BENEDMO

Resilient to disinformation

Analysis of media literacy interventions in Belgium and the Netherlands

The Dutch Media Literacy Network, commissioned by the Netherlands Institute for Sound & Vision
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Table of contents

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

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Introduction

Misinformation, fake news and disinformation have always existed, but in the current era of digital and in particular social media, (inaccurate) information can be spread faster and further than ever before. As a result, the phenomenon is receiving increasing attention. Some of the most well-known sources of disinformation are perhaps the war between Russia and Ukraine, the global COVID-19 pandemic and the 2016 US presidential elections. The effects of fake news and disinformation are diverse and far-reaching, with potential dangers such as undermining democracy and increasing polarisation in society.

Therefore, through the European Digital Media Observatory (EDMO) project, the European Commission is implementing policies in various countries to combat fake news and disinformation. The project brings together fact-checkers, OSINT (Open Source Intelligence) experts, media professionals, media literacy professionals and academic researchers, each with their expertise in areas such as disinformation and social media. Within the BENEDMO consortium, Belgian and Dutch parties are joining forces to create their own EDMO 'hub'.

One of BENEDMO's priorities is to promote media literacy for both the general public and media professionals, such as journalists. This is in conjunction with partners Mediawijs and the Dutch Media Literacy Network. Media literacy encompasses the competencies that enable us to critically, actively, creatively and consciously engage with (digital) media. This includes the competencies required to be resilient to disinformation. By increasing media literacy, the impact of disinformation on society can be reduced. One of the ways BENEDMO achieves this is by strengthening and disseminating the interventions available to increase resilience to disinformation.

There is a large range of media literacy interventions related to disinformation. BENEDMO, in collaboration with EDMO BELUX,[1] identified over 100 Dutch-language interventions from no less than 76 different providers. For this report, an overview has been compiled of Dutch-language materials (lesson packages, games, videos, etc.) that media literacy professionals can incorporate into their programmes on disinformation. These offerings are quantitatively analysed in this report. Subsequently, we assess whether the offerings

[1] Mediawijs is also a partner of the Belgian-Luxembourg hub BELUX. Within the framework of that Belgium-Luxembourg project, Mediawijs collected interventions related to disinformation and news literacy. The Dutch-language results of the BELUX survey were then shared with BENEDMO and incorporated into this study.

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align with the needs of society and the media literacy competencies that the Media Literacy Network and Mediawijs deem necessary to become more resilient to disinformation. This analysis aims to provide insight into the current offerings and explore opportunities to develop new materials or enhance existing ones. This document does not delve into the substantive evaluation of individual interventions by practitioners. For that, please refer to 'Tien interventies, de selectie van BENEDMO' (only available in Dutch).

With this report, BENEDMO aims to contribute to strengthening the offerings available and to the search for the best approach to increase resilience. The BENEDMO consortium can use the outcomes of this analysis for the next phase of the project, in which additional offerings for the Dutch-speaking region will be developed. However, the recommendations are also valuable for developers, educators and policymakers outside the consortium who wish to increase media literacy and resilience to disinformation.

The report is structured into four chapters:

1. Explanation of the terms used
2. Description of the media landscape, educational context and media literacy field, as well as the needs in the Dutch-speaking region
3. Inventory of existing offerings and an analysis of how these align with needs
4. Conclusions and recommendations

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1. Explanation of terms

Before describing the needs in society for resilience to disinformation and inventorying educational programmes, interventions, materials and resources related to disinformation, it is necessary to clarify the terms we use, as there are some variations between the Netherlands and Belgium.

1.1 Definition of disinformation

The terms fake news, disinformation and misinformation have only recently become common and are still sometimes used interchangeably. The BENEDMO hub was established to combat disinformation. As research and materials related to fake news and misinformation may also be relevant in increasing resilience to disinformation, they are included in this report. For the definitions of the three terms 'disinformation, misinformation and malinformation,[2] please refer to the Handbook for Journalism Education and Training (UNESCO, 2018). See Appendix 1 for a detailed discussion of the different terms.

1.2 Definition of resilience to disinformation

At present, there is no operational definition for the concept of 'resilience to disinformation'. This makes it challenging to assess the level of resilience among the Dutch-speaking population. In order to reflect on the needs and offerings available for increasing resilience to disinformation in this report, BENEDMO has formulated the following working definition:

“Individuals who are resilient to disinformation have (1) an awareness of the existence of disinformation and why it occurs, (2) the knowledge to recognise disinformation (to some extent) in terms of content as well as its creation and dissemination, and (3) they possess an action perspective that enables them to effectively respond to disinformation (by both acting based on information skills, such as actively looking for reliable sources, and by acting out of (social) responsibility, such as not further spreading, ignoring, reporting, contradicting, warning others, and more)."

[2] For the definitions of the three terms 'disinformation, misinformation and malinformation, please refer to the Handbook for Journalism Education and Training (UNESCO, 2018). The term 'fake news' is rejected in this handbook. Instead, the following terms are used: misinformation refers to false news that the sender believes to be true, while disinformation involves the sender being fully aware that the message is untrue. The neologism 'malinformation' is used to refer to information that, while accurate, is shared with the sole intention of causing harm to something or someone.

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Further research is required to establish an operational definition. However, the above definition gives us some guidance when analysing the materials available for three aspects: awareness, knowledge and the action perspective. The definition should be seen as a framework, not an endpoint. Moreover, it is good to keep in mind that having the necessary knowledge, skills and an action perspective does not guarantee that individuals are immune to disinformation. Emotions, for example, can sometimes override reason.

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2. Needs of the general public

To strengthen resilience to disinformation, a specific set of competencies is required. In this chapter, we describe what is known from research about the needs in this area for two age groups: young people (0-18 years) and adults (18+). We first briefly compare Flanders and the Netherlands to determine if generalisations can be made. We then delve into what we know about digital literacy, media literacy, news literacy and more specifically (if available) resilience to disinformation in the two age groups. We also look at the indicators that determine whether someone is more or less resilient to disinformation. And we describe the circumstances that play a role in teaching resilience to the age groups. Finally, we provide a list of needs for each age group. This list forms the basis for the analysis where needs and offerings are compared to identify gaps.

For the indicators of resilience to disinformation, we examined the most common media literacy competency models in Belgium and the Netherlands. Based on this, a list of competencies that are similar or seem to overlap with 'resilience to disinformation' was compiled (see Appendix 2). Sometimes, this involves a sub-skill, such as information literacy. Sometimes, it involves overarching competencies like critical skills that can apply to a much wider range of topics than just resilience to disinformation. The concepts of news literacy, media literacy and digital literacy can also be seen as overarching: all three encompass awareness, recognition and the action perspective. When someone possesses a combination of specific sub-competencies or has sufficient competence in an overarching skill such as news literacy, media literacy or digital literacy, it could be argued that they are also more resilient to disinformation.

2.1 Comparison between Flanders and the Netherlands

In Flanders and the Netherlands, research has been conducted in various ways into media literacy-related needs among the population. There are several generic factors that influence these needs, such as age, educational level, low literacy, intellectual disabilities and socioeconomic class, which very likely apply to the populations of both countries. Statements related to these generic factors will be generalised across both countries in this report. We will only mention differences between the two countries when they are significant, such as due to the use of a particular platform. Not all research can be easily combined, partly because the circumstances in Flanders and the Netherlands differ. Two factors that have an influence are media and education. Therefore, it is important to examine the similarities and differences in the media landscapes and the educational context.

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Educational context

How education and the media literacy field are organised in Flanders and the Netherlands is a crucial aspect to consider. In both areas, the government has appointed central organisations to strengthen the field of media literacy. In Flanders, this role is fulfilled by Mediawijs, the Flemish Knowledge Centre for Digital and Media Literacy. They offer training, information, and materials for professionals and volunteers who help residents of Flanders and Brussels actively, creatively, critically, and consciously engage with digital technology and media, thus involving everyone in the digital society.

In the Netherlands, this is the responsibility of the Dutch Media Literacy Network, an initiative committed to making the Netherlands a place where everyone is media literate or working towards it. The network consists of more than 1,000 affiliated organisations and is dedicated to sharing knowledge and fostering collaboration to address important media literacy themes in a more efficient, prompt and creative manner. Five core partners determine the course: Kennisnet, ECP | Platform for the Information Society, Broadcaster HUMAN, Sound & Vision and KB, National Library.

The education in both countries is quite similar, with a high degree of autonomy for teachers and schools to determine how something is taught. A significant difference is that in Flanders, digital competencies are part of the educational objectives[3] and are seen as key competencies that students must acquire to function in society and develop personally. In the Netherlands, however, schools are not obliged in any way to devote attention to digital literacy, media literacy or news literacy.

Furthermore, fields such as youth work and socio-cultural adult work play a role in increasing resilience to disinformation. This is quite similar in both areas, with minor differences. For example, in Flanders, an extensive (subsidised) association life plays a role in making adults media literate, while in the Netherlands, libraries and community work play an important role in this regard.

Media landscape

There are two major differences in the way news media are organised in Belgium and the Netherlands. In Belgium, there is a strong concentration of commercial news publishers that are also active in the Netherlands (with different titles). In the Netherlands, there is a

[3] Zestien sleutelcompetenties. (undated). *Kwalificaties & Curriculum*. Retrieved from: https://www.kwalificatiesencurriculum.be/zestien-sleutelcompetenties

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unique, pluralistic system of public broadcasters united under the NPO, while the public offerings in Flanders are managed by a single broadcaster, namely the VRT. The dominant news brands differ between countries. These have often arisen from a long tradition and have retained their own identity and brand loyalty among the population. For a detailed comparison of media landscapes and news consumption, please refer to Appendix 3.

When we look at the behaviour of the population in consuming news media, we see very few differences (see Appendix 3 for details). Preferences for online versus traditional media (radio, TV, and print), the use of media channels, and the use of devices are largely similar. There is a small difference in the level of trust in news media: in both countries, there is high trust in public media (VRT, NOS). However, in Flanders, the average trust in news media is about 10% lower than in the Netherlands. It is also noteworthy that news consumption on TikTok is on the rise in Belgium, likely due to the strong presence of both HLN and VRT on this media channel.

We can conclude that in addition to the similarities in the Dutch language, the availability of news media, the population's consumption behaviour, the level of trust in news brands and the educational context show so many similarities that a joint analysis is justified. In both countries, there is an infrastructure for increasing media literacy and digital literacy that largely corresponds in many areas. Therefore, when selecting materials as good practice, it can be said that they can be relevant in both countries.

2.2 Age group: Young people (0-18 years)

Among Flemish and Dutch

For young people under the age of 18, leisure time plays a significant role in their media usage. During this time, children and teens create their own worlds, often away from parental and school oversight, either alone or with peers. The influence of their social environment on their media interaction is profound. They connect, socialise and 'playfully' develop both technical and social skills through media.[4,5] Daily engagement with YouTube

[4]Dutch Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf
This report is a summary of 90 studies collected by the Scientific Council of the Dutch Media Literacy Network over the past two years. The Council brings together scientific knowledge on media literacy, determines where the gaps are and identifies what new knowledge is needed.
[5] Mediawijs. (2021). *Medianest Cijfers 2021: Onderzoek in Vlaanderen naar het mediagebruik en de mediawijsheid van 0- tot 18-jarigen en hun ouders*. Retrieved from https://assets.medianest.be/2021-03/medianest_cijfers_2021.pdf

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

and television is common, with usage increasing as they get older. Notably, the largest increases in the Netherlands and Flanders are seen in YouTube and video games. [6,7] Moreover, children are being given their own media devices at younger ages.[8,9]

In 2021, young people often relied on non-traditional sources like social media and search engines for their news.[10] According to recent British research,[11] there is an observable trend where young people are increasingly using TikTok, in particular, as a source of news. They stay informed by watching videos on the platform. In the UK, TikTok is almost becoming the primary news source for children aged between 12 and 15 years.[12] The use of TikTok raises concerns, as social media algorithms dictate what is and isn't seen. This often results in a lack of context for news, and the sheer speed and abundance of information can make it challenging to gauge the reliability and objectivity of the news.[13] However, viewed from a historical perspective, these types of developments have been occurring for several generations. It is primarily the younger generations who turn to new media for their news. This was evident with the advent of television and the internet, and now it is apparent with the 'social media generation'. In both the Netherlands and Belgium, the rise in TikTok's popularity is noteworthy, though it still trails behind the UK.[14] Increasingly, news organisations are aiming to connect with the public through social media. For example, NOS op drie, VICE and Karrewiet (VRT) are utilising platforms like

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[6] Netherlands Youth Institute. (2022, 23 November). *Cijfers over mediagebruik*. Retrieved from: https://www.nji.nl/cijfers/mediagebruik#gebruik-van-sociale-media-door-jongeren

[7] Mediawijs. (2021). *Medianest Cijfers 2021: Onderzoek in Vlaanderen naar het mediagebruik en de mediawijsheid van 0- tot 18-jarigen en hun ouders*. Retrieved from https://assets.medianest.be/2021-03/medianest_cijfers_2021.pdf

[8] Apenstaartjaren. (2022). *De digitale leefwereld van kinderen en jongeren*. Retrieved from: https://www.apestaartjaren.be/

[9] Netherlands Youth Institute. (2022, 23 November). *Cijfers over mediagebruik*. Retrieved from: https://www.nji.nl/cijfers/mediagebruik#gebruik-van-sociale-media-door-jongeren

[10] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[11] Ofcom. (2022). *News Consumption in the UK:* 2022. Retrieved from: https://www.ofcom.org.uk/__data/assets/pdf_file/0027/241947/News-Consumption-in-the-UK-2022-report.pdf

[12] Ofcom. (2022). *News Consumption in the UK:* 2022. Retrieved from: https://www.ofcom.org.uk/__data/assets/pdf_file/0027/241947/News-Consumption-in-the-UK-2022-report.pdf

[13] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[14] Reuters. (2022). *Reuters Institute Digital News Report 2022*. Retrieved from: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2022-06/Digital_News-Report_2022.pdf

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YouTube, Instagram, TikTok and Twitch. Their goal is to render news more accessible to younger audiences by employing innovative storytelling techniques and formats.

When it comes to trusting news media, young people indicate a greater trust in traditional media outlets.[15] They perceive the reliability of news from other sources, especially those accessed through online platforms, as considerably lower. Despite this, a significant number of young people primarily source their information from online news sources and social media platforms.[16]

In the survey, young people were also queried about their primary concerns regarding social media use.[17] Notably, a substantial number of young people reported no worries, stating they neither perceive nor experience any negative aspects of social media. However, those who did express concerns most frequently cited issues such as (cyber)bullying, including specific forms like body shaming, racism, exclusion and 'hate comments and prejudice'. Alongside these concerns, there are also worries about the spread of misinformation and fake news: Notable quotes from participants included concerns about people believing everything they see and misconceptions being formed about what is right and wrong, beautiful or ugly, which may not align with reality.

Young people predominantly turn to their peers for advice and support when encountering online issues and challenges.[18] This trend aligns with findings from earlier

[15] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[16] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[17] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[18] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

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research.[19,20] Peer-to-peer learning plays a crucial role as young people educate each other and develop media literacy, acting as natural role models and sharing their experiences and perspectives. However, this form of learning, often spontaneous, incidental, and unstructured, may lack sufficient challenge and does not typically encourage the acquisition of new skills or knowledge.[21] Furthermore, the absence of media-literate peers in some young people's circles can exacerbate inequalities.

Competencies

Specifically in relation to news literacy, we see that news literacy develops more as young people grow older, are more highly educated and have more experience consuming media and news.[22] Age and educational level tend to be even more influential than media literacy programmes offered in schools.[23] The need for resilience to disinformation is particularly acute among younger children and those with lower levels of education. This is especially relevant for children around 10 years old, as children under 9 tend to be predominantly perceptual in their thinking, focusing mainly on what is visibly apparent to them. At this stage, they might not yet be attuned to subtleties and implicit messages.[24] Numerous studies indicate that young people often overestimate their abilities in engaging (digital) media.[25],[26] This tendency is more pronounced among those who frequently use media and

[19] CHOICE insights + strategy & Mediawijzer.net. (2017). *Vanzelf Mediawijs?: Een verdiepend en toetsend naar hoe jongeren tussen 12 en 15 jaar "vanzelf mediawijs" worden (of niet), en de rol die ouders en docenten hierbij (kunnen) spelen.* Retrieved from: https://www.choice-insights.nl/assets/pdf/cases/rapportage-vanzelf-mediawijs-choice.pdf

[20] Royal Library & Choice Insights + Strategy. (2021). *Publieksrapport Monitor Digitaal Vaardig Gedrag: Online vaardig begint offline.* Retrieved from: https://netwerkmediawijsheid.nl/onderzoek/publieksrapport-monitor-digitaal-vaardig-gedrag-online-vaardig-begint-offline/

[21] CHOICE insights + strategy & Mediawijzer.net. (2017). *Vanzelf Mediawijs?: Een verdiepend en toetsend naar hoe jongeren tussen 12 en 15 jaar "vanzelf mediawijs" worden (of niet), en de rol die ouders en docenten hierbij (kunnen) spelen.* Retrieved from: https://www.choice-insights.nl/assets/pdf/cases/rapportage-vanzelf-mediawijs-choice.pdf

[22] Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

[23] Kleemans, M., & Eggink, G. (2016). Understanding news: the impact of media literacy education on teenagers' news literacy. *Journalism Education*, 5(1), 74-88.

[24] Netherlands Youth Institute. (2022, 23 November). *Cijfers over mediagebruik*. Retrieved from: https://www.nji.nl/cijfers/mediagebruik#gebruik-van-sociale-media-door-jongeren

[25] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[26] CHOICE insights + strategy & Mediawijzer.net. (2017). *Vanzelf Mediawijs?: Een verdiepend en toetsend naar hoe jongeren tussen 12 en 15 jaar "vanzelf mediawijs" worden (of niet), en de rol die ouders en docenten hierbij (kunnen) spelen.* Retrieved from: https://www.choice-insights.nl/assets/pdf/cases/rapportage-vanzelf-mediawijs-choice.pdf

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those with lower educational levels. Such insights cast a different light on the responses from a survey of Amsterdam school students aged 12-15.[27] In this survey, slightly more than half of the young respondents claim they always check multiple sources when seeking information, aiming for a comprehensive and nuanced understanding (56%). A similar proportion believes they can accurately judge the reliability of information (54%). Additionally, 46% feel confident in identifying the purpose of a media message, whether it is to inform, earn money, persuade or entertain. Hence, they consider themselves capable of recognising disinformation. However, real-world applications suggest a different scenario.

Practical tests conducted with young people[28] demonstrate that many students in the Netherlands face challenges in effectively searching the internet and evaluating information. VMBO (pre-vocational secondary education) students exhibit the most difficulty. While they are capable of gathering basic facts, their approach to searching often lacks depth in critical areas such as evaluation, processing and presentation of information. On the other hand, students in HAVO/VWO (higher general continued education and pre-university education) display more diligence in assessing information. They tend to consider various factors, such as the presence of information across multiple websites, the reliability of the source, and the external characteristics of the website.[29]
In the Netherlands, it also seems that young people face considerable challenges in understanding how commercial and political interests influence the media landscape.[30]
For instance, three-quarters of young people fail to recognise when an Instagram post is sponsored or when a photo has been obviously manipulated. 61% of young people are not aware that vloggers on YouTube earn money from the platform's advertising revenue.[31]

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[27] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[28] Monitor Jeugd en Media 2017. (2017). *KnowledgeNet*. Retrieved from: https://www.kennisnet.nl/app/uploads/kennisnet/publicatie/jeugd_media/Kennisnet_Monitor_Jeugd_en_Media_2017.pdf

[29] Monitor Jeugd en Media 2017. (2017). *KnowledgeNet*. Retrieved from: https://www.kennisnet.nl/app/uploads/kennisnet/publicatie/jeugd_media/Kennisnet_Monitor_Jeugd_en_Media_2017.pdf

[30] Kantar Public & Mediawijzer.net. (2018). *De mediawijsheid van jongeren in beeld*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2018/11/Mediawijsheid-jongeren_27-november1.pdf

[31] Kantar Public & Mediawijzer.net. (2018). *De mediawijsheid van jongeren in beeld*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2018/11/Mediawijsheid-jongeren_27-november1.pdf

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Similar experiences have also been noted in Flanders. Research conducted by Artevelde University of Applied Sciences discovered that although Flemish young people are aware of the existence of fake news, one in five cannot exactly describe what fake news means.[32] Recognising fake news also posed a challenge for them: when young people were asked to rate (fake) news articles, only 3% were able to accurately assess whether these articles were true or false.[33]

Artevelde University of Applied Sciences also conducted a survey in 2018 to find out what the knowledge and attitudes of these young people between the ages of 15 and 24 were regarding Facebook as a news source.[34] This study involved interviewing 641 Flemish young people through a survey. The findings indicate that young people primarily rely on personal reasoning, intuition and background knowledge to evaluate the accuracy of online information. Occasionally, they may check the author or assess the quality of a specific article, but conducting a fact-check, such as using Google to confirm the authenticity of news, is rarely practised. Based on these results, it becomes evident that young people, in general, struggle to recognise fake news.

Indicators of vulnerability

One inherent risk lies in young people's tendency to overestimate their own competencies. Young individuals who are 'unconsciously incompetent' will lack the motivation to learn more about media and disinformation.[35]

In young people, being 'media savvy' does not necessarily equate to being media literate. Having above-average usage does not necessarily imply wiser or safer digital media usage compared to those with lower usage. However, it has been demonstrated that frequent and versatile media use does contribute to increased media literacy.[36] This entails a diversity of channels utilised (such as social media, TV, radio/podcasts, etc.), media

[32] Mediawijs. (undated). *Hoe gaan jongeren om met fake news?* Retrieved from: https://www.mediawijs.be/nl/artikels/hoe-gaan-jongeren-om-met-fake-news
[33] Mediawijs. (undated). *Hoe gaan jongeren om met fake news?* Retrieved from: https://www.mediawijs.be/nl/artikels/hoe-gaan-jongeren-om-met-fake-news
[34] Mediawijs. (undated). *Hoe gaan jongeren om met fake news?* Retrieved from: https://www.mediawijs.be/nl/artikels/hoe-gaan-jongeren-om-met-fake-news

[35] CHOICE insights + strategy & Mediawijzer.net. (2017). *Vanzelf Mediawijs?: Een verdiepend en toetsend naar hoe jongeren tussen 12 en 15 jaar "vanzelf mediawijs" worden (of niet), en de rol die ouders en docenten hierbij (kunnen) spelen.* Retrieved from: https://www.choice-insights.nl/assets/pdf/cases/rapportage-vanzelf-mediawijs-choice.pdf
[36] Dutch Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid.* Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

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platforms (including TikTok, Facebook, Twitter, LinkedIn), and types of media content (ranging from news and documentaries to films and TV series). This results in a diverse and challenging media consumption experience, which encourages young people to gain more experience.
However, once young individuals have developed high levels of media and digital literacy, parents and educators cannot simply rest on their laurels. In fact, the 'media literate' are more likely to encounter online content associated with risks, such as disinformation. Effective communication and close engagement with parents, in particular, can help mitigate this risk.[37]

In the Netherlands, the primary target audience for developing media literacy is considered to be individuals with a pre-vocational secondary education ('VMBO') level or lower.[38] However, the challenge with these young individuals is their strong belief in self-sufficiency, which can make them less receptive to media literacy learning initiatives.[39,40] Similar patterns in media literacy are also evident in studies on advertising literacy and news literacy. Age, educational level and experience play pivotal roles in the development of each of these competencies.[41] In both the Netherlands and Flanders, particular attention is directed towards students in BSO (vocational secondary education) and young people in alternative educational pathways outside traditional school systems. Notably, young individuals in BSO, and to a lesser extent, those without higher education, tend to perform less well in assessments of their knowledge regarding fake news, for instance.[42]

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[37] Dutch Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

[38] We are aware of the ongoing debate surrounding the terminology 'higher and lower educated' and acknowledge that using these terms may inadvertently imply a hierarchical distinction, with 'lower' connoting inferiority. Despite the inadequacy of these terms in fully capturing the nuances between these groups, we have opted to employ this terminology within this report. This decision is grounded in the fact that the studies we reference also utilise these terms, and currently, there appears to be no comprehensive alternative terminology available to accurately delineate this distinction.

[39] Dutch Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid.* Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

[40] Monitor Jeugd en Media 2017. (2017). *KnowledgeNet*. Retrieved from: https://www.kennisnet.nl/app/uploads/kennisnet/publicatie/jeugd_media/Kennisnet_Monitor_Jeugd_en_Media_2017.pdf

[41] Dutch Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

[42] Artevelde. (2022) *Nieuwsbarometer*. Retrieved from: https://www.arteveldehogeschool.be/nl/onderzoek-en-samenwerking/onderzoek/communicatie-media-design/jongeren-en-desinformatie

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Learning process and conditions

Even for young individuals who possess a relatively high level of media literacy, it remains crucial to continually develop their digital competencies. This ongoing effort enhances their resilience in the online environment and has a positive impact on their online behaviour. Young people also gain valuable insights from each other. Moreover, they increasingly seek out information, including resources related to digital competencies, on the internet independently. Furthermore, young people who perceive themselves as proficient in specific areas (such as handling negative reactions in an online setting or using their phones effectively) often attribute their competence to learning from their parents or through their school education. However, when it comes to understanding the utility of various tools, young people more frequently state that they learned through hands-on experience (56%), from friends (56%) or from online sources.[43]

So, young people become digitally proficient not only through practical experience but also through conversations, particularly with parents and teachers. Digitally proficient young individuals are more inclined to learn from their parents, partly because these parents appear to be more actively engaged in media education. They are more likely to inspire their children to use media wisely and acquire new knowledge.[44],[45],[46] In this context, initiating the conversation early on is crucial, as primary school-aged children are more receptive to guidance and advice. Additionally, digitally proficient young individuals are more open to such discussions; they are more inclined to seek knowledge on responsible media usage, possess a heightened awareness of their phone usage and are more likely to make efforts to self-regulate. They are better equipped to assess potentially unsafe situations and actively address unpleasant online encounters themselves. This dynamic works both ways: lower digital proficiency leads to reduced online resilience, less

[43] Royal Library & Choice Insights + Strategy. (2021). *Publieksrapport Monitor Digitaal Vaardig Gedrag: Online vaardig begint offline*. Retrieved from: https://netwerkmediawijsheid.nl/onderzoek/publieksrapport-monitor-digitaal-vaardig-gedrag-online-vaardig-begint-offline/

[44] Artevelde. 2021. *Jongeren en fake nieuws: hoe kunnen ouders helpen nepnieuws te herkennen en te kaderen?* Retrieved from: https://www.arteveldehogeschool.be/nl/onderzoek/projecten/jongeren-en-fake-nieuws-hoe-kunnen-ouders-helpen-nepnieuws-te-herkennen-en-te

[45] CHOICE insights + strategy & Mediawijzer.net. (2017). *Vanzelf Mediawijs?: Een verdiepend en toetsend naar hoe jongeren tussen 12 en 15 jaar "vanzelf mediawijs" worden (of niet), en de rol die ouders en docenten hierbij (kunnen) spelen.* Retrieved from: https://www.choice-insights.nl/assets/pdf/cases/rapportage-vanzelf-mediawijs-choice.pdf

[46] Royal Library & Choice Insights + Strategy. (2021). *Publieksrapport Monitor Digitaal Vaardig Gedrag: Online vaardig begint offline*. Retrieved from: https://netwerkmediawijsheid.nl/onderzoek/publieksrapport-monitor-digitaal-vaardig-gedrag-online-vaardig-begint-offline/

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socially responsible online behaviour, and a decreased inclination to seek guidance from adults. In contrast, those who wish to acquire a deeper understanding of media, exhibit heightened awareness of responsible usage, improve their evaluation of potentially risky situations and foster positive online behaviour. Initiating conversations appears to be a potent catalyst for steering this progression in the desired direction.[47]

For instance, concerning their interactions with teachers,[48] digitally proficient youngsters express an interest in discussing topics like identifying and verifying reliable sources, using the internet effectively to achieve their objectives, and recognising fake news. However, young people in the Netherlands also indicate that schools play a minimal role in imparting digital knowledge and skills.[49] This lack of emphasis is unsurprising since media literacy, digital competencies and information skills are not obligatory components of the curriculum in the Netherlands. Similarly, in Flanders, many children and young individuals report that their schools do not address subjects such as social media, online privacy, sexting and digital balance.[50] Young people, therefore, often depend on sporadic learning opportunities provided by schools and their parents or home environment. However, this situation is less than ideal. Sustainable teaching of media literacy, including resilience to disinformation, can only be achieved through a curriculum that encompasses critical thinking, well-defined learning objectives, ample time for practice (both inside and outside the school setting) and capable educators.[51],[52]

In devoting attention to online safety and media literacy, students say their school should pay more attention to topics such as sexuality and the internet, cyberbullying and online crime. There is also a need for more guidance and care in relation to online incidents and

[47] CHOICE insights + strategy & Mediawijzer.net. (2017). *Vanzelf Mediawijs?: Een verdiepend en toetsend naar hoe jongeren tussen 12 en 15 jaar "vanzelf mediawijs" worden (of niet), en de rol die ouders en docenten hierbij (kunnen) spelen.* Retrieved from: https://www.choice-insights.nl/assets/pdf/cases/rapportage-vanzelf-mediawijs-choice.pdf

[48] The term teachers has been chosen for this report as an umbrella term for teachers, tutors and lecturers in the Netherlands and Flanders, in primary, secondary, middle and higher education.

[49] Monitor Jeugd en Media 2017. (2017). *KnowledgeNet*. Retrieved from: https://www.kennisnet.nl/app/uploads/kennisnet/publicatie/jeugd_media/Kennisnet_Monitor_Jeugd_en_Media_2017.pdf

[50] Apenstaartjaren. (2022). *De digitale leefwereld van kinderen en jongeren*. Retrieved from: https://drive.google.com/file/d/11ti4ty5TeJ3Spf7tGu5bQFgXw9VkjUTe/view

[51] Frau-Meigs, D. (2022). How Disinformation Reshaped the Relationship between Journalism and Media and Information Literacy (MIL): Old and New Perspectives Revisited. *Digital Journalism,* 10(5), 912-922.

[52] Dutch Media Literacy Network. (2018). *Effectieve mediawijsheidprogramma's: Inzichten en aandachtspunten voor uitvoerders, ontwikkelaars en onderzoekers*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/2018/06/MW-effectieveinterventies-rapport.pdf

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students want to learn more about how to use the internet safely.[53],[54] The role of the teacher should not be underestimated here: it has been shown, for example, that the more attention their school pays to media literacy topics, the more digital skills children and young people have.[55] Therefore, a digitally proficient teacher who is able to have the conversation in the classroom contributes significantly to making young people more resilient to disinformation.[56]

A recent study focusing on increasing news literacy among young people in the Netherlands aged between 12 and 15 proposes a thorough two-step approach: (A) initially foster intrinsic motivation for news consumption by delivering news that pertains to their interests, thereby encouraging increased engagement with news; (B) subsequently, stimulate the practical application of news literacy by allowing young individuals to experience its significance in their social interactions, particularly with peers, and with topics most relevant to their lives. By implementing such interventions, it becomes possible for young adolescents to develop into more discerning and critical news consumers.[57]

2.3 Target audience: Adults

Media use

Among Flemish and Dutch adults, television continues to be one of the primary sources of information, along with social media and free news websites or apps. Media consumption patterns are largely shaped by age. Older individuals tend to receive news more frequently

[53] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[54] CHOICE insights + strategy & Mediawijzer.net. (2017). *Vanzelf Mediawijs?: Een verdiepend en toetsend naar hoe jongeren tussen 12 en 15 jaar "vanzelf mediawijs" worden (of niet), en de rol die ouders en docenten hierbij (kunnen) spelen.* Retrieved from: https://www.choice-insights.nl/assets/pdf/cases/rapportage-vanzelf-mediawijs-choice.pdf

[55] Apenstaartjaren. (2022). *De digitale leefwereld van kinderen en jongeren*. Retrieved from: https://drive.google.com/file/d/11ti4ty5TeJ3Spf7tGu5bQFgXw9VkjUTe/view

[56] NHL Stenden University of Applied Sciences. (2021). *Cyberwijs!?: Een onderzoek naar online gedrag, online incidenten en online wijsheid onder Amsterdamse scholieren.* Retrieved from: https://www.nhlstenden.com/onderzoek/cybersafety/projecten/pilot-inventarisatie-online-problemen-jongeren

[57] Kleemans, M., & Eggink, G. (2016). Understanding news: the impact of media literacy education on teenagers' news literacy. *Journalism Education,* 5(1), 74-88.

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through television and printed newspapers or magazines, whereas young adults are more inclined to access it through social media.[58],[59]

In 2021, nine out of ten young adults in the Netherlands aged 18 to 24 used social media for news consumption, in contrast to less than half of the oldest target audience. Among young adults, a significant majority actively engage with news by sharing or commenting on it, a behaviour far more prevalent than in older age groups.[60] Approximately 38% of young adults frequently employ search engines to access news websites or find news articles. Additionally, news aggregator platforms like Blendle are quite popular among young adults, with over half of them utilising such services. Notably, podcasts have seen growing popularity among young adults, with the percentage of monthly users increasing from 40% to 66% in recent years.[61]

The emergence of the coronavirus and its associated measures has had a significant impact on our society, including changes in media consumption. There was an increase in media usage, primarily because people spent more time at home. People also turned to a variety of news media brands to stay well-informed, with a particular emphasis on digital channels. However, the question arises as to whether these changes are permanent, as the Netherlands is already showing initial signs of returning to pre-COVID levels.[62] Among older age groups, interest in news has returned to 2020 levels, but the percentage of 18 to 24-year-olds who were 'very interested' in the news has decreased from 51% in 2020 to 39% in 2022.[63]

Messages from trade journals, traditional media, and government sources are the most trusted, while messages from social media and acquaintances on the internet are the least trusted. Age appears to have little to no significant impact on trust levels; however, education level does. Highly educated individuals tend to have relatively higher trust in

[58] Media monitor [Dutch Media Authority]. (2021). *Digital News Report 2021*. Retrieved from: https://www.mediamonitor.nl/digitalnewsreport/digitalnewsreport2021/
[59] imec.digimeter. (2021). *Digitale trends in Vlaanderen*. Retrieved from https://www.imec.be/sites/default/files/2022-05/IMEC-Digimeter-2021.pdf
[60] Media monitor [Dutch Media Authority]. (2021). *Digital News Report 2021*. Retrieved from: https://www.mediamonitor.nl/digitalnewsreport/digitalnewsreport2021/
[61] Media monitor [Dutch Media Authority]. (2021). *Digital News Report 2021*. Retrieved from: https://www.mediamonitor.nl/digitalnewsreport/digitalnewsreport2021/

[62] Media monitor [Dutch Media Authority]. (2022). *Digital News Report 2021*. Retrieved from: https://www.mediamonitor.nl/wp-content/uploads/Digital-News-Report-Nederland-2022.pdf
[63] Media monitor [Dutch Media Authority]. (2022). *Digital News Report 2021.* Retrieved from: https://www.mediamonitor.nl/wp-content/uploads/Digital-News-Report-Nederland-2022.pdf

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sources such as LinkedIn and Twitter, while being less trusting of posts on Facebook and YouTube.[64]

Almost all Dutch people believe that disinformation is prevalent, particularly among the highly educated and those aged 18 to 29. Generally, they consider it as 'news that is not true'. The Dutch are of the opinion that the impact of disinformation is significant on a variety of topics, from COVID-19 and climate issues to societal unrest. The exception to this is sports. Consequently, disinformation is a source of concern, especially among individuals aged 50 and above, who express relatively high levels of concern about its spread.[65]

In Flanders as well, the number of individuals concerned about the impact of disinformation is rising. According to the IMEC Digimeter survey conducted in 2021, 74% of respondents expressed concern about the impact of fake news on society, compared to 70% in 2020. Furthermore, 52% mentioned that they occasionally verify the reliability of a news article, as opposed to 48% in the previous year.

Competencies

The extensive consumption of both traditional and online media for news and information[66] suggests a well-informed population. In fact, 79% of Dutch citizens and 54% of Belgians possess fundamental digital skills, surpassing the European average of 54% (Eurostat/DESI 2022). However, it is noteworthy that while the Dutch statistics are promising, there is still a segment comprising 20% of the Dutch population, equating to approximately 5.2 million individuals, who do not possess sufficient digital proficiency and media literacy.[67]

[64] No Ties & Dutch Media Literacy Network. (2021). *Nepnieuws*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2021/03/Nepnieuws-onderzoeksrapport-2021-Netwerk-Mediawijsheid.pdf

[65] No Ties & Dutch Media Literacy Network. (2021). *Nepnieuws*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2021/03/Nepnieuws-onderzoeksrapport-2021-Netwerk-Mediawijsheid.pdf

[66] Schaper, J.C., A.M. Wennekers and J. de Haan (2019). *Media:Tijd – doel, relevantie en achtergrond. In: Trends in Media:Tijd*. Retrieved from: https://digitaal.scp.nl/trends-in-mediatijd/mediatijd-doel-relevantie-en-achtergrond.

[67] Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid.* Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

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There is a clear correlation between the age of the adult population and the extent to which digital skills are mastered.[68] When delving into the realms of strategic information skills and critical information skills - both of paramount importance for enhancing resilience to disinformation - it becomes evident that these competencies exhibit a gradual decline with advancing age.[69] Older individuals often encounter greater difficulty in locating online information and critically assessing its reliability. Knowledge concerning online information is also less prevalent among older individuals compared to their younger counterparts. For instance, a notable proportion of older individuals tend to hold the belief that everyone receives identical information when conducting online searches and that the initial search result invariably represents the most reliable source of information, a perception less common among younger individuals. Additionally, 14% of older individuals are unaware that some individuals profit from disseminating fake news, while 11% of young people lack this knowledge.[70]

When it pertains specifically to disinformation, a significant number of Dutch individuals appear to overestimate their ability to identify fake news. They believe they can identify fakes new on their own but have doubts about the abilities of others.[71] This difference in perception is more pronounced among highly educated individuals and those aged 18 to 29. In Flanders, 55% of individuals admit to occasionally believing a message that later proved to be false.[72]
In the Netherlands, when receiving information, the majority of people first consider the sender of the message and then assess the source of the message's publication.[73] However, this pattern varies by age and level of education: older and less educated individuals tend to prioritise the sender, while younger and more educated individuals are more inclined to scrutinise the source of publication. In Flanders, when in doubt as to

[68] Directorate of Information Society and Government (DI&O) [Ministry of the Interior and Kingdom Relations]. (2019). *Digitale inclusie: Een onderzoek naar digitale vaardigheden en behoefte aan ondersteuning.* Retrieved from: https://www.digitaleoverheid.nl/wp-content/uploads/sites/8/2019/05/bzk-pb-digitale-inclusie-onderzoek.pdf

[69] A de Vries, D. A., Piotrowski, J. T., & de Vreese, C. H. (2022). *Resultaten onderzoek digitale competenties (DIGCOM) mei 2022.* Amsterdam School of Communication Research (ASCoR), University of Amsterdam.

[70] de Vries, D. A., Piotrowski, J. T., & de Vreese, C. H. (2022). *Resultaten onderzoek digitale competenties (DIGCOM) mei 2022.* Amsterdam School of Communication Research (ASCoR), University of Amsterdam.

[71] No Ties & Dutch Media Literacy Network. (2021). *Nepnieuws*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2021/03/Nepnieuws-onderzoeksrapport-2021-Netwerk-Mediawijsheid.pdf

[72]

[73] No Ties & Dutch Media Literacy Network. (2021). *Nepnieuws*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2021/03/Nepnieuws-onderzoeksrapport-2021-Netwerk-Mediawijsheid.pdf

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

whether a report is accurate, the most common practices include checking if the report is also echoed by other news sources and whether a fact-check exists about the report. This is more prevalent among older people than younger individuals, who are more likely to check with acquaintances whether a report is accurate.[74]

Indicators of vulnerability

Just like with young people, age, educational level and overestimation play a determining role in adults. However, there are additional indicators of vulnerability that can contribute to reduced resilience to disinformation. A relatively higher proportion of individuals with lower incomes, and to a lesser extent women and individuals with lower motivation, have access to less advanced internet equipment and use the internet more restrictively.[75]

Two distinct groups of people can be identified as particularly vulnerable:[76]

- (Young) adults with a (mild) intellectual disability - in the Netherlands and Flanders, there is a large group of people with an IQ of lower than 90 (approximately 1 million in the Netherlands). A significant portion of this group, often with an IQ of above 50, actively participates in the internet like any other (young) adult and derives great enjoyment from it. However, this demographic is especially vulnerable to disinformation due to their comparatively lower cognitive and social skills.[77],[78]
- Individuals who are particularly vulnerable due to compounded challenges.[79] According to the SCP (Social and Cultural Planning Office), vulnerability is evident among those who belong to low-income households, have limited educational backgrounds, are unemployed, or face poor health. This vulnerability is not

[74] VRT Studiedienst. (2021). *Desinformatie in Vlaanderen*. Retrieved from: https://www.vrt.be/content/dam/vrtnieuws/bestanden/Desinformatie%202021%20(external%20communication)%20(2).pdf

[75] Dutch Media Literacy Network. (2020). *Tien jaar onderzoek Mediawijsheid*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

[76] Plantinga, S., & Kaal, M. (2018). *Hoe mediawijs is Nederland?. Mediawijzer. Kantar Public*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2018/09/Rapport-Mediawijsheid-volwassenen-2018.pdf

[77] Plantinga, S., & Kaal, M. (2018). *Hoe mediawijs is Nederland?. Mediawijzer. Kantar Public.* Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2018/09/Rapport-Mediawijsheid-volwassenen-2018.pdf

[78] Netherlands Youth Institute. (2007). *Media en kinderen met een LVB: Een analyse van wat er al is en wat nog nodig is om kinderen met een LVB te includeren bij mediawijsheid*. Retrieved from: https://www.nji.nl/sites/default/files/2021-06/Brochure-Media-en-kinderen-met-een-LVB.pdf

[79] Movisie. (2018). *Vloek en zegen: Mediawijzer in het sociaal domein*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2018/09/Vloek-en-zegen-Mediawijzer-in-sociaal-domein-2018.pdf

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randomly distributed within the population. Groups at a higher risk of experiencing vulnerability and the compounding of vulnerable circumstances include single-parent families (43%), non-Western migrants (42%) and households residing in deprived neighbourhoods (41%).[80]

Learning process and conditions: adults

More than half of Dutch adults express the need for greater knowledge in recognising fake news. The highest level of interest lies in the ability to distinguish between real and fake information and gain a clear understanding of what constitutes fake news. However, individuals with lower levels of education are less inclined to seek knowledge on discerning the authenticity of information compared to those with middle or higher levels of education. In the 18 to 29 age group, there is a notable interest in understanding how algorithms work on social media platforms, surpassing other age groups.[81] Additionally, there is a discernible demand for increased awareness about fake news among Flemish parents. Nearly a third of parents express uncertainty about their own grasp of fake news, with 11% admitting they lack sufficient knowledge on the subject to educate their children about it.[82]

Adults in the Netherlands and Flanders believe that not only themselves but also many parties have a responsibility in countering disinformation. In this, the media, government, social media platforms and education are given a similarly large role. Adults say they think it is important that newspapers and other media outlets check whether a report is true, that a trusted party indicates whether something is fake news, and that fake news is

[80] Dutch Media Literacy Network. (2020). T*ien jaar onderzoek Mediawijsheid.* Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2020/12/Rapport-Tien-jaar-onderzoek-Mediawijsheid.pdf

[81] No Ties & Dutch Media Literacy Network. (2021). *Nepnieuws*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2021/03/Nepnieuws-onderzoeksrapport-2021-Netwerk-Mediawijsheid.pdf

[82] Artevelde. 2021. *Jongeren en fake nieuws: hoe kunnen ouders helpen nepnieuws te herkennen en te kaderen?* Retrieved from: https://www.arteveldehogeschool.be/nl/onderzoek/projecten/jongeren-en-fake-nieuws-hoe-kunnen-ouders-helpen-nepnieuws-te-herkennen-en-te

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addressed in education. They see a shared responsibility.[83],[84] All of this suggests that a comprehensive approach involving multiple parties is seen as important and can be motivating.

Adults primarily acquire knowledge by conducting independent research, watching television or seeking guidance from others. Concerning adult education, including workshops and training courses, there is an increasing understanding of how adults learn and attain new skills. Adults typically undergo a three-stage learning process when acquiring and subsequently applying new competencies (Gottfredson and Mosher 2015, Learning Solutions Magazine). The first phase (train) involves the intervention of learning new competencies: a workshop, series of lessons, etc. In the period thereafter, some of the knowledge and skills acquired will sink in, provided they can be actively practised and the competencies acquired applied. In this phase (transfer), a person builds confidence that the competencies are mastered by them. In the third phase (sustain), support is required for moments when certain information has faded from memory, prompting individuals to wonder, 'How was it again?' This support can take various forms, including FAQs on a website, a keyword card, a comprehensive reference book or having someone in their professional or informal network to turn to for assistance. Mosher's model underscores the significance of all three phases when crafting learning materials, with particular attention given to the moment when individuals absorb information. For instance, during the third stage, if someone seeks to quickly retrieve information, it should be readily available in an easily accessible format.

Jennings' 70:20:10 model complements the learning process by emphasising the importance of not only formal learning (accounting for 10% of work) and learning by doing (constituting 70% of work) but also interaction with others, comprising approximately 20% of work. This is supported by the practice of teaching computer skills, as observed in the Netherlands through initiatives like SeniorWeb and library programmes. It reaffirms that group learning is notably more effective than individual learning and introduces a valuable social dimension. In Flanders, it is evident that a supportive environment, such as social cultural work and community initiatives, can significantly contribute to increasing resilience to disinformation. The process of learning about disinformation can also be

[83] No Ties & Dutch Media Literacy Network. (2021). *Nepnieuws*. Retrieved from: https://netwerkmediawijsheid.nl/wp-content/uploads/sites/6/2021/03/Nepnieuws-onderzoeksrapport-2021-Netwerk-Mediawijsheid.pdf

[84] Artevelde. 2021. *Jongeren en fake nieuws: hoe kunnen ouders helpen nepnieuws te herkennen en te kaderen?* Retrieved from: https://www.arteveldehogeschool.be/nl/onderzoek/projecten/jongeren-en-fake-nieuws-hoe-kunnen-ouders-helpen-nepnieuws-te-herkennen-en-te

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

enjoyable and group gatherings hold value in promoting social cohesion within neighbourhoods while addressing issues of loneliness.

In practice, the emphasis is often placed heavily on formal learning during phase 1, while phases 2 and 3 receive inadequate support in many educational programmes. This can result in acquired competencies having limited retention.

2.4 Conclusions on the needs of the population in Belgium and the Netherlands

Summary of the needs of young people (0-18 years)

The analysis of existing and recent research, which aimed to identify the requirements for young people to become more resilient to disinformation (for a detailed analysis, please refer to the appendix), has led to the following conclusions:

- Competencies that young people often lack include:
  - Media literacy:
    - Recognising commercial and political interests in shaping the media landscape
    - Recognising image manipulation
    - Recognising sponsored content
    - Information skills:
      - Evaluating, processing and presenting information
      - Triangulation: distinguishing reliable sources and consulting multiple sources
- Indicators of vulnerability in young people include:
  - Overestimation of own abilities
  - Younger age
  - Lower level of education
  - Limited variation in media consumption, including channels, platforms and content
  - Excessive media usage, particularly if it leans toward a single dimension
- Factors that facilitate the learning process for young people include:
  - Support from an organised and structural peer network
  - The ability to have constructive conversations with parents and teachers, preferably from an early age
  - Effective and well-grounded teaching with a focus on news literacy in schools, along with suitable teaching materials to support educators in this regard

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Summary of the needs of adults

The analysis of existing and recent research aimed at identifying the needs of adults in becoming resilient to disinformation leads to the following findings:

- Competencies that adults often lack include:
  - They older they become, the more they struggle more with finding information online, critically evaluating online content and understanding online information
  - Recognising disinformation on social media
  - More knowledge about how algorithms work on social media platforms (18 to 29 years old)
  - Recognising fake news
- Factors that contribute to these challenges:
  - Overestimation of own abilities
  - Higher age
  - Lower level of education
  - Intellectual disability
  - Accumulated issues
- What aids adults in the learning process:
  - Practice and practical application
  - Access to reference materials
  - Interaction with others
  - Supportive immediate surroundings
  - Societal stakeholders taking responsibility, including media, media platforms, education and government

Based on the research collected for the under 18 and over 18 age groups, the following table has been compiled.

Age group	**Competencies that can be improved**	**Indicators of vulnerability**	**Learning process**
0-18 years	Assessing, processing and presenting information, as well as triangulation Recognising	Overestimation of own abilities Younger age (10 is youngest age) Lower level of education	Help from peers Good conversation parents/teachers Well-organised

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Age group	Competencies that can be improved	Indicators of vulnerability	Learning process
	commercial and political interests in shaping the media landscape, detecting image manipulation and recognising sponsored content	One-sided media menu Excessive media use	education
18+	They older they become, the more they struggle more with finding information online, critically evaluating online content and understanding online information Knowledge and recognising disinformation on social media, gaining a deeper understanding of how algorithms work (18 to 29 years)	Overestimation of own abilities Higher age (55+) Lower level of education Intellectual disability Accumulated issues	Well-organised learning process Support from immediate surroundings Parties in society who also take responsibility

Returning to the previously established working definition (as outlined below), it becomes evident that there are still areas for improvement among both young people and adults, particularly in relation to knowledge and the action perspective. The studies we have reviewed indicate that when individuals harbour doubts about the veracity of information, their actions primarily revolve around fact-checking through reliable sources. However, there is a noticeable absence of research regarding a more socially-oriented action perspective, such as engaging in discussions, reporting or refraining from sharing information. This gap could stem from researchers not considering these actions as integral to 'resilience to disinformation,' or it may simply necessitate further investigation.

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Individuals who are resilient to disinformation have (1) an awareness of the existence of disinformation and why it occurs, (2) the knowledge to recognise disinformation to some extent in terms of both content recognition and how it is produced and disseminated, and (3) an action perspective that enables them to respond effectively to disinformation, both by acting based on information skills, including actively seeking reliable sources and acting from a sense of social responsibility, including refraining from dissemination, disregarding, reporting, engaging in discussions, warning others, and so forth."

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3. Analysis of the offerings

There is a wide array of media literacy interventions that address disinformation, with BENEDMO identifying over 100 Dutch-language interventions from 76 different providers. The applicability of these interventions in a professional context varies. This chapter provides an overview of Dutch-language materials, including lesson packages, games and videos, that media literacy professionals can incorporate into their disinformation programmes. This supply is analysed quantitatively, and its alignment with the identified needs for improving resilience to disinformation is assessed. For an in-depth content evaluation of individual interventions by practitioners, please refer to 'Ten interventions, BENEDMO's selection.'

3.1 Selection process

BENEDMO aims to gain insight into workable Dutch-language interventions that empower the public against disinformation. The selection process involved several steps to narrow down the full range of interventions to those that are most suitable for professionals, such as those in education, libraries or youth work.

Figure 1: The steps taken to arrive at a selection of interventions related to disinformation.

The database of media literacy interventions that served as the foundation for the shortlist was compiled by two parties, each adopting slightly different approaches. Mediawijs collected the Flemish interventions, while the Dutch Media Literacy Network and Sound & Vision collected the Dutch interventions. Ideally, a common delineation and approach for Dutch and Flemish data collection should have been established at the outset of the survey. However, due to various circumstances and collaborations, this proved too complex and did not occur.

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While there was a significant overlap in the data, there were also some Flemish and Dutch elements that could not be directly compared or analysed. For instance, the Dutch database includes workshops that are not present in the Flemish one, and the Flemish database includes news literacy initiatives that are absent in the Dutch database. Nevertheless, the two databases were consolidated into a single dataset. In the following sections, we will elucidate the approach employed for data collection, the measures taken to harmonise the database and the ultimate selection process.

Step 1: Collection of interventions

Target audience:

Mediawijs specifically sought educational materials tailored to the Flemish context, intended for use by teachers, instructional staff and librarians. In the Netherlands, the search encompassed interventions targeting various audiences, including educational settings and other dissemination channels.

Call:

Both the Flemish partner Mediawijs and the Dutch partner Dutch Media Literacy Network issued calls within their respective networks to solicit contributions for the database. However, in both regions, these calls yielded limited responses.

Search method:

In the collection of Flemish interventions, KlasCement, a peer-to-peer platform where teachers, educators and lecturers share recommendations for effective teaching materials, played a key role. For Dutch data collection, the starting point was the SMILES database, part of a European educational project focused on empowering young people against disinformation. This project had previously conducted a similar survey aimed at young people. Further cases were identified through Google searches.

Delineation:

For Flemish interventions, searches were conducted using the terms "disinformation," "misinformation," "fake news," "news literacy" and "information literacy." Preference was given to readily usable materials like lesson packages and videos, and thus not to workshops. In the case of Dutch interventions, searches focused on the terms “disinformation” and "fake news." The database encompasses all types of interventions, including workshops and materials.

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Step 2: Application of criteria

Mediawijs established some criteria that served as an indication of the usability of the interventions. These were applied to both the Flemish and Dutch cases. These are the criteria. The material is:

- **Free:** the material is accessible without requiring payment, though some may require a special login. This ensures that financial resources do not limit access to educational learning materials.
- **Easily deployable**: the material is immediately usable, with clear instructions, and should not require extensive training.
- **Recognisable to the target audience**: topics and definitions are presented in an understandable and accessible manner, using visuals or case studies that align with the intended target audience's perspective.
- **Usable in various settings**: the material is usable in schools, during one-on-one counselling and in youth work.
- **Adaptable to the user's context** (e.g. by teacher, youth worker, librarian): For teaching materials and posters, a Creative Commons licence is essential. Videos are shareable.
- **Timeless**: the intervention is not tied to a specific event, like the COVID-19 pandemic, although such cases can be provided as examples. This criterion ensures that the material can serve as good practice over the long term.

Step 3: Bridging the differences between Dutch and Flemish data collection

To standardise the data collected from both Dutch and Flemish sources and bridge the differences in their approaches, several steps were taken:

- Workshops were excluded from the list since none of them met the criteria.
- Cases related to "news literacy" and "information literacy" that did not specifically address disinformation were removed to align the themes.
- The decision was made to keep the Flemish target audience focused on educational interventions, as this was in line with Mediawijs' role in BELUX. It was found that there is very little material specifically developed for non-educational channels, with only one case in the Netherlands targeting parents. Thus, this choice was unlikely to have a significant impact.

Step 4: Content review

After completing steps 1 to 3, we now have a selection of 26 materials related to disinformation that meet all the established criteria. These materials are highly practical for use in disinformation programmes.

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3.2 Analysis of the results

Following the aforementioned process, 26 cases remain for further analysis. For the selection of the data fields, an arrangement was chosen that reflects both the nature and the purpose of the interventions. These data fields were chosen in collaboration with SMILES and Mediawijs:

Table 1: Data fields

1. Provider
2. Intervention/programme
3. Type of organisation
4. URL
5. Description
6. Copyright
7. Year
8. Region
9. Type of mate
10. Method
11. Target
12. Use
13. Learning objectives

Type of material, target audience and use

When examining the data fields, several things can be observed. The majority of the materials are in the form of lesson packages, as shown in Table 2 below. Additionally, there are posters (5), online games (3), videos (4) and websites (2). One case is classified as a combination because it incorporates film, lesson packages and games in an equally significant manner: 'De club van lelijke kinderen' ['The club of ugly children'] by J.E.F. This material is suitable for primary school children, who can use it both independently and under supervision. Following the film screening, students can engage in various interactive challenges on a website, covering topics such as fake news. Moreover, a teaching folder is provided for educators and the material can be complemented with a workshop to accompany the film.

In the process of categorising material types for each intervention, our goal was to assign a single type to each case. For instance, the game Bad News Game by DROG is accessed through a website, but given its primary nature as a game, it is classified as such. In some instances, materials may encompass a combination of formats. Take, for example, the website isdatechtzo.nl, which also provides videos and a checklist. However, it is primarily classified as a website. In this context, a website is considered a repository of information,

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where information and various kinds of materials are bundled.

Table 2: Type of material

Type of material	Number
Poster/checklist	5
Combination	1
Lesson (package)	11
Game	3
Video/film	4
Website	2

The materials were chosen for their usability in various settings, including educational contexts. The majority of these materials target adolescents and secondary education students (14), as shown in Table 3 below.[85] There is a relatively smaller representation of materials aimed at primary school children and parents. This discrepancy can be explained by the fact that children under the age of 10 may not possess the necessary skills to effectively recognise fake news, as discussed previously.

Seven materials are designed to reach a relatively wide audience: 'general public' (5) or 'children and young people' (2). Two cases show that creators adapted their material to suit a specific target audience. For example, the Medialogica episode '*Journalistiek in crisistijd*' [Journalism in times of crisis] is for the general public but was adapted for children (via Schooltv). DROG's 'Slecht Nieuws' [Bad News] game has also been developed in a variant for both young people and children. The first version of Slecht Nieuws was developed for audiences as young as 15. Later, the junior game was developed for use in primary schools from the age of 8. It is shorter in running time than the original version and with an emphasis on themes that better suit the target audience.

[85] In this analysis, we did not differentiate between specific educational levels, mainly due to the differences in the education systems between Belgium and the Netherlands. A substantial portion of the offerings aimed at young people (5 materials) is provided by Practoraat Mediawijsheid, which primarily focuses on MBO (intermediate vocational education) in the Netherlands.

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Table 3: Target audience

Target audience	Number
Wide audience	5
Young people	14
Children	4
Children and young people	2
Parents	1

The materials created for the general public and parents predominantly comprise websites and posters/checklists, with the exception of one video for the general public (see Table 4). In contrast, materials intended for young people are more frequently in the form of games, videos and lesson packages. There are no materials primarily characterised as websites specifically aimed at children or young people.

The table below illustrates the learning objectives achieved with the different types of materials. Checklists are primarily used to raise awareness and verify information, while games are more frequently employed to increase awareness of the existence and knowledge of strategies, mechanisms and techniques.

Table 4: Type of material and expected learning objectives

	Awareness that it exists	Understanding of causes and/or impact	Knowledge of strategies, mechanisms and techniques	Verification of information	Reflection (discussing it)
Poster/ checklist	3	0	0	5	1
Combination	0	0	0	0	0
Lesson (plan)	10	7	8	7	9
Game	3	1	3	1	0
Video/film	4	4	3	0	1
Website	2	2	2	2	0
Final total	**22**	**14**	**16**	**15**	**11**

Most materials for children and young people can be used under supervision, while most materials for the general public independently. There are four materials for young people (children or adolescents) that allow for multiple uses: both independent and supervised.

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Methods

Within the selected materials, three methods can be distinguished:

1. Debunking: focused on teaching methods for independently verifying (dis)information.
2. Prebunking: aimed at recognising and understanding the underlying strategies, mechanisms and techniques of disinformation by examining it in advance.
3. Triangulation: emphasises the use of multiple sources to debunk disinformation and fake news.

Debunking (16) and prebunking (16) are almost equally common, with triangulation being used 12 times (see Table 5). Ten materials combine two methods. The remaining 12 materials primarily focus on one method, with 6 of them exclusively focused on debunking, 5 solely on prebunking, and only 1 case exclusively centred around triangulation.

Four materials incorporate all three methods. These include the lesson packages Edubox Nepnieuws (VRT), Fake News: What's in a Name? (Mediawijs) and Journalism as a weapon against disinformation and fake news (NDP News Media), all of which are designed for young people. Additionally, the website Isdatechtzo.nl (Dutch Media Literacy Network), intended for a wide audience, also incorporates all three methods.

Table 5: Methods

Debunking	16
Prebunking	16
Triangulation	12

Learning objectives

In addition, learning objectives (or expected effects) were identified. These include either previously described learning objectives by the creators of materials or learning objectives identified by us in the materials but not explicitly mentioned in the accompanying (web) text. This allows us to assess whether the materials increase resilience to disinformation.

As previously defined, resilience encompasses: *an awareness of the existence and reasons behind disinformation, the knowledge to recognise disinformation to some extent (both in terms of its content and the methods of its creation and dissemination), and the ability to respond competently to disinformation through an informed action perspective.*

The following learning objectives were taken as a starting point:

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1. Awareness of the existence of disinformation (consciousness).
2. Understanding of causes and/or impact (awareness).
3. Knowledge of strategies, mechanisms and techniques (knowledge).
4. Verification of information (knowledge).
5. Development of an action perspective (action perspective).
6. Reflection and/or discussion (action perspective).

Appendix 4 provides further details regarding the circumstances under which the materials align with these learning objectives.

Most materials address the awareness that disinformation exists (22), as shown in Table 6 below. They also cover strategies, mechanisms and techniques (16), the verification of information (15)2, and the causes and/or impact of disinformation. However, in the available materials specifically targeting children (4 materials), there is no focus on the verification of information.

Less attention is given to reflection (10) and offering the action perspective (5). Consequently, the action perspective, which enables individuals to respond competently to disinformation, is underrepresented in many materials. This pertains, for instance, to tips that are provided on how to act once it is established that the information is disinformation, such as not spreading it, reporting it and warning others. It also involves providing specific questions and tips to encourage reflection on disinformation or to facilitate dialogue.

There are two cases that satisfy all the learning objectives:

The Edubox Nepnieuws [Edubox Fake News] from VRT. This lesson package, designed for secondary school students, is intended for use under supervision. It provides students with tips and exercises for assessing information. Through concise videos, journalists demonstrate their methods for verifying information and footage in the newsroom. Additionally, under the guidance of a teacher, students engage in discussions about current issues. The EDUbox teaches students critical thinking and raises awareness about fake news, but also focuses on information handling, media literacy, online resilience and respect. It employs methods such as debunking, prebunking and triangulation.

What's new, developed by Mediawijs and Kazerne Dossin. With this lesson package, young people learn to recognise conspiracy theories, misleading information and propaganda. Critical questions are used to scrutinise historical examples of propaganda and conspiracy

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theories. These examples provide insight into the underlying mechanisms in place both in the past and today to mislead people. Young people also learn how to find out the reliability of information sources. The lesson package can be used in the classroom or during a museum visit with the interactive What's-New-App, in which students are shown around Kazerne Dossin in small groups. They learn more about the influence misleading information had on the genocide during World War II.

Table 6: Methods

Target audience	**Awareness that it exists**	**Understanding of causes and/or impact**	**Knowledge of strategies, mechanisms and techniques**	**Verification of information**	**Action perspective (not sharing)**	**Reflection (discussing it)**
Wide audience	4	3	3	4	1	0
Young people	14	10	10	8	3	9
Children	2	1	3	0	1	1
Children and young people	1	0	0	2	1	0
Parents	1	0	0	1	0	1
Final total	**22**	**14**	**16**	**15**	**6**	**11**

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

4 Conclusions

4.1 In conclusion

The analysis of the media landscape shows that the news consumption of the Dutch and Flemish populations has changed rapidly in recent years, influenced by digitalisation and social media. This applies to the population as a whole, but in particular for the younger target audience, who in recent years have come to consume and appreciate news in a way that is distinctly different from the older generations.

Growing need for resilience

The public's need for enhanced resilience in terms of awareness, knowledge and an action perspective regarding disinformation is growing. This is partly fuelled by concerns raised by the government, which underscore the potential detrimental effects of disinformation on our democratic system. This is partly due to the experiences of citizens themselves, who encounter fake news in work or personal situations related to topics such as 5G radiation, climate change or COVID. Furthermore, people are often unaware of the role disinformation plays in fostering a sense of growing unrest and polarisation in society. As a result, they are unable to defend themselves effectively against it.
In addressing disinformation, both citizens and the government acknowledge that multiple parties play a role. These include not only the government and citizens themselves but also media platforms, legal and regulatory authorities, and news creators and channels. Concerning the role of citizens, the primary focus is on increasing the resilience of young people, as this has a preventative effect, and supporting those who, for various reasons, are especially vulnerable to the influence of disinformation.

Materials do not sufficiently meet the needs of the target audiences

The offerings that satisfy the criteria – being easily deployable, recognisable, usable in various settings, customisable, free and timeless – are fairly limited. While they show some differentiation based on target audiences, there is hardly any consideration for specific needs. For example, in relation to indicators that suggest increased vulnerability.

There are well-organised materials for MBO in the Netherlands, accessible through the platform mbomediawijs.nl. Additionally, there is a particularly wide range of suitable offerings for young people. However, there are limited materials available for children and parents. Materials aimed specifically at teachers are completely lacking, as are resources for target audiences such as special education, individuals with learning and intellectual disabilities, and those with low literacy levels.

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Alignment with the target audience young people under the age of 18

As became evident previously, the key media literacy competencies that young people under 18 often lack include information skills (such as assessing, processing and presenting information, and triangulation) and the ability to discern commercial and political interests, recognise image manipulation, and identify sponsored content. In the offerings available for young people, we observe that only 10 out of the 20 materials focus on verifying information and only 8 materials emphasise the importance of triangulation. As a result, the available materials do not sufficiently meet the needs of the target audience. We do observe a significant emphasis on media literacy for this target audience, particularly through a focus on knowledge of strategies, mechanisms and techniques.

What aids young people in their learning process is the ability to have meaningful conversations with parents and teachers, ideally from a young age. Less than half of the materials aimed at children and young people focus on reflecting on and discussing disinformation. For children, this is true for only one material, even though such engagement should be encouraged from an early age. It is important to note here that the materials have been selected for their timelessness. Many teachers initiate discussions based on current events, which may lead them to opt for different materials.

In addition, a well-founded education with systematic focus in schools is essential, alongside effective teaching and learning materials in the area of news literacy to adequately support teachers in this endeavour. In the Netherlands, there is currently no structural focus on this in schools, as digital literacy is not yet a part of the compulsory curriculum. In Flanders, on the other hand, it is. However, there is a complete absence of materials aimed specifically at teachers as the end target audience, as well as a lack of resources for target audiences such as special education. Notably, based on the chosen criteria, suitable materials for these target audiences may fall outside the scope, particularly if they are not freely available or are not designed to be timeless. Additionally, the selection process did not consider materials that are part of an ongoing learning curriculum on media literacy, where disinformation might be just one component. It would be advantageous in the future to encompass these materials in the assessment and make them accessible, ideally free of charge.

Lastly, one of the indicators of vulnerability for young people is a one-sided media menu, characterised by limited diversity in the channels, media platforms and content, including news. There is a notable lack of focus on this aspect in the available materials. This aspect can be considered a component of information literacy, but also of 'news literacy,' a search term not explicitly covered in this selection of materials. It might be advantageous to

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broaden the selection to encompass materials that fall under 'news literacy,' thus increasing the overall resilience to disinformation.

Alignment with the adults (18+) target audience

There are limited suitable resources available for the adults target audience (only six materials). The needs analysis reveals that adults possess fewer competencies in recognising disinformation on social media, understanding how algorithms work, recognising fake news and, with age, in effectively finding, critically evaluating and understanding online information. Not all materials for this target audience focus on understanding how algorithms work and techniques (three materials). The verification of information and awareness of its existence are covered more frequently.

Adults benefit from interaction with others and supportive immediate surroundings in their learning process. However, the available offerings are primarily designed for independent use, often in the form of videos, websites or checklists, with limited tools for reflection and discussion. Furthermore, there is a lack of material designed for the supportive surroundings, thus not fully considering the needs and potential vulnerabilities of adults. Customisation for specific groups, such as low-literacy individuals, people with learning disabilities, or those facing multiple challenges, is also lacking.

Materials for parents appear to align well with the needs analysis, focusing on facilitating conversations (reflection and discussion) and providing accurate information (verification). It would be beneficial to offer similar materials to teachers and other support professionals.

Lastly, as previously noted, adults benefit from reference resources. Currently, websites and checklists/posters are the primary options available. However, it remains a question whether this infrastructure adequately supports individuals when they have deeper or new questions. Among the offerings, only the website Isdatechtzo.co.uk consistently provides new content, enabling adults to revisit with fresh inquiries. The practice and application of acquired knowledge are not covered in any of the materials, suggesting that a lesson package or similar resource would be more appropriate.

Due to the selected criteria, suitable materials might be excluded, particularly if they are not freely accessible or adaptable for workshops. In the future, it would be advisable to identify and make such materials accessible, ideally free of charge.

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

The offerings do not contribute sufficiently to resilience

Many materials concentrate on a limited set of learning objectives and methods, resulting in the target audience not fully acquiring all aspects of resilience against disinformation. The materials place less emphasis on reflection and offering an action perspective, with a predominant focus on raising awareness and imparting knowledge. Only two cases successfully address all the learning objectives. One of these, VRT's Edubox Fake News, employs all three methods (prebunking, debunking and triangulation). The other case, 'What's New' from Mediawijs, incorporates two of these methods (prebunking and triangulation) and places significant emphasis on fostering conversation and reflection. Therefore, it is advisable to incorporate multiple methods to ensure that the target audience gains a well-rounded understanding of all aspects required to build resilience to disinformation.

4.2 Recommendations

To develop offerings that more closely align with the (increasing) demand, an approach is required that will have to intervene on several fronts. In addition to increasing awareness and knowledge, there is a need for more emphasis on the action perspective and greater attention to groups at higher risk (as well as their support systems). Furthermore, given the volatile nature of the subject of disinformation, it is also essential for the field to continuously innovate and professionalise. Therefore, it is highly understandable that there are still few complete and fully developed offerings available.

How to proceed now? For that purpose, collaboration within the field appears to be a primary prerequisite. Only then can knowledge and expertise be exchanged, built on and scaled up. A first step in this direction could be to provide a more comprehensive overview: who is working on what, who has what expertise, where can we find each other and learn together? The description of the media landscape concluded that Flanders and the Netherlands have many similarities. Therefore, it may be useful to share more knowledge and use each other's interventions across borders as well. We see opportunities in the exchange of materials, as both regions speak the same language and there are similarities in media consumption in both countries. At the same time, one cannot ignore the fact that the usability of materials depends on more elements than just language and media consumption. For example, programmes may cite country-specific cases that are not relevant to the other country. The next step is that ongoing research is needed to establish a solid theoretical foundation. This will enable the continuous improvement and enrichment of the materials available with the latest, evidence-informed insights.

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On that basis, this analysis can lead to the following recommendations, both for the BENEDMO consortium and for teachers, policymakers or developers outside the consortium:

1. Furthermore, it is essential to identify the **needs of vulnerable groups** and develop specific policies to improve their resilience. The needs analysis has identified several indicators of heightened vulnerability.

2. Increase the **educational value** of the teaching/learning offerings by collaborating and describing the criteria that good materials must meet, including:
   a. emphasising not only fact-checking and warning, but also fostering deeper understanding and reflection;
   b. ensuring materials are based on research into effectiveness (evidence-informed);
   c. considering the need for reference materials or the ability to look up information later;
   d. involving the environment, including peers, parents and the local community;
   e. tailoring materials to the media consumption habits of the target audience (e.g. age-appropriate content);
   f. conducting evaluative studies of interventions to facilitate continuous improvement.

3. Improve the **skills of facilitators**, including teachers, youth workers and librarians, given that their role is pivotal in empowering young people and adults. Special attention should be given to enhancing their conversation skills.

4. Invest in **industry collaboration:**
   a. Help enhance the educational value of the offerings by facilitating collaboration among stakeholders and jointly developing dynamic codes, checklists and tools for developers.
   b. Encourage continuous knowledge sharing and establish connections between research and practical application by facilitating a learning network or community for developers.
   c. Encourage collaboration with established infrastructures, including schools, libraries, community organisations, to facilitate the scaling of initiatives and the sustainable embedding of learning process.

5. Conduct both **fundamental and applied research** on mechanisms that enhance people's resilience to disinformation, including like inoculation and triangulation.

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Establish a knowledge base openly accessible to developers and designers. Research is needed to develop a practicable definition of 'resilience to disinformation' and gain a more comprehensive understanding of the effectiveness of existing interventions.

This project has received funding from the European Union under Agreement number: INEA/CEF/ICT/A2020/2381738

Appendix 1 Review of terminology – fake news and disinformation

The EU expert group[86] recommended avoiding the use of the term 'fake news' due to its "misuse by powerful entities to dismiss undesirable messages." Instead, the group contends that 'disinformation' is a more appropriate term, as it "encompasses a broader range of false, inaccurate or misleading information intentionally created, presented and promoted with the goal of causing public harm or financial gain."

The Rathenau Institute offers similar definitions in their publication 'Digitisation of the news'[87] and includes the term misinformation:

1. Disinformation is false, inaccurate or misleading information intentionally created and disseminated with the aim of generating profit or causing hard to an individual, social group, organisation or country.
2. Misinformation is something else. This refers to inaccurate misinformation that is disseminated inadvertently.
3. Fake news is sometimes referred to as disinformation and at other times as misinformation. The term 'fake news' is also used as a synonym for lies and reckless journalism.

According to Linda Duits from Diep Onderzoek, scientists are not particularly fond of the term 'fake news': "It is unclear what it encompasses and has become highly politicised, partly due to figures like Trump. An alternative is 'junk news', which is often commercially motivated and disseminated through social media."

Junk news, according to researchers Richard Rogers and Sabine Niederer of the University of Amsterdam, is a catch-all term that encompasses conspiracy theories, clickbait, extremist content, sensationalism, tendentious reporting and highly politically biased ('hyper-partisan') sources and stories. Hyperpartisan goes beyond mere bias and involves

[86] Online media moeten meer inzage geven in hun werkwijze voor de bestrijding van nepnieuws. (2018, 12 March). *Utrecht University*. Retrieved from: https://www.uu.nl/nieuws/online-media-moeten-meer-inzage-geven-in-hun-werkwijze-voor-de-bestrijding-van-nepnieuws

[87] Van Keulen, I., Korthagen, I., Diederen, P., & van Boheemen, P. (2018). Digitalisering van het nieuws: online nieuwsgedrag en desinformatie en personalisatie in Nederland. *Rathenau Institute.* Retrieved from: https://www.narcis.nl/publication/RecordID/oai:pure.knaw.nl:publications%2F700f3e81-975d-4312-b0b2-87029c231456

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extremely one-sided politically biased reporting. It often presents opinions with some facts without providing the full context.[88]

The weblog mentioned defines fake news as the dissemination of verifiably inaccurate reporting that closely resembles real reporting, often with the intention of profiting from the readers. Sometimes, it may be intended as a joke and is often shared out of ignorance because the person sharing it genuinely believes it to be true. In such cases, misinformation is involved, as there is no intent or malicious purpose.

The Zuid-Holland Zuid safety region provides online information to the general public on disinformation and fake news from a safety perspective. However, it supports the term 'fake news' and considers it a form of disinformation: "Fake news is misleading and inaccurate information spread to make money or influence your opinion. It is a form of disinformation." This statement is sourced from the website 'isdatechtzo.nl'[89] which aims to educate a wide audience in the Netherlands about how disinformation works.

First Draft[90] places disinformation within that framework between 'misinformation' and 'malinformation'. 'Misinformation' aligns with the Rathenau Institute's definition, while 'malinformation' is considered as having malicious intentions and is viewed as very harmful. For example, First Draft categorises 'revenge porn' under malinformation. See diagram below.

[88] Rogers, R., & Niederer, S. (2020). *The politics of social media manipulation* (p. 257). Amsterdam University Press.
[89] *Isdatechtzo.nl* was developed by the Dutch Media Literacy Network in collaboration with Sound & Vision in The Hague and ECP
[90] A non-profit coalition with nine founding partners, First Draft provides practical and ethical guidance on finding, verifying and publishing content sourced from the social web. The original coalition has since expanded into an international partner network comprising editors, universities, platforms and civil society organisations.

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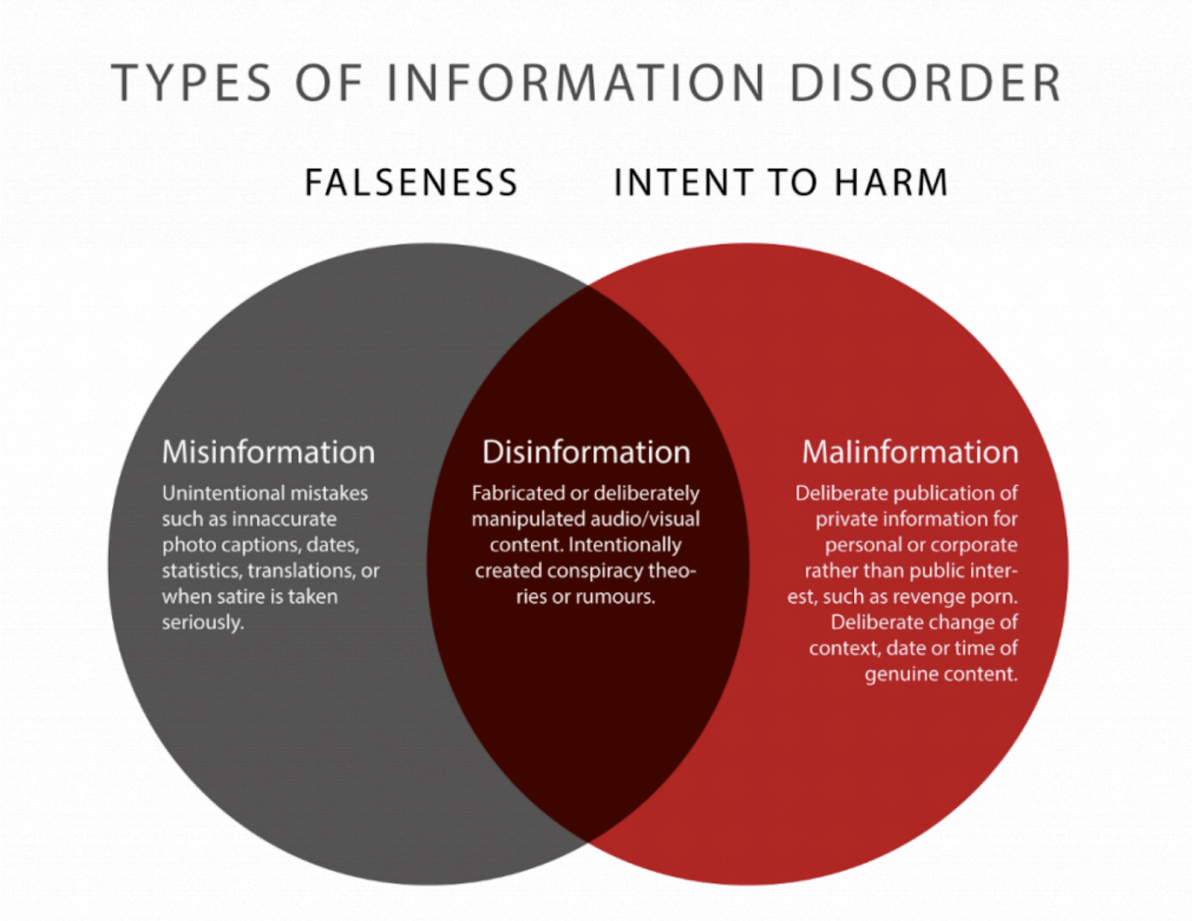
Figure 1: Different types of information disorder (1)



Source: First Draft

In the report 'Information Disorder'[91] for the Council of Europe, Wardle and Derakhshan present definitions of the terms disinformation, misinformation and malinformation. The definitions used closely resemble First Draft's classification:

- Misinformation: Information that is inaccurate but not created with the intention of causing harm.
- Disinformation: Information that is false and deliberately made to harm a person, social group, organisation or country.
- Malinformation: Reality-based information used to harm a person, organisation or country.

A similar diagram to that presented by First Draft is also provided, albeit with a slightly different interpretation.

[91] Wardle, C., & Derakhshan, H. (2017). *Information disorder: Toward an interdisciplinary framework for research and policymaking* (Vol. 27, pp. 1-107). Strasbourg: Council of Europe.

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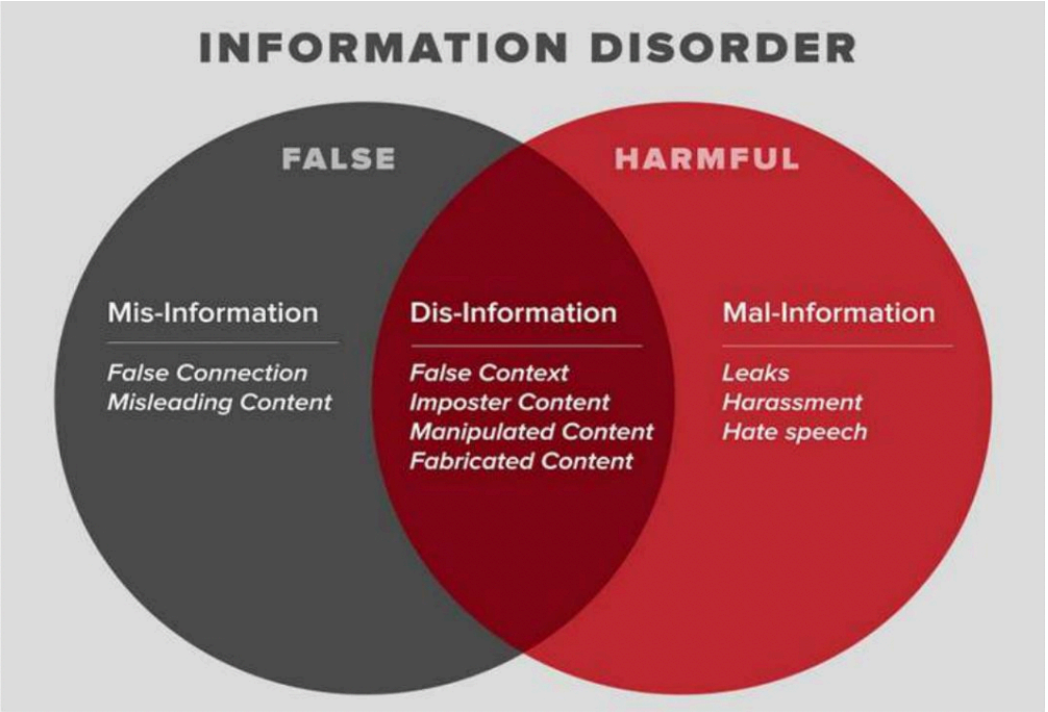
Figure 2: Different types of information disorder (2)



Source: Information Disorder

The above demonstrates that there is significant debate regarding definitions and whether to employ specific terms. This complexity complicates the search for educational programmes, interventions, materials and resources. To provide further guidance, we conducted a quantitative analysis of the frequency with which certain terms appear on Google. The results indicate that 'fake news' and 'disinformation' are the most commonly used terms, as opposed to 'junk news,' 'fake news' and 'junk news'. Specifically, 'fake news' and 'disinformation' yield approximately 650,000 search results, while 'junk news' and its Dutch translation '*troepnieuws*' produce 1,000 and 100 hits, respectively. 'Fakenews', a variation of 'fake news' generates 75,000 hits. The inclusion of the Dutch word '*nieuws*' somewhat restricts these results to the Dutch-speaking region. However, when using 'fakenews', the count surges to 221 million hits, and for 'fake news', it reaches 2.5 billion. Clearly, the use of the English term significantly expands the search to a global scale.

Disinformation and fake news are also the terms that were most popular in public debate on Dutch television, according to a recent analysis by Sound and Vision.[92] This study maps the *Fake News Discourse.*[93] See figure below.

[92] Ex, L. (2022, June 1). Nepnieuws als 1 aprilgrap en als oorlogswapen: deel 1. *Sound and Vision.* Retrieved from: https://www.beeldengeluid.nl/kennis/blog/nepnieuws-als-1-aprilgrap-en-als-oorlogswapen-deel-1
[93] *Fake news, fake messages, misinformation, disinformation, fake information*

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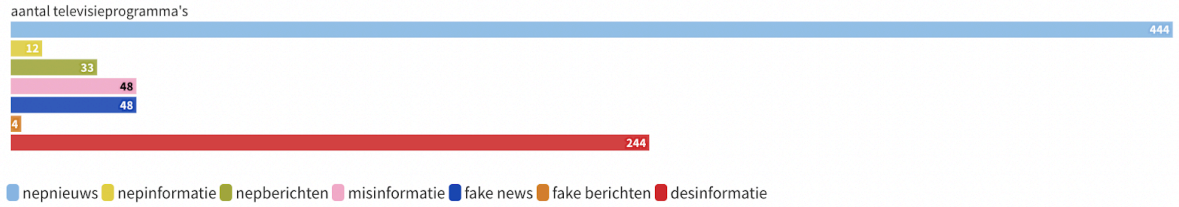
Figure 3: How many programmes have featured the word in the last 8 years?



Source: Fake news as an April 1st joke and weapon of war: part 1, Luuk Ex, 1 June 2022

For completeness, besides disinformation and fake news, junk news will also be included in Google searches. This will be combined with terms like 'course', 'workshop', 'training', 'lesson package', etc.

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Appendix 2 Models and usable concepts

Between 2000 and 2015, a range of competency models pertaining to media literacy emerged in various countries. In the subsequent section, we analyse common media literacy models to identify pertinent terms. This aids in pinpointing target audiences in need of greater resilience to disinformation, drawing on existing research.

In 2005, the Dutch Council for Culture provided the following definition for media literacy: *Media literacy is the whole of knowledge, **skills** and attitudes that allow citizens to deal with a complex, changing and mediatised world in a conscious and critical manner. The Dutch Media Literacy Network has since developed a more simplified version of this definition, retaining the same essence for operational use: Media literacy involves the competencies required to navigate consciously, critically and actively in a media-centric society.*

These competencies are summarised in a competency model. The eight competencies - serve, explore, find, create, connect, discuss, fathom and reflect - are dynamically linked to ten domains, including health, leisure, self-development, identity, bonding, personal relationships, social relationships, education work and money. These domains correspond to areas where individuals can derive tangible benefits (or disadvantages) from media use, as noted by Helpser and van Deursen.

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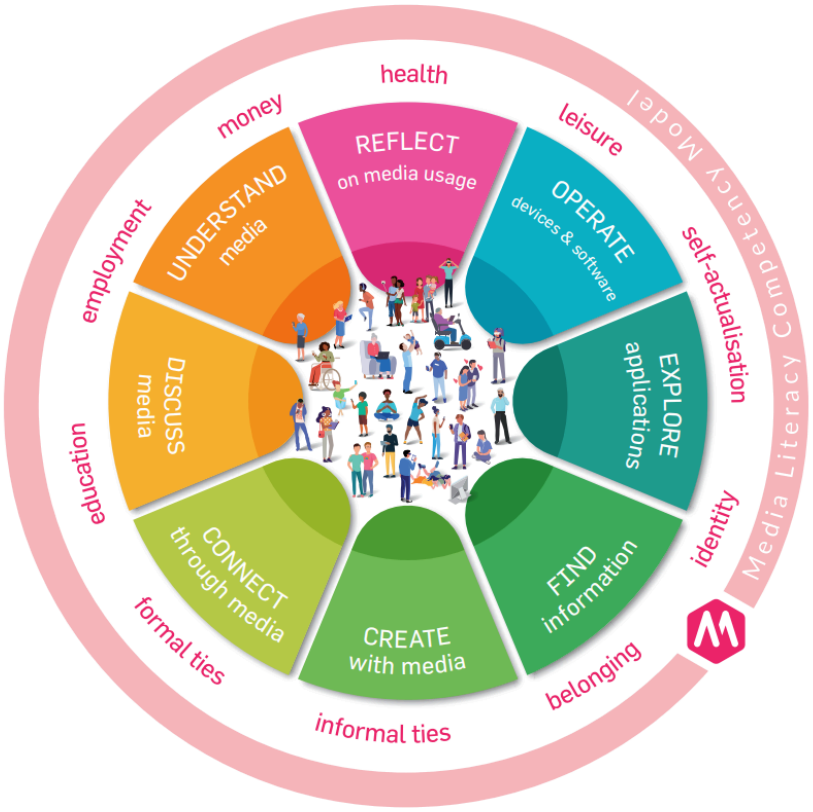
Figure 4: Media literacy competence model 2021



Source: Dutch Media Literacy Network, https://netwerkmediawijsheid.nl/wp-content/uploads/2021/11/The-Dutch-Media-Literacy-Competency-Model-2021.pdf

The idea behind the model is that any of the eight competencies can be combined with each of the ten domains. This approach results in a multitude of combinations, such as finding information within the context of health, connecting in relation to social relations or discussing in terms of self-development. This above model, an expansion of the earlier 2012 version, was developed to also encompass adults and vulnerable target audiences.

When the Flemish government published the Concept Memorandum on Media Literacy in 2012, and subsequently with the establishment of the expertise centre Mediawijs in 2013, there arose a need within this region for a clearly defined framework to map out media literacy competencies. According to the Concept Paper, 'media literacy' is defined as follows:

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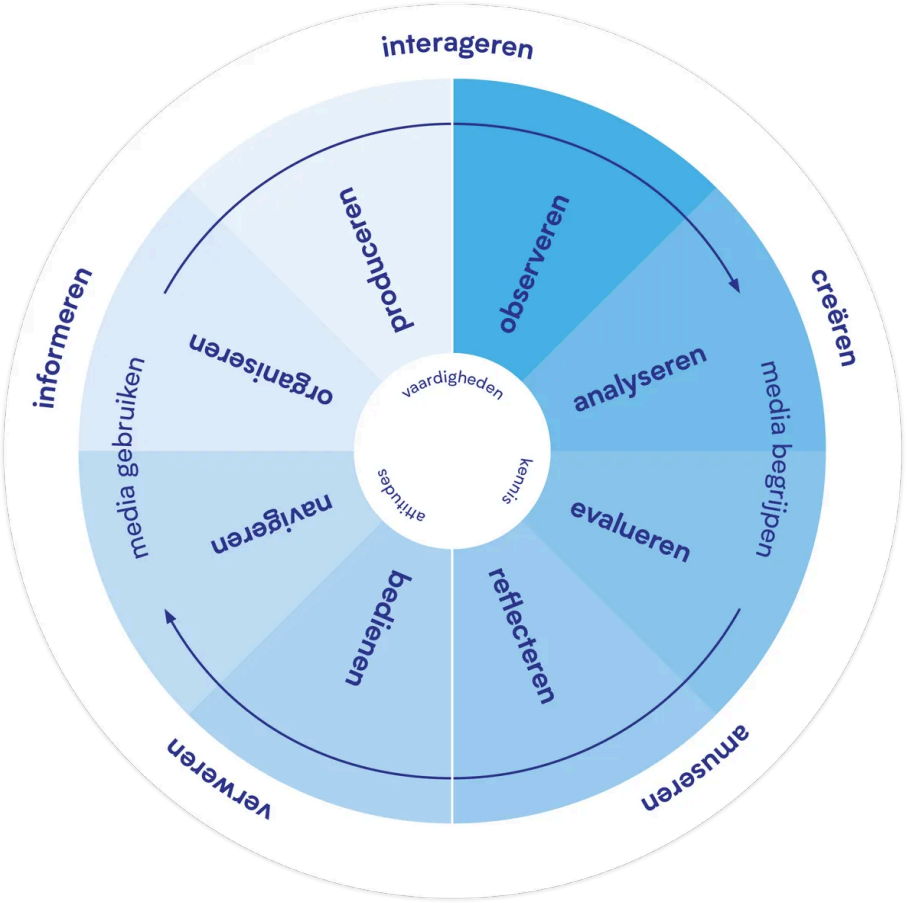
"Media literacy is the whole of knowledge, skills and attitudes that allow citizens to deal with a complex, changing and mediatised world in a conscious and critical manner. It is the ability to use media in an active and creative manner, aimed at social participation."

To make the definition from the Concept Paper on Media Literacy more concrete and usable, Mediawijs developed the Media Literacy Competency Model.

Figure 5: Media Literacy Competency Model



Source: Mediawijs (not available in English. Description in English can be found here. https://www.mediawijs.be/en/competentiemodel)

The Media Literacy Competency Model identifies two primary competencies, each comprising four sub-competencies. 'Using media' includes operating, navigating, organising and producing. 'Understanding media' encompasses observing, analysing, evaluating and reflecting. 'Using media' pertains to the active, technical and creative use of media. And 'understanding media' refers to the conscious and critical assessment of

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media. Each (sub)competency within the Media Literacy Competency Model can be applied to accomplish a specific media goal, such as informing, interacting, creating, entertaining and defending.
Both models distinguish two components of media literacy:

- Active use: competencies matching this are on the left side of the circle in the Mediawijs model: Operate, Navigate, Organise and Produce. In the Dutch Media Literacy Network's model, these are found on the right side of the circle: Operate, Explore, Find, Create and Connect.
- Understanding media: These competencies are located on the right side of the circle in Mediawijs' model: Observe, Analyse, Evaluate and Reflect. With the Dutch Media Literacy Network, they are on the left: Discuss, Understand and Reflect.

The competencies mentioned above are essential for achieving specific goals, enabling conscious, critical, creative and active participation in the digital society. These goals are represented in the outer ring of each model, though they are not at the same level. The Dutch model outlines the goals of media literacy as Health, Leisure, Self-actualisation, Identity, Belonging, Formal ties, Informal ties, Education, Employment and Money.
In contrast, the Flemish model enumerates five purposes of media use: Interact, Create, Amuse, Defend and Inform. These objectives contribute to the ultimate aim of enhancing happiness through media literacy.

Broader perspective

Within the realm of primary education, media literacy falls under the umbrella of digital literacy, according to SLO and Kennisnet[94]. The definition of media literacy, as adopted by SLO and Kennisnet, is grounded in the Media Literacy Competency Model 2012. Digital literacy, which encompasses media literacy, comprises four key components:

1. ICT basic skills: This includes:
    a. knowledge of basic concepts and functions of computers and computer networks;
    b. proficiency in handling hardware;
    c. the ability to work with the internet (e.g. using e-mail, browsers);
    d. an awareness of security and privacy issues.

[94] SLO. (2022, 17 October). *Over digitale geletterdheid.* Retrieved from: https://www.slo.nl/sectoren/po/digitale-geletterdheid-po/digitale-geletterdheid-po/digitale-geletterdheid/vier-domeinen/

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2. Computational thinking: The ability to Re-formulate problems in a way that enables their resolution using computer technology.
3. Media literacy: Possessing the knowledge, skills and attitudes to critically and consciously engage with media.
4. Information skills: The capability to search, select and process sources and information on the internet.

Like the Dutch Media Literacy Network, SLO states that media literacy involves the knowledge, skills and attitudes required to engage with media consciously, critically and actively. Within the context of primary education, it distinguishes four media domains:

1. Medialisation of society: Being aware of and understanding the increasing role media plays in society, and being able to assess its impact from different perspectives, including politics, policy, society, culture and the individual.
2. Media and image formation: Being aware of and understanding how media can colour reality, recognising the role media can play in shaping perceptions and conveying norms and values, and understanding how media can influence these aspects.
3. Media, participation and identity: Deliberately participating in social networks and possessing the ability to reflect on such interactions; ensuring the safety, privacy and participation.
4. Creating and publishing media: Understanding media usage, being capable of creating and producing media oneself, achieving objectives through media creation and reflecting upon these processes.

The Dutch Media Literacy Network always adheres to the variant of media literacy developed by SLO and Kennisnet for educational applications.

The Media Literacy Competency Model 2021 was developed to embrace a broader perspective than solely the educational context, specifically incorporating the adult viewpoint. This development builds on the work of Van Deursen and Helsper. With the aim of establishing a clear distinction between media literacy and other forms of literacy, the Dutch Media Literacy Network commissioned Van Deursen and Helsper to further develop a conceptual framework. Their report, '*Mediawijsheid: conceptualisering en belang in een gemedieerde samenleving. Lacunes in onderzoek en beleid*',[95] contextualises media literacy

[95] van Deursen, A. J. A. M., & Helsper, E. J. (2021). *Mediawijsheid: Conceptualisering en belang in een gemedieerde samenleving. Lacunes in bestaand onderzoek en beleid.* University of Twente. Retrieved from: https://www.utwente.nl/en/centrefordigitalinclusion/Files/mediawijsheid-conceptualisering-en-belang-van deursen-helsper.pdf

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in relation to digital literacy and information literacy. The report describes the objective of media literacy as 'mastering, in a general sense, the media landscape and thereby daily life'. It opts to delineate the various forms of literacy through a foundational set of four core skills:

- Operational skills, referring to the ability to operate a (digital) medium, platform or format,
- Information navigation skills, encompassing the ability to find, select, process and evaluate information sources,
- Interaction skills (also known as social or communication skills), which involve the ability to use media, platforms and formats to exchange meaning and pool knowledge,
- Content creation skills, defined as the ability to create and publish quality content using media.

Within each skill, there is a combination of functional and critical aspects. Functional aspects focus on actively performing the skills and being able to use (digital) information, media, platforms and formats in the way the producers intended (how they were designed). Critical aspects skills focus on the knowledge and understanding of why (digital) information, media, platforms or formats work the way they do and how designers, users, companies and governments influence them.

News literacy

In the field of media literacy, the term 'news literacy' is also frequently used. According to Mediawijs, this is closely related to media literacy, but news literacy involves a number of further defined specific competencies, such as the ability to assess the veracity of articles, the application of information techniques, and critical reflection towards underlying political or ideological messages.[96] Their definition states:

'The entirety of knowledge, skills and attitudes required to actively and creatively engage with news and information, and to consciously and critically comprehend them, are essential for participation in our complex, changing and mediatised society.'

Fifi Schwarz, author of '*Nieuwswijsheid. De onmisbare schakel in de relatie tussen*

[96] Wat is nieuwswijsheid? (2021, 28 July). *Mediawijs.Be*. Retrieved from: https://www.mediawijs.be/nl/artikels/wat-nieuwswijsheid

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journalisten en nieuwsgebruikers' (2013)[97] defines news literacy as the ability to actively, critically and consciously use and assess news content and processes, while also reflecting on one's own role as a consumer of news.

Conclusion

Examining existing models to identify which search terms can be used to further understand the resilience to disinformation among different populations, the following skills, competencies and domains are most relevant:

- Helsper and van Deursen: critical competencies, information skills, navigation skills, interaction skills, communication skills, social competencies
- Media literacy competency model 2021
  - Competencies: Finding information, perusing media, reflecting on media use.
  - Goals: Social relations (politics), health (COVID, vaccinations), identity and bonding.
- Mediawijs competency model
  - Competencies: navigate media, observe, analyse, evaluate and reflect.
  - Media goals: inform, interact and defend.
- SLO and Kennisnet
  - Domains: 'Media and Imaging', followed by 'Medialisation of Society'

[97] Schwarz, F. (2013). Nieuwswijsheid. De onmisbare schakel in de relatie tussen journalisten en nieuwsgebruikers. *Nieuwswijsheid.nl*. Retrieved from: http://nieuwswijsheid.nl/wp-content/uploads/2016/08/Fifi-Schwarz_Nieuwswijsheid_Onderzoeksverslag.pdf

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Appendix 3 Comparison of media landscape and media consumption in Belgium and the Netherlands

For a comparison of the media landscape in Belgium and the Netherlands, the Reuters Institute Digital News Report 2022[98] was used. Key findings from this report are also accessible at newsuse.be,[99] along with data from the Flemish Regulator for the Media (VRM)[100] and the Dutch Media Monitor (CvdM).[101] When describing the media landscape in Belgium, preference is given to providing Flemish data if available.

Media landscape in Belgium

Belgium, with a population of 11.6 million, has approximately 60% Dutch-speaking inhabitants. The country has three distinct media markets: Dutch-speaking Belgians (Flanders), French-speaking Belgians (the Wallonia-Brussels Federation) and a smaller segment for German-speaking Belgians. Media concentration is a relatively recent phenomenon in Belgium, characterised by mergers and the formation of large conglomerates that exert significant control over the market. The Flemish market is currently dominated by five media groups, with DPG Media, Mediahuis, and VRT being the top three. The Flemish media groups have expanded their influence into the Dutch market, with a substantial portion of Dutch newspapers and publishing houses recently being acquired by Belgian media conglomerates.

In Flanders, DPG Media is responsible for publishing *VTM Nieuws*, *Het Laatste Nieuws* and *De Morgen* and others. Meanwhile, Mediahuis publishes *De Standaard, Het Belang van Limburg, Nieuwsblad* and the *Gazet van Antwerpen*.

In 2022, online media was the most significant news source for Belgians, with 77% of the population using it, compared to TV (60%) of and print media (31%). Het Laatste Nieuws online was the most frequently used, with 47% of the Flemish population accessing it weekly. This was followed by VRT NWS online and Het Nieuwsblad online, with 40% and

[98] Reuters. (2022). *Reuters Institute Digital News Report 2022*. Retrieved from: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2022-06/Digital_News-Report_2022.pdf
[99] *Newsuse.be*. (undated). Retrieved from: https://www.nieuwsgebruik.be/
[100] *Flemish Regulator for the Media*. (undated). Retrieved from: https://www.vlaamseregulatormedia.be/nl
[101] *Dutch Media Authority*. (undated). Retrieved through: https://www.cvdm.nl/

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25% of the population using them, respectively.[102] However, the traditional news media, which includes the print news and radio and television broadcasts, experienced a slight but noticeable decline in 2021 compared to 2020.[103] In radio, TV and print, VTM is the leading news provider, used weekly by 42% of the population, closely followed by Eén (VRT) at 41%, and then Het Laatste Nieuws, with a weekly usage rate of 30%.[104]

Furthermore, in addition to salaried journalists, the 'Vademecum for self-employed journalists'[105] revealed that as of April 2022, nearly a quarter (23.8%) of professional journalists were working on a freelance basis. Concurrently, the number of freelance journalists has experienced a slight increase, with a total of 721 freelance journalists operating by 2023.[106]

Media landscape in the Netherlands

The Dutch population totals approximately 17 million people. Internet penetration is among the highest in Europe, at 96%. The Dutch news market is distinguished by a robust public broadcaster (NPO) and a highly concentrated newspaper ownership, with two major commercial Belgian companies owning the largest titles.
Online news, as in Flanders, is the primary news source for the Dutch. NU.nl is accessed weekly by 42% of the population, followed by NOS news at 30% and AD at 28%. In radio, TV and print, NOS is the main news provider, engaging 60% of the population on a weekly basis. This is followed by RTL and SBS, with 31% and 22% of the population using them weekly, respectively.

Alongside major commercial media entities such as RTL and SBS, the Netherlands has a distinctive system of public broadcasters, consolidated under the Dutch Public Broadcasting Service (NPO). Within the NPO, NOS primarily focuses on news, parliamentary reporting and sports, while NTR is responsible for cultural, educational, children's, and ethnic programming. These organisations enjoy a privileged legal status

[102] Reuters. (2022). *Reuters Institute Digital News Report* 2022. Retrieved from: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2022-06/Digital_News-Report_2022.pdf
[103] Imec. (2021). *Imec Digimeter 2021: Digitale Trends in Vlaanderen*. Retrieved from: https://www.imec.be/sites/default/files/2022-05/IMEC-Digimeter-2021.pdf

[104] Reuters. (2022). *Reuters Institute Digital News Report 2022.* Retrieved from: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2022-06/Digital_News-Report_2022.pdf
[105] *VADEMECUM: Voor zelfstandige journalisten*. (2022). In Vlaamse Vereniging van Journalisten. Retrieved from: https://journalist.be/publicaties/vademecum/vademecum-voor-zelfstandigen#:~:text=How%20is%20it%20with%20tax,on%20our%20site%20(login).
[106] Information was provided through Secretariat of VVJ on 3 April 2023

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with designated funding. Additionally, the broadcasting system grants five-year renewable licences and allocates funds to 11 other public broadcasting organisations/TV and radio stations within the NPO. The majority of these member-based public broadcasters have nearly a century-long history.

In 2021, two new organisations were incorporated into the public broadcasting system, representing distinctly different interests. Broadcasting Black (OZ) is dedicated to creating inclusive programmes that represent a diverse range of minorities, encompassing aspects of ethnicity, sexual orientation and people with disabilities. Omroep Ongehoord Nederland (ON) aims to voice the perspectives of the right-wing and individuals who feel underrepresented by existing broadcasters.

Last year, Dutch journalism was rocked by an increase in violence against journalists that culminated in the murder of crime reporter and TV personality Peter R. de Vries. Other attacks included a Molotov cocktail attack at the home of local journalist Willem Groeneveld and attacks on journalists by activists against COVID restrictions and at football matches. The government and police support PressSafe, an initiative to help protect journalists from violence and aggression.

Comparing social media and messaging use

Both countries feature the same three platforms in their top three for news consumption in 2022: Facebook, WhatsApp and YouTube (as shown in the tables below). However, there are notable differences. In Belgium, Facebook usage is significantly higher at 39%, compared to 27% in the Netherlands. This might be attributed to the popularity of Facebook Messenger in Belgium. Remarkably, TikTok is considerably more popular in Belgium than in the Netherlands, where it doesn't even feature in the top six. This trend could be linked to the launch of two dedicated TikTok channels by Flemish news brand HLN and VRT's children's bulletin in 2021 and 2022, which has rapidly amassed a large audience. In the Dutch top six, Twitter and LinkedIn still hold prominent positions, whereas these social media platforms do not appear in the top six in Belgium.

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Belgium

TOP SOCIAL MEDIA AND MESSAGING

Rank	Brand	For News		For All
1	Facebook	39%	(-)	69%
2	YouTube	19%	(+1)	53%
4	WhatsApp	16%	(+4)	54%
3	Facebook Messenger	14%	(+2)	50%
5	Instagram	12%	(+3)	35%
6	TikTok	6%	(+3)	16%

Source: Reuters Digital News Report 2022 , page 67

Netherlands

TOP SOCIAL MEDIA AND MESSAGING

Rank	Brand	For News		For All
1	Facebook	27%	(+1)	61%
2	WhatsApp	19%	(-3)	75%
3	YouTube	14%	(-1)	50%
4	Instagram	10%	(-)	34%
5	Twitter	7%	(-1)	14%
6	LinkedIn	5%	(-)	20%

Source: Reuters Digital News Report 2022, page 91

Comparison of trust in news media

In terms of trust in news media, the public broadcasters NOS (in the Netherlands) and VRT (in Flanders) are the most trusted news sources. Both have the same high level of trust, scoring 77 on a scale of 0 to 100. Overall, trust in the news is nearly identical in both language regions: approximately 57% in Flanders and 56% in the Netherlands.

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Regarding the belief that 'media is free from undue political or business influence' (see table below), there has been a modest increase in trust in both countries since 2017. In Belgium, confidence in this aspect is somewhat lower; however, within Flanders, it is slightly higher compared to the French-speaking part of Belgium. This difference could be attributed to the distinct structure of the public media sector in Belgium compared to the Netherlands.

Media is free from...	Undue political influence	Undue business influence
Belgium	36% (was 34% in 2017)	36% (was 34% in 2017)
Netherlands	46% (was 41% in 2017)	44% (was 37% in 2017)

Comparison of patterns of new consumption

In both Belgium and the Netherlands, the hierarchy of media channels used for news consumption is identical. Moreover, there are no significant differences in the extent to which these news channels are used in the two countries. In 2022, 'online' sources rank as the number one medium in both nations, with 77% usage in each. This is followed by TV, at 60% in Belgium and 65% in the Netherlands; social media, at 42% in Belgium and 37% in the Netherlands; and finally print media, equally used by 31% in both countries.

The patterns of news consumption devices show no significant differences between the two countries. Leading the way is mobile phone usage, at 63% in Belgium and 60% in the Netherlands. This is followed by screen use[107] (including computers and laptops), with 49% in Belgium and 44% in the Netherlands. It is noteworthy that screen use has been experiencing a slight decline in recent years in both countries. Lastly, tablet usage appears to be stabilising, at 17% in Belgium and 24% in the Netherlands.

There is also minimal difference in the use of paid online news services, with 18% in Flanders (Belgium) and 17% in the Netherlands. Additionally, the recently popularised use of podcasts for news consumption is nearly identical, at 28% in Flanders and 30% in the Netherlands.

[107] Screen use refers to the use of larger format screens, such as those of TVs, Pcs and laptops.

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Appendix 4 Justification of learning objectives, expected effects and method

Learning objectives (expected effects)

By learning objectives, we mean:

- Predefine learning objectives set by creators of materials.
- Learning objectives identified by us in the material but not explicitly mentioned in the accompanying (web) text.

The following learning objectives were taken as a starting point:

1. Awareness that disinformation exists.
2. Understanding of causes and/or impact.
3. Knowledge of strategies, mechanisms and techniques.
4. Verification of information.
5. Action perspective.
6. Reflection and/or discussion (action perspective).

The overview on the next page shows in which cases the materials meet a specific learning objective. A learning objective is considered met as soon as at least one of the criteria is addressed. These learning objectives can be linked to the working definition of being ***resilient to disinformation*** used as a guide earlier in the report:

1. Awareness that disinformation exists > 1) **awareness** that disinformation exists and why.
2. Understanding of causes and/or impact > 1) **awareness** that disinformation exists and why
3. Knowledge of strategies, mechanisms and techniques > (2) they have the **knowledge** to recognise (to some extent) disinformation (both in terms of content and how it is created and disseminated).
4. Verification of information > (2) they have the **knowledge** to recognise (to some extent) disinformation (both in terms of content and how it is created and disseminated).
5. Action perspective > (3) they have an **action perspective** that makes enables them to respond effectively to .

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6. Reflection and/or discussion > (3) they have an **action perspective** that makes enables them to respond effectively to .

1. **Awareness that disinformation exists:**
   - Disinformation is mentioned as a term and phenomenon.
   - The definition of disinformation is given or discussed.
   - Reasons (examples) are given to introduce disinformation.
   - The emergence of interest in disinformation is addressed (e.g. Trump 2016 election).

2. **Understanding of causes and/or impact**
   - The social impact is discussed: why misinformation affects decision-making, opinion formation, voting behaviour, social interactions, trust in media and science.
   - The psychological impact is addressed: why do we believe disinformation and what does it do to us as people?
   - The reasons for spreading disinformation (make money, evil intentions, influence public opinion) are addressed.

3. **Knowledge of strategies, mechanisms and techniques:**
   - The various forms of disinformation are addressed and specifically identified or evaluated in the material (e.g. sock puppetry, trolling, deepfake, cheap fake, etc.).
   - The manipulation techniques behind disinformation are explained in the material (emotion, polarisation, discrediting, fostering mistrust, etc.).
   - The spread of disinformation on social media (buying likes, buying followers, operation of platforms, algorithms, filter bubbles) is addressed.

4. **Verification of information:**
   - Critical questions to test the reliability of information (the sources used, author, tone, platform, etc.) are addressed.
   - Practical applications of (journalistic) techniques and tools to verify images (Tineye, Practical Googling, Google Lens, Geolocation, etc.) are provided.

5. **Action perspective:**
   - Tips are provided on how to act once one knows it is disinformation, such as not spreading it, reporting it and warning others.

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6. **Reflection and/or discussion (action perspective):**
    - Specific questions and tips are provided to encourage reflection on disinformation or to facilitate dialogue. This does not apply once it is indicated that the material (such as a film) can be used as discussion material. Tools for conversation are a must.

Method and definition

The materials were coded using these definitions.

1. **Debunking:** Is focused on teaching methods for independently verifying (dis)information.
2. **Prebunking:** Is aimed at recognising and understanding the underlying strategies, mechanisms and techniques of disinformation by examining it in advance.
3. **Triangulation:** Emphasises the use of multiple sources to debunk disinformation and fake news.

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