such as politics, public health, science, technology or other areas. The task is to analyse and verify the credibility of the selected information using different online fact-checking tools.

*Steps to complete the task:*

**1**. Choose a current topic news story or publication: Each student chooses a news story or social media post that they consider important, controversial or questionable.

2. Content Analysis: Students should analyse the source of the news story, examine the claims being made and note the presence or absence of evidence. They should ask themselves:

- Who is the source of the news?
- Is the information supported by credible facts and evidence?
- Does the news appear biased or manipulative?

Credibility Check: Students use fact-checking tools such as FactCheck.org, Snopes, Google Reverse Image Search and other analytics resources. They will check to see if the news story has been fact-checked, if evidence has been found to support or refute the claims, and if the images or data in the publication are true or manipulated.

Prepare a short report: Each student prepares a short report on the results of their verification. The report should include:

- A description of the news story or publication that was verified (link to the publication if possible).
- Results of the verification - sources and tools used to verify the information and what they found.
- Conclusion as to whether the news item is credible or misleading, and justification for that conclusion.
- Reflection on the verification process - what difficulties they encountered and how this exercise helps them to deal with misinformation in the future.

Purpose of the task: This activity aims to encourage students to think critically, develop skills to verify information and engage responsibly with the media content they consume and share on social media.

### *Model of interaction*

- **Face-to-face learning to introduce the topic and analysis of examples:** the teacher will introduce the basic concepts and criteria for assessing the credibility of information by presenting examples of original media content (news articles, commentaries, advertisements, etc.). The course will explain methods of fact-checking and how to identify manipulative or misleading tactics in the media. The teacher will use multimedia presentations or interactive tools for demonstration.
- **Group work to analyse media publications**: students will be divided into groups to analyse pre-selected media publications. Their task will be to apply the criteria they have learned to assess the credibility - identifying sources, checking evidence, recognising bias and manipulative elements. Each group will present their findings to the others, explaining what they found in terms of the credibility of the information. This will encourage collaboration, critical thinking and exchange of ideas.

### *Individual assignment to assess the credibility of information:*

Students will be given the task to select a current news story from social media and check its credibility using online fact-checking tools (e.g., FactCheck.org, Snopes, Google Reverse Image Search). They will produce a short report that will include a description of the news story, the results of the fact check and conclusions about its credibility. The aim is to reinforce the skills learned to independently verify and evaluate information.

## Assessment and recommendations

The assessment will be based on several aspects: participation in the group analyses, the quality of the analysis and presentation of the findings, and the quality of the individual report produced. The teacher can assess the critical attitude in the students' reasoning, their ability to

distinguish credible from non-credible information and their ability to use verified facts and evidence.

Feedback: The teacher will provide individual and group feedback, encouraging students to ask additional questions about the credibility of media content and to share their thoughts and findings. The purpose of the feedback is to reinforce critical thinking and stimulate open dialogue on the topic.

## Instructions for the trainer:

- Prepare a variety of examples of media content in advance (e.g. news articles, commentaries, social posts and advertisements) with varying degrees of credibility.
- Provide access to online resources and fact-checking tools.
- Encourage active student participation during the group work and provide a safe environment to discuss different points of view.
- Emphasise the importance of an ethical and critical approach to the consumption of media content.

## Bibliographic reference for further preparation:

"Media Literacy: Keys to Interpreting Media Messages" by Art Silverblatt

FactCheck.org - a website for fact-checking and analyzing media claims

"The Elements of Journalism" by Bill Kovach and Tom Rosenstiel

Google Reverse Image Search - a tool for verifying images and sources.

Snopes.com - a platform for verifying rumors and fake news.

# Topic 17: Critical Thinking in Advertising Messages

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## Background and rationale

Today, people are exposed to a large number of advertising messages as a result of the media environment. Advertisements are used to influence and control consumer behaviour and decision-making processes and are found on television, social media and other online platforms. Some advertisements are informative while others are designed to stir up emotions, prejudices and conformism of society members. This is why it is crucial to develop the critical thinking skills with regards to advertising. It helps people to interpret messages, recognize guiles, and make decisions for themselves instead of being controlled by the psychological techniques which are used to increase sales.

### *The Importance of Advertising in Consumer Behaviour*

Advertising is one of the most important factors that determine how consumers view and purchase products. Studies show that advertisements not only affect the consumer's attitude towards the brand and the products (Sheehan & Tusinski Berg, 2015) but also affect consumer behaviour (Brookfield et al., 2022). Marketers employ different strategies including, emotional appeal, celebrity endorsement and social proof to gain credibility and have consumers buy their products.

For example, advertisements usually use stories to make people feel something, whether happiness, nostalgia, or like they are part of a family. Hence, the use of positive emotions is a way of increasing the probability of purchase. Furthermore, social norms are also another factor that influences consumer purchase decision; for instance, if an advertisement indicates that 'everyone' is using a particular product then people will be coerced to use the same. This is because, without critical thinking, consumers will accept these messages without questioning their authenticity.

### *How to Identify a Manipulator in Advertising*

The first reason why critical thinking is important is that advertising is full of psychological tricks. Some messages are developed to make consumers take impulse actions without using their logic. Some of them include:

- Emotional Appeal: The use of soft music, happy stories, or scary images and sounds will touch the audience's feelings. For instance, life insurance advertisements are designed to create fear and a sense of need by showing the worst that can happen.
- Fear Appeal: Marketers take fear as a tool to inform consumers that if they do not buy a product, something bad will happen. This is especially the case in the health and security categories.
- Bandwagon Effect: This tactic is based on the fear of missing out (FOMO) and suggests that a product is popular among many people. Phrases like "Join million of satisfied customers" push consumers to buy in order not to be left behind.
- Testimonials and Social Proof: Many ads use customer reviews or celebrity endorsements to gain trust. However, such testimonials can be picked up from model customers or even fabricated to make the consumer believe that the product is better than it really is.

Through such awareness, consumers can learn to look at advertisements with a critical eye and make their purchases with their head and not their heart.

### *How to Use Critical Thinking in Analyzing Advertising Messages*

Critical thinking is the process of thinking critically about information and how to best approach it. This includes fact checking and verifying information as well as looking at evidence. Consumers should ask:

- Is there any evidence for this claim?
- Who is the author of this study and is they credible?
- Are the statistics being used improperly?

For instance, a skincare ad might claim that "90% of users got the result in the first week." However, there is no indication of the size of the sample, the conditions of the study, or what exactly constitutes a 'success'. In the same way, many nutritional supplements advertise scientific-looking symbols to make the product appear more credible even when there is no scientific proof to back it up.

### *Biases and Problems in the Analysis of Advertising*

One of the problems of analyzing advertisements is that there is a lot of information to analyze. It is possible that people are exposed to a large number of advertisements within a single day, and they may not have the time or the willingness to examine all of the messages. Hence, people tend to use heuristics (quick strategies) in making decisions and these are used by advertisers.

Furthermore, cognitive biases are a key to how advertising is received and perceived. Some of the biases include:

- Confirmation Bias: People tend to accept information that is consistent with their existing perceptions and attitudes. Advertisers can do this by only presenting some of the evidence that supports what people already think.
- Cognitive Dissonance: When an advertisement goes against the knowledge of a consumer, it may cause discomfort. In this case, marketers provide reasons or counter-arguments to make people believe in the message that they are trying to convey.
- Availability Heuristic: If a consumer has a negative experience with a product, they may overemphasize the likelihood of the same thing happening again when in fact the data suggests otherwise.

Through these biases, people can avoid making decisions in the area of consumption that are not based on the advertising that they see.

### *The Other Aspects of Critical Thinking in Relation to Consumer Behaviour*

Apart from the above in terms of decision making, critical thinking in advertising is beneficial in ethical consumerism and media literacy. Advertisements are not only about selling goods and services—they also define cultural values, beauty standards, gender roles, diversity, and environmentalism.

Some of the areas that require critical assessment include:

- Gender Stereotypes: Many ads promote the gender roles and stereotypes, for instance, men as powerful and women as dependent or only concerned with their looks. Analytical thinking enables consumers to identify these stereotypes and challenge them and demand more sensible portrayal.

- Unrealistic Body Image Standards: The beauty and fitness advertising categories often present idealistic body shapes that result in negative health effects such as low self-esteem and body dysmorphic disorder.
- Consumerism and Materialism: Many ads give the impression that happiness and success can only be achieved through the use of material things. These messages can help people make purchasing decisions for themselves and not just to conform to social pressure.
- Environmental and Ethical Responsibility: Some brands advertise themselves as green or socially responsible and after examination, they are not. It is important that consumers be able to identify these claims in order to support real sustainable and ethical businesses.

### *Conclusion*

In a world where we are surrounded by advertisements, it is important to think critically when dealing with advertising messages. Advertising affects our perception, behavior, and expenditure control, and often does so by using guilt, fear, or other emotions. Without critical thinking, people become easy preys to the various claims, emotional appeals, and consumerism.

This paper aims to encourage a critical-skeptical and analytical attitude so that consumers can recognize the tactics used to deceive, assess statements rationally, and make their purchases carefully. Also, critical thinking enhances the ethical reasoning, which in turn helps people choose products and services that are compatible with their values rather than being persuaded by the marketing strategies.

In the end, it is crucial to understand how to analyze advertising as it is not only about making better choices in shopping but also in creating a society of people who can think for themselves and are less likely to be influenced by advertisements.

## Key topics

- Advertising's Influence on Consumer Behavior:
- The Need for Critical Thinking Skills:
- Manipulative Techniques in Advertising:
- Importance of Critical Interpretation:
- Social and Ethical Implications of Advertisements:
- Challenges in Interpreting Advertisements:
- Biases in Advertising:
- Empowering Consumers through Critical Thinking:
- Applying Critical Thinking to Real-World Scenarios:
- The Role of Critical Thinking in a Media-Saturated World.

## Learning objectives and expected results

### *Knowledge*

- Understanding Advertising Techniques: Recognizing common strategies used in advertising, such as emotional appeals, social proof, celebrity endorsements, and persuasive language.
- Media Literacy: Understanding how various media platforms monetize content through advertising, and recognizing the role of data collection in personalized ads.

- Logical Fallacies and Cognitive Biases: Learning to identify logical fallacies (e.g., false cause, hasty generalizations) and cognitive biases (e.g., confirmation bias, social proof) in advertising messages.

### *Attitudes*

- Skepticism and Open-Mindedness: Developing a healthy skepticism towards advertising claims while remaining open to multiple perspectives.
- Ethical Awareness: Cultivating an awareness of the ethical implications of advertising practices, such as targeting vulnerable groups and promoting unrealistic standards.
- Empowerment and Confidence: Building the confidence to resist persuasive advertising tactics and make independent, informed consumer decisions.

### *Skills*

- Analytical Thinking: Analyzing advertisements to assess their purpose, target audience, and underlying assumptions.
- Evaluation of Evidence: Learning to verify the accuracy of claims, checking the credibility of sources, and distinguishing between genuine evidence and marketing spin.
- Critical Questioning: Developing the habit of questioning advertising messages by asking key questions about the intent, evidence, and biases involved.
- Digital Literacy: Understanding how to navigate online advertisements, identify sponsored content, and protect personal information from targeted ads.
- Decision-Making Skills: Making deliberate purchasing decisions by weighing alternatives, evaluating needs versus wants, and resisting impulse buys.

## Pedagogical approaches and activities

## Pre-Lesson Activity – at home

- students are asked to watch a video lesson *Advertising and Critical Thinking* available on the YouTube channel *Critical Thinking in the Information Society*.
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

## In-class activities

### *Activity 1: Ad Analysis Workshop*

Objective: To help students identify persuasive techniques and manipulative tactics used in advertisements.

*Step-by-Step Guide:*

1. Divide students into small groups and provide each group with various printed or digital advertisements.

2. Ask students to analyze the ads by answering critical thinking questions such as:

- What emotions is this ad trying to evoke?
- What persuasive techniques are being used (e.g., fear appeal, social proof, emotional manipulation)?

- Are there any biases or assumptions present in the ad?

3. Have each group present their findings to the class, focusing on the techniques they identified and the potential impact on consumer behavior.
4. Conclude with a class discussion on the ethical implications of the tactics used in these advertisements.

### *Activity 2: Counter-Ad Creation*

Objective: To encourage students to critically assess the messages behind advertisements and develop counter-messages that promote consumer awareness.

*Step-by-Step Guide:*

1. Introduce the concept of counter-advertising, which aims to expose manipulative aspects of traditional ads.
2. Divide students into pairs or small groups and assign each group an existing advertisement.
3. Ask the groups to create a counter-ad that challenges the original ad's message, highlighting biases, exaggerations, or unethical elements.
4. Allow each group to present their counter-ad and explain the critical points they aimed to address.
5. Discuss as a class how counter-ads can be used to raise awareness and encourage more critical consumption.

### *Activity 3: Role-Playing Exercise - The Ethical Marketer*

Objective: To help students understand the ethical dilemmas faced by advertisers and how to apply critical thinking in ethical decision-making.

*Step-by-Step Guide:*

1. Assign students to groups representing different roles in an advertising agency (e.g., marketers, ethical advisors, consumers).
2. Present a scenario where the agency is asked to create an ad for a product using potentially manipulative tactics.
3. Have each group discuss the ethical implications and decide whether they would proceed with the ad campaign or propose alternatives.
4. Each group presents their decisions and rationale to the class, followed by a discussion on the balance between profitability and ethical advertising.
5. Wrap up with reflections on how critical thinking can guide ethical decision-making in real-life scenarios.

## After the lesson - Testing

The post-class activity called *Advertising and Critical Thinking* (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation guide

Assess students on their ability to articulate their group's ethical stance, the strength of their arguments, and their ability to consider diverse perspectives. Focus on critical thinking and ethical reasoning.

## Notes to the lecturer

- Encourage students to consider the long-term consequences of their decisions on brand reputation.
- Challenge students to think from multiple perspectives and consider societal impacts.
- Guide students to question their assumptions and consider alternative solutions.

## Further readings

Brookfield, S. D. (2012). *Teaching for Critical Thinking: Tools and Techniques to Help Students Question Their Assumptions*. Jossey-Bass.

*This book offers strategies and tools for developing critical thinking skills, particularly in analyzing persuasive messages and understanding the assumptions behind them.*

Osidak, A., & Nesterenko, O. (2021). Critical analysis of advertising texts: Techniques and strategies. *Journal of Media Literacy Education, 13*(1), 45-57. https://doi.org/10.23860/jmle-2021-13-1-3

*This journal article provides insights into the techniques used in advertisements and how critical thinking can be applied to analyze and question the messages conveyed.*

Sheehan, K., & Tusinski Berg, K. (2015). *Controversies in Contemporary Advertising*. SAGE Publications.

*A comprehensive examination of advertising techniques and the ethical implications, with a focus on developing critical perspectives towards advertising messages.*

Stanovich, K. E. (2010). *What Intelligence Tests Miss: The Psychology of Rational Thought*. Yale University Press.

*This book delves into the cognitive processes behind rational thinking and decision-making, with applications to critically evaluating persuasive messages, including advertisements.*

# Topic 18: Wonder, Doubt, Decide: Critical Thinking in the Information Society

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## Background and Rationale

The rapid development of the information society has essentially changed the way we access and interact with information, data, and communication. In its simplest form, the question persists: How does one steer through the vast quantities of information in order to tell fact from fiction, truth from fiction? As far back as classical philosophy, there was a triadic structure of wonder, doubt, and decision that could help people navigate and critically assess information in this environment.

The first step of wonder is the awareness, the recognition of the mystery that starts the process of questioning. In the digital world, this is observed in the process of using search engines, databases, and social media networks. Nevertheless, the abundance of information often leaves us not more informed but rather overwhelmed and lost. Hence, doubt becomes necessary – doubt as a critical reason that helps to moderate the truth of claims and therefore helps to narrow down the knowledge. Last, decision demands that we make sense of the findings and put them into practice, applying knowledge in our daily lives and for the society.

This approach has a strong foundation in philosophy. Jaspers highlights wonder as the first step to philosophy, as the pure and sincere wonder that is the desire to know without any regard for the use to which the knowledge may be put. However, the pure pursuit of knowledge in the modern world has been tainted by the commercialism of knowledge. Nowadays, people are not just interested in knowledge for the sake of it, but as a tool to gain power, make money, or exert control. This shift poses important ethical concerns on how we obtain, process, and use information.

For example, a Google search, an apparently innocent expression of wonder, produces a near-infinite number of results. While this equalizes the opportunity to gain knowledge, it also shows the difficulty of distinguishing between the useful and the useless, the good and the bad. Such algorithms that rule such platforms may well favor engagement signals, which may not always lead to the truth that one is looking for. How do we travel through this vast amount of information and not get lost in the endless quantity of it? How can we tell the useful information from the rest of the noise, prejudice, or manipulation?

These challenges are solved by the process of doubt. Doubt is an attitude that plays the same role in the process of knowing as method in the process of thinking. Based on Descartes' approach, doubt helps to check information, to find out contradictions and to verify the information. But this stage is not without its own set of problems. In the social world of the Internet, where the distinction between the private and the public, the individual and the collective, reasoning is blurred, doubt must be reasonable and collective. Finally, decision implements the analysis to practice. According to Jaspers, most decisions are made on the most personal and important issues that affect our lives and force us to make ethical decisions, while acting in the conditions of uncertainty and choosing essential actions.

This framework is not merely theoretical. It provides a practical methodology for engaging with the ethical and epistemological challenges of the information age. From misinformation to data breaches, from AI ethics to environmental sustainability, wonder, doubt, and decision equip us to navigate the labyrinth of modern knowledge responsibly and reflectively.

### *Understanding the Ethical Challenges in Information Use*

The stages of wonder, doubt, and decision illuminate key ethical challenges in how we interact with information. These stages are not isolated but interconnected, offering a comprehensive lens through which to examine the complexities of the digital age.

### *1. Wonder: Navigating Curiosity in an Overloaded World*

*The Role of Wonder in Inquiry:*

Wonder is the foundation of exploration. Jaspers connects this to the origins of philosophy, describing it as a state of awe that compels us to question and seek understanding. Aristotle echoes this sentiment, noting that philosophy begins in astonishment at the world's mysteries. In the information society, this wonder is mirrored in our engagement with digital technologies, where a single query can generate millions of results in seconds.

*Challenges of Overload:*

However, this abundance of information can overwhelm rather than enlighten. The search for truth becomes complicated by the sheer volume of data, much of it irrelevant, contradictory, or misleading. This raises fundamental questions:

- How do we distinguish meaningful insights from superficial content?
- How do algorithms shape the information we encounter, and to what extent do they prioritize commercial interests over intellectual rigor?

*Ethical Implications:*

- Commodification of Knowledge: Digital platforms often exploit our curiosity, steering it toward profit-driven goals rather than genuine inquiry.
- Distortion of Reality**:** The prioritization of engagement over accuracy risks creating echo chambers or amplifying falsehoods.

*Example:*

*Consider the example of a student researching climate change. A Google search might yield reliable sources alongside conspiracy theories, advertisements, and biased commentary. Without guidance, the student may struggle to discern credible information from noise, highlighting the need for critical questioning and reflection.*

*Pedagogical Application:*

Ask students to conduct a search on a controversial topic and analyze the first ten results, identifying patterns of bias, omission, and algorithmic influence.

### *2. Doubt: Applying Skepticism to Evaluate Information*

*The Philosophy of Doubt:*

Doubt serves as a counterbalance to wonder, enabling us to challenge assumptions and critically evaluate what we encounter. Descartes' method of doubt offers a framework for this stage, emphasizing the need to test knowledge claims against reason and evidence. In the digital era, doubt becomes especially relevant as we confront misinformation, fake news, and algorithmic biases.

*Testing the Validity of Information:*

In the context of a Google search, doubt involves scrutinizing sources, identifying contradictions, and assessing credibility. The communal nature of digital platforms complicates this process. Social media, for example, allows collective critique but also fosters echo chambers and groupthink.

*Ethical Implications:*

- Balancing Trust and Skepticism: Excessive doubt can lead to cynicism, eroding trust in institutions. Conversely, blind acceptance leaves us vulnerable to manipulation.
- Accountability of Media: The responsibility to provide accurate, transparent information lies not only with individuals but also with media platforms and institutions.

*Example:*

Consider conflicting news reports on a political event. A critical thinker must evaluate the sources, identify logical fallacies, and contextualize the narratives to arrive at an informed conclusion.

*Pedagogical Application:*

Provide students with contradictory articles about the same event. Ask them to assess each article's credibility, logical coherence, and underlying assumptions, fostering skills in critical analysis.

### *3. Decision: Transforming Knowledge into Action*

*The Ethics of Decision-Making:*

Decision-making involves integrating insights from wonder and doubt into actionable knowledge. Jaspers emphasizes its existential dimension, as decisions often shape our identities and define our relationships with the world. In the information society, decisions carry additional weight, as they often involve navigating ethical dilemmas and balancing competing values.

*Challenges in a Digital Context:*

- Timeliness and Relevance: The timing of information can significantly influence decisions. For example, receiving accurate data during a crisis may mean the difference between effective action and irreversible harm.
- Balancing Privacy and Public Interest: Decisions often require weighing individual freedoms against collective welfare, such as in the case of contact tracing during a pandemic.

*Ethical Implications:*

- Responsibility of Choice: Decisions based on information affect not only individuals but also broader societal and institutional outcomes.
- Navigating Ambiguity**:** Ethical decision-making often involves uncertainty, requiring critical reflection and moral courage.

*Example:*

In a public health context, policymakers must decide whether to implement invasive surveillance measures to track an outbreak. This decision necessitates balancing public safety with privacy concerns, illustrating the complexities of ethical action.

*Pedagogical Application:*

Simulate a scenario in which students act as policymakers facing a public health crisis. Encourage them to debate the ethical trade-offs and justify their decisions.

### *Conclusion*

In the labyrinth of the information society, the triadic framework of wonder, doubt, and decision offers a structured and philosophical approach to navigating the complexities of knowledge. Wonder invites us to explore the vast universe of information with curiosity and openness, while doubt equips us with the critical tools necessary to question, analyze, and refine our understanding. Finally, decision bridges inquiry and action, enabling us to apply knowledge ethically and responsibly in our personal and societal contexts.

This framework not only addresses the epistemological challenges of the digital age—such as misinformation, algorithmic bias, and information overload—but also engages with its ethical dimensions. By cultivating curiosity, fostering skepticism, and encouraging thoughtful decision-making, individuals can transform the chaos of data into meaningful insights and purposeful action.

Ultimately, the integration of these philosophical principles with critical thinking empowers us to confront the ethical dilemmas of the information society. Whether navigating questions of privacy, public interest, or the societal impact of artificial intelligence, wonder, doubt, and decision guide us toward informed, ethical, and impactful engagement with information.

**Key topics**: curiosity (wonder), doubt, decision-making, ethical responsibility, misinformation, trust, information overload.

## Learning Objectives and Outcomes

### *Knowledge*

- Understand the philosophical foundations of wonder, doubt, and decision as a framework for engaging with information critically and ethically.
- Recognize the challenges of information overload, misinformation, and algorithmic bias in the digital age.
- Learn the stages of transforming data into meaningful knowledge, from curiosity to critical evaluation and ethical decision-making.

### *Attitudes*

- Cultivate curiosity and openness in exploring new information, inspired by philosophical wonder.
- Develop skepticism and critical awareness to question assumptions and evaluate sources.
- Foster ethical responsibility, recognizing the societal impact of decisions based on information.

### *Skills*

- Analyze and assess the credibility of information, identifying biases and inconsistencies.
- Apply the framework of wonder, doubt, and decision to navigate ethical dilemmas in real-world scenarios.

- Communicate findings effectively, using reasoned arguments and evidence to support their conclusions.
- Collaborate with peers to synthesize diverse perspectives and develop shared solutions to complex challenges.

## Pedagogical Approaches and Activities

### *Pre-Lesson Activity – at home*

- students are asked to watch a video lesson *Wonder, Doubt, Decide* available on the YouTube channel *Critical Thinking in the Information Society*.
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

## In-Class Activities

### *Activity 1: Exploring the Role of Wonder*

Objective: Encourage students to embrace curiosity and question the nature of information.

Steps:

- Present Plato's cave allegory and ask students to reflect on how it applies to the digital age.
- Task students with conducting a Google search on a philosophical question (e.g., "What is truth?") and analyzing the first ten results.
- Discuss the impact of algorithmic prioritization on the information they encounter.

Outcome: Students develop an appreciation for the role of wonder in sparking inquiry and learn to identify biases in search results.

**Activity 2: Doubt and Critical Evaluation**

Objective: Teach students to apply skepticism to assess the validity of information.

Steps:

- Provide students with two contradictory news articles on a recent event.
- Ask them to identify logical fallacies, evaluate the credibility of the sources, and compare the arguments presented.
- Facilitate a class discussion on how doubt helps refine understanding.

Outcome: Students gain skills in critical analysis and learn to navigate contradictions in information.

**Activity 3: Ethical Decision-Making Workshop**

Objective: Enable students to integrate knowledge into action while balancing ethical considerations.

Steps:

- Simulate a public health crisis where students, as policymakers, must decide whether to use contact tracing apps to control an outbreak.
- Divide students into groups to represent different stakeholders (e.g., government, privacy advocates, public health officials).
- Ask each group to present their position and engage in a debate to reach a consensus.

Outcome: Students practice ethical reasoning and develop strategies for making informed decisions under uncertainty.

**Activity 4: Creative Application – Wonder, Doubt, Decide**

Objective: Synthesize the philosophical stages into a practical project.
Steps:

- Ask students to identify a contemporary ethical dilemma related to information use (e.g., AI bias, misinformation).
- In groups, guide them to apply the framework of wonder, doubt, and decision to propose solutions.
- Groups present their findings, emphasizing the ethical and practical dimensions of their approach.

Outcome: Students demonstrate the ability to apply philosophical concepts to real-world problems and communicate their insights effectively.

## After the Lesson – Testing

- Students answer open-ended questions to demonstrate their ability to analyze and apply the framework of wonder, doubt, and decision (see Annex).

## Evaluation Guide

### *Criteria for Assessment*

*Understanding of Concepts:*

- Evaluate students' grasp of the philosophical principles underlying wonder, doubt, and decision.
- Assess their ability to connect these concepts to the challenges of the digital age.

*Critical Thinking Skills:*

- Determine their ability to question assumptions, analyze arguments, and identify biases.
- Assess how well they evaluate the credibility of sources and test the validity of claims.

*Ethical Reasoning:*

- Evaluate their ability to recognize and address ethical dilemmas, balancing competing values like privacy and public welfare.

*Collaboration and Communication:*

- Assess how effectively students work in groups to develop and present solutions.
- Determine their ability to articulate reasoned arguments and support them with evidence.

*Application of Framework:*

- Evaluate their use of wonder, doubt, and decision to analyze and address real-world problems.

## Notes to the Lecturer

*Foster Curiosity:*

- Encourage students to view wonder as an opportunity to explore new ideas and challenge assumptions.

*Promote Constructive Skepticism:*

- Guide students in using doubt as a tool for critical evaluation, emphasizing the importance of balance between skepticism and trust.

*Highlight Ethical Implications:*

- Emphasize the societal impact of information use, prompting students to consider how their decisions affect others.

*Use Real-World Examples:*

- Incorporate case studies such as misinformation campaigns, privacy controversies, or AI biases to ground theoretical discussions in practical relevance.

*Encourage Collaboration:*

- Facilitate group discussions and activities that allow students to learn from one another's perspectives and co-create solutions to ethical dilemmas.

*Provide Contextual Support:*

- Offer philosophical insights and historical examples to deepen students' understanding of wonder, doubt, and decision.

## Further readings

Descartes, R. 1911. *Meditations On First Philosophy*. The Philosophical Works of Descartes Cambridge University Press. Translated by Elizabeth S. Haldane.

Floridi, L. 2010. *Information. A Very Short Introduction*. Oxford University Press.

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Jaspers, K. 1951. *Ways to Wisdom. An Introduction to Philosophy*. New Haven and London: Yale University Press.

# Topic 19. Digital skills, cultural cooperation, creativity and entrepreneurship

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## Background and rationale

Design thinking is a way of solving creative and innovative problems within the context of business and industry. It is not only a method but it is a philosophy which transforms the perception of people towards problem identification and creation of solutions. This is because it is based on the concept of empathy and the understanding of the user that makes the solution realistic and relevant. The idea is linked to the evolution of the creative and design approaches that gained a common ground a decade ago with the help of David Kelly and the IDEO company where design thinking was adopted as a tool for innovation especially in business and technology.

The design thinking process goes through several key phases - understanding user needs, problem definition, ideation (idea generation), prototyping and testing. Each phase encourages participants to approach with an open mind, create new concepts and develop solutions that can adapt to people's feedback and needs. According to research, design thinking not only stimulates creativity but also builds critical thinking, collaboration and innovation skills.

Creativity and collaboration are key elements of this approach. In today's world where innovation is paramount, especially in sectors such as technology, medicine and social services, the ability to create new solutions through teamwork and the exchange of ideas is indispensable. Design thinking helps teams to overcome the limitations of traditional approaches through prototyping and iterative testing, which provides greater flexibility and adaptability. Historical examples of the successful application of design thinking include revolutionary products like the iPod and services like Uber that have reimagined entire industries by putting the user experience at the center.

Empathy for users is an important element that makes design thinking so effective. This approach is not limited to the technical aspects of problem solving, but aims to understand people's real needs and challenges. Research shows that organisations and educational institutions that apply design thinking are often able to create more innovative and practical solutions that meet users' needs and have a lasting impact. For example, in the healthcare sector, design thinking is used to improve patient experiences, leading to better outcomes and satisfaction.

The application of design thinking in education and business brings multiple benefits as it allows the development of a culture of innovation, experimentation and learning by doing. In schools, design thinking helps students develop creativity, confidence and a willingness to tackle obscure and complex problems. In business, it enables teams to expand their capacity to innovate and create solutions that have real value for customers.

### *Why should we apply design thinking?*

- To enhance creativity and innovation: the process requires repeated testing and iterations, which encourages exploration of different solutions and approaches.
- Customer focus: Design thinking puts people in the centre of the process and seeks to address their needs and desires, leading to more meaningful and actionable solutions.
- Collaboration and teamwork: This approach encourages collaborative thinking and the inclusion of different perspectives, leading to richer and more innovative ideas.

- Rapid adaptation and experimentation: Prototyping and testing help to quickly identify problems and find new, better solutions.

Design thinking is not just a tool, but a mindset that combines empathy, creativity and innovation. It is an approach that provides sustainable solutions to the complex problems of our time and allows participants to learn and adapt through hands-on experience and collaboration.

## Key topics

### *Main stages of design thinking (Empathize, Define, Ideate, Prototype, Test).*

Design thinking follows a structured methodology that allows creative and efficient problem solving. The main stages include:

- Empathize: The first step requires a deep understanding of the needs, challenges, and motivations of the users or people for whom the solution is being created. This can be achieved through interviews, observations and gathering feedback. Empathy ensures that solutions are human-centred and tailored to people's real problems.
- Define: In this phase, the collected information is synthesized and a clear and specific problem to be solved is defined. Accurate problem definition helps the team focus and find an innovative solution.
- Ideate: The main goal is to expand the possibilities for solutions without imposing constraints or filtering ideas early on.
- Prototyping: selected ideas are turned into prototypes or models that can be visualized and tested. Prototypes can be simple and low-tech (paper sketches, mockups) or more complex (interactive models), depending on the needs.
- Testing: prototypes are tested with users to gather feedback and determine how effectively they solve the problem. Testing allows for adjustments and improvements and the process can be repeated until an optimal solution is achieved.

### *Application of design thinking in different contexts (business, culture, social projects)*

Design thinking finds application in a wide range of domains:

- Business: companies use design thinking to create innovative products and services that meet customer needs. Examples include companies such as Apple and Google, which use this approach to create convenient and attractive technology products.
- Culture: In cultural projects, design thinking helps to engage diverse communities and create experiences that reflect cultural diversity and contemporary social needs.
- Social projects: Design thinking has been successfully applied to social problems, focusing on creating sustainable and practical solutions that improve the lives of vulnerable groups in society. Examples include innovations in health and education that are co-created with users.

### *Collaboration and creating team solutions*

Design thinking places a strong emphasis on collaboration and teamwork. Participants from different disciplines and with different skills work together to generate ideas and find solutions that might be beyond individual thinking. Collaboration leads to solutions that are innovative, practical and tailored to users' needs. Teamwork encourages the exchange of ideas, creativity and the ability to adapt to different perspectives.

*Visualisation and prototyping tools*

The design thinking process requires the use of various visualisation and prototyping tools that help to present ideas in a way that can be understood and tested by users. Such tools include:

- **Sketches and diagrams:** A basic way to visualize concepts and interactions.
- **Cardboard and paper mockups**: An easy and inexpensive way to quickly create initial prototypes.
- **Digital prototyping tools:** Programs such as Adobe XD, Figma and others that allow the creation of interactive and functional models of products or services.
- **Visual Maps and Process Diagrams:** They help to organise ideas and visualise a user's journey through a product or service.

Design thinking is an approach that brings together creativity, collaboration and innovation, while enabling teams to find solutions that meet real-world needs and create sustainable impact.

## Learning objectives

Introducing students to the design thinking process and its key stages, such as empathy, definition, ideation, prototyping and testing. Students learn how these stages can be applied to structure and solve practical problems. The focus is on developing collaborative skills and creating innovative solutions. In the course of learning, they work in teams, combine different perspectives and join forces to develop solutions that meet real needs. Students are encouraged to use creative and practical methods to solve problems that matter to their lives and community.

## Expected outcomes

The expected outcomes are related to the acquisition of new knowledge, skills and attitudes.

### *Knowledge*

- Students understand the main stages of the design thinking process and can apply them in different contexts. They understand the importance of empathy and creativity in problem solving and are able to identify user needs.

### *Skills*

- Students develop the ability to prototype and work in teams, generating ideas and testing their effectiveness. Learning happens through experience and interaction, giving them the confidence to explore new approaches and be flexible in their solutions.

### *Attitudes*

- Students develop creativity and empathy for the needs of others. They learn to see problems as challenges that can be solved through creative thinking and collaboration, striving to create impactful and useful solutions.

## Pedagogical approaches and activities

- students are asked to watch a video lesson *Digital Skills, Cultural Cooperation, Creativity and Enterprenourship* available on the YouTube channel *Critical Thinking in the Information Society*.

- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

### *Pre-lesson activity: preparatory task - Needs analysis*

Students research a specific problem or need in their community to gain a deeper understanding of the needs and challenges faced by local residents. For example, if it turns out that their community lacks cultural events for the young, they look to gather opinions and comments from a variety of people through interviews or surveys. The goal of this assignment is for students to develop empathy, analysis and communication skills by immersing themselves in the real context of the issue. This preliminary work will help them gather valuable information that will be the basis for developing creative solutions during the lesson.

Sample community needs survey-interview (on the topic of cultural events for youth):

**1. Please introduce yourself (name, age).**

**2. Do you live or spend significant time in this community?**

- Yes / No

**3. How would you rate the availability of cultural events for youth in our community?**

- Very good
- Good enough
- Unsatisfactory
- Missing

**4. What types of cultural events for youth do you think are missing? Please select or describe (you may select more than one):**

- Concerts and music events
- Theatre performances
- Art workshops
- Exhibitions and art events
- Literature clubs
- Other (please describe)

**5. How do you think the lack of cultural events affects the youth in our community?**

- Decrease in social activity
- Lack of opportunities to express talents
- Boredom and lack of motivation
- Other (please specify)

**6. Would you get involved or support the organisation of cultural events for young people?**

- Yes / No

**7. What ideas do you have for cultural events that would be interesting and useful for the young in our community?**

**8. What resources or support would be needed to organise such events (e.g.: funding, premises, volunteers)?**

**9. Do you believe that the young in the community have the opportunity to express their interests and talents?**

- Yes / No / Partially (please explain)

**10. Do you have anything else you would like to share about cultural events for youth in our community?**

### *Instruction for Students:*

Students interview diffrent people in the community (youth, parents, representatives from cultural institutions) and collect data carefully. After the surveys are completed, they analyse the information gathered, looking for recurring topics, needs and suggestions. This information will be used to better define the problem and create innovative solutions during the next lesson.

### *Lesson activity: design thinking workshop*

*Empathy*

The students split into small teams and begin the workshop by discussing the data they have collected about community needs through interviews and surveys.

*Tasks and instructions:*

- Each team briefly presents the information they have collected and the main needs or problems they have identified.
- The participants discuss how the opinions and comments gathered make people in the community feel and what impact they have on the community as a whole.
- The goal is to enable the students to deeply understand the needs and challenges of the community and put themselves in the shoes of the people affected.
- Define: Each team uses the data discussed to define the main issue they will focus on.

*Tasks and Instructions:*

Using a whiteboard or a large sheet of paper, each team formulates a clear and specific statement of the problem they will be addressing. For example, "Lack of cultural events for youth leads to reduced social activity and lack of opportunities for expression."

The students should make the problem measurable and articulate what specific aspects they want to change.

The teacher can help with guiding questions such as, "What are the main challenges?", "What would we like to change?" and "Who are the affected groups?".

*Ideation*

The teams generate ideas to solve the defined problem through brainstorming.

*Tasks and instructions:*

- Each team brainstorms, during which all ideas are recorded without being critiqued or evaluated at this stage.
- Students are encouraged to be creative and think outside the box. The aim is to generate as many ideas as possible.
- After collecting all the ideas, the teams analyse them and discuss their possible applications, selecting a few (1-3) most promising concepts that could be implemented.

### *Prototyping*

The teams select the best idea and create a rapid prototype to visualise their solution.

*Tasks and instructions:*

- Each team creates a prototype of their idea using materials such as paper, cardboard, markers, glue or creates a digital mockup, presentation, or model, depending on the resources they have.
- The prototype should represent the key functions and features of the proposed solution.
- It is important to show how the prototype meets the needs the team has identified and how it would improve the lives of the community.

## Testing

The prototypes are presented to the rest of the team for feedback and suggestions for improvement.

### *Tasks and instructions:*

- Each team presents its prototype to the class, explaining what need or problem it solves and what the key elements of the solution are.
- The other teams provide constructive feedback. They should ask questions, express opinions and give suggestions for improvement.
- Based on the feedback received, the teams can consider how to further develop or modify their prototype to better meet the needs of the community.

The goal of the workshop is to lead the students through the entire design thinking process, develop creativity, empathy and teamwork skills and learn to apply innovative methods to solve real-world problems.

## Post-lesson activity: Reflection and improvement

### *Description:*

The teams improve their prototypes based on the feedback received and present their final solutions in a subsequent session.

## Models of interaction:

- Face-to-face training to introduce the stages of design thinking.
- Group work to generate ideas and create prototypes.
- Feedback and evaluation of solutions.

## Assessment and recommendations

The assessment is based on the creativity and effectiveness of the proposed solutions as well as the collaboration skills.

The teacher encourages creativity and provides guidance for further development of ideas.

## Notes for the teacher

### *Preparation of materials:*

- Prepare concrete examples of successful projects implemented through design thinking to introduce students to the topic.
- Provide prototyping materials such as paper, markers, sticky notes, and digital tools if needed.

### *Teamwork Organisation:*

- It is important to balance the teams by number of participants and skills.
- Encourage active participation of all team members and use a rotation principle for presenting ideas.

### *Keep the dynamics:*

- Ask guiding questions to help students deepen their thinking.
- Ensure that time frames are met for each stage of the process.

### *Provide a safe environment for feedback:*

- Stimulate constructive criticism and encourage the students to support and complement each other.
- Pay attention to positive and supportive behaviour during testing and discussion of prototypes.

### *Focus on empathy:*

- Clarify the importance of empathy as a key element in design thinking. Encourage students to put themselves in the shoes of the user to understand their needs.

# Topic 20: The Ethics of Information and Critical Thinking

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## Background and Rationale

The emergence of the information society is the progression of the society in which data and information are the most valuable resources. This has been made possible by the availability of digital platforms including search engines and social media sites that have created a deluge of information. Though this presents possibilities for people to converse, create, and get information, it also poses fundamental ethical and cognitive dilemmas. What is the right use of information? What are the moral rules that should be followed in the creation and distribution of information? It is, therefore, important for people to be able to think critically so as to be able to overcome these challenges.

In its simplest sense, the ethics of information are concerned with the proper handling of data and knowledge. It covers issues such as copyright, privacy, data security, and the effects of information systems on society. These concerns are not confined to technical fields but extend to other areas like computer science, philosophy, business ethics, and social epistemology. Ethical concerns are part of the information life cycle, that is, the moment information is created or collected, shared, and stored.

Ethics and critical thinking are two concepts that cannot be discussed without one another when it comes to the challenges of the information society. Although ethical theories help people to know the difference between right and wrong, critical thinking helps them to reason, form opinions, and make decisions. They help people to receive and consider information with critical and moral mindset. Take, for example, ethical habitus that is defined by the desire to know the truth. This means that not only should people seek knowledge but also knowledge should be used properly. Ethical issues arise: When should information be disclosed? How do we ensure privacy while achieving the common agenda? What are the effects of applying or manipulating information in the wrong way?

The implications are significant. Information ethics influences societal trust, individual autonomy, and even global stability. For instance, the misuse of data can lead to privacy violations, discrimination, or manipulation, while unchecked misinformation undermines public discourse and decision-making. By embedding ethical reasoning and critical thinking into education and practice, individuals and institutions can navigate these challenges effectively, ensuring that information serves as a force for empowerment rather than exploitation.

### *Understanding the Ethical Challenges in Information Use*

The ethical challenges of information use reflect the complex interplay between technology, society, and individual rights. Below are detailed explorations of the most pressing issues:

#### *Privacy and Ownership of Information*

Privacy is a cornerstone of ethical information practices, yet it is increasingly compromised in the digital age. Alan F. Westin defines privacy as the right of individuals to control how, when, and to what extent information about them is shared. This principle underscores the importance of autonomy and respect for personal boundaries. However, the pervasive nature of digital technologies often blurs these boundaries, leading to critical ethical questions:

- How can individuals retain control over their data in a hyper-connected world?

- What mechanisms are needed to prevent unauthorized access or misuse of personal information?

Internal and External Dimensions of Privacy. Privacy encompasses two dimensions:

- Internal privacy: Includes personal values, beliefs, and freedom of conscience. This inner realm reflects aspects of identity that are deeply personal and often vulnerable to intrusion.
- External privacy: Includes identifiable data such as names, photos, social media profiles, phone number, etc. These external markers are often exploited by organizations for marketing, surveillance, or other purposes.

Violations of privacy can result in discrimination, emotional harm, or loss of autonomy. For example, large-scale data breaches expose sensitive information, leaving individuals vulnerable to identity theft or financial fraud. Furthermore, the commodification of personal data raises concerns about consent, transparency, and accountability.

### *Misinformation and Its Societal Impact*

Misinformation—whether intentional or accidental—undermines trust, disrupts public discourse, and distorts decision-making processes. The rapid spread of false information is exacerbated by digital platforms that prioritize engagement over accuracy. Ethical challenges include:

- Platform Responsibility: What role should tech companies play in moderating content? How can they balance free expression with the need to prevent harm?
- Individual Accountability: To what extent are users responsible for verifying and sharing accurate information?

Example: During the COVID-19 pandemic, misinformation about vaccines proliferated on social media, leading to vaccine hesitancy and public health risks. Combatting such misinformation requires critical thinking skills, such as evaluating sources, identifying biases, and understanding the broader context of claims.

### *Artificial Intelligence and Accountability*

Artificial intelligence (AI) presents both opportunities and ethical dilemmas. AI systems are increasingly used to make decisions in areas such as hiring, law enforcement, and healthcare. However, these systems often operate without transparency, raising questions about fairness, bias, and accountability:

- How do we ensure that AI systems are free from discriminatory biases?
- Who is accountable for decisions made by AI systems, especially when errors occur?

For instance, facial recognition technologies have faced criticism for disproportionately misidentifying individuals from minority groups. Such biases not only undermine trust in AI but also exacerbate existing inequalities. Critical thinking allows users to question the design, implementation, and societal impact of these systems, advocating for transparency and ethical safeguards.

### *Environmental Sustainability in Data Management*

The growing demand for digital technologies comes with significant environmental costs. Data centers, which power the digital economy, consume vast amounts of energy and contribute to carbon emissions. Ethical considerations include:

- How can the information sector reduce its ecological footprint?

- What trade-offs are acceptable between technological advancement and environmental sustainability?

Addressing these challenges requires a commitment to sustainability, from adopting energy-efficient practices to supporting policies that prioritize environmental stewardship. Critical thinking enables stakeholders to assess the long-term consequences of their actions, balancing innovation with ecological responsibility.

### *Balancing Privacy and Public Interest*

The tension between privacy and public interest is one of the most complex ethical dilemmas in information management. While privacy is fundamental to individual autonomy, certain situations—such as public health emergencies or national security threats—may necessitate the sharing of personal information.

Example: Contact tracing apps developed during the COVID-19 pandemic aimed to track infections and save lives but raised concerns about surveillance and data misuse. Ethical decision-making involves evaluating the proportionality of such measures, ensuring that the benefits outweigh the risks to individual rights.

### *Connecting Ethical Challenges to Broader Themes*

These ethical challenges highlight the interconnectedness of information ethics with broader societal issues, including:

- Social Justice: Ensuring that information systems do not perpetuate inequality or discrimination.
- Transparency and Accountability: Demanding openness from institutions and holding them accountable for their actions.
- Empowerment through Education: Equipping individuals with the skills to critically evaluate and ethically engage with information.

By understanding and addressing these challenges, we can build an information society that prioritizes fairness, respect, and responsibility.

### *The Role of Critical Thinking in Addressing Ethical Challenges*

Critical thinking is a linchpin in addressing the ethical challenges of information use. Its key applications include:

*Questioning Assumptions:*

- Does a company truly respect user privacy, or is it engaging in superficial "privacy-washing"?
- Are policies surrounding data use transparent and fair?

***Evaluating Evidence:***

Critical thinking involves assessing the credibility of sources, identifying logical fallacies, and questioning the intent behind information dissemination.

***Balancing Trade-offs:***

Ethical dilemmas often require balancing competing interests, such as privacy versus public safety. Critical thinking enables nuanced decision-making, ensuring that solutions are justifiable and context-sensitive.

***Empowering Ethical Action:***

By fostering analytical and reflective skills, critical thinking empowers individuals to take ethical stances, advocate for fairness, and resist manipulative practices.

### *Conclusion*

In an era where information permeates every aspect of life, the integration of ethics and critical thinking is essential for navigating its challenges responsibly. By equipping individuals with these tools, we empower them to question, analyze, and act ethically in an increasingly complex digital world. Whether addressing privacy concerns, combating misinformation, or designing accountable technologies, critical thinking fosters informed, ethical, and impactful decision-making.

## Key topics

- Information ethics, privacy, public interest, responsibility, accountability.

## Learning Objectives and Outcomes

### *Knowledge*

- Understand ethical principles governing the use of information, including privacy, intellectual property, and fairness.
- Recognize how digital platforms monetize data and the implications of these practices.
- Learn the stages of the information lifecycle: creation, collection, dissemination, and storage.

### *Attitudes*

- Develop skepticism toward unverified claims and manipulative tactics.
- Cultivate respect for ethical principles, such as transparency and accountability.
- Recognize the societal value of ethical information practices.

### *Skills*

- Analyze case studies of ethical dilemmas in information management.
- Apply critical questioning to evaluate data practices and the integrity of information systems.
- Develop strategies for ethical decision-making in ambiguous situations.
- Communicate ethical analyses effectively, using evidence to support their conclusions.

## Pedagogical approaches and activities

### *Pre-Lesson Activity – at home*

- students are asked to watch a video lesson The Ethics of Information available on the YouTube channel Critical Thinking in the Information Society.
- a pre-class test of closed-type questions was prepared for the students (see Annex). The questions are aimed at the most general parameters of the topic.

## In-class activities

### *Activity 1: Privacy Audit Exercise*

- Students conduct an audit of their digital footprint, identifying risks and potential abuses.
- Discussion questions:
  - What steps can you take to protect your data?
  - What ethical principles should guide companies in managing user information?
- Outcome: Learners develop an awareness of privacy risks and the tools needed to mitigate them.

### *Activity 2: Debate – Surveillance vs. Public Safety*

- Teams argue the trade-offs between mass surveillance for public safety and the right to privacy.
- Critical focus: Balancing individual rights with societal benefits.
- Outcome: Students practice ethical reasoning and explore the complexity of competing interests.

### *Activity 3: Counter-Propaganda Workshop*

- Students design social media campaigns to combat misinformation.
- Campaigns must address:
  - How to identify credible sources.
  - The ethical implications of counter-messaging.
- Outcome: Learners refine their ability to communicate ethical stances effectively.

### *Activity 4: Ethical AI Design*

- Students conceptualize an AI system with ethical safeguards, addressing issues such as bias and transparency.
- Presentations include:
  - Ethical principles guiding design choices.
  - Anticipated societal impact.
- Outcome: Learners understand the intersection of ethics and technology, fostering accountability in innovation.

## After the lesson - Testing

The post-class activity called *The Ethics of Information* (see Annex) involves assessing students' knowledge by completing a quiz. Unlike the test before the lesson, in this test all questions are open as well as their contents.

## Evaluation guide

Students should be assessed on the following key criteria, focusing on their ability to integrate ethical reasoning with critical thinking:

### *Articulation of Ethical Stance:*

- Evaluate students' ability to clearly define and communicate their group's ethical position.
- Assess whether they can support their stance with relevant principles and examples, such as privacy protection, accountability, or misinformation mitigation.

### *Strength of Arguments:*

- Determine the coherence and logical structure of their arguments.
- Assess their ability to use evidence effectively, avoiding fallacies and supporting claims with data or case studies.

### *Consideration of Diverse Perspectives:*

- Examine how well students address counterarguments or alternative viewpoints.
- Assess their ability to recognize and analyze the societal, cultural, and economic dimensions of ethical issues.

### *Critical Thinking and Problem-Solving:*

- Evaluate their ability to question assumptions, identify biases, and apply critical questioning to evaluate real-world scenarios.
- Determine their creativity in proposing solutions or ethical practices that balance competing interests, such as privacy versus public safety.

### *Application of Ethical Frameworks:*

- Assess their ability to apply ethical principles, such as transparency, fairness, and sustainability, to analyze complex scenarios.
- Determine whether students can relate their ethical reasoning to broader societal values or norms.

## Notes to the Lecturer

*Encourage Long-Term Thinking:*

- Prompt students to consider the extended consequences of their decisions. For example, ask how their approach to managing misinformation or privacy might impact public trust, individual autonomy, or brand reputation over time.

*Promote Multidimensional Analysis:*

- Challenge students to analyze issues from multiple perspectives, such as those of individuals, organizations, and society.
- Encourage them to evaluate the impact of their decisions on marginalized groups, highlighting inclusivity and social justice as central considerations.

*Guide Assumptions and Alternatives:*

  - Encourage students to question their initial assumptions and consider alternative viewpoints or solutions.
- For instance, if students propose stricter surveillance for public safety, guide them to explore less invasive options or safeguards to protect privacy.

*Foster Ethical Reflection:*

- Lead discussions on the ethical principles underpinning their decisions, such as respect for human dignity, accountability, or the balance between innovation and harm reduction.

*Provide Contextual Examples:*

- Use case studies or real-world scenarios (e.g., data breaches, misinformation campaigns, or AI misuse) to ground theoretical discussions in practical applications.

*Encourage Collaboration:*

- Facilitate group discussions where students can learn from each other's perspectives and build collective reasoning skills.
- Highlight the importance of collaborative problem-solving in addressing complex ethical challenges.

By using these guidelines, lecturers can ensure that students not only understand the ethical and critical thinking frameworks but also develop the skills to apply them effectively in real-world contexts.

## Further readings

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# CRITICAL THNIKING IN THE INFORMATION SOCIETY

## A GUIDE FOR CLASSROOM ACTIVITIES

# ANNEX

Critical Thinking in the Information Society (CTIS) –
Erasmus+ Strategic Partnership for Higher Education Project

Funded by the European Union

2022-1-RO01-KA220-HED-000090207 Erasmus+ Programme

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# Introduction to Media Literacy through Critical Thinking

Pre-test

1. Which of the following sentences defines the concept of media?

   *Mark only one oval.*

   - ◯ They are visual channels through which information and entertainment reach audiences
   - ◯ They are channels of communicating important information on various target audiences
   - ◯ They are channels of information and entertainment that reach and influence large numbers of people

2. The purpose in media messages remains the same, irrespective of the target audience.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

3. The main purposes of media are:

   *Tick all that apply.*

   - ☐ To provide information
   - ☐ To persuade us to endorse ideas or to buy products or/and services
   - ☐ To protect us from misinformation
   - ☐ To entertain us

4. Media can be classified depending on their version (whether printed or electronic), their purpose, and the means of communication they use.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

5. It is an example of media that is usually called "old-fashioned" type of media.

   *Mark only one oval.*

   - ◯ Books
   - ◯ Billboards
   - ◯ Emails
   - ◯ TV

6. Posters and flyers are examples of broadcast media.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

7. The social media (select the correct answers):

   *Tick all that apply.*

   - ☐ Change their tools based on technological advances
   - ☐ Is a dynamic type of visual media
   - ☐ Promotes information sharing
   - ☐ Has less ethical issues as compared to other types of media

8. Online digital environments:

*Mark only one oval.*

- ◯ Give us access to an enormous number of information but decrease human productivity
- ◯ May have risks for our well-being
- ◯ Offer us millions of transparent and objective results in a nanosecond

9. The term Media Literacy refers to our ability:

*Tick all that apply.*

- ☐ To read and write
- ☐ To create media messages
- ☐ To critically select and evaluate media messages
- ☐ To recognize the impact of media in personal and public life

10. Media messages are:

*Mark only one oval.*

- ◯ Clearly interpreted by individuals without activation of previous knowledge or expertise
- ◯ Constructed versions of reality
- ◯ Provide strong and sound arguments about various social issues

11. Media Literacy through Critical thinking can help us to recognize the power of media in our lives.

*Mark only one oval.*

- ◯ True
- ◯ False

# Introduction to Media Literacy through Critical Thinking

Post-test

1. Describe the purposes of media.

2. Give an example classification of media depending on version (whether printed of electronic), function, purpose and means of communication.

3. Describe the difference between traditional vs digital literacy.

4. Give three examples of critical questions we must ask as critical consumers of media messages.

# Personality and Behavioural Differences in Social Media

Pre-test

1. Which of the following traits are attributable to the Big 5 theoretical model of personality?

   *Tick all that apply.*

   - [ ] Emotional stability vs neuroticism
   - [ ] Closeness and avoidance of new experience
   - [ ] Egocentricity and attention-seeking
   - [ ] Extraversion vs introversion
   - [ ] Conscientiousness and agreeableness

2. The tendency to experience negative emotions and stress is more characteristic of people who are characterised by:

   *Tick all that apply.*

   - [ ] Emotional stability
   - [ ] Neuroticism
   - [ ] Introversion
   - [ ] Extraversion

3. It has been proven that there is a direct relationship between behaviour on social media and the individual traits of personality:

   *Mark only one oval.*

   - ◯ True
   - ◯ False

4. What behavioural tendencies are characteristic of people with high levels of neuroticism, agreeableness, and conscientiousness?

*Tick all that apply.*

- [ ] Are associated with higher use of social networks and addictive tendencies.
- [ ] Are more likely to reject and not rely on social media platforms.
- [ ] Are more prone to negativity; i.e., are more likely to capture negative rather than positive things.
- [ ] Are interested in novelties and are positive about the benefits provided by social media.

5. Which individuals distinguish themselves by a significantly higher number of contacts and followers in social media?

*Tick all that apply.*

- [ ] People who are more open to new experiences and with a characteristic high degree of neuroticism.
- [ ] People who are more conscientious and with inherent high emotional stability.
- [ ] People who are more neurotic and tend to try new things.
- [ ] People who are more agreeable and with an inherent high level of conscientiousness.

6. Which of the following statements is correct?

*Tick all that apply.*

- [ ] There is a positive correlation between honesty and benefits provided by social media.
- [ ] Social media can have a positive effect on people's mood and self-esteem.
- [ ] Involvement in the virtual world can cause many psychological problems.
- [ ] Social media can have a negative effect on people’s mood and self-esteem.
- [ ] Social media can be related to a person’s self-esteem level.

7. Cyber isolation in social media can be described as:

*Tick all that apply.*

- [ ] Aiming to find as many followers as possible on social media.
- [ ] Real or perceived rejection online as in life.
- [ ] Seeking your popularity by any means.
- [ ] Avoiding engaging in discussions on social media.

8. Which statement is incorrect about people's behaviour on social media?

*Tick all that apply.*

- [ ] We tend to associate with like-minded people.
- [ ] On social media people seek to increase their popularity.
- [ ] Introverts are highly interested in innovation and positively value the benefits of social media.
- [ ] The anonymity of social networking sites is typical for less confident people.

# Personality and Behavioural Differences in Social Media

Post-test

1. It has been proven that there is a direct relation between behaviour in social media and the personality's individual traits. Justify this statement by giving examples of how these two phenomena are interrelated.

2. What are the typical behaviour trends in social media for extroverts and what for introverts?

3. How are clearly expressed human characteristics of extroversion and low conscientiousness related to the person's behaviour in social media?

4. Involvement in the virtual world can lead to numerous psychological problems; what proposals would you make to reduce the number of these problems (what practical advice would there be for people with different personality traits)?

# Critical Selection of Information

Pre-test

1. What is critical selection of information?

   *Mark only one oval.*

   - ◯ Critical selection of information is a component of critical thinking competence
   - ◯ It's a kind of modern world threats
   - ◯ Something that doesn't help to deal with the information chaos

2. To determine the currency of information, you need to answer the question:

   *Mark only one oval.*

   - ◯ Is the information significant to the topic of your research?
   - ◯ Is the information up-to-date with the current state of knowledge in the field that you are looking for?
   - ◯ Is the name of the author or the represented organization given?

3. To determine the relevance of information, you need to answer the question:

   *Mark only one oval.*

   - ◯ Is the information significant to the topic of your research?
   - ◯ Is the content regularly updated?
   - ◯ Is the information quoted by other people?

4. To determine the authority of information, you need to answer the question:

*Mark only one oval.*

- ◯ Do the authors/sponsors make their intentions or purpose clear?
- ◯ Does the information contain errors of various kinds (grammar, spelling and stylistic)?
- ◯ Does the website providing the information allow contact with its author?

5. To determine the accuracy of information, you need to answer the question:

*Mark only one oval.*

- ◯ Is the content regularly updated?
- ◯ Is the information formulated in a clear, logical and understandable way?
- ◯ Is the information useful to you in its entirety?

6. To determine the purpose of information, you need to answer the question:

*Mark only one oval.*

- ◯ Is the information fact? Opinion? Propaganda?
- ◯ Does the information contain errors of various kinds (grammar, spelling and stylistic)?
- ◯ Does the website providing the information allow contact with its author?

7. To determine the objectivity of information, you need to answer the question:

*Mark only one oval.*

- ◯ Is the information quoted by other people?
- ◯ Is the information formulated in a clear, logical and understandable way?
- ◯ Is the website/the source sponsored?

8. Thanks to the competency of critical thinking, we can decide whether the information is:

*Mark only one oval.*

- Reliable, relevant, positive or worth remembering
- Real, valuable, or worth reading and remembering
- New, important, official and worth reading

# Critical Selection of Information

Post-test

1. How can the CRAAPO model help in evaluating the credibility of online sources?

2. In what ways does the constant flow of information on the internet impact our ability to critically assess its quality?

3. Why is it important to understand the purpose behind a piece of information before accepting it as credible?

4. How can individuals improve their information literacy skills to better navigate information chaos in the digital age?

# Developing Active Learning and Critical Reading Skills

Pre-test

1. When was the concept of systems thinking formulated?

   *Mark only one oval.*

   - ◯ During the second half of the 18th century
   - ◯ During the second half of the 20th century
   - ◯ During the first half of the 19th century
   - ◯ During the first half of the 20th century

2. Systems thinking studies:

   *Mark only one oval.*

   - ◯ All parts of a whole
   - ◯ Certain parts of a whole
   - ◯ Many separate elements
   - ◯ Specific separate elements

3. Which of the following is not a principle of the systems thinking process?

   *Mark only one oval.*

   - ◯ Multidimensionality
   - ◯ Purposefulness
   - ◯ One-sidedness
   - ◯ Controllability

4. The first step in applying systems thinking in a given situation is:

*Mark only one oval.*

- To study the possible solutions and their effects
- To get an idea of the situation
- To recognise the elements that constitute it
- To recognise the existing systems and their relationships

5. Which of the activities listed below will be useful for the development of systems thinking in a child?

*Mark only one oval.*

- A jigsaw puzzle
- Chess
- An arithmetic problem
- All of the above

6. The modern concept "literacy" includes the ability to use:

*Mark only one oval.*

- Languages
- Numbers
- Images
- All of the above

7. Reading is not...

*Mark only one oval.*

- A method of exchange of knowledge and ideas.
- A process of communication between the author of the text and the person reading it.
- One of the basic in-depth knowledge skills that one must acquire with diligence, time and motivation.
- A post-psychophysiological process.

8. Which of the statements about reading comprehension listed below is not true?

*Mark only one oval.*

- The reader has an active role in reading comprehension.
- Reading comprehension is the ability to understand the ideas in a text.
- Reading comprehension is a process that does not involve recognising graphic symbols.
- Reading comprehension is a method of reading whose aim is to interpret and understand the written text.

# Developing Active Learning and Critical Reading Skills

Post-test

1. In what areas is it essential to apply systems thinking?

2. Can you summarise (IN YOUR OWN WORDS) the essence of the concept of systems thinking?

3. How can you develop your systems thinking?

4. Suggest an exercise/exercises to develop systems thinking.

5. Define reading comprehension.

6. What do good reading skills include?

# Analyzing Arguments and Recognizing Inferences and Fallacies in Media

Pre-test

1. A preference is a kind of argument.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

2. An argument has at least one reason that is used to provide support to a conclusion.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

3. The strength of an argument depends on

   *Mark only one oval.*

   - ◯ The specific issue the argument is referring to
   - ◯ The kind of media we use to present it
   - ◯ The acceptability of its premises and their relevance to the conclusion

4. Which of the following sentences is true?

*Mark only one oval.*

- In an argument, the conclusion may be true even though it is not supported by the given reasons.
- In an argument, the conclusion it is true only when it is supported by the given reasons.

5. Media use arguments to persuade us to endorse an idea or to buy a product by....

*Mark only one oval.*

- Presenting the pros and the cons of the product or the idea
- Presenting a large amount of relevant information to help us decide
- Presenting only the pros of the product or the idea

6. Fallacies are (Select the correct answers)

*Tick all that apply.*

- [ ] Weak arguments but valid
- [ ] Weak arguments that seem to be valid
- [ ] Strong, logical arguments with many reasons supporting one general conclusion
- [ ] Weak arguments that appeal to our emotions

7. The use of celebrities in advertisements as a means of persuading people to endorse an idea or to buy a product is a paradigm of

*Mark only one oval.*

- Ad hominem fallacy
- False cause fallacy
- Testimonials fallacy
- Wrong analogy fallacy

8. Rationalizing means that

*Mark only one oval.*

- We come to accept an argument via reasoning
- We select information that favors the conclusion we prefer to draw
- We tend to believe that all information that is presented in media is true

9. Media use our fears and emotions more than our logic as a means of persuasion.

*Mark only one oval.*

- True
- False

# Analyzing Arguments and Recognizing Inferences and Fallacies in Media

Post-test

1. Describe the difference between argument, preference, and fact.

2. Describe a sound argument.

3. In your opinion, why is critical thinking important to assess the quality of arguments in social media?

4. What is the role of fallacies in advertisements?

# Stereotypes and Media Literacy

Pre-test

1. What is a stereotype?

   *Tick all that apply.*

   - [ ] Is a fixed general image or set of characteristics that a lot of people believe represent a particular type of person or thing.
   - [ ] Is a fixed and rigid description of groups of people that allows to distinct „us“ from „others.
   - [ ] Is overgeneralizations made by socially dominant groups about socially oppressed groups.

2. Stereotypes in the media can influence our interpretations of media content in a way that supports dominant myths about race, gender, disability, etc.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

3. What kind of understanding of race, gender, and disability can maintain stereotypes in media?

   *Tick all that apply.*

   - [ ] Unjust
   - [ ] Reliable
   - [ ] Harmful
   - [ ] Dominating

4. Media news plays a key role in reaffirming unequal power relations in society by systematically over-accessing people in powerful and privileged institutional positions.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

5. Critical media literacy focuses on:

   *Tick all that apply.*

   - ☐ Creating additional message with hidden information
   - ☐ Unpacking hidden power messages in the media
   - ☐ Learning to manipulate other people
   - ☐ Learning to resist the messages with hidden power
   - ☐ Disclosing imposed generalizations about who is "us" and who is "them".

6. What kind of competences may help to deconstruct stereotypes?

   *Tick all that apply.*

   - ☐ Intercultural
   - ☐ Critical thinking
   - ☐ Media literacy
   - ☐ Digital

7. There is potential for the media to use their influence positively to mitigate the effect of social stereotypes.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

8. Hollywood film and television production helps to deconstruct stereotypes.

*Mark only one oval.*

- True
- False
- And yes, and no

# Stereotypes and Media Literacy

Post-test

1. What is a stereotype?

2. Why are the stereotypes problematic, and why is it important to consider them?

3. Why is critical media literacy so important in deconstructing stereotypes?

4. Give an example of a gender, race, or disability (etc.) stereotype and explain why it should be taken into account.

# Propaganda in Media: Playing with Emotions

Pre-test

1. Propaganda plays on human emotions—fear, hope, anger, frustration, sympathy.

   *Mark only one oval.*

   - ◯ Trouth
   - ◯ False
   - ◯ And yes, and no

2. Propaganda can be divided into:

   *Tick all that apply.*

   - ☐ Green
   - ☐ White
   - ☐ Red
   - ☐ Yellow
   - ☐ Black
   - ☐ Grey

3. Indicate statements that reflect examples of white propaganda in social media.

   *Tick all that apply.*

   - ☐ Maximally transparent and open representation of facts
   - ☐ Information is based on deliberate deception
   - ☐ Seeks to present the findings of diverse, independent experts
   - ☐ Consciously linking confirmed facts with unconfirmed ones
   - ☐ Provide reasoned explanations anf facts

4. When a one-sided approach is formed to the object, avoiding critical approach, we deal with

   *Mark only one oval.*

   - ◯ Black propaganda
   - ◯ Grey and green propaganda
   - ◯ White propaganda
   - ◯ Black and white propaganda
   - ◯ Grey propaganda

5. Black propaganda is based on:

   *Tick all that apply.*

   - ☐ Deliberate lies and falsification of events and facts.
   - ☐ Provide reasoned explanations anf facts
   - ☐ Relies on black technology
   - ☐ A one-sided approach to the object and situation

6. What kind of propaganda forms is seen when only positive facts about a person or situation are told and negative facts are withheld or vice versa?

   *Mark only one oval.*

   - ◯ “Generalization or overgeneralization”–
   - ◯ “Glittering generalities”
   - ◯ “Plain folk”
   - ◯ “Hot potato”
   - ◯ “Name calling”
   - ◯ “Card-stacking” or one-sided case making

7. Pinpointing the enemy propaganda form involves

*Mark only one oval.*

- ◯ When insulting words are often used instead of logical arguments, appealing to emotions rather than reason
- ◯ When we need to persuade the audience to follow the crowd, by adopting certain forms of behavior
- ◯ Emotional summative statements are typically used: “We deserve to live better"
- ◯ When only positive facts are told and negative facts are withheld or vice vers
- ◯ Oversimplify complex problems by pinpointing a single cause or single enemy to blame

8. How to recognize a troll?

*Mark only one oval.*

- ◯ Large number of followers
- ◯ Commenting or sharing posts, messages only on a specific topic
- ◯ Frequent spelling mistakes;
- ◯ Relying on alternative sources without specifying them
- ◯ The user account is empty

# Propaganda in Media: Playing with Emotions

Post-test

1. What is grey propaganda? Please give an example.

2. How do you think propaganda relates to our emotions?

3. With what type of propaganda techniques are you usually dealing/identifying in social media?

4. What kind of strategy could be considered as a good way to deal with propaganda?

# Distinguishing Facts from Opinions

Pre-test

1. Which of the following sentences is true?

   *Mark only one oval.*

   - ◯ Proven facts can't be easily proved
   - ◯ Probable facts unlike proven facts are always true
   - ◯ Facts' accuracy can be sooner or later verified

2. Fake news is probable untrue facts.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

3. Which of the following sentences is true?

   *Mark only one oval.*

   - ◯ Opinion is the expression of someone's belief about something that can be easily verified.
   - ◯ Experts' opinions about an issue are reliable, provided that they are experts in this issue, follow the evidence and have no personal benefit for supporting an idea about this issue.
   - ◯ Experts' opinions are always reliable because they have accumulated knowledge and expertise about various subjects.

4. People usually form the same opinion when they are looking at the same fact.

*Mark only one oval.*

- ◯ True
- ◯ False

5. Mental shortcuts allow us to make

*Mark only one oval.*

- ◯ Always quick, unbiased, logical judgments
- ◯ Effortless but sometimes biased judgments
- ◯ Always quick biased judgements or logical fallacies

6. Confirmation bias is our tendency to

*Mark only one oval.*

- ◯ Look for evidence in order confirm our own ideas or opinions
- ◯ Look for information that agrees with our own opinion and discard information that proves our opinion wrong
- ◯ Look for evidence in order to confirm other people ideas' before accepting them

7. Echo chamber is an environment that

*Mark only one oval.*

- ◯ Saving us time by providing us with information that fits our needs and interests
- ◯ Reinforces the aspect of the world that fits to our own beliefs about various issues
- ◯ Is created for us by algorithms which keep track of our personal needs and interests

8. Anchoring effect is a paradigm of biased thinking that refers to our tendency to consider

*Mark only one oval.*

- ◯ All information that we see on the internet to be true and reliable
- ◯ The first piece of information we read or hear about a topic as the most reliable information
- ◯ Information that is presented in “high volume” for a short period of time to be true

9. The best way of de-biasing our consumption of information that is presented in media is by....

*Mark only one oval.*

- ◯ Searching sources of information that fit to our beliefs
- ◯ Questioning the way our beliefs have been formed
- ◯ Accepting experts’ beliefs and opinions

# Distinguishing Facts from Opinions

Post-test

1. Describe the difference between facts and opinions.

2. Describe the difference between experts' opinions and peoples’ personal opinions on an issue.

3. Give two examples of biased thinking that are related to media use.

4. In your opinion, how critical thinking can help us to deal with our biases when we search for information in media?

# Evaluating the Reliability and Validity of Evidence Presented in the Media

Pre-test

1. Which of the following is NOT among the characteristics of the modern information environment?

   *Mark only one oval.*

   - ◯ Disinformation chaos
   - ◯ Credibility and accessibility
   - ◯ A field for information conflict
   - ◯ The post-truth era

2. What are the most common «pollutants» of the information environment?

   *Mark only one oval.*

   - ◯ Various communication channels
   - ◯ Social networks
   - ◯ Traditional media

3. Which skill will help us deal with online misinformation?

   *Mark only one oval.*

   - ◯ Effective communication skills
   - ◯ Critical thinking
   - ◯ Emotional intelligence
   - ◯ Creating abstract connections

4. Which facts can be manipulated in a digital environment?

*Mark only one oval.*

- ◯ Facts in a digital environment cannot be manipulated
- ◯ Text
- ◯ Pictures
- ◯ Video
- ◯ Audio
- ◯ Geolocation
- ◯ All stated facts can be manipulated

5. How can we turn into disinformation spreaders?

*Mark only one oval.*

- ◯ If we read fake news
- ◯ If we communicate with strangers on social networks
- ◯ If we share unverified information

6. What should we do when we come across interesting information or content on social media?

*Mark only one oval.*

- ◯ To ask ourselves "Is this the original content?"
- ◯ To share it with friends on social networks
- ◯ To tell relatives and friends

7. How to find out whether a given piece of information is true or false?

*Mark only one oval.*

- ◯ If it's shared by a friend, then it's true
- ◯ If news is shared by many people online, so it is true
- ◯ If the information is spread by two more reliable media sources, then it is true

8. What facts presented in the media we do NOT need to check?

*Mark only one oval.*

- ◯ Origin
- ◯ Source
- ◯ Date
- ◯ Financing
- ◯ Location
- ◯ Motivation

9. What is the most reliable way to check the facts?

*Mark only one oval.*

- ◯ Through various technological tools
- ◯ It is not possible to verify the facts
- ◯ Through media knowledge

# Evaluating the Reliability and Validity of Evidence Presented in the Media

Post-test

1. What do you understand by the term "fact-checking"?

2. List and describe in your own words the main types of misinformation.

3. Name three of the main ways of online fact-checking.

4. Explain how the authenticity of content published on the Internet can be verified.

5. How can it be verified when photos and videos were created and published on the Internet?

# Constructive Formulation of Critical Assessment

Pre-test

1. What is criticism?

   *Mark only one oval.*

   - ◯ Criticism is the art of distinguishing ideas, expectations and intentions accompanying a given undertaking or work and the facts or specific requirements for a given type of activity or work.
   - ◯ Criticism is the art of distinguishing between the idea of a particular work and the facts or specific requirements of a particular type of activity or work.
   - ◯ Criticism is the art of distinguishing between the expectations of a particular job and the facts or specific requirements of a particular activity or job.

2. What is constructive criticism?

   *Mark only one oval.*

   - ◯ Constructive criticism reveals mistakes. This type of criticism communicates suggestions for change.
   - ◯ Constructive criticism exposes logical fallacies in thinking. This type of critique conveys specific examples and practical suggestions for a positive change.
   - ◯ Constructive criticism is negative and reveals logical errors in thinking. This type of criticism conveys suggestions for change.

3. What are the benefits of constructive criticism?

   *Mark only one oval.*

   - ◯ It allows creators to feel that their work is appreciated, but some aspects of it should be refined or changed
   - ◯ It can point out mistakes but does not teach critical thinking.
   - ◯ Constructive criticism can be part of implementing an improvement strategy, but it does not allow creators to feel that their work is appreciated.

4. What is destructive criticism?

*Mark only one oval.*

- It is usually expressed in the form of general and positive comments.
- It is focuses on what is good, giving suggestions for small improvements.
- This is usually expressed in the form of general, subjective remarks focusing on personal characteristics, taking the form of biased comments.

5. What are the consequences of destructive criticism?

*Mark only one oval.*

- Expressing negative criticism in communication has a beneficial effect on interpersonal relationships.
- Expressing negative criticism in communication has an unfavourable effect on interpersonal relationships.
- Expressing negative criticism motivates people to work and improve.

6. What are the benefits of using the 'I' message method?

*Mark only one oval.*

- These types of messages make the person receiving feedback to her as a person.
- This will make it easier for the other person to separate the criticism from himself and find the elements that are being criticized. When "statements of self" are used to deliver negative criticism.
- These types of messages make the person receiving the feedback un-derstand that the criticism is about the situation or behaviour, not about him/her as a person.

7. What are the principles of constructive assessment?

*Mark only one oval.*

- Emphaty, 'I' messages and positive praise.
- Using 'I' messages, the sandwich method, empathy and positive praise.
- Focus on the behaviour or action and be empathetic.

8. What is the 'sandwich method' of providing feedback?

*Mark only one oval.*

- An opinion/comment built using the sandwich method has a structure in which positive information and critical parts of the assessment alternately appear.
- Opinion/commentary built using phrases like , "I" and is geared to use only a positive message.
- Opinion/commentary geared to use only a positive message.

# Constructive Formulation of Critical Assessment

Post-test

1. How can using "I language" in feedback help to reduce defensiveness and encourage positive change?

2. What are the potential benefits and limitations of using the "sandwich method" when giving constructive criticism?

3. In what ways can empathy play a role in delivering effective and constructive feedback?

4. How does constructive criticism differ from destructive criticism in terms of impact on interpersonal relationships and personal development?

# Critical Thinking and the use of Internet

Pre-test

1. The Internet...

   *Tick all that apply.*

   - [ ] Is an electronic mass communication environment accessible to all
   - [ ] Has strict quality control mechanisms
   - [ ] Provides unlimited trustworthy information for everything in a few seconds
   - [ ] Has changed the way of our communication by giving voice to everyone

2. Almost 60% of the world's population who uses the Internet has adequate media literacy skills.

   *Mark only one oval.*

   - ◯ True
   - ◯ False

3. Misinformation is

   *Mark only one oval.*

   - ◯ Misleading information deliberatively created to deceive
   - ◯ Misleading information due to lack of careful fact-checking
   - ◯ Planting of rumors to influence public opinion

4. Disinformation is

*Mark only one oval.*

- ◯ Misleading information deliberatively created to deceive
- ◯ Misleading information due to lack of careful fact-checking
- ◯ Misleading information due to lack of expertise

5. Misinformation or disinformation on the Internet can be easily spotted.

*Mark only one oval.*

- ◯ True
- ◯ False

6. Research evidence showed that there is a gap between what the research evidence shows and how people translate the evidence and form their beliefs.

*Mark only one oval.*

- ◯ True
- ◯ False

7. Fabricated content is

*Mark only one oval.*

- ◯ A content which is hidden in real news stories and we need subject-knowledge or expertise to uncover it
- ◯ A totally made-up story with the purpose to believe that it is a real story
- ◯ A content in which something has been added or deleted to create a false sense of reality

8. Research evidence shows that

*Mark only one oval.*

- ◯ Most of the students check the source of information while searching in the Internet
- ◯ Most of the students rely on the Internet for finding information for their academic tasks without checking the source of information
- ◯ Most of the students report that they use fact checking resources to check the quality of information they find in the Internet

9. Internet is an environment that challenges our critical thinking because

*Mark only one oval.*

- ◯ Has a higher degree of expertise than any individual person
- ◯ Has connected people who leave in the most isolated places of the world
- ◯ Gaining reliable and accurate knowledge while searching in the Internet is not an easy task due to many new types of fake news and frauds
- ◯ Saving us time by providing online electronic services

# Critical Thinking and the use of Internet

Post-test

1. Describe the advantages of Internet as a mean of communication and data source.

2. What is the difference between misinformation and disinformation?

3. Describe strategies and resources you can use to reveal fabricated and misleading content in the internet.

4. In your opinion, why is Internet an environment that challenges our critical thinking?

# Say No to Distorted Facts! Data-Based Decision Making

Pre-test

1. Does a human person have many instincts?

   *Mark only one oval.*

   - ◯ Yes
   - ◯ No

2. Mark which human instincts are classified as brain gaps

   *Tick all that apply.*

   - ☐ The gap instinct
   - ☐ The instinct of negativity
   - ☐ Instinct of the straight line
   - ☐ Instinct of the fear
   - ☐ The instinct of size
   - ☐ The instinct of accusation
   - ☐ The instinct of urgency
   - ☐ Color instinct

3. Mark true or false: The gap instinct is characterised when, for example, you want to divide the world into two parts (good-bad; rich-poor)

   *Mark only one oval.*

   - ◯ True
   - ◯ False

4. What the instinct of fear cannot be overcome?

*Tick all that apply.*

- [ ] To notice when we are overcome by a frightening fear of events.
- [ ] Remember that they are not necessarily the most dangerous.
- [ ] Question everything.

5. What can we do to avoid being overwhelmed by the urgency instinct?

*Tick all that apply.*

- [ ] Take a break (ask for more time, more information. You rarely have to choose between "now" or "never" or "either/or".
- [ ] Request data.
- [ ] Beware of soothsayers (forecasts).
- [ ] Avoid drastic actions.

6. Do our memories make events seem worse than they really are?

*Mark only one oval.*

- ◯ Yes
- ◯ No

7. What kind of decisions are frightened people prone to making?

*Mark only one oval.*

- ◯ False
- ◯ True

8. Is it true that once we start blaming, we stop thinking?

*Mark only one oval.*

- ◯ Yes
- ◯ No

# Say No to Distorted Facts! Data-Based Decision Making

Post-test

1. Instincts have been proven to help humans survive. Give an example.

   _____

2. What mistakes can we make if we rely on preconceived beliefs and outdated information?

   _____

3. Why is it useful to base decisions on facts?

   _____

4. Which instinct (as a thinking gap) have you identified most in your work?

   _____

# How to Deal with Fake News?

Pre-test

1. What is a fake news?

   *Mark only one oval.*

   - ◯ It is news articles that are verifiably true.
   - ◯ It is news articles that intentionally mislead readers and are verifiably untrue.
   - ◯ These are informative articles that are probably true, interesting and worth reading.

2. What is the purpose of creating fake news?

   *Mark only one oval.*

   - ◯ They are created to deliberately deceive users and at the same time motivate them to distribute/share this content.
   - ◯ They are created to motivate users to disseminate and share real content.
   - ◯ They are created for entertainment, to cause laughter, fun

3. What are the kinds of fake news?

   *Mark only one oval.*

   - ◯ Hate-based fake news and paid fake news.
   - ◯ Classical fake news, satirical fake news, state-sponsored news, pseudo-scientific fake news, based on hate, clickbait and political fake news.
   - ◯ Hate-based, paid fake news, satirical fake news, fun-fake news

4. What are the mechanisms of creating fake news?

*Mark only one oval.*

- ◯ Fake news has a completely different structure to real news, but contains the shocking element of surprising the reader, strongly influencing their emotions, values or attitudes.
- ◯ Fake news has a similar structure to real news and does not contain the shocking element of surprising the reader, strongly influencing their emotions, values or attitudes.
- ◯ Fake news has a similar structure to real information, yet it contains a shocking element relying on the reader's surprise, strongly affecting their emotions, values or attitudes.

5. How do you recognise fake news?

*Mark only one oval.*

- ◯ Consider the source of the article, read the whole article carefully and take some expert advice.
- ◯ Consider the source of the article, you can read just the headline and get some expert advice.
- ◯ You can read just the headline and consider the source of the article.

6. What could be the possible motivations for propagating fake news?

*Mark only one oval.*

- ◯ Personal, religious, political and from a lack of awareness of the spread of fake news.
- ◯ Only from a lack of awareness of propagating fake news.
- ◯ Mostly for fun and to raise money from advertising.

7. What is fact-checking?

*Mark only one oval.*

- ◯ Fact-checking is nothing more than reporting untrue facts to the relevant institutions.
- ◯ Fact-checking is nothing more than an activity focused on checking the credibility of the facts reported.
- ◯ Fact-checking is nothing more than the creation of false information.

8. Which of the following statements is true?

*Mark only one oval.*

- ◯ Critical thinking is not the key competency to protect ourselves against being victims of fake news.
- ◯ Critical thinking is the key competency to protect ourselves against being victims of fake news.
- ◯ Fact-checking is a key competence to protect us from being a victim of fake news.

# How to Deal with Fake News?

Post-test

1. What factors contribute to the widespread dissemination of fake news on social media platforms?

2. How can individuals improve their ability to detect and avoid sharing fake news?

3. In what ways do different types of fake news (e.g., political, clickbait, state-sponsored) impact public opinion and behaviour?

4. What are some of the most effective strategies that organisations and governments can use to combat the spread of fake news?

# Critical Thinking in Relation to Entertainment Content

Pre-test

1. What are the  common characteristics of media content consumed in the new media context of our present times?

   *Tick all that apply.*

   - [ ] Transmedial
   - [ ] Serial
   - [ ] Participatory
   - [ ] Affective
   - [ ] Personal
   - [ ] Informational
   - [ ] Entertaining

2. What is binge-watching?

   *Mark only one oval.*

   - ◯ The episodes of a TV series seem to form an endless stream.
   - ◯ Multiple episodes are watched in a single sitting.
   - ◯ Friends and neighbours are watching the selected movie-series together.
   - ◯ The user of streamed media spends lots of hours selecting movies.

3. In her novel *No One Is Talking About This* Patricia Lockwood calls the world of social media:

   *Mark only one oval.*

   - ◯ The chaos of a blizzard
   - ◯ The blizzard of everything
   - ◯ A tropical and snowing mind
   - ◯ The portal to everything

4. What is the cause of spending so much time on social media?

*Tick all that apply.*

- [ ] Users of social media lose track of time because every scrolling brings new content.
- [ ] Users get paid for their attention.
- [ ] Political organisations are counting on their voters on social media.
- [ ] The algorithms behind social media platforms have numerous addictive built-in features.

5. What is VR?

*Mark only one oval.*

- ◯ Visual reality
- ◯ Virtual recognition
- ◯ Virtual reality
- ◯ Virtually real

6. What are the main characteristics of a VR-experience?

*Tick all that apply.*

- [ ] The user ecperiences a picture in a 3D environment.
- [ ] The user enters fictional, digital, programmed worlds.
- [ ] The user can have different degrees of freedom regarding his actions in the virtual environment.
- [ ] The users perceives both the physical and the virtual world.

7. How can we have a healthy attitude/relationship to the media in today's new media context?

*Tick all that apply.*

- [ ] By balancing entertainment and learning.
- [ ] By deciding about breaks, and setting limits.
- [ ] By giving our full atention to the social media.
- [ ] By participating and controlling our accounts every hour.
- [ ] By having a self-reflexive perspective.

8. Critical thinking is helping the user to...

*Mark only one oval.*

- Ask the right questions and understand the choises.
- Find the common answers.
- Remove the addictive features of new media.
- Consume more content.

# Critical Thinking in Relation to Entertainment Content

Post-test

1. What would be the main characteristic of entertainment in today!s new media context?

2. Define transmediality and give an example!

3. What is binge-watching?

4. Is a VR-experience appealing to you? Why?

5. How can we achieve a healthy balance regarding media-consumption today?

# How Not to be Manipulted by the Media?

Pre-test

1. What is manipulation?

   *Mark only one oval.*

   - ◯ Manipulation is generally considered a dishonest form of social influence, as it is used at the expense of others.
   - ◯ Manipulation is generally considered a fair form of social influence.
   - ◯ Manipulation is generally considered to be an unfair form of social influence that is most often highly damaging.

2. How do we divide up manipulation?

   *Mark only one oval.*

   - ◯ Manipulation may be labelled as small and big. The first is limited to the smaller environment – neighbors, school community, friends and family.
   - ◯ Manipulation can be described as small, medium and large. The first is limited to a smaller environment - neighbours, the second to the school community and the third to friends and family.
   - ◯ Manipulation can be described as significant and very significant. The former is limited to a smaller environment - neighbours, school community, friends and family.

3. What is Framing?

   *Mark only one oval.*

   - ◯ This technique is based, among other things, on distorting information in such a way that the recipient changes his or her world view.
   - ◯ This technique is based, among other things, on distorting information so that the given information is interpreted in a way that it is close to the recipient’s worldview.
   - ◯ This technique is based, among other things, on distorting information in such a way that the recipient is certain to be right.

4. What do framing treatments include?

*Mark only one oval.*

- ◯ Comparison with some authority (metaphor) and a similar story to the receiver (history).
- ◯ Comparing with some authority so that the information is as close as possible to the perspective of the recipient.
- ◯ Comparing with some authority (metaphor), a similar story to the receiver (history) and language (slang).

5. What is  the ingratiation manipulation technique?

*Mark only one oval.*

- ◯ Increasing the sympathy of the recipient.
- ◯ Increasing the sympathy of the recipient and increasing the personal attractiveness.
- ◯ Increasing the personal attractiveness

6. What is  the suggestion manipulation technique?

*Mark only one oval.*

- ◯ It is based on language and propaganda. A particularly important role is played by slogans, which – through propaganda – lead to the desired suggestions.
- ◯ It is based on language. The role is played by slogans, which, lead to the desired suggestions.
- ◯ It is based on propaganda. A particularly important role is played by slogans, which lead to the desired suggestions.

7. What is persuasion?

*Mark only one oval.*

- ◯ This is one of the techniques of manipulation.
- ◯ In contrast to manipulation, the recipient is aware of being influenced by the message, but is not equal to the discussion partner.
- ◯ In contrast to manipulation, the recipient is aware of being influenced by the message and is equal to the discussion partner.

8. What are the principles of protection against manipulation?

*Mark only one oval.*

- ◯ Rule of limited trust and source verification.
- ◯ Rule of limited trust, verify the source, report manipulation to relevant institutions, beware of controversial titles.
- ◯ Rule of limited trust.

# How Not to be Manipulted by the Media

Post-test

1. How do framing techniques used in the media influence the way we perceive news and information?

2. In what ways can critical thinking skills help individuals recognize and resist manipulation by the media?

3. What are some common strategies of manipulation used by the media, and how can we protect ourselves from them?

4. How does the use of emotions in media messages affect the audience's ability to critically evaluate the content?

# Active Citizenship Through Social Networks

Pre-test

1. Which statement describes best the social network as a type of media?

   *Mark only one oval.*

   - ◯ A natural evolutionary process of the individual, who, from the very beginning seeks to communicate and learn easily and quickly.
   - ◯ A communication channel - a system that distributes information to users through web-based or mobile technologies.
   - ◯ A technological response to the dilemma over how to receive and exchange information in real time.

2. Tags and hashtags are used in a number of social media and networks. What are tags?

   *Mark only one oval.*

   - ◯ Advertising media messages about important events and personalities that have to reach a large number of recipients.
   - ◯ User-generated keywords or tags added to posts.
   - ◯ Names of electronic sources that are reliable and credible written on sticky notes.

3. According to you, which line below contains the the main components of information literacy in social networks?

   *Mark only one oval.*

   - ◯ Multidimensionality, Purposefulness, Controllability, Awareness.
   - ◯ Identify, Discover, Evaluate, Apply, Validate.
   - ◯ Critical attitude, Creativity, Collaboration, Credibility.

4. What is media literacy most often associated with?

*Mark only one oval.*

- ◯ The development of competencies in the field of new technologies and the skills to properly understand the media as medium, means and content.
- ◯ Understanding of the mechanisms of work in the media, the new chances before them, the cultural dimension of media content and its diversity.
- ◯ The ability to follow a thread of posts on a given topic and thereby distinguish between authentic and false information.

5. Which of the definitions below corresponds to your understanding of the concept of 'TRANSLITERACY'?

*Mark only one oval.*

- ◯ A new type of literacy that combines the selection and synthesis of data and its combination with other sources of information and prior knowledge and skills for handling information.
- ◯ A new type of literacy that helps to evaluate the information sources being used by answering guiding questions and using appropriate research methods.
- ◯ A new type of literacy that combines many types of literacy into one – the ability to read, write, interact and analyse information obtained through a range of platforms, tools and media.

6. What skills are acquired by creating your own content and media products?

*Mark only one oval.*

- ◯ Skills that contribute to a deeper understanding of the principles and value of professionally produced media content.
- ◯ Informative skills on the copyright aspects of media use and personal data protection.
- ◯ Skills to identify and understand the information you need.

7. Which of the questions below DOES NOT refer to creating and distributing your own media messages?

*Mark only one oval.*

- How to create information?
- How to check the facts?
- How to interpret a media message?
- How to reach an audience?
- How to create a video online?

8. The podcast is the new medium for sharing media content. What is it, in essence?

*Mark only one oval.*

- A successor to the classic radio, one of its many advantages is that you can listen to podcasts both while doing things that require physical commitment and in your free time.
- A modern form of Plato's dialogues, only instead of reading them on paper, you have them recorded and you can listen to them with ease.
- A medium that builds on the foundations of knowledge and provides a framework for accessing, analysing, evaluating, creating and participating through new forms.

# Active Citizenship Through Social Networks

Post-test

1. Describe what social networks are (in your own words).

2. List three strategies to develop the skill of evaluating the credibility of information on social networks.

3. What should we know about creating and sharing our own media messages?

4. What are the basic rules for creating a successful text?

# Advertising and Critical Thinking

Pre-test

1. Please select the techniques used in advertising

   *Tick all that apply.*

   - [ ] Storytelling
   - [ ] Divergent thinking
   - [ ] Emotional appeals
   - [ ] Analogical thinking

2. Critical thinking in relation to advertising messages is important, because it helps ...
   please select the correct answer(s)

   *Tick all that apply.*

   - [ ] Making informed choices
   - [ ] Producers sell their products
   - [ ] People become active citizens
   - [ ] Evaluating advertising messages more effectively

3. Evoking feelings of nostalgia and happiness in advertising are examples of

   *Mark only one oval.*

   - ◯ Offering social proof
   - ◯ Testimonials
   - ◯ Emotional manipulation
   - ◯ Stimulation of critical thinking

4. Appealing to bandwagon effect in advertising consists of showing heartwarming scenes of family reunions. This is ...

*Mark only one oval.*

- ◯ True
- ◯ False

5. A critical interpretation of gender stereotypes used in advertising means ...

*Mark only one oval.*

- ◯ How advertising contribute to the objectification of bodies
- ◯ How these stereotypes reinforce societal norms and potentially reinforce inequalities
- ◯ How ads reinforce power imbalances, exploit cultural symbols, and perpetuate stereotypes
- ◯ How ads contribute to unsustainable practices and promote overconsumption

6. Please select the most important challenges in interpreting advertising messages

*Tick all that apply.*

- ☐ Information overload
- ☐ Lack of formal training regarding intepreting advertising messages
- ☐ Lack of challenge in interpreting such messages, which are easy to comprehend
- ☐ Identifying deceptive tactics employed by advertisers

7. Cognitive dissonance occurs when

*Mark only one oval.*

- ◯ There is a conflict between an individual's beliefs or values and the claims made in an advertisement
- ◯ Advertisers aim to create a positive association between their brand and desirable feelings
- ◯ Consumers try to seek out information that confirms pre-existing beliefs or desires
- ◯ Advertisements are evaluated critically

8. Advertisements can shape attitudes towards brands or products

*Mark only one oval.*

- This is the opinion of a specialist, unconfirmed by research data
- Research data prove this fact
- I don't know

# Advertising and Critical Thinking

Post-test

1. How critical thinking skills allow going beyond surface-level interpretations of advertising messages?

2. Describe three manipulative  techniques used in advertising

3. What are the most important challenges in interpreting advertising messages critically?

4. What are the most important biases in advertising messages?

# Wonder, Doubt, Decide. A Possible Way Through the Labyrinth of Information Society

Pre-test

1. How can information be defined?

   *Tick all that apply.*

   - [ ] knowledge
   - [ ] communication of knowledge
   - [ ] data
   - [ ] fact

2. In the context of information society, wondering is the source of questions like

   *Mark only one oval.*

   - ◯ What turns into information, and what is its origin?
   - ◯ What is the right information?
   - ◯ How are informations acquired?

3. The cave metaphor is related to

   *Mark only one oval.*

   - ◯ Plato
   - ◯ Aristote
   - ◯ Jaspers

4. The question of doubt is related to

   *Mark only one oval.*

   - Descartes
   - Francis Bacon
   - Jaspers

5. True or false? The concept of doubt is defined as the effort to show what a proposition can stand or under what circumstances it can be considered valid.

   *Mark only one oval.*

   - True
   - False

6. True or false? The concept of wondering is defined as an openness to the universe and to the universe of knowledge.

   *Mark only one oval.*

   - True
   - False

7. Which question emerges in different states?

*Mark only one oval per row.*

| | What is this? | What is the basis of my certainty? | Where is my position in this world? |
|---|---|---|---|
| **state of wonder** | ◯ | ◯ | ◯ |
| **state of doubt** | ◯ | ◯ | ◯ |
| **state of limit (decision)** | ◯ | ◯ | ◯ |

8. Connect the matching pairs!

*Mark only one oval per row.*

| | information acquiring | information processing through critical revision | information attaining our own live |
|---|---|---|---|
| **wonder** | ◯ | ◯ | ◯ |
| **doubt** | ◯ | ◯ | ◯ |
| **decision** | ◯ | ◯ | ◯ |

# Wonder, Doubt, Decide. A Possible Way Through the Labyrinth of Information Society

Post-test

1. What kind of information is interesting for you? Why?

2. What information do you doubt? Why?

3. What kind of decisions are you making based on internet research?

4. Describe an internet-based research process within the categories of wondering, doubt, and decision-making!

# Digital Skills, Cultural Cooperation, Creativity and Entrepreneurship

Pre-test

1. The statement that digital competence is part of the framework for lifelong learning key competencies development is:

   *Mark only one oval.*

   - ◯ True
   - ◯ False

2. Mark the answers that describe what design thinking is:

   *Tick all that apply.*

   - ☐ It is focused on design of specific products
   - ☐ It is focused on solving complex problems
   - ☐ It requires mostly analytical thinking
   - ☐ It requires a combination of divergent and convergent thinking
   - ☐ It is practiced only by designers
   - ☐ It is practiced by various professionals (non-designers) to create creative solutions

3. Design Thinking is applicable:

   *Mark only one oval.*

   - ◯ Only in creating new products
   - ◯ In every field of human activity in the process of creative problem solving

4. Which statement is correct?

*Mark only one oval.*

- ◯ Design thinking is humanistic by nature, sensitive to human needs
- ◯ Design thinking is not interested in human needs in the search for business success and new market niches

5. Design thinking as a process requires the creation of innovative solutions.

*Mark only one oval.*

- ◯ Go through a prototyping and testing phase to select the idea that works best in practice
- ◯ To be implemented without prototyping and testing in order to save time and solve problems quickly

6. What is not characteristic of design thinking?

*Tick all that apply.*

- ☐ Humanism
- ☐ Optimism
- ☐ Pessimism
- ☐ Creativity
- ☐ Ability to visualize
- ☐ Striving for multi-functionality of solutions
- ☐ Convergent thinking - searching for the right answer
- ☐ A systemic view of things
- ☐ Avoidance of creativity and fantasy

7. Digital skills include the following key areas:

*Mark only one oval.*

- a. Selecting digital resources
- b. Creating and modifying digital resources
- c. Management, protection and sharing of digital resources
- d. Only answers b. and c.
- e. Answers a., b., and c.

8. The skill of digital content creation includes the following:

*Mark only one oval.*

- Open learning resources creation
- Visual content creation
- Information sharing through email uploads and links
- Data protection
- Creation of an online space for collaboration
- Copyright protection
- Creation of interactive learning activities and materials

# Digital Skills, Cultural Cooperation, Creativity and Entrepreneurship

Post-test

1. Define design thinking:

2. Describe in general the stages through which design thinking as a process goes:

3. Describe the main characteristics of design thinking as a way of thinking:

4. Describe what basic skills the digital competence "Creating and modifying digital resources" includes:

# Ethics of Information

Pre-test

1. Which of the following sentences defines the ethics of information?

   *Mark only one oval.*

   - ◯ The branch of ethics that focuses on the relationship between the creation, organization, dissemination, and use of information
   - ◯ The branch of ethics that focuses on the standards and codes governing human conduct in information society
   - ◯ The branch of ethics that focuses on the creation and use of internet

2. What kind of questions arise in this context?

   *Mark only one oval.*

   - ◯ What abuses are possible if our personal data fall into unauthorised hands?
   - ◯ Who is responsible in different processes using informations?
   - ◯ When has appeared the first fake news on the internet?

3. According to Severson, the basic principles of information ethics are:

   *Tick all that apply.*

   - ☐ Respect for intellectual property
   - ☐ Respect for privacy
   - ☐ Fair representation
   - ☐ Nonmaleficence

4. Internal forms of privacy are:

*Tick all that apply.*

- [ ] Values, principles and freedom of conscience
- [ ] Love life
- [ ] Religious beliefs
- [ ] Name, photo, address, phone number
- [ ] Social media profile
- [ ] Bank account

5. Eternal forms of privacy are:

*Tick all that apply.*

- [ ] Values, principles and freedom of conscience
- [ ] Love life
- [ ] Religious beliefs
- [ ] Name, photo, address, phone number
- [ ] Social media profile
- [ ] Bank account

6. True or false? Privacy is the right of individuals, groups or institutions to decide when, how and to what extent information about them can be shared with others.

*Mark only one oval.*

- ◯ True
- ◯ False

7. True or false? Conduct that can be described as decent is always in some way a violation of privacy.

*Mark only one oval.*

- ◯ True
- ◯ False

8. An ethical question consists of the search for a balance between

*Mark only one oval.*

- Openness of information databases and restriction
- Anonimity and responsibility
- Self-discipline and entertainment

9. The aim of ethics of information is

*Mark only one oval.*

- To know how to disseminate information correctly
- To be responsible for how information is handled
- To know everything about the human behaviour

# Ethics of information

Post-test

1. In your opinion, why is it relevant to discuss the ethics of information?

2. Describe a case where someone's privacy has been violated. Give a justification for your answer.

3. Interpret briefly the following statement: conduct that can be described as indecent is always in some way a violation of privacy.

4. In your opinion, what are the consequences of the violation of privacy?


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