

smiles



Baseline study

Country report The Netherlands

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of the netherlands

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Introduction

Concerns about disinformation

The corona crisis has painfully exposed the weak spots in our news provision: during the crisis the spread of fake news increased enormously, conspiracy theories are experiencing heydays. Disinformation, and especially its online scalability, is a threat to our open, democratic society. There is a growing concern among governments and citizens about the deliberate dissemination of misleading information and the negative consequences that it has on our trust in the media, the government and among citizens. A development that can pose the necessary risks in the field of a well-informed society, democratic processes, polarization and the social debate.

SMILES project

Disinformation in itself is not a new phenomenon; what is new is its massive and rapid distribution via social media, online platforms and synthetic media. It is a development to which we as a society have not yet found a good answer. How do we as a society ensure well-informed citizens and how can institutions such as schools and libraries play a role in this? This question forms the starting point for an international consortium with partners from Spain, Belgium and the Netherlands to start up a project with the purpose of tutoring youth (12-15 years old) to use digital tools more safely and responsibly, to enhance their media literacy, and to use social media critically. In this project librarians and school teachers will be provided with the necessary knowledge, skills and competences to help these young people access and recognise reliable and authentic information versus disinformation/fake news.¹

Baseline study

In this report we report on the findings from the first phase of the SMILES project: the Baseline study. This study will offer the starting point – or baseline – on which the training program will build on. It aims to contribute to a better understanding of the country and the school environments in which the project will take place, and to gain insights that are helpful in developing relevant workshops on fake news, media literacy and digital skills. The report will serve as a reference for developing training materials for new educational approaches in the field of disinformation.

The following research questions guided the baseline study:

- › What impact does the Covid19 outbreak have on the dissemination of disinformation in the Netherlands?
- › What educational approaches / interventions are available in the Dutch context, for youth between 12-18 years old, that are aimed at fighting disinformation?²

¹ For more information about the SMILES project, see; <http://smiles.platoniq.net/>

² Because the SMILES project focuses on school-going youth within the age and context of secondary education (12-18 yrs), this target group is also the primary focus of our baseline study.

- › What can we learn from the existing knowledge and experiences from professionals and experts concerning digital literacy education in the context of in- and out-of-school learning?

The following chapters successively deal with these research questions. Part one offers an inventory of recent developments in the rise of disinformation in the Netherlands. Part two provides an overview and analysis of current practices and educational approaches (interventions) that are aimed at making youth resilient against disinformation and fake news. In part three we describe the lessons and recommendations that can be drawn from the knowledge and experience of experts and professionals in the field of digital literacy (education). These lessons provide direction in the development of a new intervention aimed at youth, teachers and librarians.

::Part 1::

Dissemination, impact and countering of disinformation and fake news in the Netherlands

Introduction & methodology

“The coronavirus is a hoax”, “the virus was developed in a laboratory”, “the Corona vaccine causes genetic modification”, “Corona vaccins can make women infertile”, “the vaccination is a secret action to implant chips in people in order for the government to control all citizens”, “you can get cancer from the corona self-test”. These disturbing messages are examples of a big amount of fake news messages that were widely spread since the outbreak of the Corona virus pandemic, mostly through social media.³ Although disinformation and fake news are no new phenomena’s, the Corona virus pandemic has put it on the agenda of many policy makers and government institutions as serious problem that should be addressed.

In the first part of the study we try to paint a current picture of the problem of disinformation and fake news in the Netherlands. We look at the extent to which Dutch citizens are confronted with fake news, what the impact is and how this has changed since the outbreak of the Corona virus. We conducted desk research in which we looked at research publications and media expressions from the past three years about the topics of fake news, disinformation and misinformation in the Netherlands. The findings are presented in the following paragraph. To illustrate some of the developments we describe some events and examples concerning the fake news problem surrounding the corona crisis in separate text boxes.

³ For these and other news messages that were fact-checked and proven to be false, see for example: <https://www.nu.nl/coronavirus/6038970/corona-nepnieuws-geen-bewijs-geplande-pandemie-genetische-modificatie.html?redirect=1> & <https://pointer.kro-ncrv.nl/pointer-checkt#/?article=4300>

Disinformation and fake news in The Netherlands

Until recently limited sense of urgency

As shown by a 2018 study of the Rathenau Institute, a Dutch organization for technology assessment, until recently the dissemination of fake news and disinformation in the Netherlands seems very limited in comparison with countries like the US, France and Germany (Keulen et al., 2018). At the time of the study for example only little disinformation of Russian origin was aimed at a Dutch audience, and hoaxes primarily had a commercial motive in the form of *clickbaits*. These fake messages aimed to trigger emotions and feelings of sensation, wanting to seduce readers to continue clicking and to expose them to more commercial advertisements. Just a quarter of the fake messages at that time were polarizing or had a political connotation. Moreover, until then there seems to have been only limited concern regarding disinformation, and little action was taken to monitor its occurrence. As a result, far less facts and figures about the dissemination of fake news and its influence on the public debate were available for the Netherlands than there were for countries such as France, Germany and the US. An early 2020 survey, just before the outbreak of the corona crisis, by Reuters and the Dutch Commission for the Media showed that of the 40 countries surveyed, the proportion of citizens concerned about what is real and what is fake on the internet is, with 32 percent of the population, one of the lowest for the Netherlands (Lauf et al., 2020). And although the share of people who believe most of the news can be trusted has fallen slightly by then, it remained very high compared to other countries.

Reasons for the then still limited worries about the impact of fake news and disinformation vary (Keulen et al., 2018). Fake messages for a long time had a limited political nature, Dutch media companies still hardly use algorithmic personalization and there is a tendency for social media and search platforms to be addressed about their role in the dissemination of fake news. As media companies are taking more and more measures against disinformation themselves, the public for long was confident that information and news that could be found on the internet was reliable (Keulen et al., 2018). Also, as the Dutch show a preference for independent journalism and neutral reporting (Lauf et al., 2020) and the proportion of Dutch people preferring news sources that correspond to their own views is only 14 percent, the assumption was that the Dutch would be less addressed by polarizing (fake) news.

Growing concerns due to advancing digitalization and technology

Nevertheless, in the Netherlands, as in many other countries, there is growing concern regarding the quality of online information and news provision, due to the ongoing and growing dissemination of disinformation and fake news. As early as 2016 the Dutch General Intelligence Service (AIVD) stated that the spread of misinformation and propaganda is becoming increasingly bulkier and aggressive (Keulen et al., 2018). In its 2018 annual report, the AIVD concludes that there are ongoing Russian online activities on social media, aimed at influencing the public opinion. Moreover, the Russian

Federation is said to have increasingly advanced technological capabilities to this end (Ollongren, 2020). In addition, the Netherlands may be extra vulnerable for such attacks, due to its high digitalization rate. In 2020, the Netherlands occupied the fourth position on the Digital Economy & Society Index, based on connectivity, skills, internet use, and the integration of digital technology and digital public services (Rathenau Instituut, 2020b). On most of these components the Netherlands is among the top 5 countries in Europe. Additionally, in the Netherlands more and more people, and especially youth and young adults, use online media as their news source. In 2020, online reporting was a news source for 77% of Dutch people, while television and traditional (paper) media such as newspapers, was a news source for only 67% and 33% respectively. In addition, 39% of the Dutch follow online news via social media, with Facebook as their main source (Lauf et al., 2020). Altogether, this makes it easier for malicious parties to spread false and inaccurate information deliberately and to harm and influence public and political debate (Keulen et al., 2018).

Technological developments

Concerns regarding the influence and impact of misinformation in Netherlands are further increased due to the emergence of new technologies. *Deep fakes*, synthetic media in which a person in an existing image or video is replaced with someone else's likeness, and *voice-cloning*, the ability to copy a person's unique voice, such as speech pattern, accent, and inflections, using artificial intelligence, are making it more and more difficult to distinguish real from fake. Also, ever more advanced *algorithms*, formulas that tune online content to individual internet users, result into information being suited to the ideas, biases and preferences of users of social media and search engines more and more, even when these ideas and preferences are based on previously consumed disinformation. Furthermore so-called *social bots*, programs that are communicating more or less autonomously on the internet, aiming to influence discussions and/or opinions, and *botnets*, collections of computers that have software installed that attacks other computers or spread spam results into misinformation being disseminated ever more automatically and autonomously. As a result, vital functions of news provision are ever more under pressure (see also Ollongren, 2020).

Boost by Covid-19

Moreover, according to the Rathenau Institute in 2020, the explosion of misleading messages distributed around the outbreak of the Covid-19 virus proves that the Dutch society is not immune to the increasing influence and impact of fake news and disinformation and has made citizens increasingly concerned about this phenomenon. (Rathenau Instituut, 2020c). The corona crisis therefor has further increased the urgency to tackle the problem of misinformation (Rathenau Instituut, 2020d). Research by MediaTest (2020) among 439 Millennials and so called Zoomers (Generation Z, the first generation to have grown up with access to the Internet and portable digital technology from a young age), in the age group of 16 to 40 years, showed that 70% of this group worries about the dissemination of fake news and disinformation (MediaTest, 2020). As it turns out that, these worries are not unjustified. August 2020, data journalism platform Pointer concludes that at least fifty anonymous Twitter

accounts have spread fake news about corona in the Netherlands since the start of its crisis and that more than 500 accounts have been found to be fake news accounts. These so-called *trolls*, accounts on social media that are used to create unrest and disrupt discussions, ultimately aim to disrupt society. The platform also concludes that between March and August 2020, at least 530 messages containing fake news about corona were frequently shared and that these messages were quoted in 12,354 tweets by a total of 3,901 accounts (Pointer, 2020).

In May 2021 the same group of investigative journalists demonstrates a Dutch group of corona-skeptical activists has created a 'troll army' by coordinating the dissemination of incorrect and misleading information about Covid-19 since February 2021. This group urged supporters to create fake social media accounts via the messaging service Telegram, and has provided these trolls with disinformation about the corona vaccine on a daily basis.(Pointer, 2021).

The enormous amount of disinformation and fake news messages that are posted and shared online since the Covid-19 outbreak made it clear that more measures need to be taken to address the threats to public debate and the democratic process posed by technology-driven disinformation (Rathenau Instituut, 2020c). Moreover, in 2021 concerns were extended to the influence of fake news on voting behavior during the parliamentary elections. Right before the elections as much as 60 percent of the Dutch were worried about the impact of fake news on the voting outcome. By then three-quarters of the Dutch believed disinformation may affect information about the coronavirus and vaccinations.

Disinformation for a few days off

Even on a small scale and with relatively little means, disinformation can have an impact on people's lives, as shown by the dissemination of fake news about Covid-19 outbreaks in schools. Researcher Remy Koens of the TMI Academy Foundation noted an increasing amount of such fake news messages since the beginning of the outbreak. He estimated that more than 50% of these messages were made by pupils, hoping to get a few days off. Koens emphasizes that nowadays every 12 or 13-year-old can fabricate such messages, which are often hard to distinguish from real, and which lead to worries and anxiety among readers (Bakker, 2020).

Various forms of content spread in an increasing variety of ways

Disinformation can take various forms in terms of content. The Rathenau Institute (Keulen et al., 2018) refers to information that is completely fake, information that consists of a mixture of facts and fabrications, false warnings, polarizing fake messages, and fake crime news. No figures regarding the occurrence of specific forms of disinformation in the Netherlands have been found. As we stated above, until recently, disinformation mainly appeared in the form of sensational, emotion-focused, non-polarizing stories that were intended to entice readers to click on and thus to be exposed to more advertisements (clickbaits). However, due to the explosion of misleading messages during the corona crisis, there seems to be an increasingly

broader and more realistic and more politically charged offer of such messages in the Netherlands. Moreover, as we have seen, disinformation can be produced in increasingly different ways and becomes more realistic.

Next there exists an increasing range of possibilities regarding the dissemination of fake news and disinformation (Keulen et al., 2018; Rathenau Instituut, 2020c). Disinformation is no longer limited to static text on webpages (as often is the case with clickbaits). News feeds and search results in social media and search engines are for instance increasingly personalized by algorithms and *microtargeting*, a form of advertising in which a very specific group of people is selected based on data. *Dynamic prospecting* brings together users and information so that information is shown at the right time to the people who would be most interested. *Psychographing* can be used to automatically tailor messages to the personality traits of a target group, and *influencer marketing*, a form of social media marketing tries to influence audiences with the help of influential people. Once certain disinformation has been picked up by a group of people, its further dissemination usually occurs automatically by forwarding, liking, retweeting, by word of mouth and people searching and finding more (confirmatory) information about it. No figures about different forms of distribution of fake news in the Netherlands have been found. E.g. it is unclear to what extent emerging technologies such as bots and botnets play a role in the Dutch political debate (Keulen et al., 2018).

Impact of disinformation in the Netherlands

Substantial amount of conspiracy believers

Until recently it was assumed that fake news and disinformation did not have a major impact on Dutch society (Keulen et al., 2018). Dutch generally lack confidence in the objectivity of social media and search engines, traditional media (newspapers and broadcasters) still have a strong position, both online and offline, while personalization of news is limited to social media, disinformation for a long time was not political, the Dutch media landscape is not, as for example in the US, highly polarized, and citizens are still exposed to a wide variety of news and regularly find sources 'by chance' (1, 26).

Still, a significant part of the Dutch believes in one or more conspiracy theories. Research by Kieskompas Research Agency (2020) shows that about 10 percent of the Dutch believe that games are being played around corona (Kieskompas, 2020). And a study by Ipsos in collaboration with Nieuwsuur (2020) shows that about 15% of the Dutch believe that the corona virus is a biological weapon that is made in a laboratory. Young people and those less educated are overrepresented in the group that believes in these claims. About 4% of the Dutch believe that the corona virus outbreak is related to the construction of the 5G mobile internet network. And among young people, about ten percent believe that the corona virus is part of a worldwide conspiracy (Motivaction, 2021). Disinformation clearly does have an impact on opinions in the Netherlands.

QAnon in the Netherlands

One of the more extreme complot theories these days is the one believed in by the QAnon-movement, which started in the US in 2017. QAnon-followers believe high government officials and other influential and wealthy people belong to a cabal of Satan-worshipping, cannibalistic pedophiles that runs a global child sex-trafficking ring and plotted against former US president Trump. Recently the theory also got foothold in the Netherlands. In the second half of 2020 followers threatened members of parliament and demonstrated on the Museumplein in Amsterdam. A subsequent analysis by the University of Amsterdam showed that at that time there were four large QAnon related Facebook groups with in total 12.000 unique members. Next to these four large groups the movement was a subject of discussion in another 300 groups, a total of 40.000 messages were posted and more than half a million interactions (likes, shares and comments) were made (NOS, 2020). On Twitter the Netherlands at the time was part of top 3 European countries (next to the UK and Germany) where QAnon was discussed. January 2021 Twitter announced to have removed at least 200 Dutch QAnon related Twitter profiles. Still several Dutch QAnon related profiles with tens of thousands of followers remained active back then (Bos, 2021).

Reliability Paradox

Remarkably, young Dutch people, despite being aware that social media are much less reliable than the traditional news brands, search for news primarily on social media and find independent journalism less important than the elderly (Keulen et al., 2018). Qualitative research on the importance of the reliability of news for the consumption of news by young people, conducted by the Windesheim University (Eggink & Dronk, 2020), shows what is called a reliability paradox. It appears that young people who find reliability important and who can indicate which news media they do and do not consider reliable, do not always express this in their actual choice for certain news media. Many can explain why they find news via social media unreliable, but, for convenience sake, they continue to use the same social media to meet their news needs. Conversely, many of the research participants consider newspapers to be reliable, but still prefer news that is easily accessible and for free via social media. The interviews also showed that many respondents have difficulty substantiating their opinion about the reliability of news and that many respondents lack knowledge of the way in which news is produced. Earlier research already showed that young people tend to overestimate their ability to judge the reliability of online information (Netwerk Mediawijsheid, 2021).

A similar paradox seems to exist in the behavior of adults. 71% of all adult Dutch people agree that they “ensure that the news they consume comes from a source they trust,” (Heck, 2020). The problem, however, is that citizens label news sources as 'reliable' when their content is seen as 'true'; in many cases, citizens perceive news sources as reliable because they confirm their worldview. Moreover, a large group of Dutch

people (69%) is not willing to pay for news and uses social media as a daily news source.

Visible consequences

Moreover, debate in society is becoming harsher and consequences of believing in conspiracy theories have become more real, more visible, in the past year. Conspiracy theories surrounding corona lead to demonstrations against public policy, to refusal of vaccinations, to destruction of test sites, to threats to politicians, scientists and health care personnel and to general political polarization. Conspiracy theories surrounding the arrival of G5, whether intertwined with those surrounding corona, lead to arson and vandalism of cell towers. Police officers noticed that during the curfew riots hooligans no longer just came for a fight, but now felt as knights in shining armor, as the last defenders of the truth (NOS, 2021). At the same time a politically colored new Dutch media-political arena is becoming visible on YouTube while the reliability and objectivity of the traditional mainstream media are being questioned openly (Rogers & Niederer, 2019).

Emergency number offline

In 2020 at least 29 cell towers were set on fire by opponents of the new 5G-network (van Ast, 2020). Opponents of the 5G-network believe radiation from the network is causing health and environmental damage although research shows all official health limits for radiation levels are respected, which has been affirmed by court and the Dutch National Institute for Health and Environment (RIVM). As destruction of cell towers can lead to emergency numbers being offline, and police and other emergency services being unable to communicate, the Dutch minister of Justice and Security ordered extra surveillance around important cell towers.

Combating disinformation

Moderation and proofs of authenticity by media and news organizations

As mentioned, social media in the Netherlands, as in other parts of the world, actively counter disinformation. Twitter has started tagging Tweets containing disinformation, and members are no longer allowed to share political ads on the platform. In addition, the social medium has introduced a penalty system for Twitter users who cross the lines. Another social medium, YouTube, has started actively removing channels that contain disinformation. And although on Facebook and Instagram political parties are still allowed to advertise, rules have become stricter. Advertisers must for example first prove that they are active on behalf of the party. Facebook recently also has banned conspiracy theories and misinformation about corona vaccines. And both Facebook and Twitter factcheck messages from prominent politicians. At the same time, the companies promise to continuously search for fake news, which will be removed after verification. When it comes to fact-checking in the Netherlands,

Facebook, which also owns WhatsApp and Instagram, collaborates with the German press agency DPA and the French press service AFP. A special team of Dutch journalist is said to be appointed to fact-check Dutch messages on all platforms. Traditional news media counter fake news primarily by creating awareness. The Dutch Public Broadcasting service (NPO) is developing technology to proof authenticity of videos, to recognize deep fakes, and is developing public algorithms that show NPO viewers and readers views opposed to or different from what they may already know (Redactie De Nieuws BV, 2021).

Educational programs and private factchecking initiatives

Fake news and disinformation have already been a subject in education for some time now in the Netherlands, often as part of a media literacy program. For example, in the Mediawijzer network the Dutch Institute for Sound and Vision, schools and other media partners work together to improve students' and teachers' media literacy, both in the classroom and online. By means of articles, with teaching programs, such as 'BeeReal', a program aimed at young adults who train for work in the education sector, care and welfare sector and the media sector, during teacher days and with school arrangements at the Institute for Sound and Vision, pupils and teachers learn to distinguish fake from real and to handle media responsibly (Beeld en Geluid, undated; Olierook, 2020). In part two of this report we take a closer look at interventions and learning programs for secondary education youth aiming to minimize the effects of fake news and disinformation.

Disinformation in the Netherlands is also combatted by private initiatives, particularly by exposing fake news. There are thousands of fact checkers on the internet who are constantly analyzing videos and messages for their authenticity. In the Netherlands, special sites such as kloptdatwel.nl and nieuwscheckers.nl have been set up by students and other fact-checkers.

Empty beds in the ICU

In April 2021, while hospitals were fearing running short of beds on Intensive Care Units due to the high number of daily Covid-19 infections in the Netherlands, a video showing dozens of empty beds on the Intensive Care Unit of Amsterdam University Medical Center (Amsterdam UMC) went viral on Facebook. In a matter of days this video was shared more than 14.000 times on Facebook only and was also spread through other social networks, mainly Twitter, the accompanying message being that the public is lied to about the earnestness of coronavirus infections. The hospital was quick to react denying the allegations. In reality the empty ICU beds shown on the video were filmed in the central storage of Amsterdam UMC, where they were waiting to be cleaned before returning to the actual Intensive Care Unit to house new patients. Following the hospital reactions Facebook flagged the video as fake news. To this day it is still not clear who the person is that filmed and spread this video.

Awareness campaigns, transparency and a multiform media landscape

Disinformation and fake news more and more become a topic of national policy. In 2019, the Dutch government asked the Council for Public Administration to provide insight into the opportunities and threats of digitization for Dutch democracy and the desirable perspective for action. The council advised the Dutch government to focus on three strategies regarding the dissemination of disinformation and fake news (Raad voor het Openbaar Bestuur, 2019). First, the government itself should set a good example by being testable, by valuing contradiction and by investing in truth-finding itself. In addition, citizens must develop resilience for disinformation by encouraging critical citizenship, considering the influence of psychological processes in the processing of information and digital technologies that take advantage of people's psychological pitfalls. This strategy requires investing in citizens' digital and democratic skills, being prudent with information campaigns and facilitating fact-checking by science and media. Finally, the Council recommends tackling disintegration by building places for exchange of views and ideas with citizens, media, science and platforms.

In line with these recommendations The Dutch government has since taken various measures to prevent the spread and counter the impact of disinformation (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2020; Ollongren, 2020). Awareness campaigns have been launched, media literacy is being promoted, transparency about governmental policy and action against disinformation has increased, efforts are being made to preserve a multiform media landscape, and innovations for the consumption and production of online news, such as the development of quality standards, are stimulated (Ollongren, 2020). In addition, in the context of the elections for the House of Representatives elections, partly due to lessons learned from events during the American presidential elections, detection measures have been intensified, a change in the law on financing political parties has been effected, and a Code of Conduct for Transparency of Online Political Advertisements has been launched and signed by eleven political parties and four internet services.

Resilience, awareness and technological citizenship

Looking closer at the current Dutch national policy approach shows it primarily focusses on limiting the impact of disinformation through the promotion of resilience and awareness and much less on actively contradicting or disproving it (Rathenau Instituut, 2020a). The Dutch government considers actively countering disinformation a responsibility of non-governmental actors such as independent media, online platforms and scientists. It only sees a role for itself when political and economic stability or national security are at stake, or when it comes to publicly communicating its policy.

When it comes to the promotion of resilience and awareness, the Rathenau Institute specifically recommends that citizens gain insight into how technology works. Media literacy alone, meaning the ability to carefully and consciously use media and the ability to reflect on sources and backgrounds of online messages, is not enough. Investments should be made in 'technological citizenship'. Citizens should, for example, know what machine learning algorithms are, what influence they can exert

and how one can defend himself against them. Furthermore, the progression of digital technology constantly creates new ways of producing and disseminating disinformation, creating new challenges for society and its citizens. Citizens should therefore be able to critically reflect on technology and be aware of the technological culture they live in. They should be able to understand the significance of technologies for the world and society and be able to understand the business models behind them. In addition, citizens should be able to participate in the democratic debate and in political decision-making about new digital technology (Keulen et al., 2018; Rathenau Instituut, 2020d).

RTL News hoax

Shortly after the first cases of Covid-19 infection appeared in the Netherlands, an online news article was spread on social media claiming that all schools and universities would be closed instantly. The article seemed to come from RTL News, one of the most watched daily news programs in the Netherlands. The website where this fake news article was published mirrored the real RTL News website so perfectly in its design that it was very hard to tell it was fake. The only clue was the URL which clearly was not coming from RTL. The links within the article itself were leading to other articles on the actual RTL website though, making it harder for readers to spot the hoax. Soon after this news article was publicly identified as a hoax, the fake website went off air. Screenshots of the message lingered a bit longer on social media, leading to fake news specialist Peter Burger calling them "Fake screenshots, next level" referring to their level of perceived authenticity.

Conclusion

Increasing impact

Although until recently the dissemination and impact of fake news and disinformation in the Netherlands seemed relatively limited, its occurrence and impact has significantly increased over the last three years and especially since the Covid-19 outbreak. Consequently, the Dutch national government, and its advising institutes, feel an increasing urgency to act against the dissemination and especially the impact of disinformation. As a country with one of the highest digitalization rates in Europe and a growing part of the population gathering their information and news online and more specific, through social media, Dutch society seems particularly vulnerable to the threats of disinformation. Which has recently been shown by the real consequences of disinformation around for instance the 5G-network, the Covid-19 outbreak and by complot theories such as QAnon.

A call for technological citizenship as an extension of media literacy

Several measures to counter the dissemination and impact of disinformation are already being taken. These measures primarily focus on the promotion of resilience and on awareness through media literacy. Alarmed by technological developments that make it ever easier to produce and disseminate fake news and disinformation, and that make it ever harder to discern fake from real, the Dutch institute for technology assessment Rathenau urges the Dutch government to particularly invest in its citizens technological emancipation. Citizens should be able to acquire technological citizenships, which implies more than being media literate alone. Citizens should have knowledge of the technologies that are being used for the production and dissemination of (dis)information, and be able to reflect on its consequences for society and their lives, as part of their participation in the democratic debate and in political decision-making.

Dutch troll army of coronavirus sceptics

A group of Dutch coronavirus-septic activists calling themselves the Digital Army, have been coordinating and spreading fake news and disinformation about the coronavirus since February 2020 all through to March 2021. This has recently been uncovered by the Dutch current affairs show Pointer. The Digital Army met through messaging service Telegram, a digital base from which they would coordinate actions aimed at spreading coronavirus-related disinformation through fake accounts on Facebook, Twitter, Instagram and news websites. They also actively engaged in harassment of regional health centers, politicians and high profile doctors both online and offline. For example, members were encouraged to bombard health board test centers with emails, posing as reporters with a long list of questions. The group also passed on the private address of Diederik Gommers, chairman of the acute hospital care association and a member of the government's Outbreak Management Team, encouraging members to 'pay him a visit' on April 17th. This 'visit' never happened, because the group dissolved shortly after the Dutch parliamentary elections held in March 2021 due to irreconcilable differences concerning the future of the group.

::Part 2::

Educational interventions in the Netherlands

Introduction & methodology

In order to come up with directions for solutions that help to make society resilient to disinformation and its negative consequences, it is necessary to gain a better understanding of the current landscape of fake news and disinformation interventions. Insight into the different types approaches currently on offer, can be informative and offer starting points for the development of a new intervention. In the second stage of our study we therefore map out which interventions and educational approaches already exist. What kind of programs, tools or educational approaches have been developed that are aimed at arming people – specifically youth from 12-15 years - against fake news and disinformation? What characterizes these interventions and on what basic principles or theoretical premises are they based? We are most interested in the (possible) role that public libraries (can) play in this area, specifically in collaboration with education (secondary schools). But we also look at interventions, tools or instruments that exist outside the context of libraries that might provide us with insights or directions for the development-stage of the SMILES project.

The inventory is made via desk research in two steps. First, interventions were collected by online search via Google, using search terms such as 'disinformation', 'disinformation' and 'fake news' in combination with 'combat', 'fighting', 'education', 'training', 'program', 'workshop' or 'intervention'.

The type of interventions we found and analyzed were for instance:

- › Media literacy/digital media/digital educational tools that exist (or not) in the training of teachers and librarians,
- › Existing national training resources (such as books, videos, MOOCs) for 12-15 years old young people on media literacy/digital media/digital tools/fake news,
- › Existing national projects and training opportunities which exist for 12-15 years old young people on media literacy/digital media/digital tools/fake news.

To be included in the analyses intervention had to meet two criteria: 1) The subject of disinformation makes up a substantial part of the intervention, and 2) the intervention

is aimed at youth between 12 and 18 years of age. In the second step found interventions were described by the following characteristics:

- > Name of intervention
- > Publisher
- > Type of organization
- > Short description
- > Themes
- > Type of intervention
- > Target group
- > Learning environment
- > Duration
- > Medium
- > Learning context: (formal, non-formal and informal education)⁴
- > Educational principle (active learning, blended learning).⁵
- > Methodology: (debunking, prebunking and triangulation)⁶
- > Assumed impact on learners
- > Evidence base
- > Costs
- > URL

The description of the interventions resulted in a database in Excel of which an excerpt can be found in Appendix I.

⁴ Formal education: structured and organized forms of education that are part of the official educational system and curriculum, as acknowledged by the Dutch Ministry of Education, and upon which completions students receive an acknowledged diploma.

Non-formal education: any organized educational activity outside the established formal educational curriculum that is intended to serve identifiable learning target groups and has clear learning objectives.

Informal education: a lifelong process whereby every individual acquires attitudes, values, skills and knowledge from daily experience and the educative influences and resources in his or her environment, such as family, friends, neighbors, work, libraries and media.

⁵ Active learning: acquiring new knowledge or skills by doing certain tasks or participating in certain activities.

Blended learning: a mix of different learning forms, such as traditional classroom training and e-learning.

⁶ Prebunking: making people resilient to disinformation by deliberately confronting them with fake news on forehand.

Debunking: exposing disinformation by presenting the facts, counter arguments and alternative sources.

Triangulation: offering information from different perspectives and motivating people to make their own decisions based on knowledge from different perspectives.

Findings

Number and types of interventions

58 non-formal interventions

A total of 58 interventions were found. Most of these interventions focus solely on the topic of disinformation/fake news. 13 interventions concern projects or lesson packages covering the broader field of media literacy. In all cases disinformation is one of the subjects in a broader scope as for instance media literacy, yet often a significant one. All the interventions we found can be classified as non-formal education, what was to be expected, as the focus of the study was not on formal education, but learning in an out-of-school context. Many of the interventions, however, can be used in the formal curriculum, for example as an extension of or assignment within a school subject. The extent to which this occurs has not been investigated, because the extent and manner of deployment of interventions did not fall within the scope of this study.

Mostly lesson packages and workshops

Seven different types of interventions were found (see table 1). Most interventions are lesson packages (23) or workshops (13). One intervention combines a game and a workshop, two interventions are a combination of an online guide and a (downloadable) checklist. The exact form of one in-development intervention is yet unknown.

Number of intervention types	
Type of intervention	Number of interventions
Workshop	13
Game	3
Single lesson	4
Lesson package	26
Vlog/video	3
Checklist	4
Online guide	6
Yet unknown	1

Equally online and offline

Most interventions (21) offer a combination of online and off-line activities and/or materials. An almost equal number of interventions offer only offline (18) or only online (16) activities and/or materials. As for the three interventions that are still in development the exact medium is yet unknown.

Often blended and active learning

21 interventions use blended learning. In all but one case by using both online and offline materials and/or activities. One intervention was defined as blended based on a combination of two distinct offline methods, a transfer of theory through classical lessons and an activity where students make news themselves. 26 interventions use a form of active learning where students learn by actively making (fake) news, be it in the form of videos, written articles or images.

Who is making this fake news? (Museon)

WORKSHOP | PREBUNKING | ACTIVE INVOLVEMENT

In this workshop students work in groups on an assignment. The assignment is: to make a news report within a limited time frame and with limited resources. They experience on hand which choices journalists must make and what hardships they experience. The reports are presented to their fellow students and a discussion around objectivity and framing follows.

Themes

Forms of disinformation and underlying technologies

Most of the themes are related to manifestations of disinformation and underlying technologies. Topics are: algorithms, trolling, deep fakes, hoaxes, conspiracy theories, polarisation, framing, satire and parody. Less often, but repeatedly encountered, are the topics: fact checking, internet bubble, cyber bullying and clickbaits.

Context related topics

Other topics found deal with the thematic context of disinformation. E.g. parliamentary elections, journalistic ethics, freedom of the press, dangers of social media and the broader spectrum of media literacy or digital literacy.

Assumed impact

Resilience by distinguishing real from fake and media literacy

All interventions are aimed at arming users with knowledge and tools that will help them distinguish real from fake information in social and news media. 13 interventions have a broader scope, mostly media or digital literacy. In some of these cases objectives of these interventions are defined in terms of the Dutch competence model for Media literacy. In other cases, the assumed impact is described as “wiser” use of social media in general.

Fostering critical thinking

Some of the interventions specifically aim to foster critical thinking of young people

about the information they encounter daily through various sources. This includes reflecting on their own behaviour and on the information they spread and use.

Types of publishers and costs

Mostly non-commercial organizations and for free

The 58 interventions found stem from 31 different publishers. Most of these publishers are non-commercial organizations (40) followed by commercial organisations (14) and collaborations (5). Collaborations are a joint effort between commercial, non-profit and/or governmental organisations. Two of the commercial parties identify themselves as social enterprises. About two third of the interventions can be used free of charge.

Kritisch online (Codename Future)

LESSON PACKAGE | DEBUNKING

Kritisch online (Thinking critically online) focuses on development of critical skills young people need online. Students learn to look critically at news reports and to recognize fake news by the method of debunking. By debunking students learn to analyse information on the internet and respond effectively to it. This way students not only develop resilience to disinformation, but work on their media literacy skills, critical thinking and digital citizenship as well, according to the makers of the package. The teaching materials are available online, consisting of a digital worksheet and digital blackboard (digiboard) lessons. Kritisch Online has been developed in collaboration with the Dutch Ministry of Justice and Security as a spin-off of the successful programme 'Digitale Weerbaarheid' developed in collaboration with the Institute for Strategic Dialogue (ISD), the Ministry of Foreign Affairs and the Ministry of Justice and Security.

Target groups and contexts

Few interventions aimed at caretakers as well

As follows from the scope of the inventory, all interventions are aimed at pupils in secondary education. Two interventions focus on parents/caretakers and teachers. Three interventions are meant for the general population, regardless of age.

Most interventions meant for usage at school

Most interventions are specifically designed for usage at school. Most of these interventions are lesson plans, single lessons or workshops. Some interventions can be integrated in the Dutch formal school curriculum. Four interventions can be used at home as well. These are online guides, checklists and an online game. Two lesson plans are specifically designed for students to work on at home. Two interventions can only be used at the publisher's location. In both cases the use of a recording studio is

involved, one for video and one for audio. Three interventions can also be used in the library.

Methodologies and evidence base

Debunking as primary tool to counter disinformation

35 of the 49 interventions develop the capacity for debunking, for proving something is less true than it has been made to appear, as method to counter the impact and dissemination of disinformation. These are mostly the already somewhat older interventions. Prebunking, making people resilient to disinformation by confronting them with fake news, is found in 15 (newer) interventions. Five interventions use triangulation, motivating students to make up their own mind with the help of knowledge from different perspectives. When prebunking is used, it always implies a form of active involvement, mostly by letting students create (fake) news themselves.

Evidence base often not specified

The evidence base used for the development of an interventions is rarely specified by publishers. The only scientific theory named by a publisher is the inoculation theory, a social psychological/communication theory that explains how an attitude or belief can be protected against persuasion or influence in much the same way a body can be protected against disease—for example, through preexposure to weakened versions of a stronger, future threat. Inoculation is a form of prebunking.

In some other cases publishers state that “the material is developed according to the latest scientific insights” or name a specific important person or institution they worked with, while the specific theories or methods stay undisclosed.

Under Pressure (DROG and Diversion)

WORKSHOP & GAME | PREBUNKING | ACTIVE & BLENDED LEARNING

The Under Pressure disinformation game and curriculum uses an innovative methodology that combines peer education and gaming. The project combines DROG's Bad News serious game and Diversion's Newsroom curriculum. The Bad News game, which has been developed in cooperation with Cambridge University is based on the *inoculation theory*. By creating and spreading fake news, participants gain insight into how disinformation works. Subsequently they reflect on their experiences with peer educators who act as role models. Themes covered include polarization, trolling and sharing conspiracy theories.

Conclusion

Prebunking, debunking and triangulating

Part 2 of this study aimed to find starting points for the development of a new intervention by looking at existing interventions. Existing interventions often do not explicitly mention an evidence base for the specific disinformation countering methodology being used. Some interventions though refer to the so-called inoculation theory, which provides an evidence base for the prebunking approach used in more recently developed interventions. This on the other hand, does not mean prebunking should be considered more effective than the development of debunking skills in youth. One could argue that one cannot be prebunked for all future threats of disinformation, especially not given the rapid technological developments as discussed in part 1 of this report. Being able to debunk misinformation, means having the skills to analyze new information and (consciously) judge it on its merits, thereby also adding to the skills needed for triangulation. One can assume an effective intervention, developing sustainable skills, teaches students both the skills to debunk and triangulate and sensitizes them by methods derived from the inoculation theory, i.e. prebunking.

Blended and active learning

Learning approaches vary but most interventions use non-formal (i.e. extracurricular) education by means of blended learning and with active involvement of students. This in general has been proven to be an effective approach, if didactically well designed. Given the characteristics of the subject being taught, the power to independently and autonomously judge information in different media, using different media and settings (blended learning), and including active learning can be considered as inherently recommendable for the development of a new intervention.

::Part 3::

Interviews with experts

Introduction & methodology

The synthesis of the collection of interventions should provide an adequate overview into the current state of teaching methods and educational approaches. To gain a more complete picture of the range of interventions that exist and a deeper understanding of what factors determine whether or not they are (expected to be) successful, the desk research is supplemented with interviews with two groups:

1. Experts: academic researchers and project developers in the field of media / digital literacy (education)
2. Library Professionals: (a) librarians who work with secondary schools (boards and teachers) on educational programs in the field of media education and (b) educational specialist who support local libraries in their service provision for and collaboration with schools.

Participants were selected for their expertise and the expected diversity in contribution. Interviews were organised in two small focus groups for both target groups, held online and lasted one hour each. Interviewees and their backgrounds can be found in Appendix IV. The interview guidelines can be found in Appendix II and III.

The purpose of the focus groups was to gain insight into the current knowledge of the phenomena of disinformation and fake news in the Netherlands and to collect points of interest and recommendations for developing an educational intervention to make youth resilient to disinformation. Because the aim is to have schools and libraries work together in this intervention, we were also looking for tips and advice on how to make this a successful collaboration.

Findings

The problem of disinformation

Hyped and asymmetrical

Experts do not all agree on the urgency and impact of the problem of fake news and disinformation. While some emphasize the realness of the problem, as demonstrated by the very real consequences of for instance the dissemination of disinformation and fake news around Corona and its vaccines, and the effect of disinformation on voters in the USA, others consider the recent attention that is being given to the subject as a bit overhyped. They argue the dissemination and impact of fake news is a phenomenon that mainly occurs in relation to specific events (e.g. national elections and the corona crisis) and only has an effect within specific groups of people (e.g.

either left wing (Poland) or right wing (USA) voter. In addition these experts state, and as has also been noted by the Rathenau Institute (see Part I), fake news in the Netherlands is primarily a problem on social media and much less in traditional media. In the Netherlands broadcasting networks and newspapers are not as much connected to specific political stand as in for instance the USA. The problem can therefore be seen as an asymmetric problem, not as a general problem that affects all media and all people. Finally, some experts emphasize, young people should not be seen as unwilling victims whose political and consumer choices are easily manipulated.

Because of the great influence of social media there is a clear concern for the impact of disinformation on youth among the library professionals. Participants report that in their daily work in and with schools they see that children are strongly influenced by what they see on social media, that they are flooded with information and in their news consumption they and they let themselves be guided by the number of followers and sensation. Library professionals express their greatest concern for the group with a lower level of education, because this is a group that often also deals with poor language skills. Children in this group read poorly and find it difficult to see and add nuance.

Understudied

At the same time the problem, according to some of the experts, is also understudied. Most studies available on the subject come from the UK and USA. Given the asymmetric dissemination and impact of disinformation, conclusions from one country are not representative for what is happening in other countries. Also, one of the experts argues, information with regard to the way adolescents handle, evaluate and process information and how they use prior knowledge is lacking and often based on assumptions.

Reasons for concern

Still some of the experts argue though that a growing distrust and suspicion with regard to news media, politics and the system/society as a whole is a general underlying problem that feeds the vulnerability for misinformation and fake news in all societies. Moreover, in the Netherlands fake news and disinformation may not have an impact as big as in some other countries yet, because of its relatively mild political polarisation, but evolving technology and its proliferation and a possible related new pillarization of society (separation of a society into groups) may lead to a society in which debate is framed largely by appeals to emotion, disconnected from the details of reality. The library professionals confirm these concerns and express their worries about polarization and a society in which people from different groups “no longer talk to each other”.

What should an intervention look like?

(Not just) critical thinking

Experts agree young people are already quite savvy in terms of the practical usage of media and often far ahead of their educators in that regard. The next step in the education of young people's media literacy is usually the development of critical thinking. Most experts argue this next step should go further than 'simply offering them a checklist for the judgement of the credibility of information'. Checklists are helpful because they provide guidance when judging information on its trustworthiness, but for different reasons not enough. First, it is almost impossible to have 100% certainty about the truthfulness of news and information and sources. Overfocussing on this aspect of the information problem can lead to scepticism. Second, evolving technology and its proliferation will make it even more difficult to discern 'real' from 'fake', making it even harder to come to a definite conclusion about the truthfulness of information. Third, even when people can know information may not represent the truth, they may still spread it because of for instance a confirmation bias or affective polarization, hostility towards groups with an opposing (political) identity.

Production, context, emotions and the implicit process of evaluating information

Experts emphasize that to be able to handle information and news both critically and practically one needs a broader, transferable understanding of the way information and news is produced. As an important part of that, one must for instance understand how news and information often are framed in order to be convincing or appeal to the emotions, and how information is always related to a context and point of view; the value of information depends on where, when and by whom it is produced and on where and when one wants to use it. For example, doing research on how ladies magazines write about breast cancer in 1980s, one has to look at magazines such as Libelle and not scientific literature, but doing research for treatment in hospitals, one would look at medical journals. In addition, knowledge of the role of emotions in the production, evaluation, dissemination and impact of (fake) news is mentioned as an important part of this broader approach.

Other subjects that were mentioned by the experts and that can be part of an intervention that promotes a broader understanding of the way information and news are produced are: how journalists check their sources, how people in everyday life implicitly evaluate information and news.

Library professionals stress the importance of reading comprehension as an important skill in interpreting news and information and be resilient to fake news. Reading comprehension is all about finding out the meaning of a text by applying strategies to, for example, distinguish between main and side issues, opinions and facts and assess texts for value. One of the participants describes two project initiatives in which database of 'rich texts' on current themes is developed. Those texts must have all kinds of forms and offer different perspectives on a theme and form the basis for discussions in class. This helps students learn to have a conversation about issues, to nuance it and learn that multiple truths can exist.

Knowledge of technologies can be relevant

Asked about the importance for citizens to acquire technological citizenships as suggested by the Rathenau Institute (see Part I), the experts emphasize this is only one dimension of the problem of disinformation. As one expert puts it, technological citizenship as a subject is actually what is called digital citizenship in the school curriculum. Moreover, digital citizenship is what citizenship means today and should therefore be an integral part of the broader school curriculum, without approaching it in a negative way. As part of an intervention for the impact and dissemination of disinformation, knowledge of for instance the way algorithms work and the way search results are produced, can help to further understand the way news, knowledge and information is produced and how (the supply of) information is contextual.

Open conversation and aligning with children's interest

When developing or implementing an intervention for the impact and dissemination of disinformation, the experts emphasize it is important to keep the conversation open and lively, accept different views and appreciate different contexts, without judging, telling right from wrong or becoming too protectionist. Library professionals also emphasize the importance of an open conversation and warn not to address the topic too abstractly. They advise to keep it small and relate it to the environment and interests of children. They say it is important not to judge what children do online (e.g. posting videos on Tik Tok / using snap chat / Instagram, etc.), but to try to join in. Approach children mainly from a positive experience, arouse their long-term curiosity and expose them to media forms that enrich their lives. An example is given of a lesson in which children learn to edit a video and put a nice music to it, while at the same time learning something about manipulation.

Methodology serves purpose

Experts emphasize there is no golden standard with regard to the methodology an intervention should apply. Specific methodologies are suited for specific goals. For example, the often mentioned prebunking methodology, based on the inoculation theory, is particularly of use when the goal of the intervention is to prepare people to *resist persuasion* by misinformation, while debunking on the other hand can be used as a method of *uncovering* disinformation. A more specific form of debunking, lateral reading, that is the act of verifying what you're reading as you're reading it, may be helpful when a source does not give clear clues about its trustworthiness or one cannot be sure about the truthfulness of the information given. The reader then works as a fact checker and uses the internet to evaluate the reliability of the news or information. When the goal is to understand the way knowledge is produced and how context matters again other approaches might be suitable. In general, whatever methodologies used, experts emphasize the importance of interactivity and openness as described in the previous paragraph. Library professionals also express a strong preference for methods in which children can get to work creatively, for example by making and editing video material.

Other tips and advice

Regarding the focus of the intervention, experts advise not to focus too much on fake news or information that is completely fake, as this represents only a small part of the problem. Furthermore, interventions focussed on critical thinking alone can be effective but one has to be aware this can easily result in a generalized cynicism and suspicion. Adolescents must be facilitated to hear and explore different viewpoints, to analyse information together, to understand the context of differences, to form their own opinion and to express their thoughts. This way students learn to develop and understand dispositions, and have the mind and skill sets that help them moving forward. One expert emphasizes these skills can best be learned in the media context age groups are already in. But, there is no one size fits all. Some of the above mentioned subject will be too complex for 12-13 year olds, while also teacher might need training. Training and lessons also need to be repeated. A single lesson doesn't do it, as one expert puts it. When asked, some experts say most effect can be gained by starting with the youngest groups and lower levels of education. Some of the library professionals see that there is particularly benefit to be gained among children with a lower educational level and with low reading skills. In addition, this group also emphasizes the importance of the skills and awareness of (novice) teachers who are not always sufficiently news and media literate themselves.

Library and school collaboration on fake news education

Although teachers themselves were not interviewed for this study, we can derive some interesting recommendations from the experiences of library professionals in their collaboration with education regarding reaching out to and collaborating with this group.

Integration in the school curriculum

In their work for and with secondary schools, library professionals sometimes come across interventions on the topic of disinformation and fake news, but these are often fragmented, local and not very structural. Although schools (to a greater or lesser extent) feel the conviction that it is an important subject, the experience of library professionals is that there are not many schools where there is a school-wide vision on media literacy and disinformation and where the subject is broadly embedded. At the same time, one of the library professionals indicates that schools – just like libraries - have built up more expertise in recent years, e.g. by following media coach training. To integrate the topic of disinformation – or more broadly: media literacy – as a permanent element in the school curriculum, several library professionals believe that it should not be offered as a short lesson or teaching package, but that it should be embedded in the so-called 'subject classes' such as citizenship; philosophy of life; religion; IT; or information science. At the same time, some also find it useful to include it as a separate part, because of the good conversations it can initiate as such.

Moreover, the professionals also experience that the opinion that the theme should be part of the curriculum is not yet shared by everyone. Some of the teachers they encounter do not think of it as a task for themselves or for the school.

Libraries, media literacy and desinformation

Although a few library professionals indicate that the library sector is relatively quick to tackle and embrace the theme of disinformation and media literacy, it is also stated that expertise, money and capacity for this theme are often also insufficiently available. In their collaboration with schools, the attention to reading promotion and reading motivation dominates, which probably also has to do with the fact that schools see a more logical role for libraries there.⁷

Focus group participants cite a number of examples of interesting programs or services in the field of digital and media literacy that touch on the topic of disinformation and that are developed or offered by libraries, such as different educational products for secondary education from the library of Gelderland Zuid⁸ and some programs that are offered by Probiblio⁹. The Utrecht library is planning on setting up a digital literacy network for teachers and developing an anti-filter bubble app. For a successful example of how a library can put together a good range to education, reference is also made to *Doe je digiding!*¹⁰: an online teaching environment that enables young people to become acquainted with digital government services independently. A library in Groningen is setting up a project titled 'Sporen'(traces) in which children embark on a quest for their own cultural heritage in which they are made to think about facts, fiction, private and public in relation to the trail they themselves want to leave behind.¹¹

Soft landing

Asked for recommendations to shape school-library collaboration, some library professionals refer to a common known pitfall of developing something completely new to add to the teachers workload, which is already very high. It is experienced by the library professionals that teachers have too little time to delve deeply into a topic like disinformation and they are often reluctant to get started. Although they feel that they have to do something with it, they are hesitant to put it into practice. A lack of time, but also of knowledge and skills ("they feel that they need to know even more than the children themselves") are reasons given for this by the library professionals. Therefore library professionals emphasize the importance of good support ("give them the confidence that they are not alone") and a 'soft landing'. By this the library professionals mean that a topic or approach should be introduced to the school with careful steps, for example by starting sessions with school teams about the importance of the topic.

⁷ National research into the collaboration between libraries and secondary schools also shows that in 2020 approximately one third of the 140 libraries in the Netherlands collaborates with secondary education on topics concerning digital literacy, versus 86% on the topic of reading and reading promotion.

⁸ See <https://educatieshopobgz-edu.op-shop.nl/ingang/voortgezetonderwijs/#/>

⁹ See also Appendix I

¹⁰ <https://doejedigiding.nl/>

¹¹ This project is still in the start-up phase

Although one of the professionals indicates that many secondary schools are surprised at how efficient, structural and professional libraries have already developed their approach to and collaboration with education, they still do not always see the library as a logical partner in the area of media literacy. Expanding the role and cooperation in this area therefore requires patience, good profiling, a positive image and, expertise, according to some of the library professionals.

Conclusion

Recommendations for the Intervention

Based on the interviews with experts in the field of digital literacy and library professionals, we can conclude that the spread (and impact) of fake news and disinformation is seen by many as a serious concern. Although the problem is still fairly limited to specific groups, topics and channels, education on this topic is important. From the knowledge and experience the experts and professionals shared with us in the focus groups, we can derive a number of important lessons and recommendations that should be taken into account when developing workshops for libraries and schools:

- › The experts emphasize that interventions should be focussed on a broader palette of skills than mere critical thinking or debunking.
- › Also prebunking addresses just one part of the problem, the susceptibility to persuasiveness of disinformation.
- › The experts emphasize that adolescents must learn to understand the context of different viewpoints.
- › Another important skill for adolescent to develop, as mentioned by the experts, is the understanding how knowledge and news is produced. This includes the understanding of:
 - how it is always related to a context and point of view;
 - how it can be framed to be convincing and to appeal to emotions;
 - how value of information depends on where, when and by whom it is produced and on where and when one wants to use it;
 - understanding how people in everyday life (implicitly) evaluate information and news;
 - what the role of emotions is in the evaluation, dissemination and impact of (fake) news.
 - knowing how to form their own opinions and to express them properly.
- › According to the experts, knowledge of technology can be part but should not be the main focus of an intervention.
- › Knowledge for instance of the way algorithms function and of how search results are created by search engines, can help to further understand the way news, knowledge and information is produced and (how the supply of) information is contextual.
- › The experts emphasize that interventions should not be too protectionist. Instead the conversation must be kept open and lively, with appreciation for different views and different contexts.

- › Library professionals add to this that interventions ideally relate to the interests and curiosity of children. They say it is important not to judge what children do online and approach it from negative experiences, but connect to what they like online and arouse their long-term curiosity.

Recommendations for library – school collaboration

An important purpose of the SMILES project is to have school teachers and librarians work together on fake news workshops for kids. Because Dutch libraries already collaborate intensively with teachers and school boards, we also asked the group of library professionals for insights and lessons about this collaboration. Based on their work experiences with schools, specifically around the theme of digital literacy, we can draw the following lessons about library-school collaboration:

- › Library professionals emphasize that it's important not to overload busy teachers with yet another new lesson or theme, but to integrate the theme into the regular curriculum and support them with the implementation.
- › But before you start working with teachers on concrete interventions it's advised to create a 'soft landing' in the school by taking a step-by-step approach in which you start with a conversation about (the importance) of digital literacy.
- › Such an approach also contributes to a broader embedding of the theme of digital literacy and disinformation in the pedagogical vision and the entire curriculum of the school. Library professionals stress the importance of the topic not becoming an isolated thing.
- › In creating such a soft landing in schools, library professionals emphasize the importance of good profiling, expertise and patience in order to position the library as a logical partner for schools to work with.

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Appendix I: Excerpt of the intervention database

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
1	Under Pressure	DROG en Diversion	Under Pressure uses an innovative methodology that combines peer education and gaming. By creating and spreading fake news, participants gain insight into how it works. They also reflect on their experiences with peer educators who act as role models. The project combines DROG's Bad News game and Diversion's Newsroom curriculum. Themes covered include polarization, trolling and sharing conspiracy theories.	Polarization, trolling, conspiracy theories.	Upper secondary education and the first two years of vocational education.		x	
2	Workshop Nepnieus en desinformatie	Beeld en Geluid i.s.m. DROG	In this workshop, students are trained in countering fake news and disinformation through methods based on the inoculation theory. By creating and spreading fake news students learn about techniques and mechanisms behind disinformation.	Disinformation, fake news, trolling, editing and publication	Secondary and vocational education.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
3	Bad News	DROG	In this game participants play the role of a fake news spreader. By spreading fake news through social media, the player gains insight into methods and tactics used in the creation and spreading of fake news. These insights help participants to recognize fake news in the real world.	Fake news, polarization, conspiracy thinking, trolling, impersonation, discrediting.	Youth version 8-11 years. Adult version: 15 - 35 years.		x	
4	Fake news workshop for young people	maXMusic	In this workshop teaches young people how to recognize and 'filter' fake news. They work in groups to make a news report. Each group reports on a subject through 'colored glasses' (e.g. from the viewpoint of a political party). Afterwards, the reports are discussed and reflected on with the whole class. The discussion focuses on framing of information. Prior to the workshop there is a preparatory lesson in class.	Fake news, framing.	Secondary education.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
5	Online Masters	VodafoneZiggo with the cooperation of ECP/veilig-internetten and Netwerk Mediawijsheid	Online Masters is a free curriculum on digital literacy. It consists of four modules that cover the following topics: Digital world, Creative, Skilled, Safe and Social online. The Social online module in part focuses on awareness and self-reflection regarding fake news.	Fake news	Lower classes of secondary education.	x		
6	The Breakdown: Nepnieuws	JIP Haaglanden	A vlog by youth adviser Reggie, in which he explains what fake news is, why it appears in our timelines and how to spot it.	Fake news, trolls, social media, news media, algorithm.	Young people between the age of 11 and 28.	x		
7	Safe online	JIP Haaglanden	The 'safe online' package consists of various information courses focusing on the many dangers of social media. It includes topics such as sextortion, online challenges, fake news and cyberbullying. An information course lasts 1 hour and can be given to young people, parents and/or professionals.	Fake news	Young people between the age of 11 and 28, parents and professionals.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
8	Types of fake news	Internet matters	A concise guide with an overview of types of fake news and a list of fact-checking websites. There is also a link to the "Find the fake" quiz, in which people are competing in recognizing fake news.	Fake news, factchecking.	Young people and their parents.	x		
9	Checklist Fake News	You!nG, Movisie/- Kennisplatform Integratie & Samenleving	A one page checklist that contains 15 questions that help young people spot fake news.	Fake news	Young people between the age of 12 and 18.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
10	YNG Escape Game	You!nG, Movisie/- Kennisplat- form Integratie & Samenlevin g	This is a game in the form of an escape room. A group of young people take on the role of detectives to solve a girl's disappearance. They do this through different games and use clues on the girl's social media accounts. The detective also has a tablet that provides the players with information about the dangers of social media and fake news. Through the escape game youngsters learn about both the dangers (catfishing, grooming, fake news, deep fakes and money mules) and the opportunities of social media.	Social media, fake news, catfishing, grooming, deep fakes, money mules.	Young people between the age of 12 and 18.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
11	Media-in-beeld box: Nepnieuws	IDFA	This lesson package analyzes how journalists and newsmakers influence our perception of the world. It contains three documentaries with assignments. The assignments include group discussions. Students learn to watch the news from a critical point of view. They are also provided with tools that help them recognize fake news.	Fake news, critical analysis.	Secondary education.			x
12	Beeldkraken	Atlas van Stolk / Municipality of Rotterdam	This is an educational project in collaboration with the Atlas van Stolk (a collection of more than 250.000 prints, maps and drawings about the history of The Netherlands). The project aims to enhance students' visual literacy and teach them to have a critical view of the visual culture that surrounds them. This is done by teaching them to analyze images and by creating awareness that image creators have certain intentions when they create their work.	Image analysis, image manipulation.	Older classes of primary education and all classes of secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
13	Val niet voor vals	Bureau Jeugd en Media	This is a single module from the Internet Heroes lesson package. The module contains four lessons that teach students how to distinguish real from false information on the internet. The subject of lesson four is dealing with fake news.	Fake news, disinformation, satire, parody, deep fake.	Lower classes of secondary education.	x		
14	Journalistiek als wapen tegen desinformatie en nepnieuws	Nieuws in de Klas	This lesson package about disinformation and fake news contains theory and assignments that students can work through independently. Students gain insight into the dynamics of news and learn to deal with fake news and disinformation in a media-wise way.	Fake news, disinformation, journalism, deep fake, satire, parody.	Secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
15	Kritisch Online	Codename Future	This lesson package teaches students to look critically at news reports and recognize fake news. They learn to analyze information on the internet and respond effectively to - other peoples and their own - internet behavior. They work on their media literacy skills, critical thinking and digital citizenship. The teaching material consists of a digital worksheet and digibord lessons.	Fake news, facts and opinions, reflecting on ones own online behavior.	Secondary education.	x		
16	Media & Message	Het Nederlands Instituut voor Beeld en Geluid	This project teaches young people to think critically about the media around them. They become aware of the ways media try to persuade and influence them. They learn to recognize and apply different persuasive techniques. They also experience using these techniques by trying to persuade their fellow students of their message.	News media, election campaigns, persuasion techniques, social media	Secondary education.			x

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk- -ing	Triangula- -tion
17	Nieuwswij sheid	Nieuws- begrip & Facebook	A lesson about fake news offered on four different levels. Students learn what fake news is and why it poses a problem for the society. They also learn about the work of fact checkers, different forms of fake news and how these can endanger the democracy. The lessons have been developed together with Facebook.	Fake news, disinformation, media, factcheckers, democracy	From primary education to vocational education.	x		
18	Leerlijn Sociale Media	Social Media Wijs	This material consists of ten lessons about how internet and social media work. One of the lessons is about disinformation and learning how to spot it. The lessons are meant for the classroom and are full of practical online and offline assignments.	Social media, online privacy, fake news, interacting online, effects of media use.	Upper classes of primary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
19	Methode Mediawijs heid	Social Media Wijs	This method consists of fifteen lessons about media literacy and digital skills. Students learn about: how internet and social media work, how to protect their identity and privacy online, information literacy skills, social interaction online, effects of media use and what disinformation is and how to spot it. They also learn how to make their own content, like a website or video. The lessons are meant for the classroom and are full of practical online and offline assignments.	Social media, online privacy, fake news, interacting online, information literacy, effects of media use.	Lower classes of secondary education	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
20	Stapp	Stapp / Driestar onderwijsa dvies	Stapp is a media literacy method that is based on Biblical values such as resilience, moderation, transparency, respect and focus. These values are captured in the Media Circle. The Media Circle uses four metaphors to describe a Christian's attitude towards media use. The metaphors are those of the pilgrim, citizen, student and servant. Each of them implies a certain behavior that is translated into how you should behave online. One of the topics in the method is learning how to spot disinformation and fake news and how to identify reliable sources.	Media literacy, information literacy, cyberbullying, games, intimate media, advertising, privacy, movies, news literacy.	Primary education, two lower classes of secondary education and special education.	x		
21	Mediawijsheid: Fake news, reclamewijsheid en filterbubbel	TMI Academy	This lesson package is divided into three theme's: fake news, advertising literacy and filterbubble. Each theme has two or three lessons. Students learn why fake news is made, what their own role is in spreading disinformation, how influencers and advertising work and how data and algorithms work to create a filterbubbel.	Fake news, advertising, filterbubble, influencers, algorithms, data, social media.	Secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
22	Nepnieuws, feiten en vragengids voor ouders	Internet matters	A guide about tackling fake news and misinformation meant for parents. It contains advice on how to support children and young people in developing digital literacy and critical thinking, enabling them to spot the difference between fact and fiction online.	Fake news, disinformation	Parents of children and young people.	x		
23	Lesbrief Fake Nieuws	JIP Haaglanden	A lesson about fake news for use in the classroom. It contains guidelines for the teacher, five assignments and a reflection at the end. Some assignments are about COVID19-related fake news.	fake news, disinformation, Corona.	Classes 2, 3 and 4 of secondary education.	x		
24	Ik like, dus ik ben	Diversity Media	This lesson package contains four interactive lessons in which students learn about the digital world they use daily. One of the topics in these lessons is recognizing fake news and understanding how media frame our world.	Social media, fake news, framing, privacy.	Upper classes of primary education and first class of secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
25	Harde schijf van 5	TMI Academy	A set of five posters each visualizing one of the five steps that help students to use the smartphone wisely. One of those steps is spotting fake news. The posters are meant for use at school. Additional information about the five steps is available online.	Smartphone, fake news, privacy, safety, algorithms.	Secondary education.	x		
26	Workshop Fake News Film	Digital Creativity	A workshop that teaches students about what fake news is and why it is being spread. They learn by making fake news. In small groups students make a video, thereby playing with different camera standpoints and compositions. Doing this they gain insights into how framing of news comes about. In addition, the sense of composition, storytelling, expression and visual language is enhanced.	Fake news, framing, composition, video.	Secondary education.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
27	Mentorlessen Nepnieuws	Bureau Jeugd en Media	A lesson about Fake news for use in the classroom during mentor hours. It consists of information, discussion and a group assignment.	Fake news	Lower classes of secondary education.	X		
28	Verkiezingen in het nieuws 2021	Nieuws in de Klas	Lessons designed around the Dutch Parliamentary Elections 2021 focusing on fake news and disinformation. It's main themes are citizenship, media literacy and language skills. Subtopics covered are the role of journalism in democracy, fake news, corona measures, the Dutch cabinet and the school elections.	Fake news, framing, elections.	Upper classes of primary education and all classes of secondary education.	X		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
29	Lesbunde l Journalist iek en Ethiek	Nieuws in de Klas	A lesson package about ethics in journalism. Students learn about what journalistic norms and values have to do with each other. For this, students use various articles from different news media and think about ethics in news topics. They also create their own news production. The lesson package has yet to be published online.	Journalism, news, ethics.	Secondary education.	X		
30	Lesbunde l Amerikaa nse verkiezin gen in het nieuws	Nieuws in de Klas	Lessons designed around the US Elections in 2020. Students learn about the American electoral system and the role media play in the elections, thereby focusing on fake news and disinformation.	Fake news, framing, US elections.	Secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
31	Nieuwsma- kers	Nieuws in de Klas i.s.m. KlasseTV en Teachers in Media	In the NieuwsMakers students learn how to create and publish news in the online news medium named the Nieuwstool. In ten lessons, the students go through the process of newsgathering. They learn about the responsibility you have as a journalist to inform other citizens when filming, writing or photographing a news item. In addition, they learn - through analyses of news items they have found - to look critically at news media. They also gain a better understanding of the reliability of sources. The curriculum contains additional assignments and a script for presenting the news production to the parents.	News gathering, journalism, framing, ethics.	Upper classes of primary education and lower classes of secondary education.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk- -ing	Triangula- -tion
32	Lesmateri- aal Persvrijhe- id en vrijheid van menings- uiting	Nieuws in de Klas	In this lesson package students actively work with news and learn about freedom of the press, censorship, pluralism and freedom of expression. Pupils are stimulated to think about these topics and to write and debate about them with their fellow students. The lessons can be concluded with the Roadshow Persvrijheid, a debate to which journalists and other guests are invited.	Journalism, freedom of the press, ethics.	Secondary education.			x
33	Lesmateri- aal Europese parlement- sverkiezin- gen	Nieuws in de Klas i.s.m. ProDemos	Lessons designed around the European Parliamentary Elections 2019 focusing on information about the EU and its memberstates, fake news and news framing. Brexit is also discussed.	European Union, European Parliament, Brexit, fake news, framing.	Secondary education.	x		
34	Newsroo- m	Beeld en geluid	In this workshop, the students are the editors of a news website and they are faced with the dilemmas that journalists face every day. They learn that news is a selected product that gets shaped by its makers.	News gathering, framing, journalism.	Secondary education.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk- -ing	Triangula- -tion
35	Medialogica in de klas	Human with School TV and Beeld en geluid	This School TV series covers several news topics that have a connection to media literacy. Disinformation is one of those topics. There are also Medialogica related masterclasses available for schools.	Media literacy, news.	Secondary education.	x		
36	Wie maakt het (nep)nieuws?	Museon	In this workshop students work in groups on an assignment. The assignment is: making a news report within a limited time frame and with limited resources. They experience on hand which choices journalists have to make and what hardships they experience. The reports are presented to their fellow students and a discussion around objectivity and framing follows.	Fake news, (social) media, objectivity.	Secondary education.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
37	Workshop Fake News	Beeld en Geluid	In this workshop students are introduced to the techniques and mechanisms behind disinformation and will create and distribute fake news themselves. Students are trained to counter fake news and disinformation using the methods and philosophies of DROG based on the inoculation theory.	Fake news, trolls.	Secondary education.		x	
38	Mediawijs heidlesse n voor thuis	Bomberbot	Three lessons about the topics: fake news, online fraud and the role of the media in shaping the public opinion on COVID-19. The lessons are designed to give teachers the flexibility of having their students work on them from home,.	Fake news, online fraud, corona virus, media, public opinion.	Upper classes of primary education and lower classes of secondary education	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
39	Lespakket Onwijs Online!	Young Crowds	In this lesson package students are introduced to the possibilities and the risks of social media. They are also given tips and tools to deal with it in a sensible way. The lesson package consists of workbooks, a digital lessons for students and manuals for the teacher. During the digital lesson, students think about dilemmas, fake news and their own online behavior.	Sharing content online, fake news, vloggers and influencers, dangers of internet.	Secondary education.	x		
40	Workshops nepnieuws	LUX	In this workshop students analyze various manipulation techniques in film and media. They create a framed media item themselves. Doing this they learn to distinguish real from fake content. They also gain insight of the influence media makers can have on viewers.	Fake news, framing	Secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
41	Nieuws=- Nieuws. Toch!	MeerDoc	In this interactive workshop students make a podcast and learn more about fake news and cyber bullying. They also examine the connection between fake news and cyber bullying and they learn about journalistic ethics and making radio.	Fake news, cyber bullying, podcast, radio	Classes 1- 4 of secondary education.		x	
42	Mediawijs -heid (vo)	Medilex Onderwijs	E-learning package for teachers that helps them to work on media literacy with their students. Topics that are covered include: the importance of media literacy, pros and cons of new media, fake news, cyber bullying and how to incorporate new media in the class.	Media literacy, fake news, cyber bullying.	Teachers, mentors, team heads, health workers.	x		
43	De Nepnieuw skrant	CG- Graphics	A workshop where kids learn about fake news. After a presentation they look for fake news online and fabricate a fake news item themselves. They write an article and manipulate images with photoshop to accompany the written article.	Fake news, image manipulation, Photoshop.	Upper classes of primary education and secondary education.		x	

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
44	Fake news & polarisatie	Sociallife	A series of lessons about the connection between fake news and polarization. Students learn what fake news is, how it works, how you can spot it, what you can do about it and how much control you have over your own internet bubble. Students also make their own fake news. Afterwards the relationship between fake news and polarization is explored.	Fake news, internet bubble, polarization	Young people (age unspecified)	x		
45	Is dat echt zo?	Netwerk Mediawijsheid	This is a website with information, tips and tricks about fake news, filter bubbles, deep fakes, hoaxes and other related topics. There is also a checklist students can use to spot fake news.	fake news, filter bubble, deep fake, hoax, social media, information literacy	People of all ages	x		

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
46	BeeReal	Netwerk Mediawijshoud	This project focuses on the impact of disinformation, misinformation and malinformation for media, education, care and welfare staff. Among other things, an activation tool and an educational program will be rolled out in the period June-December 2021.	Disinformation, misinformation, malinformation	Young adults (16 to about 25 years old) who are studying for professions in the education sector, care and welfare sector and the media sector. And their teachers.	Unknown (project in development)	Unknown (project in development)	Unknown (project in development)
47	Nepnieuws	Hoe? Zo! Mediawijs	This is a website with information, tips and tricks about fake news. What it is, why people make it and how you can protect yourself from it.	Fake news, internet bubble, clickbait, deep fake, hoax	Youth from 10 years and up.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
48	Project Fabriek	Chorus	A digital platform in development where children, young people and young adults will learn how to become more resilient to manipulation and disinformation. The idea is to make a safe digital environment where the target group can freely experiment with information, disinformation and its consequences.	Unknown (project in development)	Children, young people and young adults	Unknown (project in development)	Unknown (project in development)	Unknown (project in development)
49	Cultuurreporters	Studio Beeldrijk	This is a two-year curriculum that has students actively working with non-fiction film. They use film as a creative tool to explore, participate, meet and take a stand on issues. In an interactive way, students learn to look critically at the way reality is depicted on television, the choices a program maker has, visual language, image framing and manipulation. In addition, they make their own reports or mini-docs through which they learn, among other things, how to find information, organize it and test it for reliability.	News, media, journalism, framing.	Lower secondary vocational education.			x

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
50	Fake of feit	Bibliotheek Groene Venen and ProBiblio	In this lesson students get tools for assessing information and recognizing fake news. At the end of the lesson, they are challenged to put the acquired knowledge into practice and to write a convincing fake news article using a special web tool.	Fake news	Upper classes of secondary education.	x		
51	Beeldman ipulatie	ProBiblio	During this lesson students are introduced to image manipulation in the media. They learn that images can be manipulated in several ways and for different purposes. By studying images and video's and researching the manipulation techniques used, students make checklist with manipulation techniques. They also capture and manipulate images themselves through photography or video.	Image manipulation, video, fake news	Upper classes of secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunking	Prebunking	Triangulation
52	Data Detox Kit jeugd en jongeren	Fries Bibliotheke n Netwerk	This lesson package helps students gain control over their online presence. They get insights into the many personal data that are being collected and stored when they use the internet and what consequences this may have. One of the theme's they learn about is fake news and disinformation. They learn how to recognize fake news and are asked to think about the things they share online.	Data, Google, social media, smartphone apps, hacking, safe passwords, filter bubble, clickbait, fake news.	Secondary education.	x		
53	Nepnieuws	Fries Bibliotheke n Netwerk	This is a website with information about fake news. It contains a video with explanation, a checklist and tips for recognizing fake news and links to other websites and sources with information about fake news.	Fake news, disinformation.	Primary and secondary education.	x		

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
54	Data Detox Show	Fries Bibliothek n Netwerk	In this lesson package students work on a 'montage show' around themes that have to do with digital privacy. The 'montage show' can be a song, a dance, spoken word or any other art form. First , students discuss different topics by answering questions and doing assignments. One of these topics is disinformation. Secondly, based on these discussions they develop scenes for the show and rehearse them. The last part is the performance itself.	Digital privacy, phishing, cookies, Google, Tik Tok, passwords.	Upper primary education and first two classes of secondary education.			x

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
55	Digi- doener! VO Techniek Fake news?	Stichting FutureNL	In this lesson, students learn how a manipulated reality is created in the media. Images are not only manipulated through Photoshop, but also by framing, use of light and other techniques. Students actively learn to apply these techniques by manipulating images with their camera or smartphone and some cardboard, scissors, tape and flashlights. The lesson contains both creative and classroom assignments and is therefore varied and interactive.	Image manipulation. fake news.	Secondary education (technical studies).		x	
56	Quest over desinformr atie voor MediaMa sters Extra (in developm ent)	HackShield	In development					

#	Name	Publisher	Description	Themes	Target groups	Debunk- ing	Prebunk -ing	Triangula -tion
57	Fake News	de Bibliotheek Eemland	A workshop where children learn how fake news is made. First, they watch an interview as it has been broadcast on television. Then they work in groups to manipulate the same interview with different results: editing it to making it negative, funny or angry. By doing, they learn how broadcasts are constructed and framed.	fake news, editing, manipulation, framing	Highest class of primary education and secondary education		x	
58	Bezoek aan de bieb: Workshop nepnieuw s	Bibliotheek Den Haag	This workshop is a short introduction to fake news for students of the highest grade of primary school. They learn to understand what fake news is by making and spreading a fake news message. The message is spread through social media, afterwards children monitor the responses the message gets.	fake news, social media	Highest class of primary education		x	

Appendix II: Interview guidelines focus groups with experts

INTRODUCTION

5'

- Explanation of the project
- Explanation recording and processing
- Introduction of participants
- Repeat: Goal of the focus group session: To get a better idea of what are the requirements for an effective intervention against the spread and consequences of fake news and disinformation. For 12 – 15 year olds, fit for the future, to be offered as a library product for secondary education

THEME 1 What is the problem

10'

- According to the RPs, what are the problems when it comes to disinformation, fake news and young people?
 - Now and in the future
 - With specific target group(s) (within target group 12-15 year olds)
- Which goal(s) should an intervention for Dutch youth have/achieve (and which not)?
 - Which are skills of young people who are less vulnerable to disinformation?
- What are the problems/shortcomings of existing interventions?
- What needs to be done to solve these problems?

THEME 2 Content of an intervention

10'

- What content/focus should an effective intervention have (and which not) and why, e.g.:
 - Disinformation/fake news
 - Techniques and technologies (technological citizenship)
 - Social issues (democracy, political decision-making)
 - Ethics (impact of technology on way of life/freedom, etc.)
- How can the intervention be sustainable/stay up-to-date?

THEME 3 Methodology of an intervention

10'

- Which methodology (didactically and pedagogical aspects) is most effective
 - Why, and which not?

THEME 4 Organization

5'

- Do RPs favor a certain organizational form in the development of a new intervention?
 - with which parties, why

CLOSURE

5'

- Wrap up
 - What would RPs ideal intervention look like?
 - What do RPs want to add or emphasize?
- Thank you for cooperation.

Appendix III: Interview guidelines focus groups with Library professionals

INTRODUCTION

5'

- Explanation of the project
- Explanation recording and processing
- Introduction of participants
- Repeat: Goal of the focus group session: To get a better idea of what the requirements are for an effective intervention against the spread and consequences of fake news and disinformation. To gain insight in what are points of attention to make the library-school collaboration successful.

THEME 1: Youth and disinformation

10'

- According to the RPs, what are the problems when it comes to disinformation, fake news and young people?
- How serious is this problem?
- What causes this problem? What factors play a role?
- What needs to be done to solve these problems?
- What solutions for this problem already exist? What parties or interventions do you know?

THEME2: Public Library and disinformation

10'

- According to the RPs, what is the role of public libraries in making society resilient to disinformation?
 - Does this fit to her social task?
 - Do you see this happening already?
- How does the role of the library relate to education?

THEME3: Collaboration between libraries and schools

15'

- What does the collaboration between libraries and schools look like now?
 - Are the topics of fake news and disinformation part of this?
- What is your own experience concerning the collaboration between the library and schools?
- What should the division of roles look like in such a collaboration?
- What is needed for collaboration to succeed?

THEME 4: Intervention

10'

- According to the RP's, what type of intervention seems appropriate?
- What form should it take?
 - Which topics?
 - Which environment: at school / at home / in the library
 - What is the target group? Is there a role for parents?

CLOSURE

5'

- Wrap up
 - What are your main recommendations?
 - What do RPs want to add or emphasize?
- Thank you for cooperation.

Appendix IV: Interviewees

Digital literacy experts

Group 1

Freek Zwanenberg	Media educator, learning resource developer. Co-author of the Media Literacy Handbook.	Bureau Jeugd & Media
Joelle Swart	Postdoctoral researcher Media Studies and Journalism with expertise in digital literacy, media literacy, news use and social media. Member of the editorial board of Digital Journalism.	Centre for Media and Journalism Studies, University of Groningen
Jon Roozenbeek	Postdoctoral Fellow at the Cambridge Social Decision-Making Lab, researcher on inoculation theory. Co-developed the award-winning Fake News Game, Bad News, and won the 2020 Frank Prize in Public Interest Communications from the University of Florida College of Journalism.	University of Cambridge, Department of Psychology.

Group 2

Jill Jeffrey	Researcher in the field of academic writing development in secondary and postsecondary school and lecturer of English language, culture and linguistics. Editor of Journal Writing and Pedagogy.	Leiden University Center for Linguistics LUCL.
Mieneke van der Salm	Information specialist, designing and providing training for students.	Leiden University.
Peter Burger	Researcher in the field of journalism and fake news, and lecturer on journalism and resource use. One of the driving forces behind the Nieuwscheckers project.	Leiden University, Faculty of Humanities. Leiden University Center for Linguistics LUCL.

Library professionals

Group1

Emma Bijl	Digital literacy advisor for public libraries	Rijnbrink
Sylvia Laarman	Specialist youth and education	Biblionet Groningen
Susanne Lolkema Laura Vroomen	Specialist youth: language & digital Specialist secondary education	Bibliotheek Utrecht Bibliotheek Landgraaf

Group 2

Erwin Karst	Senior advisor in the field of library – school collaboration	Rijnbrink
Peter van Duijvenboden	Teamleader development and innovation, specialist teacher training	Reading foundation