

Growing Up with the News

Co-creating a foundation
for young adolescents' news
literacy application in school with
NieuwsWijzer for NOS



Master Thesis
Chanine Enthoven
MSc Strategic Product Design

 **TU Delft** **NOS**

Preface

Dear reader,

Did you watch the Jeugdjournaal (kids news) as a child? I think I can say that I grew up with it. Back then, I could not have imagined that years later I would be doing my graduation project at NOS, and had I told my younger self this, she would have been blown away.

It is with that same childlike awe that I first visited NOS and walked around the newsroom with my supervisor Manon. Surrounded by the studios, cameras and people behind the news, I was fascinated like a child in a sweet shop, and it is that fascination and curiosity that I have carried through in this project.

In front of you lies my thesis, which marks the end of not only my graduation project, but also my time as a student in Delft. It reflects my growth from an Industrial Design student into a strategic designer with an out-of-hand hobby for photography and film, which slowly turned into a passion for media. In many ways, that journey brought me to exactly the right place.

This project has also been personal. It taught me where my strengths lie, reminded me that perfectionism is still both a strength and a challenge, and helped me better understand what kind of work gives me energy. I do not have all the answers yet, but I have a few more than when I started.

This thesis would not have become what it is without the people around me. A special thanks goes to my supervisory team, Steven and Sylvia, thank you for your support, honesty and sharp feedback, and for helping me balance my ambition with focus.

To Manon, thank you for your trust, guidance and for giving me the freedom to follow my curiosity; for opening countless doors within and outside the NOS and for making this project possible together with José.

This is also not without the rest of NOS Lab and the Digital Media team, especially Giulia for enthusiastically joining on school co-creation sessions and Sarah for the insightful walks around Hilversum. Another thanks goes to everyone at NOS who generously shared their time, ideas and expertise.

To my parents, “pap en mam”, thank you for always being just one phone call away. For listening, encouraging me to keep writing or in the end reminding me to stop writing. As well as Louisa, thank you for being there for me and answering my face-time calls, and Sven, for the curiosity about what I’m up to.

To all of my friends, and especially Sam and Simone, for sharing the graduation journey, coffee breaks, brainstorming and support in being less of a perfectionist. As well as Nica and to my housemates for always checking in, and especially Quinten who introduced me to vibecoding.

Finally, I would like to thank everyone who contributed to this research; the more than 50 adolescents, as well as teachers, parents, researchers, journalists and professionals who shared their experiences with me, answering my curious questions. A special thanks to the students and teachers of Veurs Lyceum, involved in the O&O project, whose creativity and enthusiasm reminded me why this work matters.

I am proud of where this journey has brought me, deeply grateful for everyone who helped me along the way, and I hope that shows in the pages that follow.

Signing off,

Chanine Enthoven
2nd July 2026



Summary

Free, independent and reliable news is one of the foundations of democratic society. It helps citizens understand what is happening around them, form opinions and participate in public debate (McCombs et al., 2011). Yet young adolescents are growing up in an information environment where news increasingly reaches them through social platforms, video networks, influencers and algorithmically curated feeds, mixed with entertainment, opinion and synthetic information (Newman et al., 2026; Schut et al., 2024). For public service media, this raises a democratic challenge: if the next generation does not develop a meaningful relationship with news, democratic resilience becomes harder to sustain.

This graduation project, conducted in collaboration with NOS under NOS Lab, explores how public service news can support young adolescents aged 12 to 16 in applying news literacy in everyday life. The project was guided by the main research question:

How can designing a concept-level news experience supported by NOS stimulate young adolescents (12-16) to apply news literacy?

Four sub-questions structure the project:

- *RQ1: What conditions shape how young adolescents engage with news and apply news literacy?*
- *RQ2: How do young adolescents and the stakeholders around them experience and describe news engagement, and what does news literacy application look like in practice?*
- *RQ3: What design goal and principles can be derived from a future framing and vision of young adolescent news consumption?*
- *RQ4: How can the design principles be developed and validated as a concept-level news experience supported by NOS?*

The project develops NieuwsWijzer through a two layered final solution.

- A strategic roadmap for NOS, moving toward the preferred future of Collective nourishment: a future in which young adolescents are supported by an ecosystem that helps them engage with news intentionally, repeatedly and with guidance. This future is captured in the vision that NOS helps the next generation grow up with news, as part of an ecosystem supporting them in making sense of the world around them and in shaping news themselves.
- NieuwsWijzer as the first step in that roadmap: a teacher-facing platform that curates and scaffolds NOS news for classroom use, combined with NOS de Week, a recurring fifteen-minute weekly news format.

The foundation for this direction was built through research-through-design and co-creation. Literature review, context analysis, ecosystem mapping and NOS brand analysis established the theoretical and systemic foundation. Interviews, group sessions, a baseline survey, co-creation sessions and validation activities involved a total of more than 100 stakeholders consisting of young adolescents, parents, teachers, experts, NOS staff, design peers and public-service media organisations. Co-creation was central throughout: young adolescents were not only studied as a target group, but involved in exploring values, imagining future news experiences and shaping concept directions.

The research showed that young adolescents value being informed, yet news often passes by. The interviews, group sessions and survey made the application gap of news literacy visible: young adolescents may know about news and recognise reliable sources, but do not consistently apply critical behaviours such as checking sources or

seeking further information. This reflects the central premise of news literacy application: knowledge and skills alone are not enough. Application also depends on motivation, social context and stable, recurring settings in which behaviour can be practised (Tamboer, 2023; Wood & Neal, 2007; Groot Kormelink, 2022). NieuwsWijzer builds these foundations by bringing news into the rhythm of the school week, positioning teachers as guides and making news literacy application a shared classroom practice.

The analogy of news as nutrition makes this direction tangible: news literacy application becomes a balanced news diet, supported by the people, places and institutions around young adolescents.

NieuwsWijzer was validated formatively across desirability, feasibility, viability and responsibility. The concept is promising, but conditional: this project cannot yet prove long-term behavioural change. It offers a concrete starting point for building the a shared, recurring context in which young adolescents can grow up with news and learn to apply news literacy.

Glossary

Algorithm - A step-by-step procedure or set of instructions used to solve a problem or complete a computational task. In the context of social media, algorithms help determine which content is selected, ranked, or recommended to users. (Blakston, 2025)

CVDM - The Commissariaat voor de Media is the Dutch Media Authority, responsible for supervising compliance with the Dutch Media Act. (CVDM, 2026).

Feed - A personalised stream of posts, videos and recommendations shown to a user on a social media platform (Commissariaat voor de Media, 2026)

News literacy - News literacy is the ability to determine the credibility of news and other information using the standards of quality journalism (Britannica, 2026), and as defined by Tully et al., (2021), the knowledge around the personal and social processes by which news is produced, distributed and consumed, and skills that give users some control over these processes.

News literacy application - The actual use of news literacy knowledge and skills in everyday news practices, defined by Tamboer et al. (2023) as the extent to which early adolescents, in their everyday lives, reflect on the trustworthiness of information, evaluate sources, and seek further information

NOS - The Nederlandse Omroep Stichting is the largest news organisation in the Netherlands, and part of the Dutch public broadcasting system. It provides independent reporting on news, current affairs, sports and national and international events across television, radio, online platforms and social media (Over de NOS, 2026).

NOS Jeugdjournaal - The NOS news programme and subbrand for children, offering news, reports and background stories for children of approximately 9 to 12 years old. (NOS, 2026)

NOS Stories - A NOS youth news format that makes news short, fast and understandable on TikTok, Instagram, YouTube and their website, aimed primarily at teenagers aged 13 to 18 years old. (NOS, 2026)

NOS op 3 - A NOS subbrand that helps audiences understand the news through accessible explanation, including explainer videos, the podcast Lang verhaal kort, and short explainers on TikTok, Instagram and YouTube. Originally targeted young adults aged 20 to 34, it currently targets audiences from 18 to 50 years old. (NOS, 2026)

NPO - The Nederlandse Publieke Omroep is the umbrella organisation of the Dutch public broadcasting system and coordinates programming across public channels and platforms. (NPO, 2026)

Platforms - Online services that store, organise and distribute information or content to users, such as social media, video-sharing and search environments.

PO - Primair onderwijs refers to primary education in the Netherlands, which children may attend from the age of four and usually lasts eight years.

Public service media - Public service media (PSM) is broadcasting made, financed and controlled by the public, for the public (EBU, 2026). Media organisations with a public remit to provide independent, accessible and diverse information and content that supports democracy, diversity and social cohesion.

VO - Voortgezet onderwijs refers to secondary education in the Netherlands, including VMBO, HAVO and VWO.

Young adolescent - In this thesis, young adolescent refers to adolescents aged approximately 12 to 16.

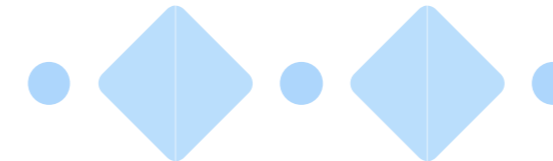
Youth - Youth is a broad term for young people, defined by the United Nations as aged 15 to 24 for statistical purposes. United Nations. (n.d.)

Reading guide

1

Double Diamond

The project moves from understanding the challenge to developing and validating a design response. The report is structured in four phases: Discover, Define, Develop and Deliver. More about that in section 1.4.



4

Looking for something specific?

Here are a few quick routes through the report.

Approach go to p.15

2

Look out for the blueprint pages

Each phase and chapter opens with a blueprint page. These pages show where you are in the design process and how that chapter fits into the whole report.



Future vision would you like to read about the future scenario which emerged out of the research? Head to chapter 5 and o. 62 for more.

Final design: Nieuwswijzer read and learn everything about NieuwsWijzer in chapter 8, from p. 106



Hey! I'm Wijzertje, let me show you around this report...

3

Approach and key insights

Find the approach to each chapter in a callout box on the chapter cover page. Each chapter closes with key insights at the end.



Co-creation curious to how co-creation was used? Head over to p.50 for its use in the discover phase and p.85 for it's use in ideation

Testing & validation interested in the outcomes of the project? Head to chapter 9 and p. 116 for those insights.

Content



1. Project outline	10
1.1 Introduction	12
1.2 Stakeholders	13
1.3 Project brief	14
1.4 Approach	15



3. Context of contemporary media	30
3.1 Changing media landscape	31
3.2 Public service media	34
3.3 NOS	36
3.4 Existing interventions	40

DEFINE



5. Future framing	62
5.1 Future context	63
5.2 Emerging conditions	66
5.3 Future framework	68
5.4 Vision and analogy	71

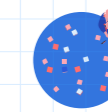
DEVELOP



7. Ideation	84
7.1 Co-creation for ideation	85
7.2 Exploration	90
7.3 Concept directions	92
7.4 Selection	96
7.5 Development	97



9. Validation	116
9.1 Desirability	117
9.2 Feasibility	120
9.3 Viability	122
9.4 Responsibility	124



11. Reflection	134
11.1 Final reflection	135

DISCOVER



2. Youth and news in the literature	22
2.1 News and society	23
2.2 Formative window of adolescence	24
2.3 Youth news consumption	25
2.4 News literacy	27



4. Youth and stakeholder perspectives	44
4.1 Interviews	45
4.2 Cross-stakeholder findings	46
4.3 Youth voices	48
4.4 Group sessions	50
4.5 Research & design (O&O) project	56



6. Design direction	74
6.1 Problem definition	75
6.2 Theoretical foundations	76
6.3 Design goal	77
6.4 Design principles	78

DELIVER



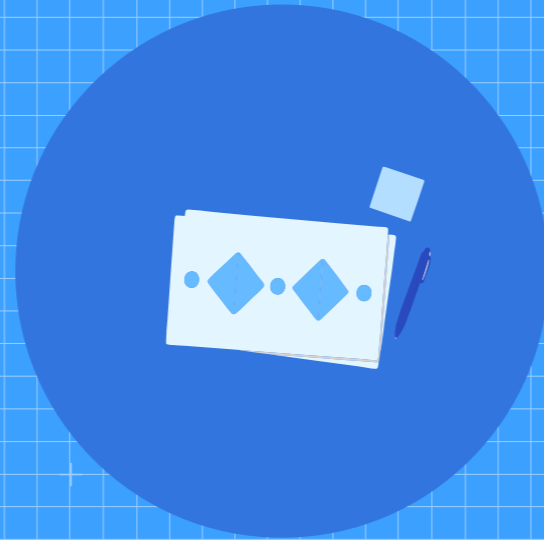
8. Final design	102
8.1 Roadmap	104
8.2 The concept: NieuwsWijzer	106
8.3 Launch and marketing	112
8.4 Design principles in NieuwsWijzer	113



10. Conclusion & discussion	126
10.1 Project conclusions	127
10.2 Limitations	129
10.3 Contributions	131
10.4 Recommendations	132



Works Cited	138
Works cited	138



1. Project outline

1.1 Introduction

1.2 Stakeholders

1.3 Project brief

1.4 Approach

This chapter introduces the foundation of the graduation project. It first outlines the context in which the project takes place, positioning news as a democratic resource and young adolescents as a relevant group to design for (1.1). It then introduces the main stakeholders involved in and affected by the project (1.2), followed by the initial project brief and research questions (1.3). Finally, the chapter presents the methodological approach, explaining how the project is structured through a research-through-design process following the Double Diamond (1.4).



1.1 Introduction

As the world changes at rapid speed, one of the foundations of democracy is increasingly under pressure: free, independent and reliable news. Journalism plays a key role in enabling citizens to understand societal developments, form opinions and participate in public debate, while also holding those in power to account (McCombs et al., 2011). Free media are in this sense essential to democratic resilience (NPO, 2026), yet they are challenged by a contemporary landscape marked by significant technological, media and political transformation (Robertson et al., 2026). News is no longer accessed primarily through traditional channels but increasingly through social media, influencers and algorithmically curated feeds (Newman et al., 2025). In 2026, for the first time, social media and video networks became the most common way people access online news worldwide, used by 54% against 51% for news organisations' own sites and apps (Egan et al., 2026.). As a result, journalistic content competes with entertainment, opinion and other forms of online content for attention.

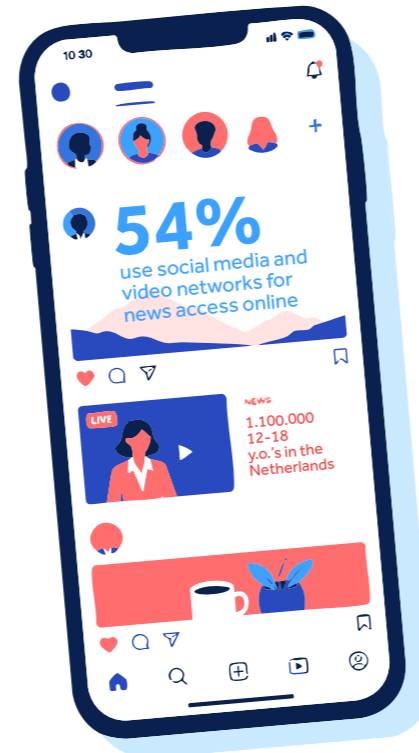
This shift matters most for those now forming their first relationship with news. In the Netherlands alone, 1.1 million are aged 12 to 18 (CBS, 2026). For this generation of 'social natives', the relationship with news is forming in a media environment fundamentally different from that of previous generations: rather than scheduled television news or a newspaper on the table, they meet news within a social-first, audiovisual diet, as one kind of content among many (Robertson et al., 2026). As the Schut et al., note (2025), "young people's media repertoire does not broaden as they get older; they do not automatically find their way to the traditional journalistic news offer". This is consequential because adolescence, and the years from 12 to 16 in particular, is when news habits and civic orientation begin to take shape (Tamboer, 2023; York & Scholl, 2015), yet this is also the group we know least about, since younger adolescents remain underrepresented in news

research (Marchi, 2012; Tamboer, 2020).

Few organisations are as directly tied to this challenge as public service media, whose mandate is to inform all citizens and to safeguard reliability, independence and accessibility (EBU, 2026; Over de NOS, 2026). In the Netherlands this falls to the NOS (Nederlandse Omroep Stichting), the Dutch national public news broadcaster, which holds strong trust and reach among young people yet faces a specific challenge in staying meaningful to them as their news use shifts onto these platforms (Schut et al., 2024). This gives NOS both a mandate and an opportunity to help young adolescents grow up with news.

The project takes news literacy application as its central focus, as it forms a prerequisite for democratic participation (Swart, 2023; Ashley et al., 2013). While news literacy is often defined as the knowledge and skills needed to understand and evaluate news, research suggests that possessing these skills does not automatically mean applying them in everyday life (Vraga & Tully, 2021; Tamboer et al., 2023). The gap between knowing about news and acting on that knowledge forms the starting point of this project. Through a research-through-design approach (Stappers & Giaccardi, 2017), the project explores how a concept-level news experience, supported by the NOS, can stimulate the everyday news literacy application of young adolescents aged 12 to 16. In doing so, it speaks to a broader societal question: how can public service news continue to support informed citizenship and public debate in a rapidly changing media landscape?

How can public service news continue to support informed citizenship and public debate in a rapidly changing media landscape?



1.2 Stakeholders

This graduation project is carried out as part of the Master's programme Strategic Product Design at Delft University of Technology (TU Delft), in collaboration with the NOS. While TU Delft, NOS and the strategic designer form the core project stakeholders, the project is built around the young adolescents the design is intended to serve. They are not treated as a target group to be studied

from the outside, but as a central stakeholder who is co-created with, and whose experiences and values drive the research and design. Around them sit a wider system of parents, teachers, experts, researchers, public media organisations and other actors who also play an essential role in the project and were involved through interviews, personal communication and co-creation sessions.



Dr. Ir. Steven Flipse
Dr. Ir. Sylvia Mooij

TU Delft

The academic foundation is provided through the Faculty of Industrial Design Engineering and the Master's programme Strategic Product Design. The university safeguards methodological rigour, research quality and design relevance across the graduation process, with supervision by Steven Flipse and Sylvia Mooij.



Manon de Jonge

NOS

Hosted by NOS Lab, the innovation department within Digital Media, the project explores how NOS can continue to fulfil its public mission for young audiences, and is expected to generate insights and design directions that can inform future audience, product and content strategies. Mentorship is provided by Manon de Jonge, with additional guidance from other members of the Digital Media team.



Chanine Enthoven

Strategic designer

The project is conducted by myself, Chanine Enthoven, in the role of strategic product designer, connecting research, design, stakeholder perspectives and strategic implications. Alongside the deliverable, it serves as a personal learning trajectory in research-through-design, organisational collaboration, participatory design and, not least, managing my own perfectionism.



Adolescents aged 12-18 (n=50)

Young adolescents

The primary stakeholder group and intended audience are young adolescents, in this research a broader group of 12-18 year olds was interviewed before scoping to aged 12 to 16 year olds. These were engaged through interviews, group sessions and co-creation. In total, 50 adolescents took part across these formats, shaping the direction of the project.

1.3 Project brief

Adolescents increasingly engage with news in fragmented, platform-driven environments, where news is often encountered incidentally through social media, peers, and algorithmic feeds rather than through direct engagement with journalistic sources (Newman et al., 2025; Schut et al., 2024). This is addressed with the 2026 year planning of NOS Lab, with the theme "Growing up with NOS" and goal "to increase/maintain reach among young people" (NOS Lab, 2026). The underlying question is how NOS can build a lasting relationship with the public across different life stages. While NOS has content for different age groups, a specific transition challenge exists between children who outgrow NOS Jeugdjournaal and young people who may later find their way to NOS Stories and eventually NOS Nieuws & Sport. The question is therefore not only how NOS can reach young audiences, but how it can remain meaningful as they grow older and develop their own relationship with news.

Thus, the project starts from the following domain:

Domain

Supporting young adolescents in growing up with news in the contemporary media environment.

Within this domain, the project focuses on news literacy application as its central theoretical lens, as news literacy is widely recognised as a prerequisite for informed citizenship and democratic participation (Ashely et al., 2013; Swart, 2023). In this, the application of news literacy shifts attention from what young people know about news to how they use, interpret, discuss and integrate it into their daily lives.

While current interventions focus mainly on developing knowledge and skills, such as evaluating sources or recognizing misinformation (Vraga & Tully, 2021), Tamboer et al. (2023) argues, "being knowledgeable and skilled does not equal behaving in a news literate manner." Thus, the aim is not to resolve the entire relationship between youth and journalism, nor to build a complete curriculum or a market-ready product. Instead, the project explores what kind of concept-level news experience could help young adolescents practise news literacy in daily life, and how NOS could support such an experience from its public service position.

The main research question is:

Research Question

How can designing a concept-level news experience supported by NOS stimulate young adolescents (12-16) to apply news literacy?

The main question is divided into four sub-questions, each connected to a phase of the project and to the structure of the report, shown to the left. Chapter numbers and phases are labelled accordingly.

Together, these questions structure the project as a movement from understanding the current situation, to framing a future design direction, to developing and validating a concept-level response for NOS.

RQ1 Discover 2 3

What conditions shape how young adolescents engage with news and apply news literacy?

RQ2 Discover 4

How do young adolescents and the stakeholders around them experience and describe news engagement, and what does news literacy application look like in practice?

RQ3 Define 5 6

What design goal and principles can be derived from a future framing and vision of young adolescent news consumption?

RQ4 Develop 7 Deliver 8 9

How can the design principles be developed and validated as a concept-level news experience supported by NOS?

1.4 Approach

This project applies a research-through-design approach. Research-through-design treats designing not only as a way to produce an artefact, but also as a way to generate knowledge through making, testing, reflecting and iterating (Stappers & Giaccardi, 2017). This fits the nature of the challenge: there is no single predefined solution to young adolescents' news literacy application, and the design space spans media, education, public values, youth culture, technology and organisational strategy. Most existing news literacy interventions are developed from within communication, media studies or educational research. This project contributes by approaching news literacy application through strategic design, using the design process to explore not only what intervention might work, but what conditions, stakeholders, contexts and forms of support are needed for news literacy application to become meaningful in practice.

The project follows the Double Diamond framework (Design Council, 2005), which addresses complex problems through alternating phases of divergence and convergence. The first diamond, Discover and Define, focuses on understanding and framing the problem space. The second, Develop and Deliver, focuses on generating, selecting, developing and validating a design response. **Figure 1** presents a simplified illustration of the double diamond framework. On the next page, **Figure 2** presents the framework and corresponding chapters in this project in full.

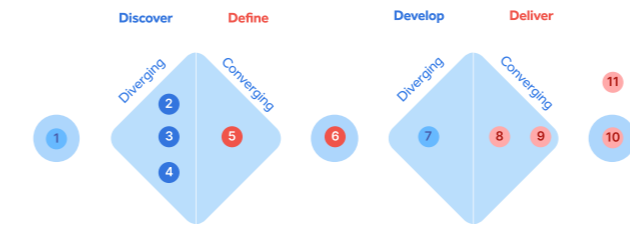


Figure 1. Double diamond approach adapted from Design Council (2005)

1.4.1 Four lenses

Throughout the Discover phase, and recurring across the report, four lenses structure how the challenge is examined. These lenses connect literature, context and empirical findings, treating news literacy as a situated practice shaped by social and systemic conditions rather than as an isolated individual skill.

Changing media landscape	Youth consumption
How news is produced, distributed and encountered today.	Who they are, how they engage, and what shapes development
Current response	Wider system
Existing interventions around news literacy and their limitations.	Surrounding institutional, regulatory and ecosystem conditions

1.4.2 Double diamond phases

The **Discover** phase builds a grounded understanding of how young adolescents engage with news and apply news literacy, and addresses RQ1 and RQ2. It combines theoretical, contextual and empirical research. The literature review in Chapter 2 establishes the theoretical foundation. The context analysis in Chapter 3 examines the wider system in which the design must operate. The empirical research in Chapter 4 brings in the perspectives of young adolescents, parents, teachers, experts and NOS stakeholders. Empirical data were collected through semi-structured interviews and group sessions. Participants are anonymised throughout the report using the codes A for adolescent, P for parent, T for teacher, E for expert, N for NOS staff and GS for group session.

The **Define** phase translates the Discover findings into a forward-looking design direction and addresses RQ3.

It draws on elements of the Vision in Product Design methodology (ViP) (Hekkert & van Dijk, 2011), specifically its approach to constructing a future context. Context factors are clustered into emerging conditions, which are used to identify tensions and build a future framework. The project does not use the full ViP process, but adapts its future-oriented framing. The future framework in Chapter 5 determines what kind of future the design should work towards as well as forming a vision and analogy, and Chapter 6 translates a problem definition, a design goal and six design principles that bridge research and concept development.

The **Develop** phase translates the design principles into concrete concept directions and, together with the Deliver phase, addresses RQ4. Co-creation is the primary divergent method (Sanders & Stappers, 2008), involving young adolescents, NOS teams, design peers and external experts. This participatory approach follows the project's premise: a design meant to support young adolescents and the stakeholders around them should be informed by their perspectives. The concept directions are evaluated against the design principles and through the innovation sweet spot lens of desirability, feasibility, viability and responsibility (Brown, 2009; Baldassarre et al., 2024; Stilgoe et al., 2013). The selected direction is then developed through iterative sketching, prototyping and AI-supported rapid iteration, which keeps ideas tangible early so that feedback can directly shape the next version.

The **Deliver** phase presents the final concept and examines how it could be taken further. Chapter 8 describes the final design and positions it within a strategic roadmap. Chapter 9 presents the validation, drawing on feedback from teachers, students and NOS staff to evaluate the concept's relevance and potential. The validation does not claim to prove behavioural change within the project's timeframe. It assesses whether the concept is desirable, feasible, viable and responsible enough to be taken forward, and whether it aligns with the design principles derived from the research.

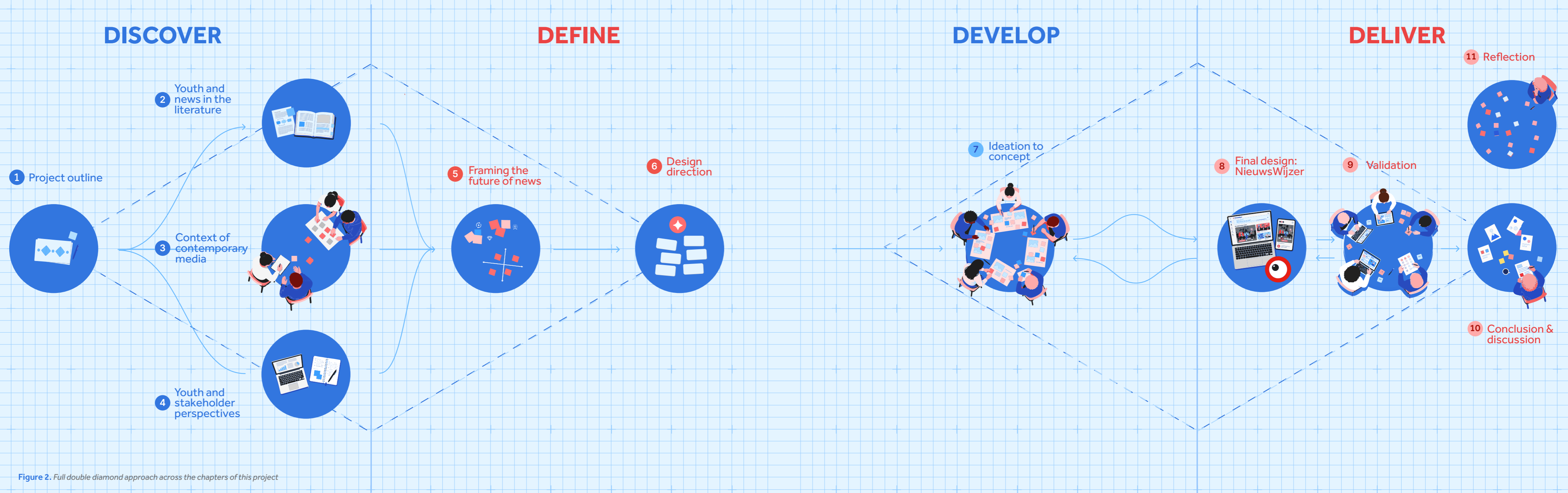


Figure 2. Full double diamond approach across the chapters of this project

1.4.3 Report structure

The remainder of the report follows the logic of the Double Diamond. Part I, Discover, investigates the current relationship between young adolescents, news, and news literacy. Part II, Define, translates those findings into a future-facing design direction. Part III, Develop, explore and develop concept directions. Part IV, Deliver, presents and evaluates the final concept and reflects on its implications for NOS, public service media, and the field of news literacy.

Through this structure, the project moves from understanding the broader challenge to developing a concrete concept-level response. The aim is not only to design a news experience, but to understand what role design can play in helping public service media support young adolescents in applying news literacy in everyday life.

1.4.4 Methods and their purpose

Figure 3 provides an overview of the methods used throughout the project, including their purpose, phase, and corresponding chapter.

Method	Purpose	Phase	C.
Design thinking	A human-centred, iterative approach to solving complex or ill-defined problems by understanding users, challenging assumptions, generating ideas, prototyping and testing solutions	All	All
Double Diamond	A design and innovation process model structured around four phases; Discover, Define, Develop and Deliver, that alternate between divergent and convergent thinking.	All	All
Literature review	Understand theoretical foundation of news, adolescent news consumption and news literacy.	Discover	2
Brand analysis	Analyse the positioning, identity, and strategic role of the NOS	Discover	3
Ecosystem mapping	Map key actors, relationships, and influences within the socio-technical news ecosystem	Discover	3
DEPEST	Identify demographic, economic, political, environmental, social and technical developments, trends, states or principles.	Discover	3
Interviews adolescents (A)	Understand everyday news behaviours, perceptions, and needs of the target group	Discover	4
Interviews parents (P)	Explore the influence of the home environment on adolescents' news engagement	Discover	4
Interviews teachers (T)	Understand the role of education and schools in supporting news engagement	Discover	4
Interviews experts (E)	Gain expert insights on news literacy, media use, and societal developments	Discover	4
Interviews NOS (N)	Understand internal perspectives, knowledge on youth, challenges, and future ambitions	Discover	4
Group sessions (GS)	Validate interview findings and uncover needs, motivations, and initial ideas about future news consumption, combined with a co-creative format	Discover	4
Qualitative thematic analysis	Analyse interview and session data by coding, grouping and interpreting recurring themes, needs, tensions and insights.	Discover	4
ViP	Vision in Product Design is a context-driven and interaction-centred design approach for creating products or interventions with meaning and value, used to define the design domain, explore future context, and formulate a vision statement	Discover/ Define	5
Design principles	Translate insights into actionable guidelines for concept development	Define	6
Design goal	Define the intended impact and direction of the design intervention	Define	6
Co-creation sessions	Explore, test, and refine ideas with adolescents, experts and teachers in iteration and participation	Develop	7
Ideation	Generate a wide range of concept directions based on design principles	Develop	7
Rapid prototyping	Quickly develop and test tangible representations of ideas	Develop	7
Concept selection	Evaluate and select the most promising concept direction	Develop	7
Vibecoding	An AI-assisted software development approach in which a user describes what they want in natural language and an AI tool generates the code	Develop	7
Roadmap	Outline potential future development and implementation steps	Deliver	8
Validation sessions	Test and evaluate the concept with stakeholders to assess relevance and impact	Deliver	9
Survey	Collect additional quantitative insights to support and validate qualitative findings	Deliver	9
Implementation plan	Define what is needed to bring the concept from prototype to practice, including phases, roles, partnerships and production steps.	Deliver	9
Business case	Estimate resources, staffing and feasibility to support decision-making around implementation.	Deliver	9
Innovation sweet spot validation	Combine insights from validation into final conclusions about desirability, feasibility, relevance and limitations.	Deliver	9

Figure 3. Overview of methods and their purpose by phase and chapter (c.)

1.4.5 Use of AI

Artificial intelligence was used throughout this graduation project as a supportive and critical tool within the research, design and writing process. Its use was not limited to spelling or grammar correction, but functioned more broadly as a sparring partner: a tool to consolidate findings, question assumptions, structure arguments, sharpen wording and explore alternative ways of framing the work. This aligns with the growing relevance of AI literacy in education and professional practice. As generative AI becomes increasingly embedded in knowledge work, learning to use these tools critically and responsibly is becoming an important competence in itself (European Commission, 2025). Rather than avoiding AI, this project treated it as a design capability: something that can strengthen the work when the researcher remains in control of the reasoning, judgement and final decisions.

The role of AI differed across the phases of the project. In the Discover phase, AI-tools TurboScribe and ChatGPT were used to transcribe interviews and to help prepare and reflect on research and co-creation sessions. In the Define phase, ChatGPT was used as an additional analytical layer to support the clustering of contextual factors and to explore different ways of structuring insights. In the Develop phase, AI-assisted coding, referred to in current practice as “vibecoding” enabled rapid prototyping and coding through Lovable, ChatGPT and Claude connected through a common repository in GitHub, enabling the development of a more advanced prototype than would otherwise have been feasible within the available time and technical skill set. In the Deliver phase, Claude and ChatGPT supported the development of the business case by helping to test assumptions, calculate scenarios and identify relevant data. Throughout the writing process, AI was used to review drafts, suggest sharper formulations and ask critical questions about structure, logic and argumentation.

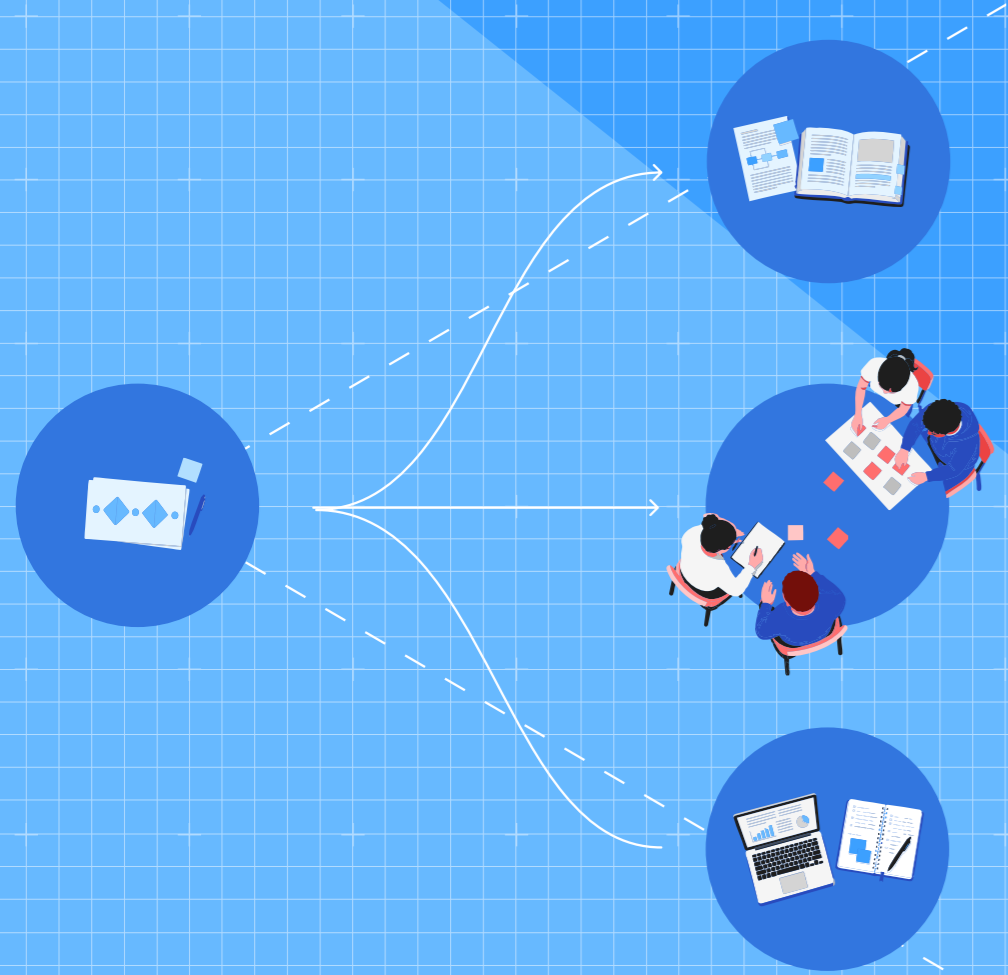
At the same time, the use of AI required continuous critical judgement. Generative AI can be useful for generating options, revealing gaps and accelerating iteration, but it can also produce inaccurate, biased or overly confident output. For that reason, AI-generated suggestions were treated as provisional input, not as authoritative conclusions. Sources, calculations and claims were checked against original materials, and all final choices regarding research interpretation, design direction, argumentation and wording remained my own responsibility. In this sense, AI does not replace the design process, but becomes a part of it: a reflective counterpart that supports in working more critically, iteratively and precisely.

1.4.6 Ethics

This study includes research involving human participants, including both adults and minors. Because the project involves young adolescents aged 12 to 16, ethical care was central to the research design. For every minor involved in interviews, group sessions, or co-creation activities, a parent or legal guardian was informed about the purpose of the research, the voluntary nature of participation, and the way data would be handled. Consent was obtained from parents or guardians, and young participants themselves provided assent.

Adult participants signed consent forms directly. All participants were informed that participation was voluntary and that they could withdraw at any moment. Data were anonymised, and interview quotes are referred to only through participant codes. The research procedures were conducted in accordance with TU Delft's Human Research Ethics Committee requirements. The consent forms and related research materials can be found in Appendix B.

DISCOVER



The Discover phase opens the first diamond of the Double Diamond framework, taking a divergent, human-centred approach to build a broad understanding of the context and the target group. It addresses the first two research questions, developing a grounded picture of the changing media landscape in which the project sits and of how young adolescents engage with news and apply news literacy in everyday life. This understanding is built through theoretical, contextual and empirical research, drawing on the perspectives of young adolescents and the stakeholders around them.

Although the phase is primarily divergent, each chapter closes with its key insights. This introduces a first level of convergence, as the findings are synthesised and narrowed to the insights and context factors that carry forward into the Define phase.



2. Youth and news in the literature



2.1 News and society

2.2 Formative window of adolescence

2.3 Youth news consumption

2.4 News literacy

This chapter sets the theoretical foundation for this project by presenting a brief integrative literature review synthesizing insights from existing research. The chapter proceeds in four steps, starting with establishing the role of news in a democratic society (2.1), then introducing the formative window of adolescence (2.2), in which habits take shape as well those for news engagement. Following this, adolescent current news consumption is examined (2.3), followed by the introduction of news literacy and uncovering a challenge the field has identified; the gap between knowing about news and applying news literacy in daily life (2.4).

With this, the theoretical side of the first research question is addressed: RQ1: What conditions shape how young adolescents engage with news and apply news literacy?

Approach

Relevant literature was identified through targeted searches in Google Scholar and Scopus, using Boolean search strings (Appendix C) combining terms related to youth news consumption, literacy and media engagement. Selected literature was analysed using thematic synthesis, in which findings were inductively coded and clustered into recurring themes (Thomas & Harden, 2008) under the four sections of this review.

2.1 News and society

News plays a fundamental role in democratic societies. Citizens rely on news to understand public affairs, form opinions and participate in collective life, making access to reliable journalism a precondition for informed citizenship (McCombs et al., 2011). Journalism is characterised by its truth-seeking and sense-making function, distinguishing it from other forms of media (Burroughs et al., 2009; Fleming, 2014). Through this function, information is brought to the public, allowing citizens to understand societal developments, form opinions about public issues and orient themselves to relevant changes, risks and events in the world around them. This democratic role has been formally recognised at the European level, with the European Media Freedom Act (2024) framing public service journalism as democratic infrastructure requiring legal protection. This underscores the importance of reliable news for democratic functioning (Tamboer et al., 2023; McCombs et al., 2011).

In line with this, media are understood to fulfil three key democratic functions: information, control and forum as shown in Figure 4 (Schrijvers et al., 2026). Together, these functions illustrate how news “holds the powerful accountable and informs citizens, fostering engagement and social connection” (de Bruin, 2025).

Yet this democratic role is increasingly difficult to sustain. Globally, declining engagement, low trust and falling subscription rates have led traditional news media to struggle to connect with the public (Newman et al., 2025). At the same time, the fragmentation of the media landscape and the rise of alternative information sources have intensified the competition for attention, meaning that “legacy news media are now merely a source of news among many others” (Swart & Broersma, 2022).

Sustaining these democratic functions therefore depends not only on the existence of reliable journalism, but on citizens’ capacity to engage with it critically. This capacity does not come naturally (Tamboer et al., 2023); it is shaped by education, social context, and the information environments people navigate. This is reflected in how media education has developed: educators “have taught students about the use of news and journalism since the 1970s, prioritizing this genre of information due to its link to democracy” (Tully et al., 2021). News literacy has accordingly been conceptualised as a form of civic literacy and a prerequisite for democratic participation (Ashley et al., 2013; Kendrick & Fullerton, 2019). News literacy therefore provides both the theoretical framing and the practical focus of this project: understanding what it means for young people to engage with news critically, and how that capacity can be supported.



Information

Inform citizens about relevant developments in society



Control

Enable the public to scrutinise those in power



Forum

Providing space for interpretation and public debate

Figure 4. Democratic functions of the media adapted from Schrijvers et al., (2026)

2.2 Formative window of adolescence

Adolescence, broadly defined as the period between approximately 11 and 19 years of age, is characterized by significant physical, emotional, cognitive and social change (Salmela-Aro, 2011), marking it as a critical phase for the development of news habits and making it a high-leverage window for intervention. Salmela-Aro (2011) identifies three distinct stages within this period, each centred on a different developmental concern: belonging (ages 11-13), uniqueness (ages 14-16), and worthiness (ages 17-19), as illustrated in **Figure 5**. Within the earlier two stages, which is referred to as young adolescence, adolescents aged 11-16 are entering a phase of heightened brain plasticity, identity formation, and increased sensitivity to social influence (Sisk & Gee, 2022; Valkenburg & Piotrowski, 2017), making this a formative phase in their development. In the scope of this research, young adolescence is defined from 12 years old, marking the age at which adolescents attend secondary school in the Netherlands, in line with Tamboer's (2023) definition.

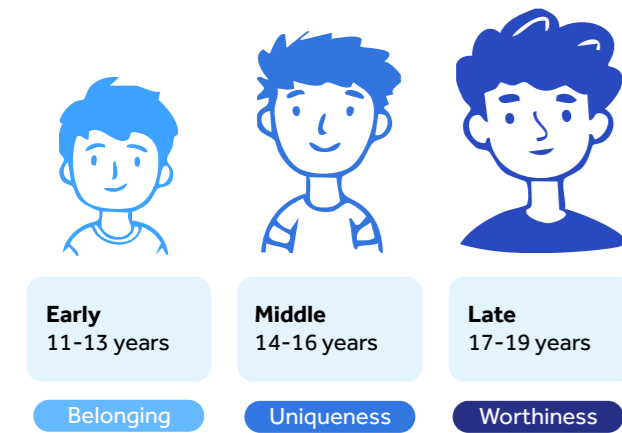


Figure 5. Three main stages of adolescence defined by Salmela-Aro (2011)

2.2.1 News habit formation in early adolescence

Tamboer (2023) identifies young adolescence as “a crucial developmental period to stimulate news consumption and news literacy application” (p. 12), pointing to longitudinal evidence that news consumption before the age of 18 is a positive predictor of news consumption seven years later (York & Scholl, 2015), and that political interest develops during adolescence and stabilises by approximately age 20 (Russo & Stattin, 2017). This signifies that behaviour developed during this period shapes the habits they carry into adulthood. Yet, although young adolescents are increasingly capable of self-regulation and planning, their behaviour still strongly depends on motivation and social context (Valkenburg & Piotrowski, 2017; Edgerly et al., 2018). For a habit to form and stick, it requires more than exposure: it needs a stable context that makes the behaviour feel normal and worth repeating (Wood & Neal, 2007; Groot Kormelink, 2022).

2.2.2 Information inequality

Given how strongly social context shapes this developmental phase, it is not surprising that it also shapes the information young adolescents receive. Young adolescents are not a homogeneous group: their relationship with news is shaped by parental practices, peer influence, school context, cultural background, and socioeconomic position (Lee et al., 2025; Notley et al., 2022). This means they do not all have equal access to news literacy, nor do they develop news habits under the same conditions. Parents' education, in particular, has a measurable influence on whether young people receive news literacy education (Lee et al., 2025), and youth from socioeconomically disadvantaged backgrounds are consistently more vulnerable to misinformation (Lee et al., 2025; Seo et al., 2022). The result is an inequality in early news engagement and literacy, and in the habits that carry forward from this period into adulthood.

2.2.3 Underrepresented in research

Despite the developmental significance of this phase, young adolescents remain markedly understudied in news literacy research, which has historically focused on older adolescents, university students, and adult populations (Maksi et al., 2015; Marchi, 2012). Part of this is practical: under-18 populations are a harder group to study, with additional ethical requirements around consent and access. Where research on this group does exist, the picture is, as Tamboer (2023) describes it, “conflicted.” One strand portrays young adolescents as uninterested in traditional news (Mindich, 2005; Drok et al., 2018), while another argues that they do feel a frequent urge to keep up with the news (Costera Meijer, 2007; Marchi, 2012) and consume it with the intention of becoming well-informed citizens (Craft et al., 2016). This tension in the literature is itself informative: it suggests that the relationship between young adolescents and news is more nuanced than either disengagement or active interest alone, and that more research grounded in this group's own context and practices is needed.

These findings position young adolescents as a developmentally significant, diverse, and underserved group. The fact that news habits begin to form during this window, yet research is limited and inequalities are substantial, makes it a particularly relevant focus for this project. Understanding how this age group currently engages with news, explored in the next section, is therefore not only an academic question but also core to be able to design for this target group.

2.3 Youth news consumption

Given that young adolescence is a period in which news habits begin to form, the question becomes how young people actually encounter news today. Research on youth news consumption has grown rapidly over the past decades (Duvekot et al., 2024) and points not to a decline in whether young adolescents engage with news, but to a fundamental shift in how they do so. As Duvekot et al. (2024) note, “we might currently find ourselves at a pivotal moment in the way news is consumed by youth”, a moment shaped by the platforms young people use, the passivity of their exposure, what makes news feel worth their attention, and the growing difficulty of knowing what to trust.

Proportion of 18-24s that say each is their main source of news
18 global markets in 2015 and 2025

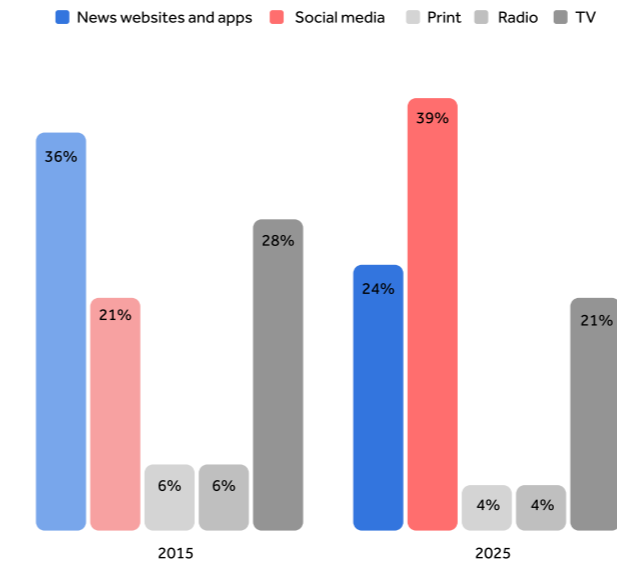


Figure 6. 18-24s that say each is their main source of news (Robertson et al., 2026)

2.3.1 Platform-based encounters

Adolescents increasingly access news through social media platforms, a shift that typically occurs around the age of 12-13 when young people begin using smartphones more independently (Notley et al., 2022). Platforms such as Instagram, TikTok and Youtube increasingly dominate as an entry point to news (Schut et al., 2024). Where in 2015 young people already primarily accessed news online, by 2025 this has evolved into a “social-first” pattern as demonstrated in **Figure 6** (Newman et al., 2025; Robertson et al., 2026). Adolescents encounter news embedded in their regular feeds; content that blurs the line between journalism, entertainment, and opinion (Edgerly & Vraga, 2020). Although they often perceive social media news as lower quality, they engage with it because it is woven into their everyday media use (Mann, 2026). At the same time, only 40% of adolescents are familiar with how algorithms shape what they see (Blakston et al., 2025), leaving most unaware of how their information environment is curated. The result is a highly fragmented and personalised information environment in which algorithms, influencers, and AI-driven systems determine what content is visible, exposing adolescents to a mix of professional journalism and non-journalistic content that is increasingly difficult to distinguish (Tamboer, 2020).

2.3.2 Passive and incidental exposure

Rather than actively seeking out news, adolescents typically encounter it by chance, a pattern described as the “news-finds-me” perception (Gil de Zúñiga et al., 2017). News arrives through social media feeds, peer conversations, and family members rather than through deliberate searching (Edgerly et al., 2018; Duvekot et al., 2024). In this, young people construct personalised media “menus” by consuming brief, fragmented news “snacks” between other activities, rather than engaging with news as a dedicated practice (Tamboer et al., 2022; Duvekot et al., 2024). Hermida (2010) frames this as ambient journalism, a condition in which news flows continuously through social environments as background awareness rather than focused attention. Tamboer (2023) similarly characterises young adolescents' news consumption as “passive and incidental”. While this lowers the threshold for encountering news, it also reduces opportunities for deeper engagement and critical reflection. Research on 15-18 year olds found that this attitude can lead to knowledge gaps between those who do and those who do not actively seek news (Craft et al., 2016; Tamboer et al., 2022), reinforcing existing differences between more and less engaged news users (Duvekot et al., 2024).

2.3.3 Personal relevance as a driver

Adolescent news engagement is strongly shaped by whether news feels personally relevant and worth paying attention to. Although many young people consider news important for democracy and citizenship, they often experience it as repetitive, negative, or disconnected from their own lives (Craft et al., 2016; Duvekot et al., 2024). Young people actively seek sources that align with their interests, for example by following public figures such as artists, politicians, and activists (Wunderlich et al., 2022; Duvekot et al., 2024), or by turning to alternative media alongside established news brands to also see different perspectives (Duvekot et al., 2024). At the same time, constant exposure to crisis coverage can produce feelings of hopelessness and lead to deliberate news avoidance (Duvekot et al., 2024). While avoidance functions as a coping strategy, it can leave adolescents less informed and more vulnerable to misinformation (Swart & Broersma, 2021).

2.3.4 Navigating credibility in an info-smog

Trust in news is increasingly difficult to establish where professional journalism, opinion, influencer content, and AI-generated material share the same surfaces (Coleman, 2012; Swart & Broersma, 2021). In this high-choice environment, adolescents often struggle to distinguish professional journalism from other content (Duvekot et al., 2024), despite being described as “skilled but vulnerable” media users (De Leyn et al., 2022). Rather than verifying news systematically, adolescents judge credibility through familiarity and intuition, trusting recognisable people over institutional brands (Swart & Broersma, 2022; Newman et al., 2025). Trust in mainstream media is declining globally (Newman et al., 2025), with adolescents often perceiving bias or hidden agendas and turning instead to peers and social networks for validation (Craft et al., 2016; Newman et al., 2025). This fuels a growing trust gap between informed citizens and the far more sceptical mass population (Swart & Broersma, 2022).

These patterns show that young adolescents have not disengaged from news; their engagement has reorganised around platforms, ambient flows, and personal trust. This reorganisation is not in itself a deficit, but it places considerably higher demands on the capacity required to engage with news critically. What that capacity looks like, and why developing it is harder than it might appear, is what the literature on news literacy has increasingly sought to specify.

2.4 News literacy

As adolescents increasingly encounter news in fragmented, platform-driven environments, the ability to navigate news critically becomes more important. News literacy has therefore gained attention as a concept for understanding how people make sense of news and assess its credibility. At the same time, research shows that possessing news literacy is not the same as applying it in practice, making it necessary to look not only at what news literacy is, but also at how and under what conditions it is enacted in everyday life.

2.4.1 Defining news literacy

News literacy emerges from the broader field of media literacy but is distinguished by its focus on news as a particular genre with civic significance (Vraga & Tully, 2016). While attempts to define news literacy are scattered (Tully et al., 2021), it has recently been defined as:

News Literacy

“knowledge of the personal and social processes by which news is produced, distributed, and consumed, and skills that allow users some control over these processes” (Tully et al., 2021)

News literacy can be approached from two broad orientations. The protectionist view sees media literacy as a shield, protecting people from potential harms (Hobbs, 2010; Potter, 2019). The empowerment view focuses on equipping people to engage actively with media in their daily lives (Hobbs, 2010; Malik et al., 2013). Following Tamboer (2023), this project adopts the empowerment perspective, focusing on equipping early adolescents to navigate news in their everyday encounters rather than shielding them from it. Scholars broadly agree that news literacy should “prepare and empower people to become critical news consumers who can read, understand, analyse, deconstruct, develop, share, and sometimes even create news” (Ashley et al., 2013; Vraga et al., 2015, 2020; Tamboer et al., 2023).

2.4.2 The application gap

A consistent finding across news literacy research is that knowledge and skills do not reliably translate into news-literate behaviour, where “being news literate does not necessarily mean such knowledge and skills are applied in practice (Swart, 2021). Most news literacy research has historically focused on knowledge as both the target of interventions and as the subject of measurement, under the implicit premise that informing individuals about news production would translate into news-literate behaviour (Ashley et al., 2013; Kleemans & Eggink, 2016). However,

“being knowledgeable and skilled does not equal verifying news or deciding what information is actionable in everyday life” (Tamboer, 2023). This gap between knowing about news and applying news literacy in everyday life is what Tamboer terms news literacy application.

Foregrounding application as the primary outcome reframes the central question of the field; from what young

News Literacy application

“the extent to which early adolescents, in their everyday lives, reflect on the trustworthiness of information, evaluate sources, and seek further information” (Tamboer, 2023, p. 11)

people know about news to what young people do with news. This is particularly relevant for early adolescents, who often struggle to evaluate how reliable sources are and to distinguish credible news from misinformation in practice (Ku et al., 2019). Importantly, for a news literacy practice to develop and persist, it requires not only motivation and skills but a stable, recurring context in which the behaviour can repeat and consolidate over time (Wood & Neal, 2007; Verplanken, 2018; Groot Kormelink, 2022).

2.4.3 A model of news literacy application

To understand which factors influence news literacy application, Tamboer (2023) draws on three converging theoretical traditions. The first is Potter's cognitive model of media literacy (2004, 2019), which identifies three building blocks: knowledge, skills, and a strong personal locus; the individual's awareness of and motivation to engage with media literacy goals. The second is the Information-Motivation-Behavioural Skills (IMB) model (Fisher & Fisher, 1992, 2002), which proposes that information, motivation, and behavioural skills are causally related to behaviour and must be addressed together rather than in isolation. The third is Rozendaal's (2017) media empowerment model, which describes the role of knowledge, motivation, and ability in children's media literacy. Together, these traditions converge on a shared insight: knowledge alone is insufficient for behaviour change.

Tamboer (2023) integrates these into a model of news literacy application specifically for young adolescents, as shown in Figure 7. The model situates news literacy application as the outcome of three interacting components; knowledge, skills, and motivation, shaped by social influences (peer, parent, and teacher norms) and individual differences (gender, age, educational level). These elements are not independent; they each influence news literacy application and should be addressed as a whole. News consumption is also part of the model: it is expected as an outcome of news literacy, but also enhances news literacy through experience-based learning (Kolb et al., 2001).

Based on this model, Tamboer (2023) proposes a stepwise approach: first stimulate intrinsic motivation and news consumption itself, then build value for news literacy, skills,

and peer social norms. Interventions that focus solely on cognitive knowledge address only one component of the model. To stimulate application, interventions also need to address motivation, provide opportunities for actual news consumption, and account for the social context; peer, family, and school norms in which news literacy is practised. This perspective reframes news literacy not as a skill to be transmitted, but as a practice that develops through repeated, motivated engagement in supportive contexts, and it is this understanding that shapes the design direction of this project.

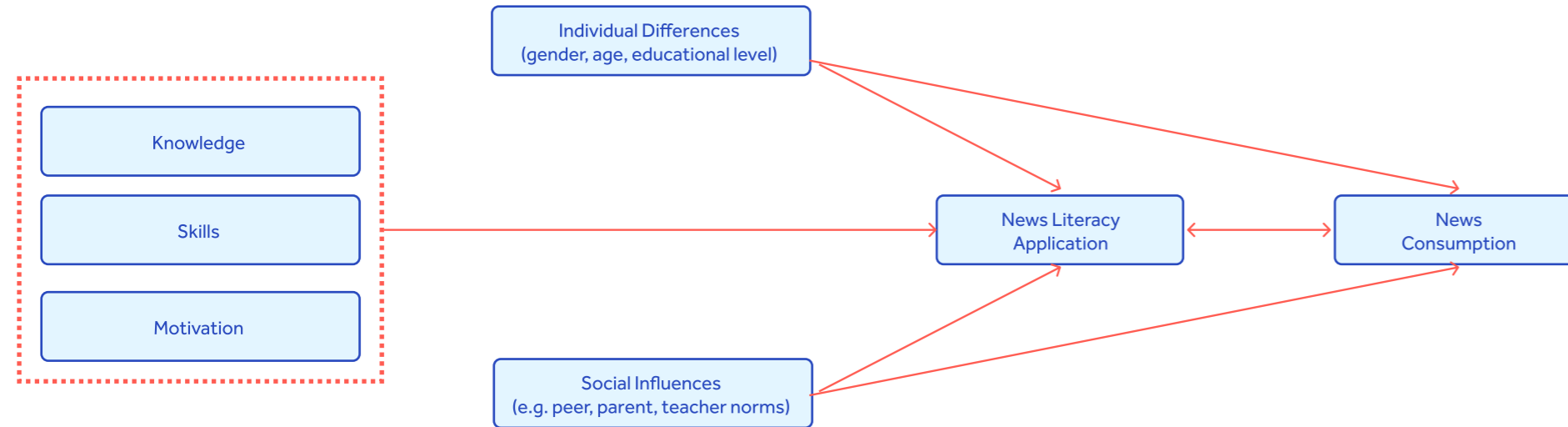


Figure 7. Theoretical model of news literacy application in adolescents (Tamboer, 2023)

Key insights

This chapter established the theoretical foundation for the project by synthesising literature on news, adolescence, youth news consumption and news literacy. Four key insights emerge from this review.

Together, these insights answer the theoretical side of RQ1: young adolescents' news engagement and news literacy application are shaped by democratic, developmental, platform-based and behavioural conditions. Chapter 3 builds on this by examining how these conditions play out in the contemporary media system around NOS, public service media, schools and existing interventions.

News as democratic infrastructure



News fulfills an information, control and forum function in democratic societies. Reliable journalism allows citizens to understand public affairs, form opinions and participate in collective life. However, this role is increasingly pressured by declining engagement, low trust and a fragmented media landscape in which legacy news media are only one source among many. This makes the ability to engage critically with news a democratic concern.

Young adolescence as a formative window



Young adolescence is a crucial developmental phase in which habits, civic orientation and media routines begin to take shape. News consumption before the age of 18 can influence later news habits, while political interest stabilises around early adulthood. Yet this group remains underrepresented in news literacy research, and their engagement with news is shaped unequally by parental, educational, cultural and socioeconomic contexts. This makes young adolescence both a high-leverage and a sensitive moment for intervention.

Platform-based ambient news environment



Young adolescents have not simply disengaged from news; rather, their engagement has reorganised around platforms, peers and surroundings. News is often encountered incidentally, through a "news-finds-me" pattern, and appears alongside entertainment, opinion and influencer content. In this environment, credibility is often judged through familiarity and intuition rather than systematic verification.

Application gap of news literacy

Research consistently shows that knowledge and skills do not automatically translate into news-literate behaviour in everyday life. Tamboer's (2023) model of news literacy application shows that motivation, social context and stable recurring settings are equally necessary. This shifts the project's focus from what young people know about news to what they actually do with it, and towards creating the conditions in which news engagement becomes meaningful, repeated and socially supported.

3. Context of contemporary media



3.1 Changing media landscape

Where Chapter 2 establishes the theoretical foundation of news, adolescence, and news literacy, this chapter examines the system in which the design intervention must operate. It moves from the macro level of the changing news landscape (3.1) to the meso level of the position of public service media within that landscape and the pressures they face (3.2), and to the micro level of existing interventions in that landscape, aimed at strengthening news literacy among young people (3.3).

3.2 News and public service media

With this, the first research question is addressed with a broader contextual view: RQ1. What conditions shape how young adolescents engage with news and apply news literacy?

3.3 NOS

3.4 Existing interventions

Approach

The context analysis was developed through design research methods to understand the broader system. These include desk research, ecosystem mapping, internal brand analysis of NOS, DEPEST (Demographic, Economic, Political, Ecological, Social, Technical) analysis to explore border contextual factors shaping news consumption. In addition a scoping review of current interventions was done.

3.1 Changing media landscape

To understand the opportunity space for this project, this section zooms out to examine the broader shifts reshaping how news is produced, distributed, and encountered. As illustrated in Figure 8, news consumption has radically changed (Newman et al., 2025; Schrijvers et al., 2026); from its origins in word of mouth, through institution-led channels such as print, radio, and television, toward mobile, on-demand, and increasingly platform-based and algorithmically mediated access. This shift has fundamentally restructured the relationships between news producers, distributors, and audiences (Swart & Broersma, 2022; Schrijvers et al., 2026), with significant consequences for how young people encounter and engage with news today.

3.1.1 Platformisation and algorithmic gatekeeping

A key shift in the contemporary news landscape is that platforms, rather than news organisations, increasingly mediate access to news (Newman et al., 2025; Schrijvers et al., 2026). Large technology companies, Google, Meta, TikTok, have come to occupy a central gatekeeping role in how information is surfaced and circulated (Newman et al., 2025). Rather than simply hosting content, these platforms determine what becomes visible through search, feeds, recommendations, and aggregation systems, giving them substantial influence over the pathways through which news reaches the public. Newman (2026) argues that platforms remain "in the driving seat," supported by technologies that can aggregate and remix content at scale. For young audiences, this shift is near-total: among 2,010 questioned Dutch 16-24 year olds, 78% use social media to stay informed (Schut et al., 2024), where the main platforms are Instagram, TikTok and Youtube as indicated in Figure 9.

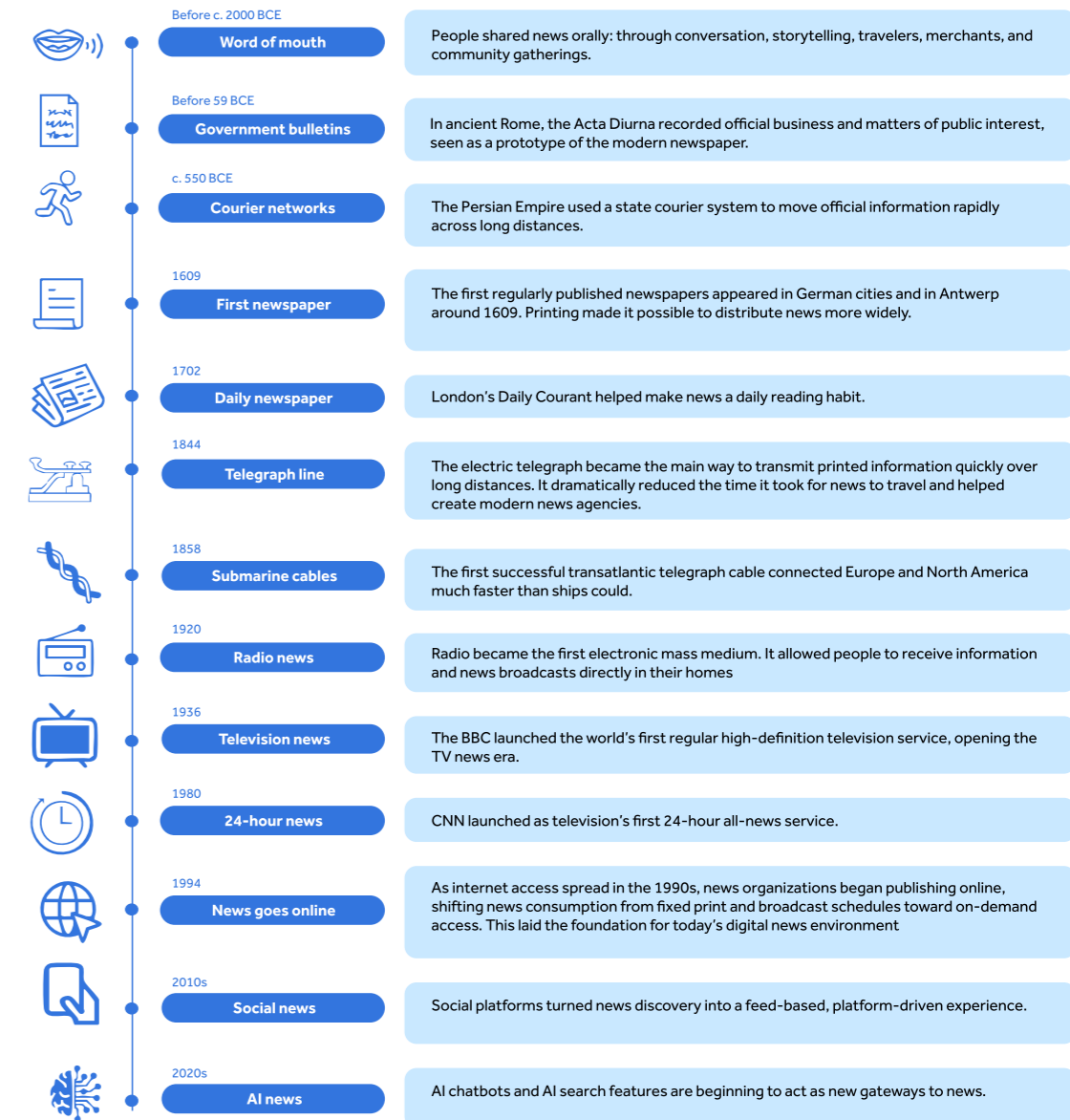


Figure 8. A brief history of news, based on Britannica (2025)

This shift has intensified concerns about the broader role of Big Tech in public life. The NPO (2026) notes that algorithms “increasingly determine what people see, which voices are amplified and which disappear. Within those algorithms, public values do not have a self-evident place.” These developments suggest that platformisation is not only a media issue, but an increasingly social and political one. The European Union is therefore strengthening regulatory oversight in response: the Digital Services Act requires platforms to minimise risks of exposing users, particularly minors, to harmful content, while the European Media Freedom Act aims to safeguard media pluralism and independence (European Commission, 2026; European Union, 2024). Together, these developments reflect a shift in which platforms are no longer seen as neutral infrastructure, but as actors that actively shape access to information and require democratic oversight.

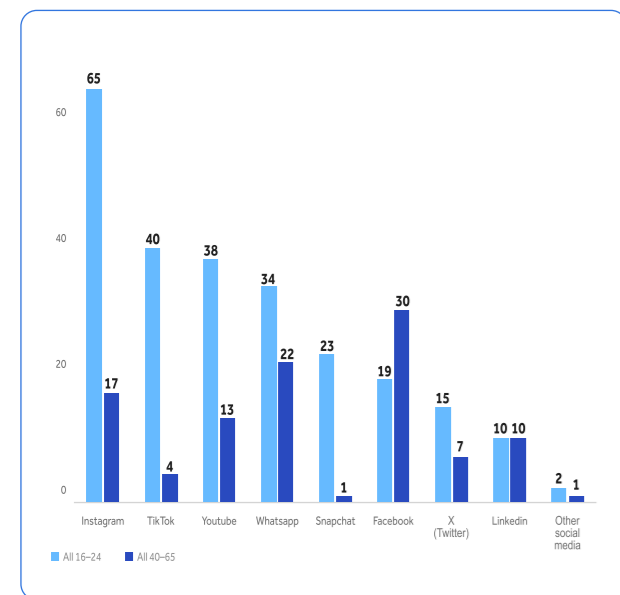


Figure 9. Use of social media to be informed in NL (Schut et al., 2024)

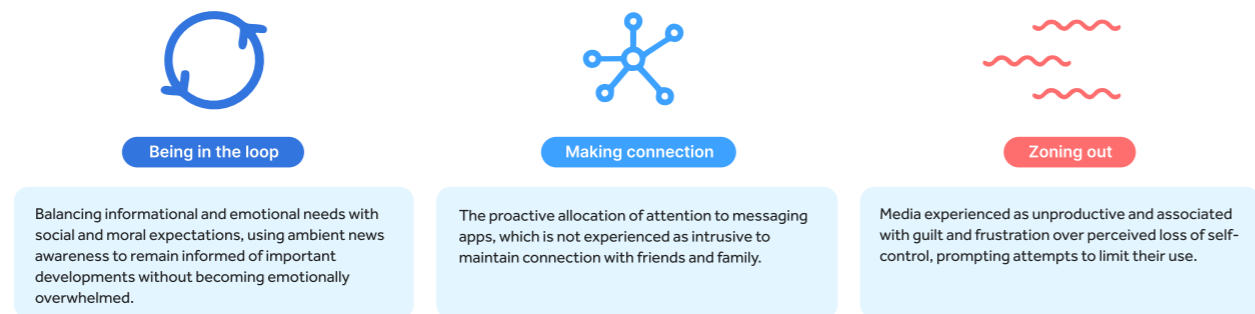


Figure 10. Three core functions of media use, adapted from Groot Kormelink et al. (2026)

3.1.2 The attention economy

In a platformised environment, news no longer competes only with other news, but with all forms of digital content competing for limited user attention. Platforms function as attention brokers (Boik et al., 2016), directing audiences toward possible consumption options (Meyer et al., 2024). This call for engagement creates strong incentives for sensationalism, entertainment-oriented framing, and personality-driven presentation: on social and video networks, young people now pay more attention to individual news creators (51%) than to traditional news brands (39%), while creators and influencers are driving a shift toward personality-led news at the expense of institutions that can feel less relevant and less authentic (Newman, 2026; Robertson et al., 2026).

Alongside these structural shifts, the motivations behind why audiences engage with media have evolved. Groot Kormelink et al. (2026) find that young adults distinguish three core functions in their media use: being in the loop about major developments, maintaining connection with friends and family, and zoning out through leisure-oriented use, as illustrated in Figure 10. News sits primarily within the first function. This means that for most young people, news is one small part of a much broader media diet, encountered alongside entertainment, social content, and distraction in the same continuous feed.

3.1.3 Generative AI and info-fog

Generative AI is also reshaping the information landscape. AI-generated content is blurring the boundary between authentic and synthetic information, understood here as artificially generated or manipulated information that can resemble human-produced news, images, audio, or opinion, at scale. AI-generated articles now outnumber human-written articles on parts of the open web (Newman, 2026). For young audiences encountering news in mixed timelines, distinguishing professional journalism from synthetic content, advertising, and opinion is increasingly demanding (Mann, 2026). What counts as credible information is becoming an uncertain judgement in ways it was not when editorial gatekeepers cooled distribution (Tandoc et al., 2018). This not only challenges trust in specific news items but threatens trust in the very concept of reliable information, making the capacity to navigate news critically more necessary than ever.

3.1.4 Economic pressure

Alongside changes in distribution and attention, journalism is under intensifying economic pressure. As advertising revenues have shifted dramatically toward digital platforms, print media lost their primary source of funding, Figure 11 illustrates the scale of this shift in advertising spending, showing the fall of print advertising alongside the rise of digital. Schrijvers et al (2026) document the consequence: of every five euros previously earned through traditional media advertising, four now flow to Big Tech. The Reuters Institute (Newman, 2026) projects that publishers expect referral traffic from search engines to nearly halve (43%) over the next three years, as AI answer engines increasingly provide answers without directing users to source sites. News organisations face declining budgets and declining visibility simultaneously.

Younger audiences are significantly less likely to pay for online news and show low subscription intent (Newman et al., 2025). Commercial news media have responded with paywalls, but these retain loyal readers while limiting reach to new audiences (Malik, 2025). Public service media face a particularly difficult position: expected to remain broadly accessible, independent, and socially valuable, while operating under increasing financial constraint in a landscape driven by commercial platforms. Across Europe, funding uncertainty for public broadcasters is growing (Public Media Alliance, 2026), and in the Netherlands the public broadcaster is expected to cut nearly €160 million from 2027 onwards (NPO, 2026).

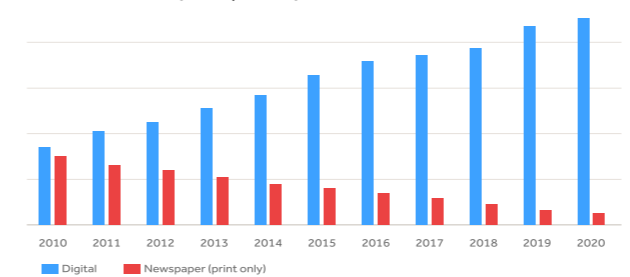


Figure 11. Decline of print advertising and rise of digital advertising spend (adapted from Nicolaou, et al. (2021)

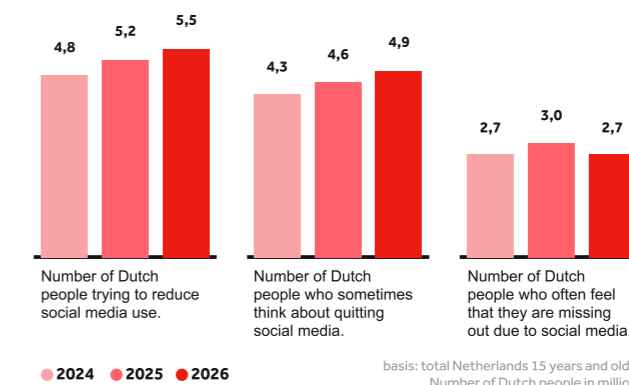


Figure 12. Number of Dutch people attempting to decrease social media use, considering stopping, or feeling they are missing something due to social media (Bogosavac, 2026)

3.1.5 Intentional disconnection

Not all signals point in the same direction. While platform dominance intensifies, a meaningful counter-trend is emerging. The 2026 World Happiness Report links declining youth wellbeing directly to social media use (Helliwell et al., 2026), and in the Netherlands around 5.5 million people are actively trying to reduce their time on social media, a trend illustrated in Figure 12 (Bogosavac, 2026). Anti-screen movements, dumb-phone subcultures, and “appstinance,” the deliberate avoidance of apps, are growing particularly among younger users (Newman, 2026). Policy is following: the proposed Dutch coalition agreement includes a European minimum age of 16 for social media, with privacy-friendly age verification (Jetten et al., 2026), backed by public sentiment, 63% of Dutch adults and 60% of Gen Z respondents favour a ban under 16 (Newcom, 2026).

Together, these signals show that the digital information environment is not moving in one direction. Society is pushing back, and in doing so, creating political and cultural space for news experiences that exist outside platforms rather than within them

3.1.6 Phone-free schools

A concrete expression of this counter-movement is the restriction of mobile phones in Dutch schools. Since 1 January 2024, mobile phones, tablets and smartwatches are no longer allowed in secondary-school classrooms, unless they are needed for educational purposes, medical reasons or accessibility (Rijksoverheid, 2023). From the 2024-2025 school year onwards, this agreement was extended to primary education and special education (Rijksoverheid, 2023). The policy follows a “no, unless” principle: digital devices are not rejected altogether, but their presence must be intentional and pedagogically justified.

Early evaluations suggest that the measure has changed the school environment. In secondary education, almost all schools have implemented a mobile-phone policy, often through a “home or in the locker” approach. Reported effects include improved concentration, a better social climate and, to a lesser extent, improved learning performance (Kohnstamm Instituut & Oberon, 2026). At the same time, schools also report practical tensions, including enforcement pressure for teachers and new challenges around communication with students (Oberon, 2026). This shows that phone-free policy is not simply a technical solution, but part of a broader renegotiation of what digital presence should look like in education.

This development is reinforced by wider political and societal debate about children’s access to social media. In 2025, the Dutch government advised parents to wait with social media until the age of 15, citing concerns about sleep, concentration, mental wellbeing and exposure to unsuitable content (Rijksoverheid, 2025). In 2026, public support for stricter age limits also increased: 63% of Dutch adults and 60% of Gen Z respondents supported a social media ban for children under 16 (Newcom, 2026). Together, these developments suggest that schools are increasingly positioned as spaces where young people should not simply be reached through the same devices and platforms that dominate their everyday media environment.

3.2 Public service media

The global shifts described in Section 3.1 take shape in the Netherlands within a specific institutional and regulatory context. The Dutch media system is grounded in a strong public value orientation: under the Mediawet, media are expected to inform society, while the national government is responsible for safeguarding the quality, diversity, and accessibility of the media offer (Rijksoverheid, 2026). Press freedom remains a fundamental principle, the government cannot interfere with what is published within legal boundaries, and within this framework, public broadcasters hold a specific mandate to provide a broad and balanced media offer that serves all groups in society (Rijksoverheid, 2026).

This system is under pressure from two sides. On one hand, policymakers express growing concern about the impact of digital platforms on public values, particularly for young audiences. The Dutch government has emphasised the need for a “safe and healthy online environment,” pointing to risks such as addictive algorithms, harmful content, and insufficient moderation (NPO, 2026). Coalition plans propose stricter regulation, including a minimum age of 16 for social media (Jetten et al., 2026). On the other hand, media institutions face political pressure from within: some parties have proposed abolishing the public broadcaster altogether (Kleemans, 2024), and politicians publicly questioning journalism’s legitimacy contribute to declining confidence in traditional media institutions (Swart & Broersma, 2022; Staatscommissie tegen discriminatie en racisme, 2026). This places additional pressure on the already decreasing confidence in traditional media institutions (Swart & Broersma, 2022).

The landscape is marked by a few overarching publishers with many outlets under their wings: Belgian publishers DPG Media and Mediahuis together own more than 90% of all Dutch newspapers (Groot Kormelink & Lamot, 2025). NOS acts as a central actor, dominating the TV and radio market for news and ranking as the second largest player online, following NU.nl. Among young people, NOS has

the broadest reach of any Dutch news organisation: 83% of young people encounter one or more NOS brands including NOS op 3 and NOS Stories (Schut et al., 2024).

The Dutch public broadcasting system is coordinated by the Nederlandse Publieke Omroep (NPO), which forms the national public media system together with the individual public broadcasters, seen in Figure 13. Within this system, the broadcasters are responsible for producing programmes and journalistic content, while the NPO coordinates channels, platforms, budgets and distribution. The system includes member-based broadcasters such as AVROTROS, BNNVARA, EO, HUMAN, KRO-NCRV, MAX, PowNed, VPRO, WNL, Ongehoord Nederland and Omroep Zwart, as well as the two task broadcasters NOS and NTR, which have specific statutory responsibilities (Rijksoverheid, n.d.). This means that NOS is not a brand of the NPO, but one of the public broadcasters operating within the wider NPO system (NPO, n.d.).

Within this ecosystem, presented in Figure 14, public service media thus occupy a unique position as non-

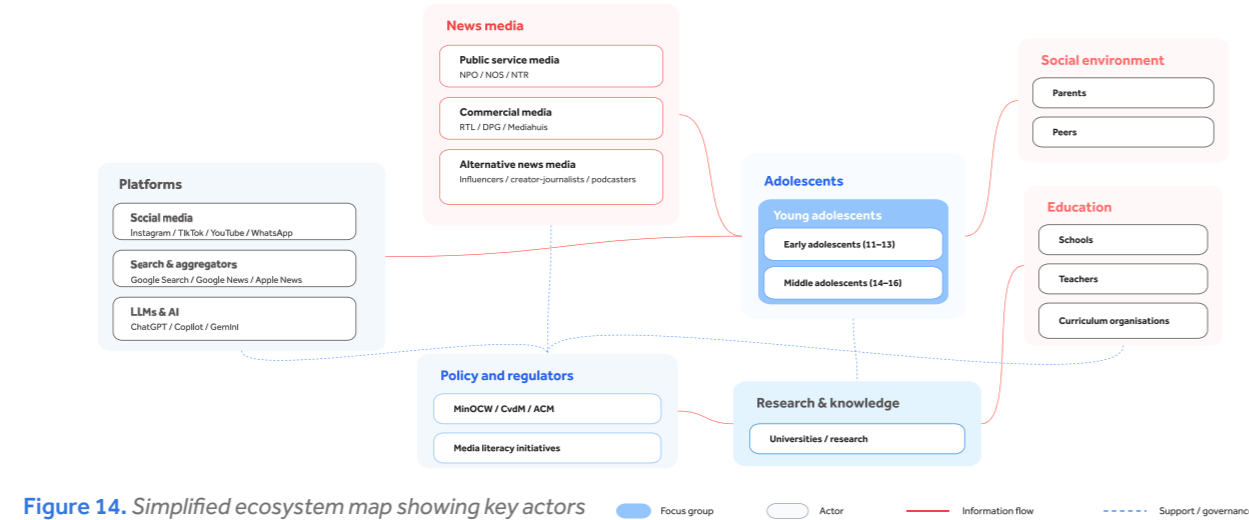


Figure 14. Simplified ecosystem map showing key actors

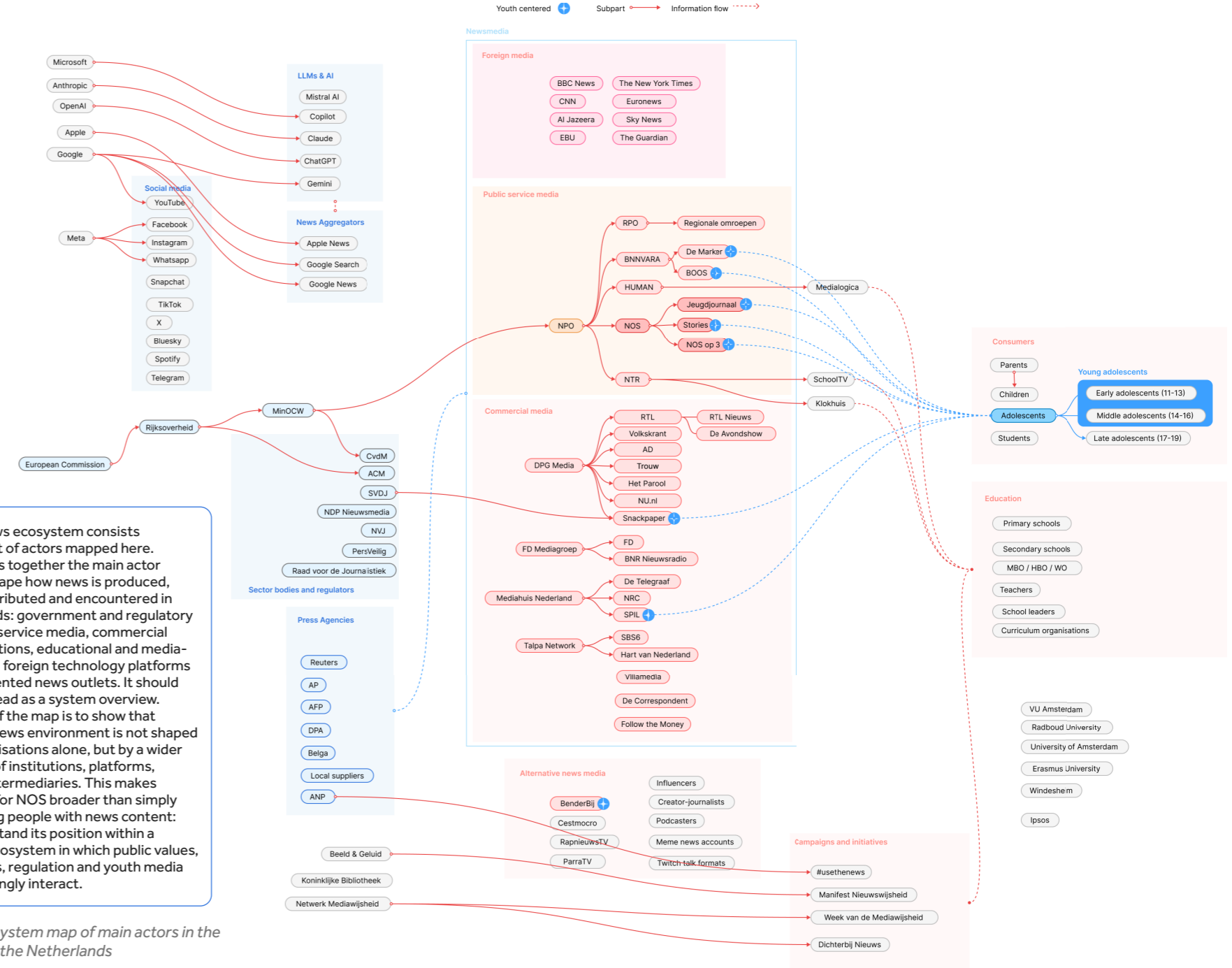
commercial actors tasked with safeguarding public values, raising the question of how they can remain relevant and reach all citizens within a platform-dominated landscape. It is this question that makes the NOS’s role, and the pressures it faces, particularly relevant to this project. The full ecosystem map is presented in Figure 15.



Figure 13. Broadcasters within the Dutch public broadcasting system (NPO, 2026)

The Dutch news ecosystem consists of a diverse set of actors mapped here. The map brings together the main actor groups that shape how news is produced, regulated, distributed and encountered in the Netherlands: government and regulatory bodies, public service media, commercial news organisations, educational and media-literacy actors, foreign technology platforms and youth-oriented news outlets. It should therefore be read as a system overview. The purpose of the map is to show that adolescents’ news environment is not shaped by news organisations alone, but by a wider constellation of institutions, platforms, policies and intermediaries. This makes the challenge for NOS broader than simply reaching young people with news content: it must understand its position within a fragmented ecosystem in which public values, platform logics, regulation and youth media habits increasingly interact.

Figure 15. Ecosystem map of main actors in the news system in the Netherlands



3.3 NOS

As the central news organisation within the Dutch public broadcasting system, the NOS is publicly funded, editorially independent, and carries a public responsibility to provide reliable and accessible news for all citizens. Originating from radio and television, the organisation is now increasingly navigating the digital domain, where it must remain relevant in a platform-driven landscape. While widely perceived as a trustworthy news source, the NOS has also been actively working for years to engage younger audiences. This section explores how the organisation fulfils its public role, how it is structured, and the challenges it faces in doing so.

3.3.1 Public service function and mission

The NOS is part of the Dutch public broadcasting system (NPO) and is funded through public resources including taxpayers money and STER advertisement income. Its responsibility is set out in the Mediawet, which assigns NOS the duties described below. NOS's mission reinforces this; see the box to the left. This mission explicitly commits the organisation to reaching all segments of society; a commitment that has become substantially more difficult to fulfil as audiences fragment across platforms.

Mediawet duties

The NOS is tasked with providing media content for the national public media service in the fields of news, sports, and events that is particularly well-suited for joint production, including media content that:

- Requires a high frequency and fixed regularity of distribution;
- Has a general service character; or
- Can be better produced jointly with a more efficient use of resources.

(NOS financieel jaerverslag, 2025)

Mission NOS

As an integral part of public broadcasting, the NOS aims to be the primary source of information regarding news, sports, and events, enabling Dutch citizens to better judge global developments and thereby better determine their behavior. In doing so, the NOS adheres to the highest journalistic standards of diligence, reliability, independence, diversity, and objectivity. The NOS strives to make this information accessible through all available media and to all segments of society. (NOS, 2026)

Within the socio-technical system (Geels, 2005), illustrated in Figure 16, the NOS is positioned between multiple actors. On an institutional level, it is governed within the NPO framework and accountable to the Ministry of Education, Culture and Science (MinOCW), which safeguards public values such as diversity, accessibility, and quality. At the same time, it serves citizens as its primary audience, while increasingly relying on digital platforms (e.g., social media and search engines) for distribution. This creates a dynamic in which the NOS must navigate between public responsibility and platform dependency

Within the broader public broadcasting system, NOS is one of several actors. The NTR, which operates Nieuwsuur in collaboration with NOS, as well as Schooltv, Het Klokhuis and other educational programming, concentrates on art and culture, journalism and information as youth, minorities and educational content (Over NTR, 2026), while EO, KRO-NCRV, and other outlets produce content reflecting specific public viewpoints. NOS's editorial focus on day-to-day news distinguishes it from these actors, but in some cases news and educational content share similar qualities, as seen already in the collaboration of NOS and NTR on Nieuwsuur.

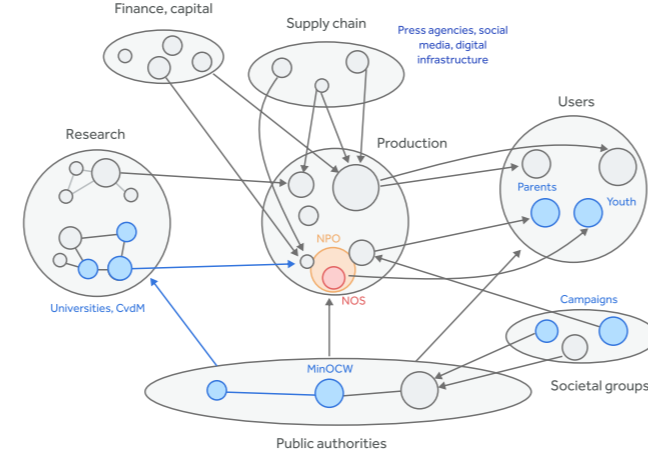


Figure 16. NOS in the socio-technical system, including main inter-actors, based off of Geels (2005)

3.3.2 Perception

Despite increasing pressure on traditional media, NOS remains one of the most trusted news brands in the Netherlands, with an average trust score of 7.1, although this has slightly declined in recent years (Newman et al., 2025). Among young people, 83% encounter one or more NOS brands; 72% via social media and 59% via its own channels, placing NOS as the most reach-effective Dutch news organisation for young audiences, though awareness consistently outpaces actual engagement (Schut et al., 2024). The competitor map in Figure 17 presents the recognition and trust of NOS brands relative to other news organisations or initiatives that young people occasionally encounter or regularly follow or use themselves, based on a survey by Schut et al. (2024) of n=2,010 16-24 year olds in the Netherlands. This strong brand recognition positions NOS as a trusted starting point for reaching young audiences, but translating that recognition into sustained, meaningful engagement remains the central challenge.

3.3.3 Organisational structure

NOS is an editorially driven organisation, historically rooted in television (Over de NOS, 2026), where editorial independence and journalistic values are central. Its structure consists of editorial and operational departments. The editorial departments include news, sport and events, while the operational departments include marketing & communication, finance & administration and digital media. This project sits within the Digital Media department, specifically within NOS Lab, which operates under the Product Studio team. The organisational structure is presented in Figure 18.

Over time, the organisation has expanded towards a multi-brand approach (Figure 19), with dedicated teams such as NOS Nieuws, Jeugdjournaal, Stories, NOS op 3 and Nieuwsuur, each targeting different audience segments. With a segmented approach, different sub-brands operate with distinct formats, tones and distribution channels, all under the wider umbrella of the NOS. Within this portfolio, NOS Jeugdjournaal (9-12 year olds), NOS Stories (13-19 year olds) and NOS op3 (18-50 year olds) specifically target younger segments (Over de NOS, 2026).

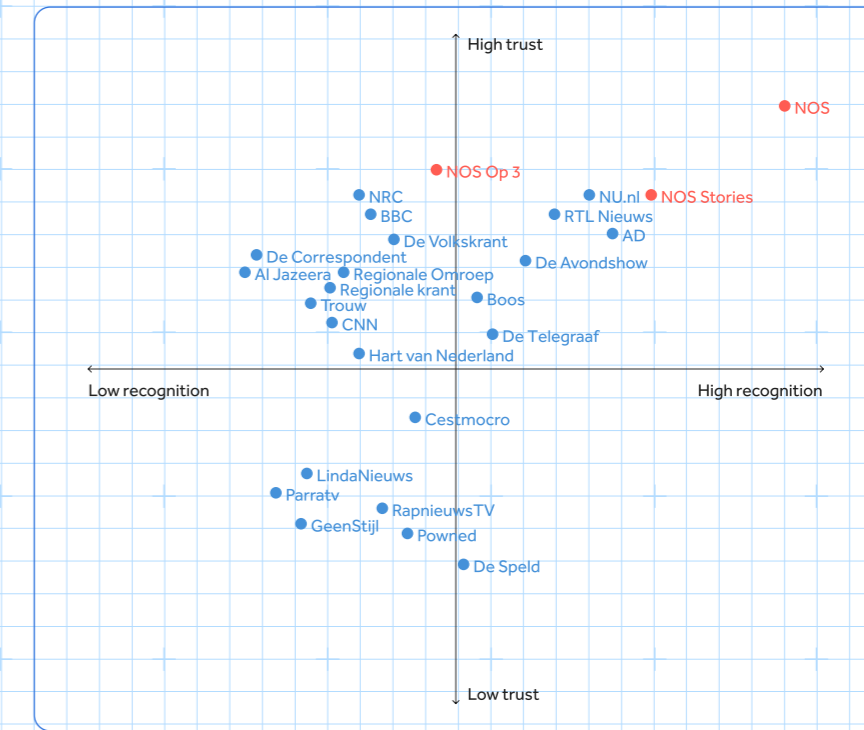


Figure 17. Competitor map based on Schut et al., 2024

Figure 18. NOS organisation structure including sub-branch under Digital Media where this project sits (adapted from (NOS financieel jaerverslag, 2025))

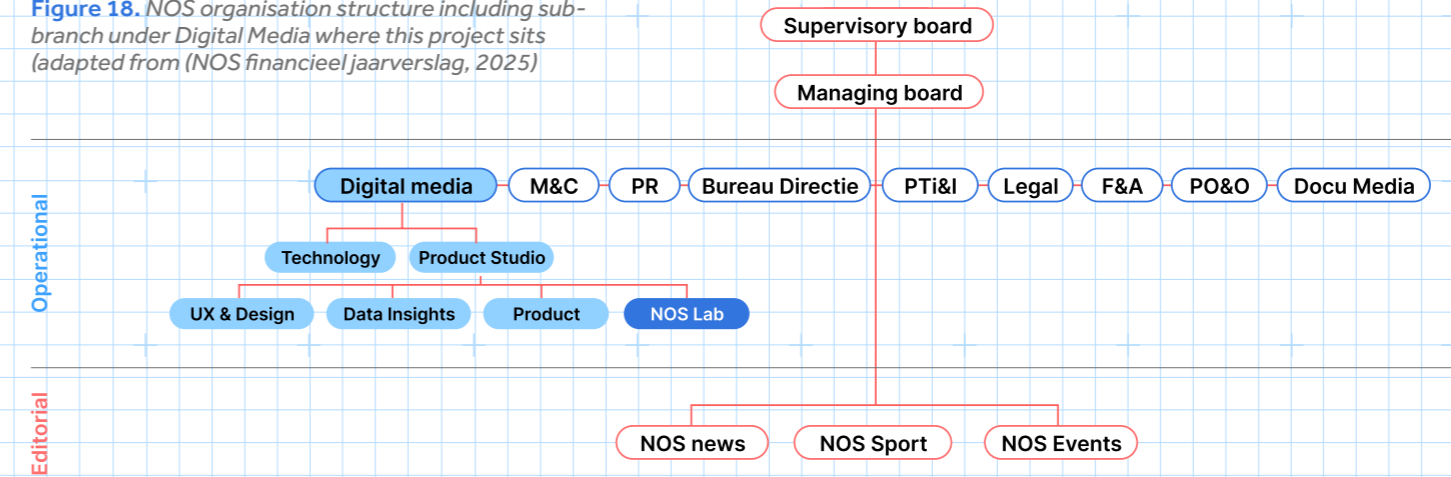


Figure 19. A collection of the main NOS subbrands (NOS Figma, 2026)

3.3.4 Youth products and initiatives

NOS actively invests in reaching younger audiences which is also supported by this graduation project. The reach that NOS has amongst young people is strategically important: while 81% of young people engage with at least one Dutch news organisation, this drops to 50% without NOS, highlighting its central role in youth news consumption (Schut et al., 2024). Three main sub-brands are directly relevant to this project:



Accessible daily news for children

Target group: 9-12 years
Channels: TV, app, website, social media
Formats: Ochtendjournaal, Avondjournaal, online articles, short video clips

The Jeugdjournaal, launched in 1981, provides age-appropriate news for children aged 9-12 and remains a key entry point into news consumption. Editorial choices are carefully adapted to this audience, for example by being more cautious with heavy or disturbing visuals in morning broadcasts (N8).

Audience engagement is actively incorporated: children provide feedback through the app or website, which helps the editorial team understand “how things land and where the needs are” (N9). In addition, school visits are increasingly used to discuss news topics and connect with children’s perspectives, although these initiatives have not always been consistently prioritised (N9; N9).

Nevertheless, the Jeugdjournaal plays a significant role in primary education, with around 85% of teachers incorporating the morning or evening broadcast into their lessons at least once a week (NOS internal study). For this project, the Jeugdjournaal is foundational: most of the young adolescents interviewed grew up watching it, and the trust they hold in NOS today derives largely from that childhood viewing relationship.



News made short, fast and understandable

Target group: 13-19 years
Channels: Instagram, TikTok, YouTube
Formats: Short-form video, stories, explainers, Q&A formats, polls

NOS Stories has grown from a social media experiment into one of the most prominent youth news brands in the Netherlands, targeting 13-19 year olds through Instagram, TikTok, YouTube and their website. Its platform-native, visual, and informal tone is a key reason NOS remains highly visible among younger audiences relative to commercial competitors (Schut et al., 2024).

Schut et al. (2024) describe NOS Stories as the most active and successful example of an established Dutch news organisation reaching young audiences aged 16 to 24. The format emerged from NOS Lab around 2015, when NOS identified a gap between the Jeugdjournaal, aimed at children aged 9 to 12, and NOS op 3, aimed more at young adults. Secondary-school students were already highly active on Instagram and YouTube, so NOS began experimenting with short, platform-native news videos where the target group already spent time. In 2018, these activities were bundled under the clearer identity of NOS Stories. Its success lies not only in platform use, but in translating news into questions and consequences that feel relevant to young people, supported by direct contact with the audience through weekly school visits and guest lessons (Schut et al., 2024).

A core strength lies in its proximity to young people’s lived experiences and their language. Through weekly school visits, the team presents how they work and also gathers insights into what is happening in young people’s lives (N4). These interactions reveal that “young people actually pick up more news than expected,” while also offering valuable story leads (N10). However, these insights are not always systematically captured or translated into content, indicating untapped potential.



Explainers & in-depth context

Target group: 18-50 years
Channels: YouTube, Instagram, website
Formats: explainer videos, long-form YouTube, infographics, social clips

NOS op 3 focuses on providing context and explanation for a slightly older audience. Previously targeted at young adults aged 20 to 34 on NPO 3 (Ster, n.d.), it currently has a broader audience from 18 to 50 years old. (NOS, 2026). Although holding that broader target group, they still play an essential role in reach under young people,

According to Schut et al. (2024), NOS op 3 started in 2007 with short news for people in their twenties and thirties, and later also became active on YouTube, where videos were generally longer and often included presenters on screen. In relation to NOS Stories, NOS op 3 shows how NOS had already developed experience with explanatory, digital-first journalism before expanding more explicitly toward teenagers.

Where NOS op 3 was often translating complex societal issues into accessible formats. Its editorial approach builds on themes that resonate with key moments in young people’s lives, as “there are many ‘first times’ in youth that serve as entry points for storytelling” (N11).

Together, the Jeugdjournaal, NOS Stories and NOS op 3 show that NOS already has strong youth-news expertise across age groups: from daily child-friendly news, to platform-native youth journalism, to explanatory formats for older audiences. However, the school visits also reveal an unresolved opportunity. While NOS already meets young people in classrooms and teachers express interest in more structured support around topics such as misinformation, this is not yet translated into a recurring educational news format or explicit news literacy offer (N10). This positions the classroom as a promising next context for extending NOS’s youth mission beyond reach and towards guided, collective news engagement.

3.3.5 Pressures and challenges

Despite its strong position in the Dutch news ecosystem, NOS faces a set of structural tensions and challenges in reaching and engaging young audiences. Internal interviews reveal that these challenges are not isolated but interconnected, reflecting the broader shifts in the media landscape described in Section 3.1. Together, these challenges suggest that the long-run viability of NOS’s

public service mandate to young audiences depends not only on more or better content, but on where and how NOS is positioned within the broader information ecosystem. NOS staff articulate this strategic urgency directly: the organisation must “rejuvenate; be findable by the public” (N2). This is amplified in their annual financial report; where they state that even in this era of

polarization and disinformation NOS “clearly remains the place where news is presented based on factual, independent reporting and analysis. So that everyone knows the same thing, to then be able to form their own opinion.” (NOS financieel jaarverslag, 2025). Thus, this calls for strategic, structural and coordinated interventions.

Systemic

Budget cuts

NPO faces almost €160 million in cuts from 2027 onwards (NPO, 2026), reducing capacity for content production and innovation at precisely the moment when reaching young audiences requires sustained investment.

Structural reach decline

Linear television reach continues to decline among audiences under 30, while platform-based reach is constrained by the engagement logics described in Section 3.1, leaving NOS increasingly dependent on infrastructure it does not control.

Criticism from the public debate

“From various extremes in the public debate, our reporting on Gaza was called into question, parliamentary questions were asked about it, and there was even a call for oversight of journalism.” (The Journalistic Year 2025)

Strategic

Growing up with NOS

The NOS successfully introduces children to news through the Jeugdjournaal, often within a shared family context. However, this relationship weakens as children grow older: “after that, we lose them” (N2). The challenge is not only to reach young audiences early, but to remain relevant throughout adolescence and support a continuous relationship with news.

Platform dependency for young audiences

To reach younger audiences, the NOS relies heavily on external platforms such as Instagram, TikTok, and YouTube. While effective for visibility, this creates dependency on platform logics and algorithms. At the same time, there is a preference to bring users to owned environments, where more control over content and public values can be maintained (N6).

Reaching the ‘unreached’

A key challenge lies in engaging young people who are not already interested in news. “The biggest challenge is reaching children who are not yet involved” (N9). Current approaches often attract those who are already somewhat engaged, leaving a gap in reaching more passive or disengaged audiences.

Operational

Crisis mode limits innovation

Newsrooms have been operating in a prolonged state of “crisis mode,” shaped by events such as COVID-19 and ongoing geopolitical developments (N11). This puts pressure on editorial teams and limits the time and capacity available for experimentation, long-term innovation, and the development of new youth-oriented approaches.

Untapped potential in education

School visits and interactions with young audiences provide valuable insights into their experiences and needs, yet these are not systematically captured or translated into structural changes. Requests from teachers, for example around lessons on misinformation, indicate an opportunity to move beyond outreach towards more embedded educational engagement.

3.4 Existing interventions

Across the Dutch media landscape, a wide range of initiatives have emerged to support news literacy among young people, ranging from awareness campaigns to school-based programmes and interactive game-based formats. This section maps the current intervention landscape, draws out what these initiatives reveal and identifies where the key limitations and opportunities lie, especially in relation to the news literacy application gap introduced in section 2.4.

3.4.1 Growing attention in policy and practice

In recent years, news literacy has gained increasing prominence in both policy and practice. Initiatives such as the Manifest Nieuwswijsheid (Beeld en Geluid, 2026) emphasise the importance of a society in which people engage consciously and critically with news and information, linking this directly to democratic resilience.

This growing attention is also reflected in education policy. Dutch schools are legally required to promote “active citizenship and social cohesion,” further formalising the role of media literacy within the curriculum (Inspectie van het onderwijs, 2026; Heijstekhofman et al., 2025). As a result, schools are increasingly seen as a key context for supporting young people in navigating the contemporary information environment.



Figure 20. Logo's of awareness campaigns and initiatives

3.4.2 Typology of interventions

The current landscape of interventions stretches from campaigns and school based programmes to physical events and interactive installations. In this section, the focus is on only a few selected interventions, which are largest in scale or most up to date in their category, but give an impression of the whole landscape.

A challenge in assessing existing news literacy interventions is that their use is fragmented and difficult to quantify. Rather than being coordinated by one central institution, news literacy support in the Netherlands is shaped by a network of actors. Netwerk Mediawijsheid, for example, describes itself as a network of more than 1,000 organisations working on media literacy (Netwerk Mediawijsheid, n.d.). Beeld & Geluid offers media workshops, teacher trainings and digital lesson materials on topics such as fake news, disinformation, influencers and journalism (Van Rijswijk, 2026). DichterBijNieuws provides a practical news literacy toolkit with materials for different educational levels, designed for teachers who want to work with journalism, news or news literacy in class (DichterBijNieuws, 2026). In practice, this means that uptake often depends on whether a teacher, school, media coach or external partner actively chooses to use the material. Existing interventions therefore show growing attention for news literacy, but also that responsibility is distributed and implementation remains inconsistent. This creates room for a more recurring and recognisable public-service format that can lower the threshold for teachers and make news literacy part of a regular classroom rhythm.

Awareness campaigns and initiatives

These aim to raise public consciousness about news literacy and the role of journalism in society.

Manifest Nieuwswijsheid | Beeld & Geluid
Committed to a society in which people engage with news and information consciously and thoughtfully. In doing so, they aim to stimulate an informed public debate, help prevent polarization, and strengthen democracy. (Beeld en Geluid, 2026)

Week van de Mediawijsheid | Netwerk mediawijsheid
The Media Literacy Week aims to increase media literacy across society and raise awareness of individuals' roles and responsibilities as media users. (Netwerk Mediawijsheid, 2026)

DichterBijNieuws
An initiative by Netwerk Mediawijsheid focused on fostering mutual understanding between citizens and journalists. Within this project, multiple partners collaborate to bring these groups closer together. The goal is to strengthen press safety and press freedom in the Netherlands through dialogue and knowledge exchange. (dichterbijnieuws.nl, 2026)

#UseTheNews | ANP
An independent non-profit foundation that helps young people navigate the rapidly changing digital information landscape. Together with youth and partners from media, government, education, and academia, it explores practical solutions to combat disinformation and news avoidance. The goal is to create a news system that no longer loses young audiences and to empower youth to distinguish real from fake news. (UseTheNews, 2026)

School based programmes

These approaches bring news literacy into educational settings through structured curricula and teacher-facing resources. Co-created and school-based interventions of this kind have shown documented effects on news media literacy and political efficacy (Geers et al., 2020; Tamboer et al., 2023, 2024), particularly when young people are actively involved in producing or analysing news content rather than passively receiving it.



Nieuws in de klas | NDP nieuwsmedia
“Journalist in the Classroom” is an initiative where journalists engage with students about their work processes and the practice of journalism. (NDP Nieuwsmedia, 2026)



Filterbubbel.nl
An educational programme focused on conspiracy thinking, us-versus-them dynamics, and the influence of algorithms and disinformation. (Het Mediateam, 2026)



#Waarzeggers | FutureNL
Students learn about journalism, disinformation, and the role of algorithms. Free teaching materials, including guides, worksheets, and vlogs, help them engage critically with news. (De Dag Vandaag, 2026)



schooltv | NTR
Educational programs that use audiovisual content to explain current events and societal topics to students. (Schooltv, 2026)



Nieuwsbegrip | CED groep
A teaching programme that uses current news topics to develop reading comprehension and critical thinking skills. (CED Groep, 2026)



Medialogica | Omroep Human
Programs by HUMAN, such as Medialogica, offer a philosophical and journalistic perspective that encourages young people to critically reflect on media. (Human, 2026)

Experiential & game-based

Using simulation and play, these game-based and experiential approaches build recognition skills. Research shows that game-based interventions are scalable and engaging, producing short-term improvements in recognition skills and self-efficacy, though their effects on sustained critical behaviour are less well established (Berger et al., 2025; Axelsson et al., 2025).



Bad News | Tilt
A free educational game in which students take on the role of a fake news creator. Students learn to recognize common misinformation tactics and manipulation techniques. (Tilt Studio, 2026)



Brand | Het Klokhuis
A game in which the player takes on the role of a journalist, as part of a four-part series on journalism. Students learn how to handle information from different media sources and distinguish between reliable and misleading information. (Het Klokhuis, 2025)



Breaking news | Nieuws in de klas
In this adventurous game, young students travel through a snowy world, discover how journalists work, and unravel a mystery. They insight into the editorial process of news media and the decisions involved. (Nieuws in de Klas, 2025)



Wie is de trol | NEMO
In this interactive session (45-60 minutes), participants take on the role of a moderator. They assess real comments from NU.nl and discuss the boundary between freedom of expression and inappropriate behavior. (NEMO Kennislink, 2026)

3.4.3 Opportunities and limitations

Taken together, the current landscape of interventions reflects a genuine and growing effort to support news literacy among young people. Several important insights emerge from looking across them presented amongst the opportunities and limitations here.

Connecting back to news literacy application

The limitations identified here connect directly to the application gap introduced in Section 2.4. Tamboer's (2023) model of news literacy application makes clear that knowledge and skills alone are insufficient: behaviour change also requires motivation, social norms, and, crucially, stable, recurring contexts in which the behaviour can be practised and consolidated over time. Most existing interventions address the knowledge component of the model, and fewer address motivation or the social context in which news literacy is enacted. Rarer still are interventions that provide the kind of structural continuity, embedded in a recurring weekly rhythm, supported by a trusted adult, anchored in an institutional context; that habit formation depends on (Wood & Neal, 2007; Verplanken, 2018; Groot Kormelink, 2022). The burgerschapsonderwijs mandate offers precisely this kind of structural anchor, but it has not yet been paired with a sustained, theory-grounded news literacy approach from a public service media partner. This gap; between what the literature tells us is required and what currently exists in practice; is the space this project sets out to address.

Opportunities

Burgerschapsonderwijs as structural opening

Since 2021, schools are legally required to teach active citizenship, with media literacy explicitly included. This provides a durable, recurring context for news literacy, but it is currently underutilised as a venue for public service media partnership (Heijstekhofman et al., 2025).

Active and participatory formats work

Interventions that position young people as contributors rather than recipients, through co-creation, role-play, or news production, show stronger effects on engagement and critical reflection (Geers et al., 2020; Skipper et al., 2023; Pinto de Sousa et al., 2023).

School as convergence point

School is the one place where all young adolescents are present, regardless of family background or media environment, making it the most equitable venue for reaching those not already engaged with news (Tamboer et al., 2023).

Limitations

Fragmented landscape

The current field of news literacy interventions consists of a wide range of isolated initiatives. While valuable individually, these efforts are rarely connected or sustained over time, resulting in a fragmented landscape without continuity or long-term impact. This calls for a systemic approach and structural implementation in nationwide programmes.

Focus on knowledge, not application

Existing initiatives often focus on increasing awareness or knowledge, but less on how young people apply this in practice. As a result, there remains a gap between what adolescents know about news and how they engage with it in their daily lives.

Mismatch with youth reality

Many interventions focus on teaching skills such as recognising misinformation or understanding journalism, yet are often disconnected from how young people actually encounter news in everyday life. News is primarily experienced incidentally through platforms, peers, and social environments, whereas interventions are typically situated in educational contexts.

Key insights

This chapter translated the theoretical foundation of Chapter 2 into a contextual understanding of the system in which the design intervention must operate. Moving from the changing media landscape, to public service media and NOS, to existing interventions, four key insights emerge.

Together, these insights answer the contextual side of RQ1: young adolescents' news engagement is shaped not only by their own media behaviour, but by a wider system of platforms, public service media, schools, policy and fragmented interventions. Chapter 4 builds on this by examining how young adolescents and the stakeholders around them experience these conditions in practice.

Platformisation reshapes news reach

News is increasingly mediated by platforms, algorithms and AI-driven systems rather than by news organisations alone. In this environment, news competes with entertainment, influencers, opinion and synthetic information for attention. For young audiences, this makes news more accessible but also more fragmented, personalised and difficult to assess. At the same time, counter-movements such as intentional disconnection, social media age debates and phone-free schools create space for news experiences outside platform logic.

NOS youth expertise

NOS already reaches young audiences through Jeugdjournaal, NOS Stories and NOS op 3, each serving a different age group and format logic. Together, these brands show strong expertise in youth news, explanatory journalism and platform-native communication. Yet the transition from childhood news routines into secondary school remains fragile. School visits and teacher requests reveal an opportunity to move beyond outreach toward a recurring educational news format that supports guided engagement and news literacy application.

Public service media pressure and opportunity

Public service media are expected to remain accessible, independent and socially valuable, but face budget cuts, declining linear reach, political pressure and increasing platform dependency. Within this landscape, NOS holds a strong position: it remains one of the most trusted news brands in the Netherlands and has the broadest reach among young people. However, translating recognition into sustained engagement is difficult, especially as the relationship built through Jeugdjournaal weakens during adolescence.

The intervention landscape is active but fragmented

Existing news literacy initiatives show growing attention from schools, media organisations and policy actors. However, responsibility is distributed across many parties and uptake often depends on individual teachers, schools or external partners. Many interventions focus on awareness, knowledge or short-term skills, while fewer address motivation, social context and recurring application. The burgerschap mandate and the school setting therefore form an underused structural opening for a public-service media partner to support news literacy in a more sustained way.

4. Youth and stakeholder perspectives

4.1 Interviews

4.2 Cross-stakeholder findings

4.3 Youth voices

4.4 Group sessions

Where Chapters 2 and 3 establish what the literature and the broader system tell us about young adolescents and news, this chapter brings that picture to ground through primary research: 44 stakeholder interviews across five groups and three group sessions with young adolescents. Together, these surface how news engagement and news literacy application are experienced in practice, across the different contexts and relationships that shape them. The first section introduces the interview approach (4.1), followed by cross-stakeholder findings (4.2) and turning to the youth voice specifically (4.3). Finally the group session findings are presented (4.4). With this, the second research question is addressed: RQ2. How do young adolescents and the stakeholders around them experience and describe news engagement, and what does news literacy application look like in practice?

Approach

The empirical phase used two complementary methods: semi-structured interviews and group sessions. Semi-structured interviews sit between the rigidity of structured formats and the openness of in-depth conversations (Muratovski, 2022), allowing the flexibility to explore self-reported behaviours and reflections about news practices more in depth. Interviews were recorded and transcribed, with quotes coded thematically. Group sessions complemented and confirmed findings from the interviews by using collective sensemaking: how young adolescents negotiate meaning together, which individual

interviews cannot capture (Heijne & van der Meer, 2019). Participants provided informed consent in accordance with TU Delft's HREC requirements; for participants under 16, parental consent was obtained in advance. Quotes are anonymised and referenced by code (A = adolescent, P = parent, T = teacher, E = expert, N = NOS staff).



4.1 Interviews

The interview phase grounds the literature and context findings in lived experience, by diving deeper into the values, social environment, context and motivational conditions shaping adolescent news behaviour and literacy. This approach was called for as to design meaningful interventions, it is essential to understand how the target group experiences the phenomenon being addressed in their everyday lives (Sanders & Stappers, 2008). In this, semi-structured interviews "provide an opportunity for extended response" and "sit between the rigidity of structured formats and the openness of in-depth interviews" (Muratovski, 2022), allowing deeper insight into the world of young adolescents and how they experience news.

Semi-structured interviews were conducted with 44 participants across five groups: young adolescents (n=10, ages 12-18), parents (n=12), teachers (n=8), experts and researchers in news literacy and education (n=8), and NOS staff across editorial, research and product roles (n=6). Each group adds a distinctive perspective: adolescents describe their own engagement; parents and teachers describe the environments immediately around them; experts contextualise these patterns within the broader field; and NOS staff describe the institutional position and internal challenges from within the public broadcaster.

Interview question sheets were developed for interviews with youth (Appendix D) and parents (Appendix E); common topics included how participants encounter and consume news themselves, what role news plays in their everyday context, and what they would like to see differently. For interviews with experts, NOS staff, and teachers, a base interview guide formed a starting point for the conversation (Appendix F), supplemented by tailored questions based on each individual's context. Those interviews mainly covered their role, how they see youth news consumption and what is changing, what challenges they encounter, what they would like to change, and a view toward the future. All interviews were recorded and transcribed. Quotes were extracted, numbered and made

into cards, then clustered into recurring themes, and synthesised into insights following the thematic analysis approach described by Braun and Clarke (2006); a sample expanded part of the full thematic map can be found in Appendix I. This analysis produced four cross-stakeholder findings and a set of stakeholder-specific insights, presented in section 4.2.

Interviews conducted with young adolescents (n=10) covered the broader age range of 12-18, reflecting the

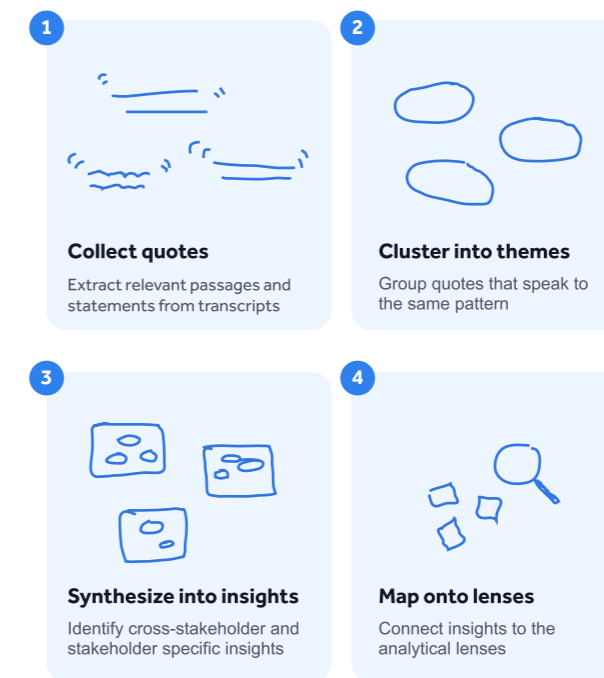


Figure 22. Interviews conducted with adolescents and parents

project's wider initial scope before it was narrowed to 12-16 during the Discover phase. Findings from the older participants (17-18) are retained where they remain informative for the focal age group. The table below indicates the interviews conducted with adolescents and parents and their corresponding codes. These interviews were all conducted independently of one another, so no parent attended the interview of an adolescent and vice-versa. This ensured that their answers would not influence each other.

Code	Role	Role	Date	Contact
A1	Adolescent	13, mavo	17/02	In person
A2	Adolescent	16, vwo	04/03	In person
A3	Adolescent	18, vwo	04/03	In person
A4	Adolescent	12, vwo	05/03	In person
A5	Adolescent	16, vwo	06/03	Online
A6	Adolescent	15, vwo	11/03	In person
A7	Adolescent	16, havo	11/03	In person
A8	Adolescent	15, vwo	12/03	Online
A9	Adolescent	17, vwo	17/03	In person
A10	Adolescent	15, vwo	17/03	In person
P1	Parent	A1	17/02	In person
P2	Parent	A1	17/02	In person
P3	Parent	A5, A8	03/03	Online
P4	Parent	A2, A3	04/03	In person
P5	Parent	A2, A3	04/03	In person
P6	Parent	A4	05/03	In person
P7	Parent	A6, A7	11/03	In person
P8	Parent	A9, A10	02/03	In person

Figure 21. Interviews conducted with adolescents and parents

4.2 Cross-stakeholder findings

The thematic analysis surfaced cross-stakeholder findings as well as stakeholder specific findings. The cross-stakeholder findings are ones that emerged consistently across young adolescents, parents, teachers, experts and NOS staff. These are presented together with stakeholder specific findings under the four analytical lenses introduced in Chapter 1: changing media landscape, youth consumption, current response, and wider system.

Changing media landscape

Young adolescents are interested in being informed, but news rarely lands. Viewed through the changing media landscape lens, the issue is not disinterest but a mismatch between the environment and what engagement requires. Adolescents consistently frame being informed as something they value: "I do think it is important that I know what is going on, because I also live in this world" (A10). Yet the same adolescents describe news as something that passes by rather than lands: "I don't really look up the news, it just passes by" (A1). Teachers describe the same disjunction: students recognise headlines but lack contextual knowledge to make sense of them (T2, T8). An element consistently named as missing is context; what an ambient, platform-mediated environment strips out (A2, T8).

Concerns about journalism and the information environment
Experts and stakeholders express concerns about the future of journalism; trust, quality, and the diversity of news (E7), within an environment that has put the field under prolonged pressure: "Journalism has been in crisis mode for the past five years... leaving little room for innovation" (N11). They call for recognition that "quality journalism is important." (E4) and that "the rules of journalism need to be clearly communicated." (P2).

A fundamentally different generation
Today's adolescents grow up in a rapidly changing technological environment, fundamentally different from previous generations, which affects how they access information and develop societal awareness: "We are looking at a generation that is completely different from previous generations; technology is evolving rapidly" (E7).

Youth consumption

Trust is built through familiarity and recognisable people, not institutional logos. Viewed through the youth consumption lens, the way this generation relates to news is itself shifting; most visibly in how trust is formed. Adolescents trust people they recognise rather than only institutions: "I mainly trust recognizable faces" (A6); "In my mind, the NOS is the most reliable, perhaps because I watched the Jeugdjournaal as a child" (A9). Where institutional trust in NOS exists, it is mediated by inherited familiarity; a Jeugdjournaal-childhood and the human-faced presence of sub-brands like NOS Stories. NOS staff name the strategic consequence: "We must invest in our legitimacy. Explain how journalism works" (N11). Experts confirm the shift: trust has migrated from institutions to individuals (E3, E4).

Misconceptions about youth
The relationship between young people and news is often framed as problematic, yet experts and educators emphasise that this view is maybe too pessimistic, adolescents are more aware and engaged than commonly assumed: "There is a misconception about young people: it is thought that they are not interested, but they certainly are" (E4).

Youth is not a homogeneous group
Young people differ significantly in development, background, and access to information. Young adolescence is a particularly formative phase, yet inequalities in access and support produce real differences in news engagement: "For some people, being informed is still a luxury; an information gap is emerging" (E5).

"Let them be children"
Adolescence is characterised by a strong focus on the self, where interest in broader societal issues may be limited. At the same time, this is a vulnerable period in which habits are formed.: "These are vulnerable years in which habits are formed" (E4). One parent chooses to protect that; "I choose to keep my child's world as idyllic as possible." (P3)

Relevance: "What does this mean for me?"
Young people are more likely to engage with news when it connects to their own lives and experiences. Relevance and personal meaning play a key role in engagement; "Young people want knowledge that connects to their lives; 'what's in it for me?'" (P4) and "my child reads the newspaper when it's on the table, but selectively, she reads what interests her." (P3)

Current response

The shared rituals that anchored news engagement have largely disappeared. Viewed through the current response lens, what stands out is what no longer exists. The de facto response that once shaped news engagement; family viewing, classroom routines, recurring shared moments, has eroded without being replaced. Adolescents describe the shift directly: "We keken vroeger het Jeugdjournaal, dat is rondom de coronatijd een beetje gestopt" (A10). Parents echo this loss: "Vroeger keken we met elkaar het jeugdjournaal" (P4). NOS staff observe the same from inside the institution: "Hoeveelheid kinderen die samen JJ kijken is heel groot. Daarna raken we ze kwijt" (N2). Experts ground this in habit theory: stable contexts are a precondition for habit formation (E3; Groot Kormelink, 2022).

Parent as a curator
Parents play a key role in shaping how young people encounter and interpret news, often acting as curators and gatekeepers of information: "As a parent, you have to prepare your child for what is happening in the world" (P3).

Trusting the child's judgment
At the same time, a number of parents see their child as capable of navigating the information world themselves, trusting that they can judge what is reliable: "I think my child can judge quite well what is reliable, because he is not involved in media that spreads fake news" (P6).

Education lacks structure and support
Although news and media are used in classrooms, there is no consistent or structured approach. Teachers express a need for better tools, materials, and time to address news literacy: "What I would like is a platform where you can download news fragments or search articles by theme" (T1).

Teachers as guides
Rather than simply providing information, teachers see their role as guiding students in navigating news, a role that requires support to fulfil consistently: "As a teacher, I need to be able to act as a kind of guide" (T2).

Wider system

News literacy is everyone's responsibility and no one's mandate. Viewed through the wider system lens, the response to news literacy is fragmented at the structural level: shared in principle, uncoordinated in practice. Every stakeholder group recognises their role yet identifies another party as the one who should lead. Parents look to school: "Ze krijgen maatschappijleer, open daar de poorten naar het nieuws" (P4). Teachers accept responsibility under protest: "Als ik het niet doe, en ouders ook niet, wie dan?" (T1). Experts call for explicit coordination, citing Germany's *Jahr des Nachrichten* (E5, E7). The *Beeld en Geluid manifesto (2025)* names the gap directly: "News literacy is not an individual skill, but a shared responsibility."

The role of government and society
There is shared recognition that supporting news literacy is a societal responsibility in which government could play a stronger role: "The government could play a role here; funding exists but does not reach the broader field" (E7).

Reaching the unreached as the strategic challenge
For NOS as a public service broadcaster, the strategic challenge is not serving those already engaged but reaching those who are not, a public-mandate intervention has to reach the whole audience: "Grootste uitdaging denk ik dat je kinderen kunnen bereiken die nog niet betrokken zijn" (N9).

4.3 Youth voices

This section turns to what young adolescents themselves contribute that the cross-stakeholder findings cannot fully capture: how they define news, where they find it, their values, motivations and suggestions. These were captured in 1-on-1 semi-structured interviews, in the home living environment.

Defining news

When asked what news is, adolescents describe it as what is happening in the world right now: "What is happening in the world at this moment" (A7); "Relevant information for a certain region" (A3); "Information that is shared with as many people as possible to stay up to date" (A2). Their definitions are immediate and present-focused; news is about the world now, not journalism as a craft or institution. From this starting point, the patterns here describe how news actually shows up in their lives, what they value about it, and what they would change.

4.3.1 Insights

The interviews surfaced a number of common insights, about the way adolescents encounter news, where they find it, what trust is based on and how they respond.

Platform-based consumption

News is often encountered incidentally through social media platforms (TikTok, YouTube, Instagram). "I don't really look for news, it just comes up." (A1), "I follow the news by scrolling on TikTok." (A6). News is seen less outside of socials; "Now that I've deleted social media, I come across news much less." (A3)

Searching behaviour

Initial verification often happens within the same platform before moving to external sources: "If I doubt something, I look for the same news on a real news website, but sometimes I stay in the app where I saw it" (A7).

Trust

Trust is primarily based on recognition and intuition rather than systematic evaluation. Whether they trust something "depends on who posted it." "I mainly trust familiar faces." (A6). In addition one youth stated "I know something is real if it comes from a reliable or well-known site." (A1)

Fake news perception

Adolescents often assume that fake news is easy to recognise. "I trust news on social media less if I don't recognise the account. I can tell when something is fake, like if it's made by AI." (A1) "On social media it depends whether I trust it, there is often fake news there, but I still find it interesting to see." (A7)

Role of the environment

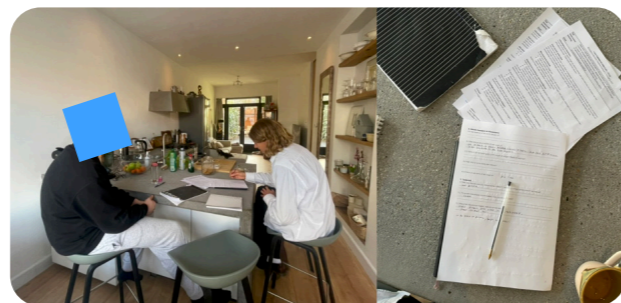
Young people expect to be informed through their social environment when something important happens. "If something is really big news, I'll come across it." (A1). In addition, news is brought to them by surroundings; "I come across news through friends, at home, through my mother (who sometimes mentions something, for example about Iran)," (A2)

Protecting themselves

Alongside these first insights, a consistent theme is what they protect themselves from. Many adolescents describe deliberately limiting their exposure to safeguard their wellbeing: "I deleted social media because it was making me depressed, from everything that was happening, it's really heavy" (A3); "Sometimes I also need to not catch the news for a bit" (A9). This is not disinterest but regulated engagement; a coping response to the emotional weight of an unfiltered information environment. The implication for design is that any intervention has to feel safe and paced, not relentless.

What youth suggest

When asked what could change, adolescents themselves repeatedly propose school as a venue: "Maybe more could be done with news at school, in a project subject for example" (A10); "I talk about the news with my friends, but I think there could be a bit more of it in lessons at school" (A6). School was repeatedly described as a place where structured discussion of news could happen in a way it currently doesn't.



4.3.2 Youth values

From the 10 interviews, clustering of statements into themes led to the emergence of nine value cards, which would be used during the group sessions to be able to uncover the most important values across groups. In the following section these cards are presented with supporting quotes from the conversations.

These value cards offered first-hand insight into what young adolescents value in news and how they relate to it. The findings from the individual interviews are further explored and validated through the group sessions presented in the next section.



Figure 23. Value cards formulated based on the ten interviews with youth

4.4 Group sessions

Where interviews access individual reflection, group sessions access collective sense-making and make visible the social processes through which young people construct meaning together (Heijne & van der Meer, 2019). This was particularly relevant for a topic like news engagement, which is fundamentally shaped by peer and social context (Tamboer, 2023).

Code	Date	Location	Class / level	n	Length (mins)
GS1	24/03	Huizen	4 havo/vwo	6	60
GS2	31/03	Rotterdam	1 mavo/havo/vwo	18	100
GS3	01/04	Leidschendam	3 havo/vwo	15	80

Figure 24. Overview of group sessions in the discover phase

The group sessions were grounded in a co-design logic: rather than treating young adolescents as research subjects, they were positioned as active participants whose views shape both the research and the eventual design. As Muratovski (2022) frames it, “co-design empowers the end user to actively participate in the design process,” and “the way the research is conducted needs to be continually negotiated with the participants.” Involving the target group directly was particularly important here, because the project’s central question is whether and how young adolescents want to engage with news in the first place.

Each session took place in school, the one context all young adolescents share regardless of background, and involved a different class group, level, and session design (n=33 across sessions, ages 12-16, mixed mavo/havo/vwo). Two purposes guided the sessions: validating the patterns that surfaced in the interviews, and exploring young adolescent’s own ideas about what news should

look like in the future through structured co-creative activities (Sanders & Stappers, 2008). Each session explored how participants encounter news, asked them to sort and discuss value cards in a diamond-9 prioritisation, and surfaced future-oriented ideas. Activities included defining “what is news,” an “over de streek” exercise to explore attitudes, a Diamond-9 prioritisation of the “value cards” presented as an outcome of the youth interviews.

A baseline structure for the sessions is displayed in Figure 25. For the second and third sessions, a baseline survey grounded in Tamboer’s (2022) model of news literacy application was administered beforehand to provide a quantitative base. Figure 24 provides an overview of all sessions in this phase. After that the distinctions of each of the sessions are introduced.

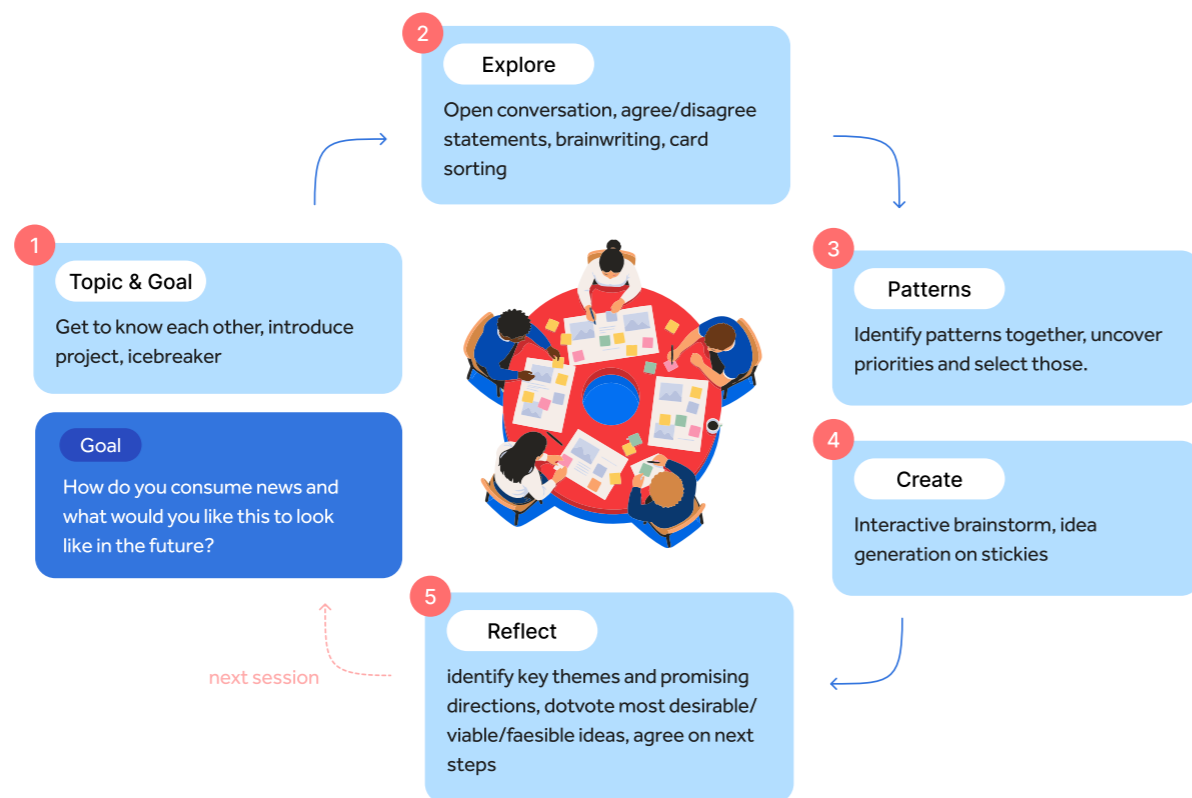


Figure 25. A baseline structure of the co-creative approach to group sessions in the discover phase

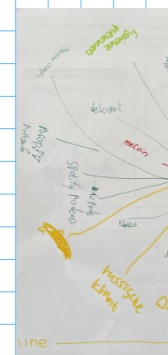
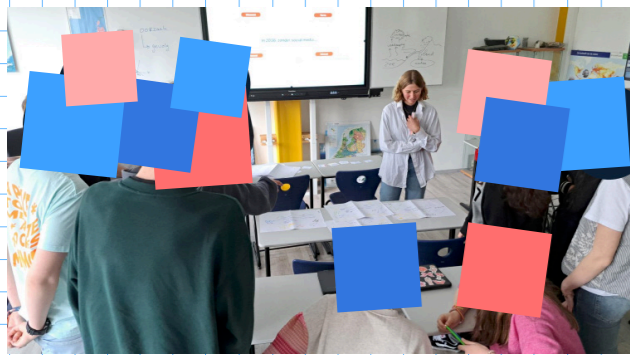
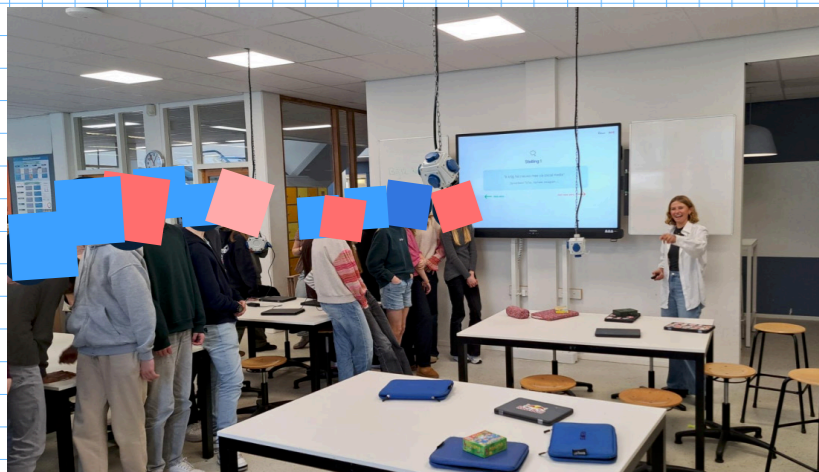


GS1: Huizen

The first session took place with six students from a class 4 havo/vwo group in a 60-minute setting structured around four activities: an introduction and icebreaker, a series of “stellingen” (provocative agree/disagree statements about news) to prompt initial discussion, a value card sorting exercise, and a two-round brainstorm based on the values the group had prioritised, closing with a dot-voting round to identify shared directions. The smaller group size allowed for close observation of how the activities worked in practice, and the format was iteratively refined across the three sessions to suit varying group sizes and time constraints. Upon finishing the session students shared the form of brainstorming was “very fun” and that it was nice to actually be able to think with us and propose ideas in this way. Upon requesting feedback on the structure of the session, they suggested adding more of the agree/disagree statements; this was taken to the next session.

GS2: Rotterdam

The second session was the largest, with 18 students from a mixed mavo/havo/vwo class 1 group and 100 minutes available. The session began with a first icebreaker question followed by the agree/disagree statements, after which the group was split in two to run parallel tracks: one half completed the baseline survey and a worksheet, while the other did the value card sorting, discussion, and brainstorm, before the groups reconvened. The split format allowed a quantitative anchor; the survey, grounded in Tamboer’s (2022) news literacy application model, to run alongside the qualitative activities, producing both comparable data and richer discussion. Although splitting the group allowed for more in-depth discussions and clearer overview, the group that did the survey after the interactive session noted that it was very boring and that the interactive brainstorm was more fun. This insight would be taken to the next session.



GS3: Leidschendam

The third session was slightly different, as it marked the start of a project for the subject *Onderzoeken & Ontwerpen* (Research & Design), for which I was invited to formulate the case for 16 students. The 80-minute session started with a plenary introduction to the case and project for all third-year students taking the subject, a group of just over 40 students. During this plenary part, the agree/disagree statements were used and several introductory questions were asked. However, with such a large group, this format did not work as well as intended, which became an important point of reflection. For the remainder of the session, the 16 students working on the case were separated from the larger group. They first filled in the survey, followed by value card sorting and a brainstorm. This structure worked better than the two split-group format used in the previous sessions, as it created more cadence and allowed the creative process to build up more naturally. Starting with the survey also helped, as it allowed the students to complete the more individual task before moving into the more interactive and creative activities.

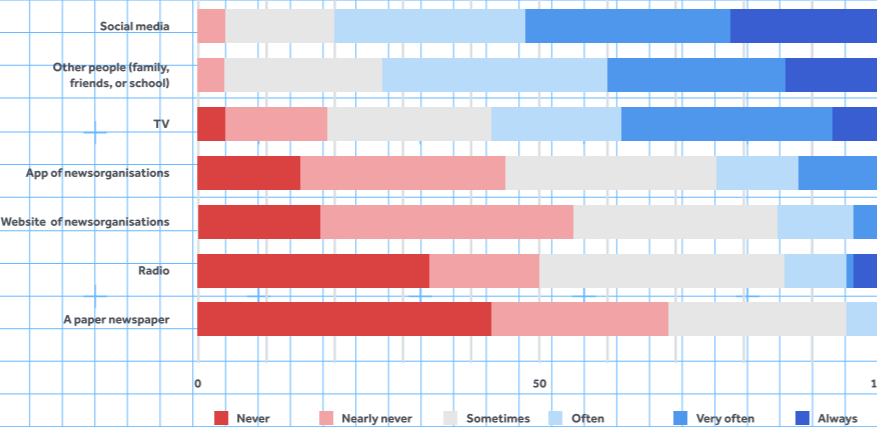


Figure 26. How often respondents encounter news via various sources

4.4.1 Baseline survey

The survey was completed by 33 participants across the second and third sessions, drawn from class 1 (n=17) and class 3 (n=16), with educational level distributed across havo (n=7), havo/vwo (n=16), and vwo (n=10). Three groups of findings stood out.

Where they encounter news

Social media (mean 4.34 / 6) (76%) and via other people (4.22) are by a clear margin the dominant channels through which respondents encounter news, followed by television (3.75). Dedicated news apps (2.88) and news websites (2.53) score considerably lower, and paper newspapers (2.18) and radio (2.56) are less used.

Results from survey for question: "In a normal week, how often do you encounter news via..." are shown in Figure 26. When asked where on social media they encounter news, TikTok (23 mentions), Instagram (13), YouTube (9), and WhatsApp (8) dominated as seen in Figure 27.

When asked about social contexts, in Figure 28, a clear pattern emerged: while news is frequently discussed at home (69.7% report discussing it often or very often), it is much less present in school and peer conversations. Over

42% indicated that they (almost) never talk about news in class, and 45.5% reported rarely discussing it with friends.

Knowledge of how news is made

Respondents scored 81.7% correct on average across the ten Tamboer-derived knowledge items. Most items were answered correctly by 85%+ of respondents, with the notable exception of the photographer-as-meaning-maker item, which only 36% answered correctly. The pattern suggests broad surface knowledge of news media production, with weaker understanding of the role of visual editorial choices.

The application gap, visible in the data

This is the most consequential finding from the survey. On a 1-6 scale, respondents rated their own news literacy skills at a mean of 4.22 ("I can look critically," "I can judge whether a message is reliable"), and they perceive themselves as reasonably capable. On the same 1-6 scale, however, they reported how often they actually engage critically ("how often do you check where the message comes from," "how often do you check if you can find it somewhere else") at a mean of 2.66, a 1.56-point gap on identical scales between what they say they can do and

what they say they actually do. The largest individual gaps appeared in the verification behaviours: checking whether the news appears elsewhere (mean 2.24) and where the information originates (mean 2.39). Respondents largely agree that critical engagement is important (mean 4.30) and value it personally (mean 3.97), but report doing it considerably less often than they believe themselves capable of.

This pattern; capability and value present, but behaviour absent, is the application gap empirically visible in the project's own data. It is precisely the gap Tamboer (2023) identifies in the literature: "being knowledgeable and skilled does not equal verifying news or deciding what information is actionable in everyday life".

Limitations

It should be noted that the survey was small (n=33) and based on self-reported behaviour rather than observed practice. The 1.56-point gap is therefore directional rather than statistically conclusive. The value of the finding lies in its alignment with the broader literature and the cross-stakeholder findings in 4.2: across multiple sources of evidence, the application gap shows up consistently.

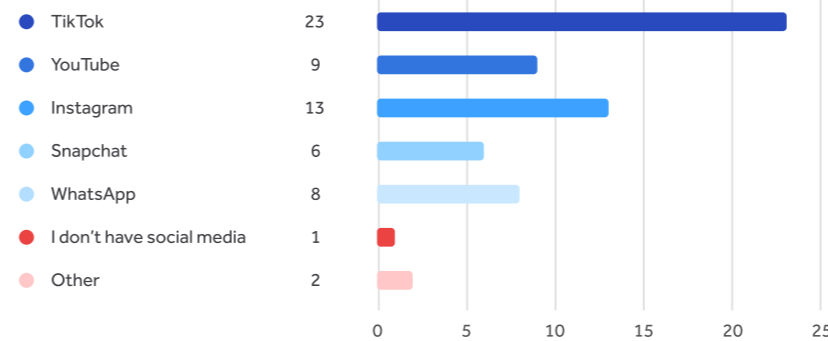


Figure 27. Most frequently used types of social media for news among respondents

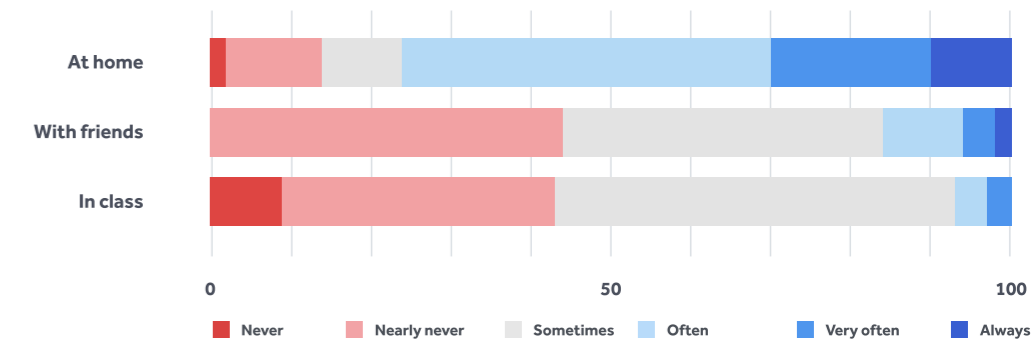


Figure 28. Frequency of news encounter in social contexts

4.4.2 Value card sorting

In order to prepare for the sessions, the Diamond-9 sorting activity was first tested with peers and a colleague to check the clarity of the task and the way the cards prompted discussion (Figure 35).



Figure 29. Images of diamond 9 sorting activity testing with fellow student.

In each session, participants were asked to sort nine value cards; each representing something they could prioritise about news, into a Diamond-9 structure: most important at the top, least important at the bottom. All diamonds were photographed and scored: the top card received 4 points, the two cards below 3 each, the three cards on the third level 2 each, the two on the fourth level 1 each, and the bottom card 0 points. This made it possible to aggregate scores across all 39 participants and compare prioritisation across the three groups.

Two values dominated across all sessions: being informed and balance. Together they accounted for 33 of the 39 top-spot placements; being informed placed first by 19 participants and balance by 14 (Figure 30). No other value came close. Students consistently framed being informed as a civic priority, something they valued because they live in the world and want to understand it; and articulated a strong appetite for seeing multiple perspectives and understanding “the other side” of a story (GS1).

Notably, personal interest ranked last overall, with only one top-spot placement across 39 participants. Rather than news tailored to their hobbies or daily lives, several students in GS2 explicitly rejected this framing, with one noting that “news is news”, suggesting it should stand on its own merits rather than needing to match personal interest. Similarly, lading (emotional weight) scored low, particularly in GS3, where students noted that “news is often negative by nature” implying they had accepted this as a given rather than something to be designed away.

Context showed the clearest age-related shift, rising from 1.33 in the youngest group to 2.67 in the oldest, suggesting that as adolescents grow older they increasingly recognise that news needs background and history to make sense. Lading showed the opposite pattern, dropping from 2.17 in class 4 to 0.60 in class 3; younger students appeared more attuned to the emotional weight of news than older ones.



Figure 31. Card sorting in practice

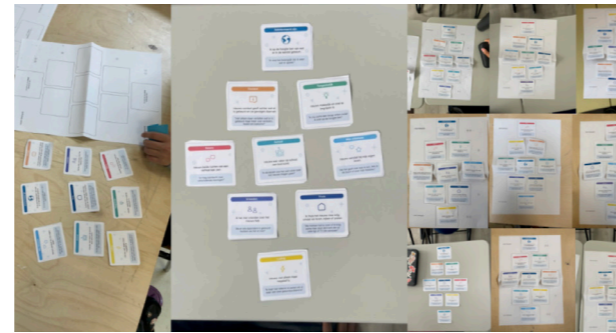


Figure 32. Card sorting in practice examples



Figure 30. Two highest and two lowest ranked value cards

4.4.3 Worksheet sensitising activity

In GS2, participants completed a worksheet that functioned as a sensitising activity in addition to completing the survey. The worksheet asked students to name news brands, describe how they thought news was made, reflect on what they liked and disliked about news, and map moments in the day when they encountered news. Rather than treating the worksheet as a separate quantitative instrument, it was used to make participants' existing associations, assumptions, and routines visible.

They filled in timelines, of which some examples are displayed in Figure 33, which showed that news is often encountered through everyday routines and social contexts rather than actively searched for, with students placing news moments “in de bus,” “op school,” “tijdens avondeten,” “bij het diner” or “voordat ik slaap”.

In addition, mixed attitude towards news: they valued it because “het informeert mensen,” gives “veel informatie” and helps them know “wat er in de wereld gebeurt,” but also described it as “saai,” “veel negatief,” “saai kranten” or “maar één kant van het verhaal.” These adolescents are not so much disconnected from news, but their engagement calls for more context and relevance to them and their age.

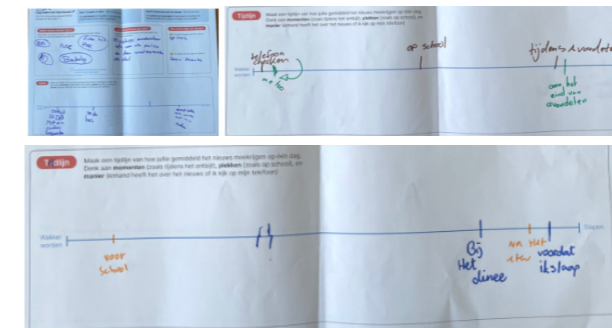


Figure 33. Timelines produced from sensitising worksheet activity.

4.4.4 Future oriented ideas

In the final part of each session, participants brainstormed what news could look like differently in the future, drawing on the values they had just sorted and on their own frustrations with the current news environment. The future scenario which was given to each group, was to imagine a future where there was no social media, how would they then be informed? Here a few key themes and insights are shared.

Format and accessibility

Adolescents consistently described their ideal news experience as short, contextualised, and visual rather than text-heavy. The structural mismatch with current formats was named directly: “If I’m curious about what happened I go specifically to the app, but then it doesn’t really come at me” (GS10). TikTok was repeatedly cited as an example of how news does show up effectively in young people’s lives, even when the platform itself is problematic: “Through TikTok I catch a lot of things without looking them up, if I see a clip and find it interesting, I’ll watch” (GS11); “Everyone catches news through social media” (GS12).

News has to come to them

Across the board, adolescents drew, wrote down and suggested methods in which news would come to them, through an ambient environment such as “a pillow that allows you to absorb news and information while you sleep” (GS1) as well as a “planes with messages”, a “newsannouncer in the village” or even in the school context with “watching news in social studies.” These ideas suggest that

Sources and plurality

Several participants articulated an interest in seeing multiple perspectives on the same story, surfaced through tools that aggregate or contrast them: “There’s a site that has a collection of news stories from many different sources, so you can see different opinions” (GS17). One GS3 brainstorm map connected this directly to the balance value card, with notes like “different news outlets and platforms,” “discussions,” “another POV,” “interview with

two parties,” and “website that lets different colours be seen.” The framing was about preventing one-sidedness, described in one note as “making sure people don’t fight each other” rather than just adding more sources.

Disconnection as a wildcard

Alongside ideas for what news could become, one participant proposed a deliberate counter-direction, framing an alternative explicitly as “asocial media” (anti-social media) (GS114); a reaction against the dominant model. This aligns with that the current news experience was described as “a lot of negative/depressing news” (GS89), and participants proposed that future news include “something cheerful in every episode” (GS88). A sticky note from GS2 framed an aspirational news source simply as “a newspaper in the form of a Donald Duck, that’s much more relaxed.” The underlying request was consistent: news should not feel relentless. The “asociale media” wildcard did not surface widely but resonates with the self-protective behaviour identified in 4.3 (Youth voices): some adolescents see disconnection itself as a desirable design move, not a failure to engage.

Design implications

Taken together, the future-oriented ideas, however speculative, converge on a coherent direction. The news experience adolescents are reaching for prioritises that it comes to them, shows multiple perspectives and is not too negative. It is news that comes to them rather than demanding to be sought out, that is short and visual but contextualised, that surfaces multiple perspectives, and that feels human. These are not values an algorithm-driven feed optimises for. They are values a deliberately designed news experience could prioritise, and this is the bridge into the future framing in Chapter 5.

4.5 Research & design (O&O) project

During the graduation project, an opportunity arose to set up a parallel Research and Design project with O&O students from Veurs Lyceum. Research and Design, or Onderzoek & Ontwerpen (O&O), is a secondary-school subject in which students work on a real-world design assignment for an external commissioner. In this case, the students worked on a brief for NOS Lab, exploring how NOS could better support young adolescents in engaging with news.

The project ran alongside this graduation research. It was not designed as a formal research method, but it created a valuable opportunity for youth input and co-creation. The students were involved in co-creative sessions, developed their own research and design directions, and presented both midterm findings and final concepts. Because the project unfolded in parallel, not all outcomes fed directly into the final design of this thesis. Some insights informed the problem space as well as ideation during the project, while the final concepts mainly served as a reflective input after the main design direction had already been developed.

4.5.1 Project setup and assignment

The assignment was titled Nieuwsgierig, presented in Figure 34. It was based on the questions emerging from the discover phase of this thesis: how do young adolescents encounter news, what do they consider reliable, and what kind of support could help them understand and critically engage with news? The brief was therefore framed around stimulating news literacy among adolescents.

The students were asked to design a product for secondary school students aged 12-16 that helps them stay informed about what is happening in the Netherlands and the world, understand how news is made, and take a critical stance towards the reliability of news. The starting programme of requirements translated this into four criteria:

- the product had to fit the target group;
- help users stay informed;
- support critical reflection;
- And be attractively designed through digital means.

The project followed a simplified design process. Students first explored the problem through market research, competitor maps as well as interviews or surveys. Based on this research, each group developed its own programme of requirements.

4.5.2 Midterm insights

At the midterm stage, students were invited to visit the NOS to present their requirements and first insights. This visit included a co-creative brainstorm in which early directions were discussed and developed further as well as a guided tour. After the visit, the groups selected a preferred idea using a Harris profile, built a prototype and a few weeks later presented their final concept. Main insights are shared in Figure 36. Together, the midterm presentations confirmed that the challenge is not simply to make young adolescents care about news. The challenge is to make news recognisable, trustworthy, independent, accessible and close enough to their existing routines without losing the qualities that make journalism valuable.

BEROEPEN EN OPLEIDINGEN

Het beroep
In dit beroep werk je als ontwerper van digitale middelen.

Opleidingen
Hoe behalen van opleidingen

Beknoemd
In de wereld van Digital, Media & Entertainment maakt het belangrijk dat het idee er van afgeleid is, maar niet het resultaat of ontwerp. En dat er ook andere manieren steeds meer digitaal met elkaar verbanden zijn. Dat betekent dat dit vakje moet kunnen verlopen voor elke generatie die.

Waar werk je?
Je werkt als ontwerper voor een organisatie zoals de NOS, een mediabedrijf of een platform dat nieuws maakt voor jongeren.

NOS
Nieuws, Onderzoek & Ontwerpen

NOS
Nieuws, Onderzoek & Ontwerpen

NOS
Nieuws, Onderzoek & Ontwerpen

NOS
Nieuws, Onderzoek & Ontwerpen

NOS
Nieuws, Onderzoek & Ontwerpen

OPDRACHT ONDERZOEK & ONTWERPEN

Nieuwsgierig

iedere dag komt er nieuws op je af. Via TikTok, Instagram, YouTube of via vrienden hoor je wat er speelt in de wereld. Maar hoe weet je wat waar is? En waarom zou je het nieuws eigenlijk volgen?

De NOS wil beter begrijpen hoe jongeren omgaan met nieuws. Je komt het nieuws namelijk niet alleen maar tegen in de krant of het journaal, zoals vroeger. Maar vooral via sociale media en via anderen. Daardoor kun het soms lastig zijn om te bepalen wat belangrijk nieuws is, wat betrouwbaar is en wat je erin moet doen.

De NOS vraagt de leerlingen van het Veurs Lyceum om een product te ontwerpen dat middelbare scholieren tussen de 12-16 jaar helpt om op de hoogte te blijven van het nieuws, te begrijpen hoe het wordt gemaakt en daarbij een kritische houding aan te nemen.

OPDRACHTGEVER

Charline Enthoven studeert Strategie Product Design en doet onderzoek voor NOS Lab.

De NOS (Nederlandse Omroep Stichting) heeft de missie om ervoor te zorgen dat iedereen in Nederland betrouwbare informatie krijgt en op de hoogte is van wat er speelt in Nederland en de rest van de wereld.

NOS Lab experimenteert met nieuwe technologieën en verbruiken om innovatie te maken en te verspreiden.

OPDRACHT

De NOS vraagt de leerlingen van het Veurs Lyceum om een product te ontwerpen dat middelbare scholieren tussen de 12-16 jaar helpt om op de hoogte te blijven van het nieuws, te begrijpen hoe het wordt gemaakt en daarbij een kritische houding aan te nemen.

PROGRAMMA VAN EISEN

DOELDOEL
Leertijdige en de bereikbaarheid en wat klein vier, van welke het haars/voers

OP DE HOEDE
Het product helpt de gebruiker een goed beeld te krijgen van wat er in Nederland en in de wereld gebeurt

KRITISCH
Het product helpt de gebruiker begrijpen hoe het nieuws wordt gemaakt en wat zijn eigen mening te vormen over de betrouwbaarheid van het nieuws

AAFTREKELIJK
Het ontwerp is aantrekkelijk vormgegeven met behulp van digitale middelen.

UITWERKING VAN DE OPDRACHT

Maakt gebruik
Beantwoord de volgende vragen:
• Wat is nieuw? Wat is betrouwbaar nieuws? Welke nieuwsonderwerpen zijn er in Nederland? Hoe komen jongeren met nieuws in aanraking? Wat is er al voor jongeren?
• Wat onder jongeren belangrijk? Wat vinden ze van het nieuws?
• Wat doet de NOS? Wat is hun missie? Hoe kijken jongeren daarnaar?

VERSLAAG OF **MOEDIAAL**

Competitieve
• Bring it to life via de concurrenten (je concurrenten, influencers, content) Maak voor jezelf, voor de groep of in beide vormen ontwerpen. Betrouwbaar is belangrijk

COMPETITIEF

UITWERKING VAN DE OPDRACHT

VERSLAAG OF **MOEDIAAL**

Competitieve
• Bring it to life via de concurrenten (je concurrenten, influencers, content) Maak voor jezelf, voor de groep of in beide vormen ontwerpen. Betrouwbaar is belangrijk

COMPETITIEF

Figure 34. The Research and Design assignment booklet given to the O&O students of Veurs Lyceum.



Figure 35. Photos of the midterm visit to NOS, including presentations, brainstorm and a guided tour.

Recognisability

One group argued that news should be presented by people "who are more attractive" or appealing to young audiences. Across groups, a broader version of this idea appeared: presenters should be recognisable. This did not only mean young, but also someone who understands the world of young people, looks like them, or is someone they can look up to. This suggested that trust and engagement are partly shaped by who brings the news, not only by what the news is.

Rhythm and context

Students noted that people their age mainly encounter news in the afternoon through social media or in the evening through television. Television news was often something they saw because their parents were watching it. This supports the idea that news is often encountered indirectly.

Independence

Students found it important that news is not influenced by other people's opinions. At the same time, their competitor maps showed that they considered news influencers part of the news landscape, alongside broadcasters, news companies and newspapers. Influencers are part of the environment in which they encounter news, even though students also recognised that an influencer cannot always be trusted.

Form

The students valued short items, humour and formats that fit the way they already consume content. One group explored a direction in which users could scroll through news, reflecting the influence of social media interfaces on what feels familiar and accessible.

4.5.3 Final concepts

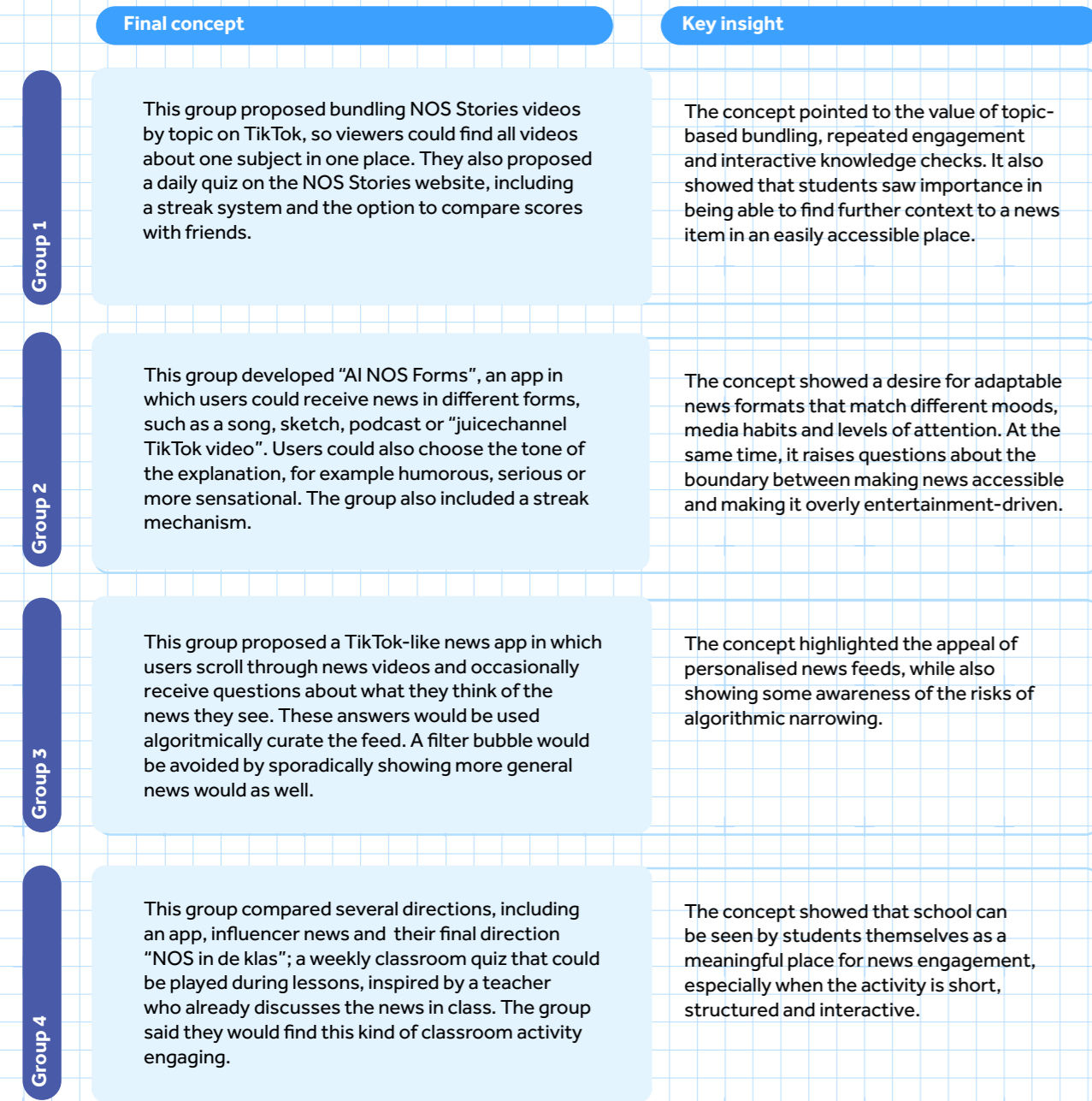
At the end of the project, four groups presented their final concepts, presented on the next page in Figure 37.

Across the final concepts, several patterns emerged. The students repeatedly translated news into familiar digital mechanisms: scrolling, quizzes, streaks, personalisation, selectable tones and short-form video. This suggests that they associate engaging news with interactivity, recognisable formats and repeated use. At the same time, the concepts were not only about entertainment. Students also addressed reliability, checked facts, truthful information and the need for news that fits their age group better.

The final presentations also showed a tension that runs through the wider research. Many youth-generated solutions borrow from platform logic because that is where young people already encounter content. These mechanisms can make news feel more accessible, but they also risk reinforcing the same attention-driven dynamics that make news engagement more fragmented. This tension is an important point to carry forward into the later design phase.

Figure 36. Main insights from the O&O midterm programme of requirement presentations

Figure 37. Final concepts developed by the O&O student groups



4.5.4 Concluding on the O&O project

The Research and Design project was not a representative study and should not be read as proof of what all young adolescents want from news. The number of groups was small, and the outcomes were shaped by the educational setting, the time available and the students' design experience. Its value lies elsewhere: it allowed young people to investigate the problem space themselves, translate their findings into requirements and propose their own design responses.

Three takeaways were especially relevant for the rest of this research. First, adolescents encounter news through a mixed media environment in which social platforms, television, parents, schools, broadcasters and influencers all play a role. Second, trust is not only attached to the sender, but also to recognisability, independence and visible reliability. Third, students were attracted to short, interactive and familiar formats, but also showed that school and classroom routines can be meaningful contexts for news engagement.

The project therefore supported the broader argument of this chapter. Young adolescents are not necessarily uninterested in news. Rather, they encounter news through fragmented routines and platform-shaped expectations, while still valuing reliability, truthfulness and clarity. The O&O project provided a small but meaningful form of youth-side input into this thesis and created concepts that will also be shared with NOS as examples of how young people imagine future news experiences.

Key insights

This chapter brought the theoretical and contextual findings from Chapters 2 and 3 to ground through 44 stakeholder interviews, three group sessions with young adolescents, a baseline survey and the parallel O&O project. The findings show how news engagement and news literacy application are experienced in practice, and form the empirical basis for the future framing in Chapter 5.

Together, these insights answer RQ2: in practice, young adolescents experience news as present and valued, but fragmented, weakly contextualised and unevenly supported. News literacy application appears not as a stable habit, but as occasional sensemaking triggered by trusted people, shared settings and relevant context. Chapter 5 builds on these findings by translating them, together with Chapters 2 and 3, into emerging conditions and a future framework for young adolescent information worlds.

News is valued, but does not always land

Young adolescents value being informed, but news often "passes by" rather than becoming meaningful. The missing element is context: they may recognise headlines, but often lack the background to understand why a story matters. The survey confirmed this application gap: perceived skills were higher than actual critical behaviours such as checking sources or verifying information.

Trust is relational and recognisable

Trust is built through familiar people and visible relationships, not institutional brands alone. Adolescents refer to recognisable presenters, parents, teachers and memories of Jeugdjournaal as cues for credibility. This points to the importance of making journalism's people, process and editorial choices more visible.

Shared routines have faded

The routines that once anchored news engagement, such as watching Jeugdjournaal at home or discussing news in class, fade during secondary school. News is still discussed at home, but unevenly. Both adolescents and teachers point to school as a possible shared setting, if teachers are supported with structure, time and suitable materials.

Responsibility is shared but uncoordinated

Parents, teachers, experts and NOS all recognise the importance of news literacy, but no single actor has a clear mandate. Youth-generated ideas also show this tension: adolescents want short, familiar and interactive formats, while still valuing reliability and independence. Supporting news literacy application therefore requires a coordinated ecosystem, not a one-off intervention.

DEFINE

The Define phase closes the first diamond by translating the findings from Discover into a future-oriented design direction. Rather than moving directly from insights to ideas, this phase first clarifies what kind of future the design should contribute to and what role NOS could play within it.

Chapter 5 brings together the literature, context analysis and empirical findings into a future framing of young adolescent information worlds. It identifies emerging conditions, maps them into a future framework and defines the preferred future: Collective nourishment. Chapter 6 then translates this future into a sharper problem definition, three theoretical foundations, a design goal and six design principles. Together, these chapters address RQ3 and form the bridge between understanding the problem and designing a response.



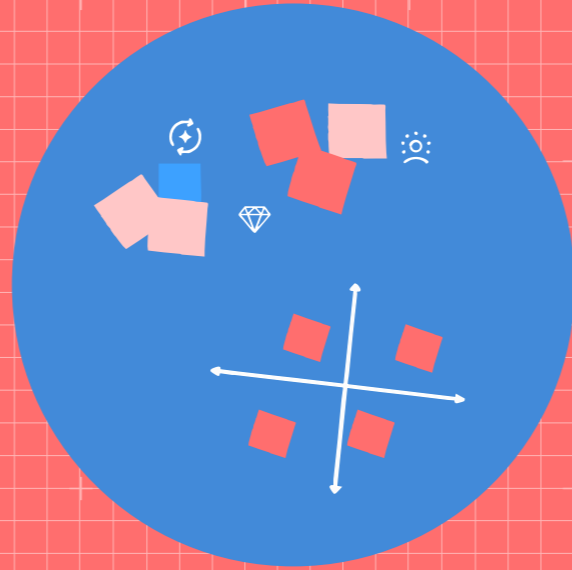
5. Future framing

- 5.1 Future context
- 5.2 Emerging conditions
- 5.3 Future framework
- 5.4 Vision and analogy

Building on the contextual understanding established in the previous chapters, this section explores how the domain of adolescent news consumption and the information environment around them will evolve towards the near future of 2036. The future context is constructed (5.1), emerging conditions are identified (5.2), value tensions are derived and used to construct a future framework (5.3), and the chosen quadrant guides the vision formation and is supported by an analogy (5.4), ultimately providing the foundation for the design goal developed in Chapter 6.

With this, the third research question is addressed: RQ3: What design goal and principles can be derived from a future framing and vision of young adolescent news consumption?

Approach
This chapter applies an adapted Vision in Product (ViP) methodology (Hekkert & van Dijk, 2011) in which context factors are drawn from the Discover findings, categorised by field (DEPEST) and type (principles, states, developments, trends), and into themes and emerging conditions. These are then structured along value tensions to produce a 2x2 future framework, whose chosen quadrant guides a strategic vision and supporting analogy.



5.1 Future context

The future framing in this chapter draws on the Vision in Product (ViP) methodology (Hekkert & van Dijk, 2011), specifically its construction of a "future context" towards 2036. ViP is a context-driven and interaction-centered design approach (Hekkert & van Dijk, 2011), which allows for a focus on forecasting the future in which a product may operate, making it well suited for a project that illustrates how adolescent news consumption may evolve rather than only responding to how it looks today.

Only the "top right" part of the ViP methodology is applied here, which is the context level on the designing side of ViP, as the full six-step approach may push toward an abstract, far-future framing, which emerged to be too distant for the scope of this project, where the design has to address a near-term societal challenge embedded in NOS's strategic context. The framing was therefore pulled back from abstract possible futures (where wildcard scenarios may sit) to more plausible, probable and preferable futures of the

coming decade. The first three steps of "future context" in ViP; domain, context factors and context structure, are used to construct the future framework. The first of these, the domain, defines the field the framing works within: adolescent news consumption (Figure 38).

Domain

Adolescent news consumption: how young adolescents (12-16) encounter, make sense of, and engage with news in everyday life.

Figure 38. Domain statement

Framing the domain at this level where it is broader than a single product and narrower than "news" as a whole, keeps the future exploration focused on the relationship between young people and news rather than on a predetermined solution.

Following this, the vision is articulated as a directional statement at the level of NOS's strategic role rather than as a ViP statement of intent. The vision is then supported by an analogy. In ViP, an analogy gives an abstract vision a concrete, recognisable character: by mapping the desired direction onto a familiar domain, it makes the qualities the future should embody easier to grasp, design from, and communicate to stakeholders (Hekkert & van Dijk, 2011). Here it serves to translate NOS's strategic direction into a tangible image rather than leaving it as an abstract statement, giving the design principles in Chapter 6 a clear character to build on.

Figure 39 visualises this adapted process: from the context factors gathered across Chapters 2, 3, and 4, through clustering into themes and emerging conditions, to the value tensions and future framework, and finally to the chosen quadrant and vision statement and analogy.

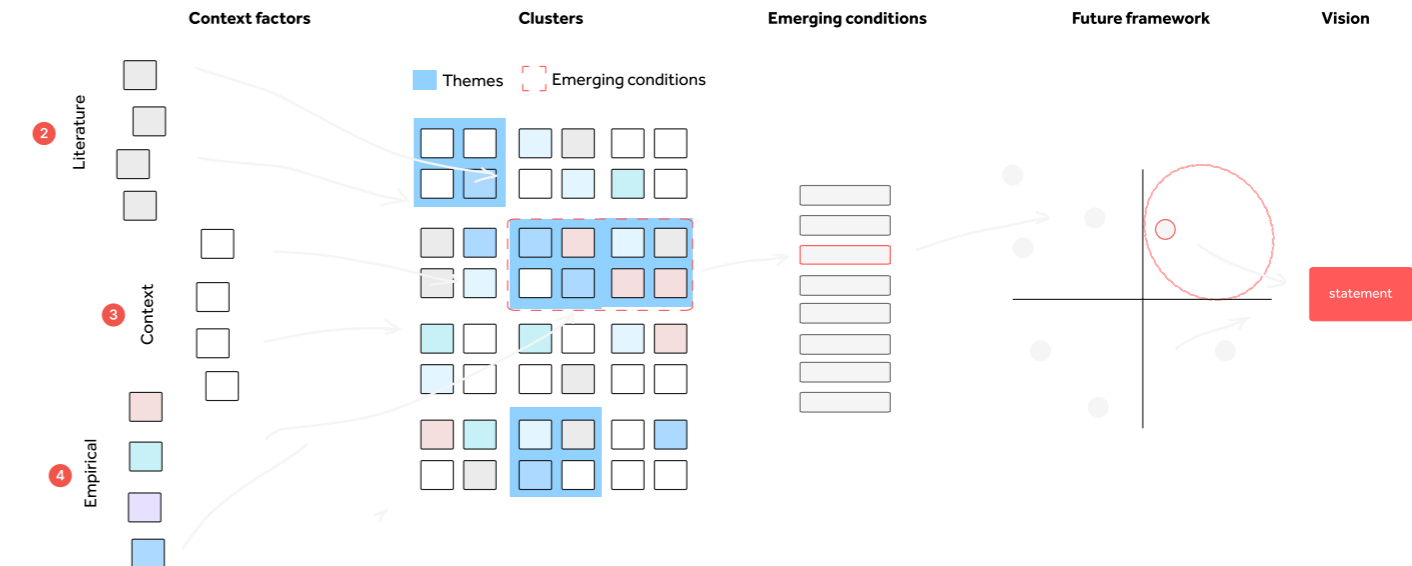


Figure 39. Process diagram showing the adapted ViP approach from context factors to vision

5.1.1 Context factors

Context factors are value-free descriptions of the situation a future design will land in; observations, theories, laws, conditions, or beliefs about the world as it appears (Hekkert & van Dijk, 2011). With the domain set, 198 context factors were generated from the key insights, empirical findings, and structural conditions across Chapters 2, 3, and 4 that the design needs to account for.

These factors were then organised in two ways. First, by field, using the DEPEST framework; Demographic, Economic, Political, Environmental, Social, Technological; a strategic foresight categorisation that ensures factors across all relevant societal domains are considered (van der Heijden, 2005). DEPEST does not cover everything; factors tied to cultural rituals or institutional roles for example, often sit across categories. These were assigned to the dimension where they fit best. Second, organisation was done by type, using the ViP distinction between principles, states, developments, and trends (Hekkert & van Dijk, 2011), as defined in Figure 40.

The distribution across these dimensions (Figure 41) shows two patterns. First, social and technological factors dominate. This partly reflects the nature of the topic; how young people engage with news in contemporary society is a social and technological phenomenon, shaped by developing identities, social environments, and the platforms that mediate information. At the same time, this also reflects the order of the process: the factors were not gathered by analysing each DEPEST field in turn, but drawn from research already framed by the project's four analytical lenses and research questions, and categorised by field only afterward. The distribution therefore mirrors where the research looked rather than an even spread designed in from the start, with the remaining DEPEST dimensions offering supporting context. Second, principles, developments, and trends outnumber states, reflecting a field in motion: few conditions in the contemporary news ecosystem are stable, and many directional changes have endpoints that are not yet clear.

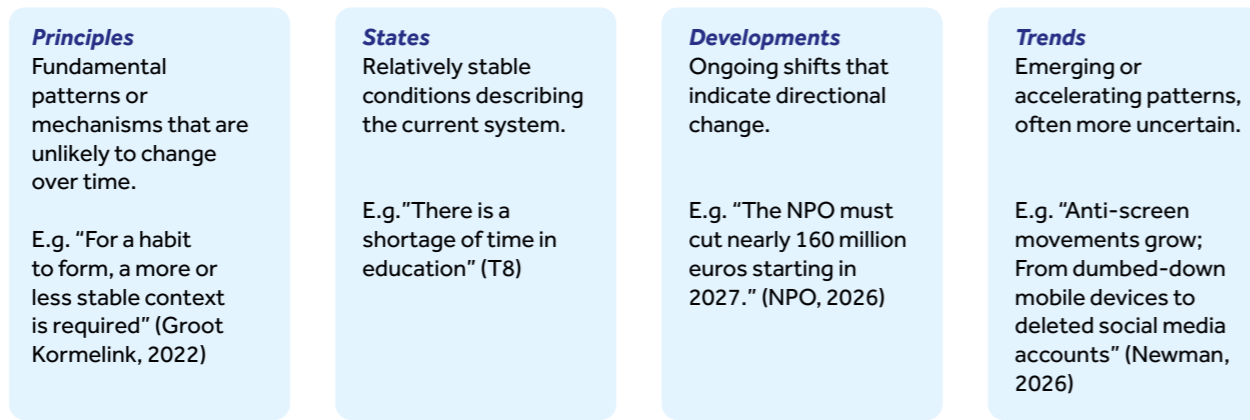


Figure 40. Definitions of principles, states, developments and trends adapted from Hekkert & van Dijk (2011), accompanied by examples.

	Demographic	Economic	Environmental	Political	Social	Technological	Total
Principles	2	8	1	7	24	16	58
States	2	-	-	6	6	1	15
Developments	10	1	1	7	34	5	58
Trends	3	4	6	4	27	23	67
Total	17	13	8	24	91	45	198

Figure 41. Distribution of context factors across fields and typologies

5.1.2 Clustering of context factors

The 198 context factors were clustered by hand into 45 thematic clusters, which were then grouped in turn into 11 emerging conditions. Where a theme captures what a group of factors holds together, an emerging condition is a broader pattern of what is happening in adolescent news consumption today; one that, taken together, begins to indicate where the domain may be heading toward 2036. The clustering was iterative: clusters were grouped, regrouped, and named based on what each set of factors held together.

The resulting cluster map (Figure 42) shows the 198 context factors in grey (the smallest cards), the 45 themes colour-coded by lens (light and dark blues, light and dark reds), and the 11 emerging conditions arranged around them. Below the map, all 45 themes are summarized under the corresponding emerging conditions and lenses.

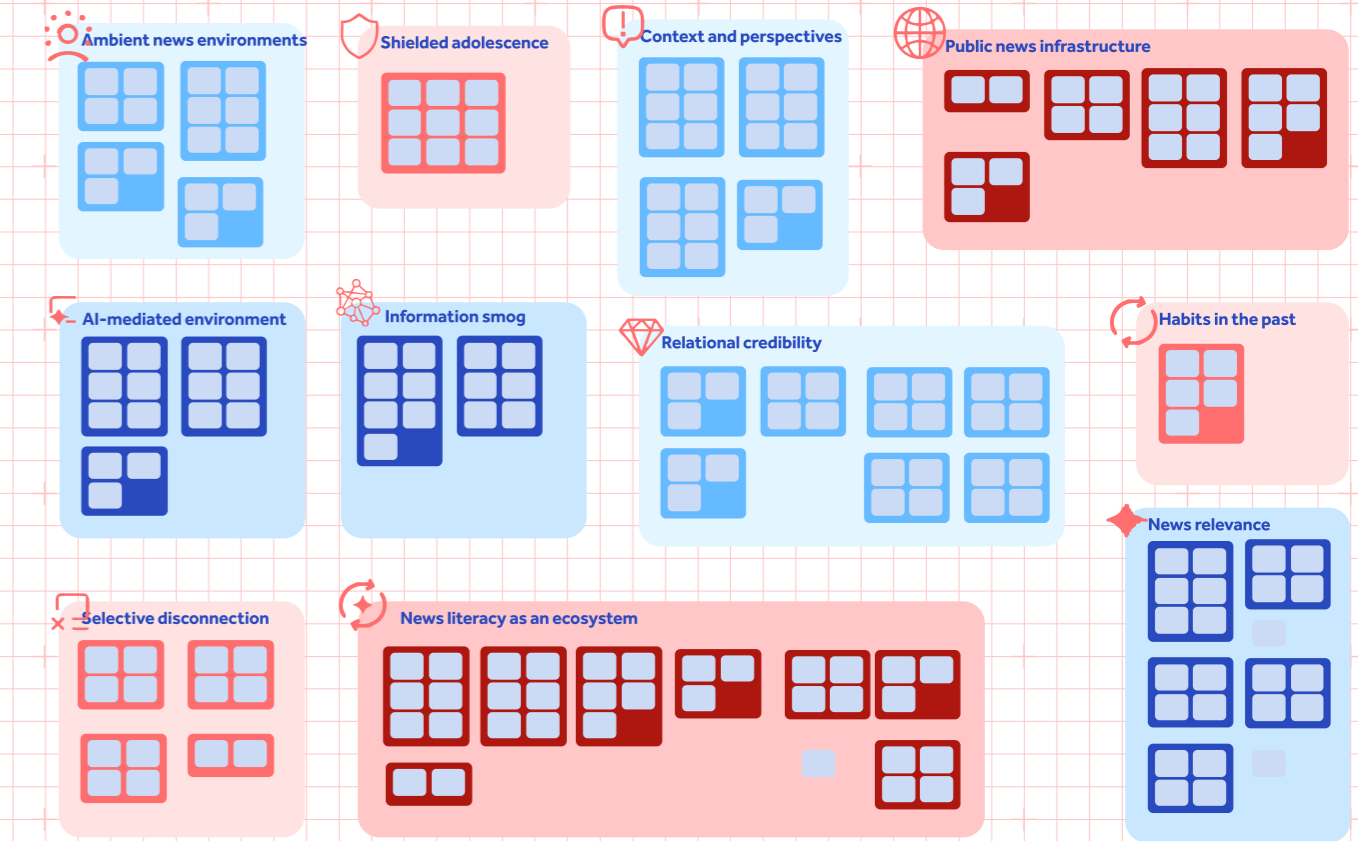


Figure 42. Illustrative cluster map of context factors, themes, and emerging conditions

Changing media landscape

News relevance: Interest in news, Reaching youth, Telephone as another hand, Trust in their skills, Relate to their lives

AI-mediated environment: Big tech as system risk, Search, AI taking over tasks

Information smog: Platforms decide, Filterbubble

Youth consumption

Ambient news environments: "News finds me", informed by surroundings, platform first, Incidental

Context and perspectives: Depth vs. short form, What does it mean for me?, Based on interest, Alternative media

Relational credibility: Humans in the loop, Everyone is a studio, Creators, Familiar faces, Engagement with target group, Polarization, Lower trust in traditional media

Current response

Shielded adolescence: Let them be children
Habits in the past: News routine at home

Selective disconnection: Critical ignoring, Phone-less future, Depressing news, Dumb phones

Wider system

News literacy as ecosystem: Systemic approach needed, Agenda setting role of media, No homogeneous group, Shared responsibility, Pressure on education system, Parents as curators, Teachers as guides, Peers as informants, Information gap

Public news infrastructure: For everyone, Crisis, Collaboration needed, Tasks for public service media, Financial and political challenges

5.2 Emerging conditions

The clustering produced eleven emerging conditions, grouped under the four lenses (Figure 43). Each captures a pattern in how adolescent news consumption looks today and indicates where the field is heading. Across the lenses, two tensions surface; a pull toward ambient, individualised, and protective responses, and a pull toward intentional, coordinated, and preparatory ones, which motivate the framework that follows.



Figure 43. Clusters under the four lenses (colour coded)

Changing media landscape

The structural environment in which news is produced, distributed, and encountered is shifting fast. For young audiences, that environment is increasingly shaped by platforms and AI rather than newsrooms, and crowded with content competing for attention. The conditions below describe how relevance, authenticity, and visibility are shifting within it.

News relevance

Young people value being informed, but news must connect to their lives and reach them where they already are.

AI-mediated environment

Generative AI restructures how information is produced, distributed and discovered, thinning the line between authentic and synthetic content.

Information smog

Young people navigate a continuous, algorithmically curated flow of mixed genres of information, where visibility and meaning become harder to decode.

Youth consumption

How young adolescents engage with news has reorganised around three things: how it reaches them, what they want from it, and who they trust. The three conditions trace that shift; from how news arrives, to what they expect of it, to where credibility now sits.

Ambient news environments

The “news finds me” attitude strengthens as news flows continuously through social, digital and relational environments.

Context and perspectives

News is expected not only to inform but to explain, situate, connect and show different perspectives.

Relational credibility

Trust increasingly depends on recognisable people, visible process and human presence, shifting from institutions alone to relationships

Current response

This lens covers the responses currently around young people and news, and, in many cases, those no longer in place. The pattern is protective and reactive: shielding from above, fading rituals, and young people stepping back themselves. Together the conditions show responses that limit or withdraw rather than actively build engagement.

Shielded adolescence

A protective “let them be children” stance treats adolescence as a phase to shield from informational intensity through screen-time limits, phone bans and age restrictions.

Habits left in the past

Shared rituals that once anchored news engagement, such as family news-viewing and dinner-table conversations, largely fade at the moment adolescents enter secondary school.

Selective disconnection

More young people deliberately cut back on phones, platforms, notifications and news exposure to protect their attention, wellbeing and emotional resilience.

Wider system

At the ecosystem level, responsibility for news literacy is spread thin across many actors, and the institutions best placed to anchor it are themselves under pressure. The conditions point to a challenge no single party can resolve alone.

News literacy as an ecosystem

News literacy is no longer an individual skill; it calls for a systemic action across schools, families, peers, public service media, platforms and policy.

Public news infrastructure

Public-service media operates under budgetary, political and platform pressures that challenge its visibility and legitimacy, calling for new collective infrastructure.

Synthesis across the lenses

Read across the lenses, the conditions describe a domain pulling in two directions. On one side, news arrives ambiently through individual feeds and social surroundings, met largely by protective responses; shielding from above and disconnection from within. On the other, signals point toward news engaged with intentionally and supported collectively: a wish for context and perspective, trust built through relationships, and the recognition that news literacy and public infrastructure need coordinated, structural support. This mirrors the two views of news literacy from 2.4.1, with a protectionist view that treats it as a shield (Potter, 2019) and an empowerment view focused on equipping people (Hobbs, 2010). These opposing pulls; ambient versus intentional, individual versus systemic, become the axes of the framework that follows.

5.3 Future framework

To sketch an impression of the future in 2036 that will be designed for, a future framework is formed, building forth on the emerging conditions presented. The framework is mapped onto the future of young adolescent information worlds, rather than news specifically as this wider framing reflects how young adolescents actually encounter news; woven into a continuous stream alongside entertainment, social content and opinion. A future that addresses news alone would miss the environment that shapes whether news reaches adolescents at all, thus the framing is focussed on "the future of young adolescent information worlds."

The framing looks toward 2036, roughly a decade ahead. This horizon is deliberate: far enough that current trends have room to develop, yet near enough to stay within plausible, probable and preferable futures rather than speculative ones. It also matches the timescale of the

domain itself, a 12 year old today will have grown through the entire formative window into early adulthood by 2036, the period in which news habits take shape and stabilise. This means that designing toward 2036 means designing for the moment that this generation has in effect, grown up with news.

To identify the axes, the eleven emerging conditions were grouped along two value tensions that recurred across the lenses. The framework went through several iterations before arriving at this form: earlier versions tested a 3x3 structure before settling on 2x2, and axes including protectionist versus empowerment, passive versus active, and fragmented versus coordinated, each tested back against the findings in the Discover phase. The protectionist-empowerment axis, drawn from the news literacy literature presented in Chapter 2.4.1 (Hobbs, 2010; Malik et al., 2013), proved particularly relevant, but

rather than forming an axis it surfaced within the final framework: the protectionist response sits in the ambient-systemic quadrant, and the empowerment response in the intentional-systemic quadrant. Ultimately, returning to the key insights from the Discover phase and analysing the emerging conditions led to the following two main tensions emerging, shown in Figure 44.

The emerging conditions, presented in the previous section are mapped to these tensions in Figure 45. Most conditions anchor most strongly at one pole, though several are cross-cutting and are relevant across multiple quadrants. The changing media landscape and youth consumption conditions sit along the ambient vs. intentional axis, while the current response and wider system conditions sit along individual vs systemic.

X-axis: Ambient vs. Intentional

how information is found: whether it arrives through feeds and surroundings, or is actively sought, contextualised, and engaged with.

Y-axis: Individual vs. Systemic

where ownership of finding information sits: with the individual making their own choices, or with the system that shapes the conditions in which those choices are made.

Figure 44. Two main value tensions which are mapped to the axes of the framework

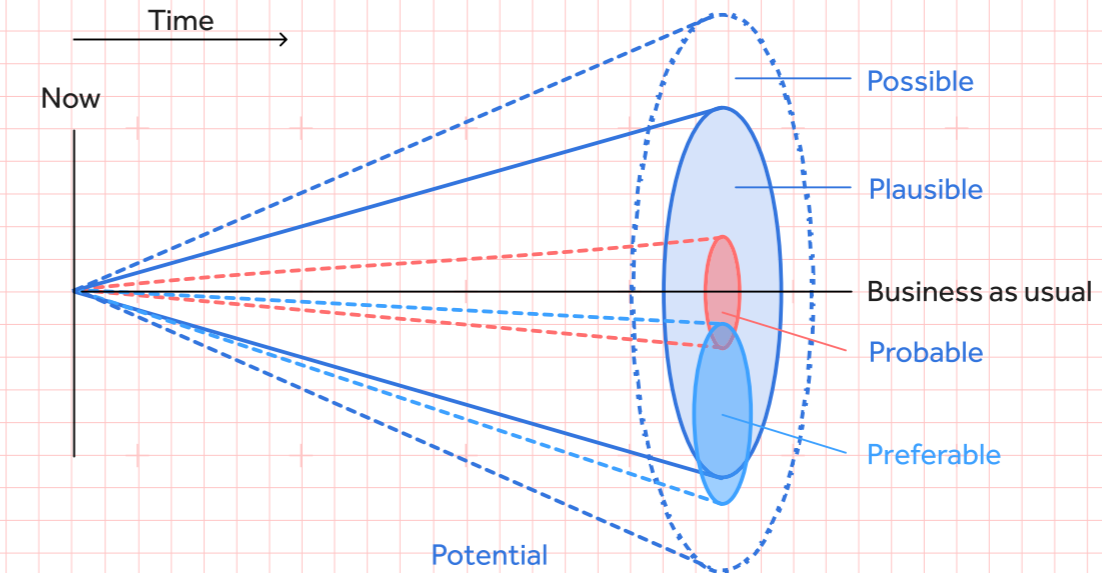


Figure 46. The futures cone, adapted from Voros (2003)

5.3.1 Four scenario quadrants

The two axes produce four scenario quadrants, each presenting a different future for how young adolescents could grow up with news (Figure 46). Beneath each title sits a set of interaction qualities, which describe how the product, in this case information, is used and experienced, and what value or meaning arises from the relationship between a young adolescent and the information world (Hekkert & van Dijk, 2011).

These quadrants can be read through the futures cone, a foresight model that sorts futures by likelihood and desirability; from possible, through plausible and probable to preferable. In this future framework, one probable, two plausible and one preferable future are identified, the preferable future being the one which the design direction will commit to.

Possible: what could conceivably happen
Plausible: what could realistically happen
Probable: what is likely on current trends
Preferable: what we want to happen

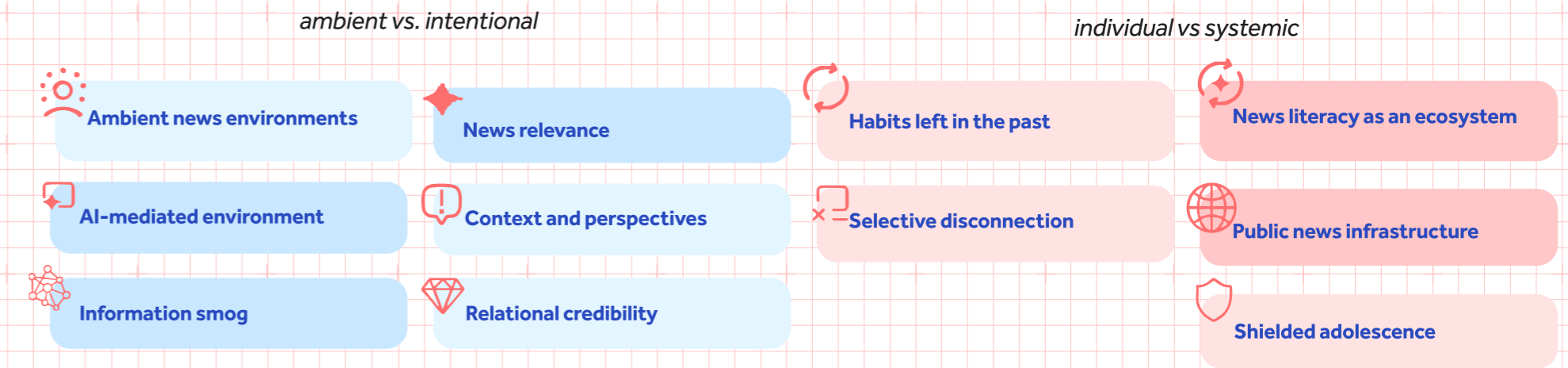


Figure 45. Mapping of emerging conditions to the two value tensions

Snacking the wild web is the probable future; a continuation of the current trajectory, where news reaches young people in fragments through individual platform use. Platforms remain gatekeepers of the information which reaches its users, while young adolescents are dependent on themselves to find sources they can trust in between the smog of information coming their way.

Algorithmically governed feeds describe a plausible systemic reaction where platforms remain the dominant venue where young people find information, but are increasingly regulated. Through age limits and regulation of algorithms young people are increasingly protected through restriction and oversight. Social media is increasingly treated as "the new smoking" which young people should be protected from. Young people are treated as recipients to be shielded rather than equipped; the protectionist response the literature finds insufficient on its own (Hobbs, 2010; Tamboer, 2023).

Self-composed nutrition is a plausible individual reaction; where young people exercise the capacity to compose their own news engagement, on their own initiative. It reaches the intentional engagement that is desirable, yet leaves the effort with the individual; feasible for the already engaged minority but largely out of reach for the rest.

Collective nourishment is the preferable future in the context of this research: one in which young adolescents engage with news intentionally, supported by an ecosystem that coordinates families, schools, public service media, and policy around the conditions for news literacy application. This is not a future we are in already; it calls for a shift away from the current trajectory of ambient information flows toward young adolescents learning to engage intentionally. It is a future in which they are guided by those they trust to find context and perspectives around the news and to build habits, so that applying news literacy becomes a norm. That intentional engagement is what drives news literacy application in the first place, where motivation sits at the core of Tamboer's (2023) model.

Future of young adolescent information worlds

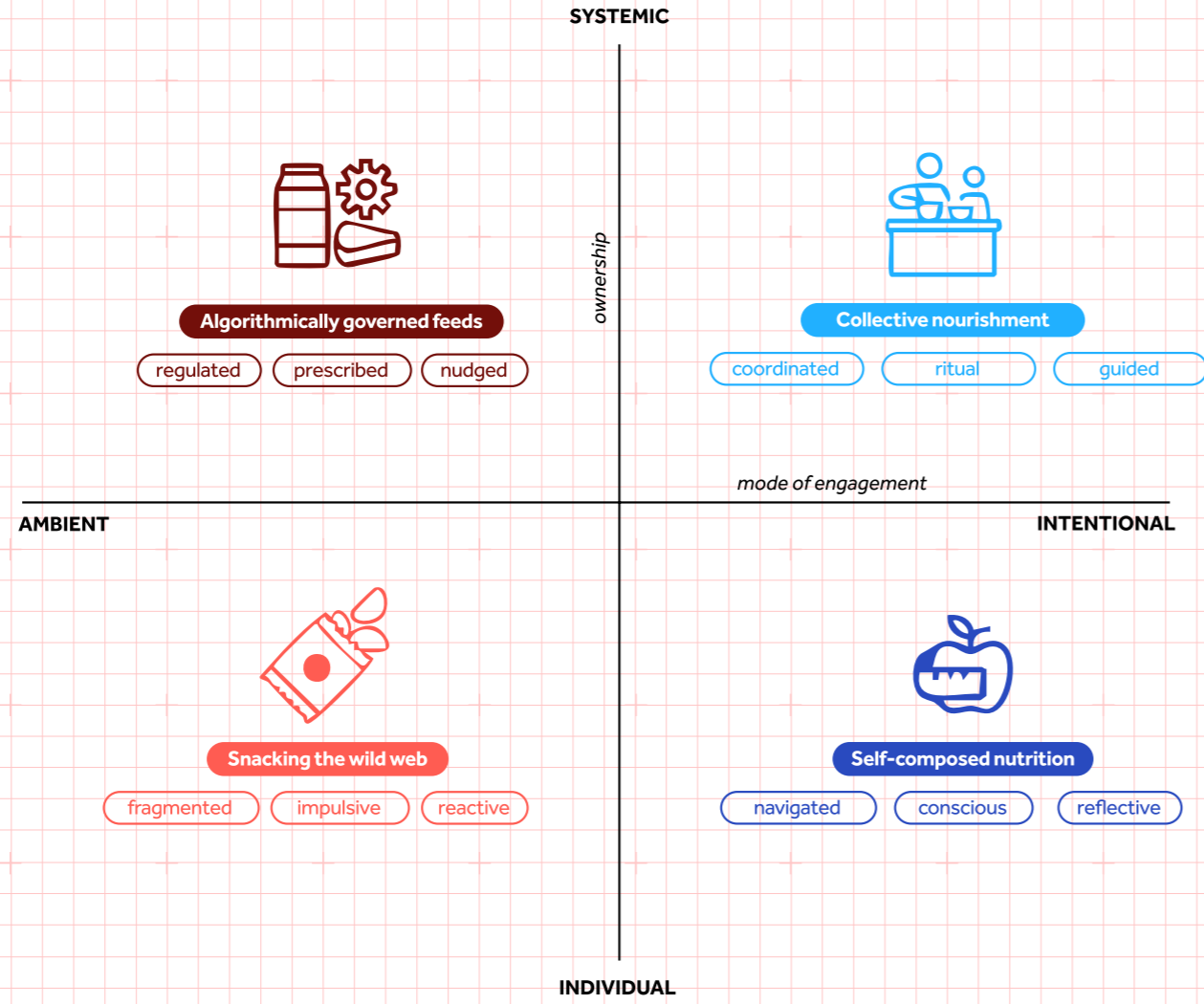


Figure 47. 2x2 future framework with four quadrants of the future of young adolescent information worlds

5.4 Vision and analogy

With collective nourishment as the project's preferable future, the next step is to translate it into something the design can work toward. This is done in two parts; a vision statement which gives the direction a strategic form, and an analogy that gives a concrete, recognizable character, as "working with an analogy can help you to see the appropriate interaction from a fresh perspective" (Hekkert & van Dijk, 2011).

5.4.1 Vision

The vision acts as the project's north star: a directional statement naming what NOS may work towards given its public mandate. It emerges directly from the collective nourishment quadrant, translating that future's position on the framework, which is intentional and systemic, as well as its interaction qualities; coordinated, ritual and guided; into a single statement, grounded in NOS's public mandate and in the goal of news literacy application. It is ambitious in setting a north star that can not directly be achieved; the concept-level design in this project thus contributes toward it rather than fully achieving it. The vision reads:

Vision
 "NOS helps the next generation grow up with news, as part of an ecosystem supporting them in making sense of the world around them, and in shaping news themselves."

Together, the statement positions NOS not only as a content provider serving young audiences, but as one actor within a coordinated ecosystem working toward the collective nourishment future, preparatory rather than solely protective, equipping young adolescents to engage critically with the information environment.

Dissection of the vision

NOS helps	Guided. NOS takes a guiding role
The next generation	Young adolescents, framed widely: NOS's public mandate is to reach all citizens
Grow up with news	Ritual. Extending the trust built through Jeugdjournaal into the years of adolescence, towards a lasting relationship with news
As part of an ecosystem	Coordinated, Systemic, news literacy is everyone's responsibility; NOS acts within a coordinated whole, not alone.
Supporting them	Guided. The empowerment view of news literacy: equipping young people to engage, not shielding them or doing it for them.
Making sense of the world around them	NOS's public mandate to help citizens understand the world, as well as news literacy.
Shaping news themselves	Intentional, control over the processes by which news is made and judged, and becoming co-makers in the process.

5.4.2 Analogy: news as nutrition

To make the vision tangible, it is carried by an analogy: news as nutrition, with news literacy application as the practice of a balanced news diet. The analogy draws on a recognisable Dutch reference, the “Schijf van Vijf”, in English the “Disc of Five”, but in this case it will be called the “Newswise Core of Four: A balanced diet for news literacy.” This analogy also draws on a growing public conversation that frames “social media as the new smoking” (NOS op 3, 2026) and on a recent report by the CVDM which argues for “democratic healthy feeds” (CVDM, 2026).

Just as the “Schijf van Vijf” balances food groups rather than relying on a single nutrient, the “Newswise Core of Four” in this case balances four main elements drawn from Tamboer’s (2023) model: news consumption as a basis as well as knowledge, motivation and skills as core elements. A healthy news diet is not one skill but the interplay of all four, presented in the “Core of Four” in **Figure 48**.

The analogy also helps explain the roles in the ecosystem. NOS plays a key part; it is the producer of nourishing food based on the: trustworthy, quality news; which users are able to consume based on the “Core of Four”. NOS is not the dietician forcing the meal, but a source they consume from based on their reference intake. Another playing a role is school, which is the canteen where news is served, and the teachers, with the wider ecosystem, are those who serve and guide. The conscious choices a young person makes about what to consume are them applying news literacy.

Just as food cultures shape what people eat through schools, families, and public health guidance; not individual willpower alone, news literacy depends on the systemic conditions around the individual. Just as ultra-processed food, optimised for engagement and palatability, dominates supermarkets and harms public

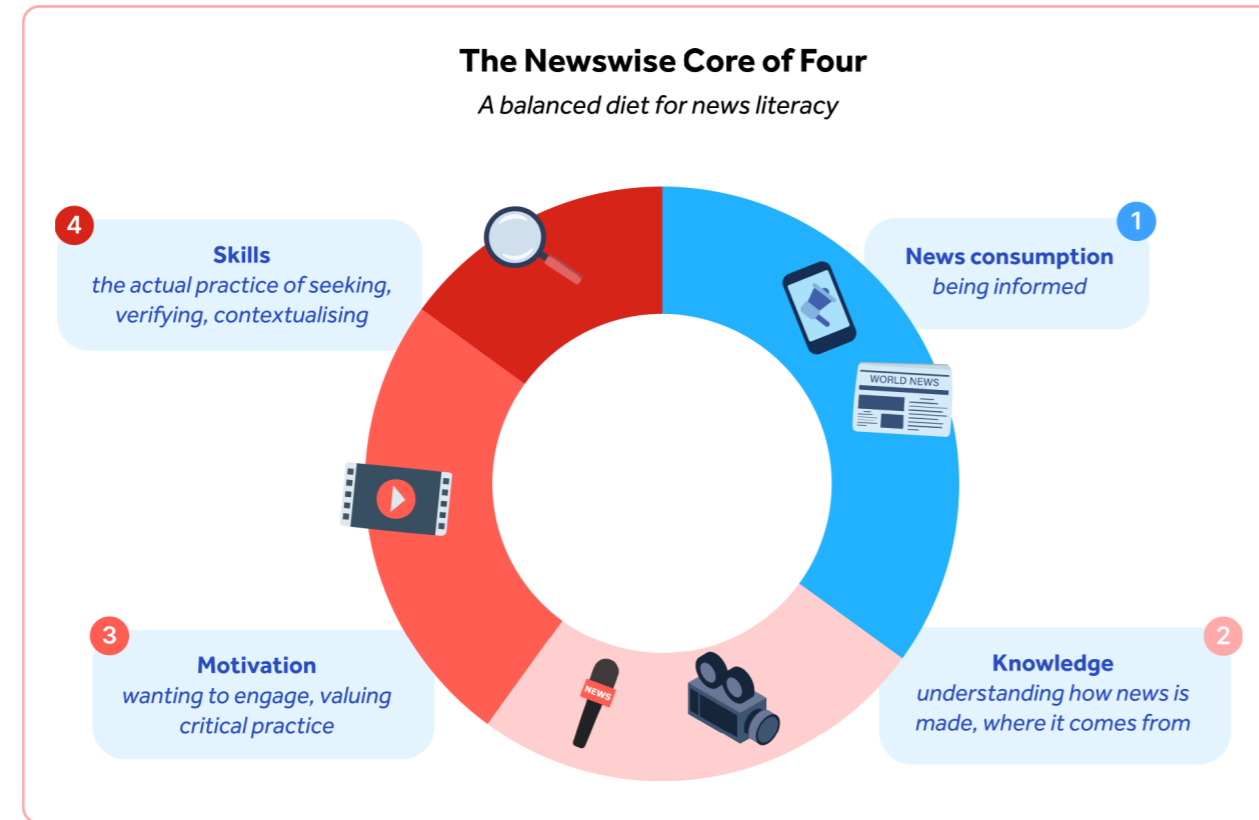


Figure 48. “Schijf van Vijf”-style wheel of news literacy application, with three balanced components: News consumption, news production awareness and reflecting and seeking, based on Tamboer’s (2023) definition of news literacy.

health, platformised information optimised for attention and engagement increasingly dominates information environments. The work of public health was not to forbid food but to teach people to make conscious choices about what they consume. The work this project proposes is an

analogy to that: not to shield young adolescents from the information environment, but to equip them to navigate it consciously. Exactly this will be framed by the design goal and principles in the next chapter.

Key insights from future framing

This chapter translated the Discover findings into a forward-looking direction: context factors were consolidated into emerging conditions, structured into a future framework, and distilled into a vision and analogy. The key takeaways are shared to the right.

Where this chapter has set the direction; Chapter 6 makes it actionable. The vision is translated into a problem definition, a design goal, and a set of design principles. The qualities of the *collective nourishment* future and the news-as-nutrition analogy become the criteria the design is developed and tested against.

Eleven emerging conditions

Context factors from the Discover phase cluster across 45 themes, forming eleven emerging conditions: news relevance, AI-mediated environment, information smog, ambient news environments, context and multiple perspectives, relational credibility, shielded adolescence, habits left in the past, selective disconnection, news literacy as an ecosystem and public news infrastructure.

Future framework

The emerging conditions resolve into two tensions; ambient vs. intentional and individual vs. systemic; forming four futures for 2036. The preferable one, *Collective nourishment*, with interaction qualities coordinated, ritual and guided, is the chosen direction: a future where news literacy application can hold, with intentional engagement supported by a coordinated ecosystem.

Vision: the north star

“NOS helps the next generation grow up with news, as part of an ecosystem, supporting them in making sense of the world around them and in shaping news themselves.”

News as nutrition

News literacy application can be seen as a balanced news diet; the Newswise Core of Four is built up of news consumption, knowledge, skills, motivation, with NOS as the producer of nourishing news and a trusted reference.

6. Design direction

- 6.1 Problem definition
- 6.2 Theoretical foundations
- 6.3 Design goal
- 6.4 Design principles

Where Chapter 5 sketches the future the design should work towards, this chapter translates that future into a design direction. It first sharpens the project's problem definition based on what the Discover and Define phases surfaced (6.1), then introduces three theoretical foundations that ground the direction for the design (6.2), formulates the design goal (6.3), and presents the six design principles that guide the development of the concept (6.4).

With this, the third research question is completed: RQ3: What design goal and principles can be derived from a future framing and vision of young adolescent news consumption?

Approach

Following the Double Diamond (Design Council, 2005), the Define phase closes with a sharpened problem definition and a design goal that guides the Develop phase. The design goal is formulated in the spirit of a ViP design statement (Hekkert & van Dijk, 2011), articulating what the project sets out to enable without yet specifying the concept. The design principles translate this goal, together with the theoretical foundations, into guidance for the design.



6.1 Problem definition

The project's opening brief framed the opportunity of focussing on the application gap seen with news literacy; the gap between what young adolescents know about news and what they do with it, as described in chapter 1.3. This framed the overarching research question; How can designing a concept-level news experience supported by NOS stimulate young adolescents (12-16) to apply news literacy?

The key insights out of the discover and define phases lead to a reframing of the project brief into a more specific problem definition. With news playing a fundamental information, control and forum function in a democratic society, reaching young people is not only a media concern but a democratic one (chapter 2.1). Yet reaching them has become a structural challenge across public service media, in a fragmented, platform-driven landscape (chapters 2.3, 3.1, 3.2). NOS reaches children well in childhood, with the Jeugdjournaal acting as a staple in classroom and family viewing, but this relationship declines as adolescents enter

secondary school, where news is met mostly incidentally (chapter 3.3.4, 4.2). At the same time, the application gap is visible across the research: the literature documents it (Tamboer, 2023; Vraga & Tully, 2021), stakeholder interviews articulate it (chapter 4.2), and the project's own survey shows a self-reported gap between perceived news literacy skill and actual behaviour (chapter 4.4.1). This gap is not closed by more knowledge alone; it depends on motivation, social context and stable, recurring conditions in which behaviour can form into habit (Wood & Neal, 2007; Groot Kormelink, 2022); conditions that, as family viewing and classroom routines weaken, are increasingly missing. These findings lead to the following problem definition.

Problem definition

An informed next generation underpins democratic participation, yet reaching young people has become a structural challenge across public service media. As young adolescents move from childhood into secondary school, the guided, shared contexts in which they encountered news fade and news becomes something they meet incidentally and navigate mostly on their own. Interventions exist, but they remain scattered and short-term; what is missing is a stable, recurring and shared context in which engaging with news could consolidate into habit. As a result, young adolescents may value critical engagement with news but lack the conditions to practice it regularly.

This reframes the design brief. The goal is not to produce more youth news content or a one-off news literacy lesson, but to create the conditions in which news consumption and news literacy application can become recurring, habitual and socially supported practices. This aligns with Tamboer's (2023) stepwise approach: first stimulate intrinsic motivation and news consumption, then build value for news literacy, behavioural skills and social norms.

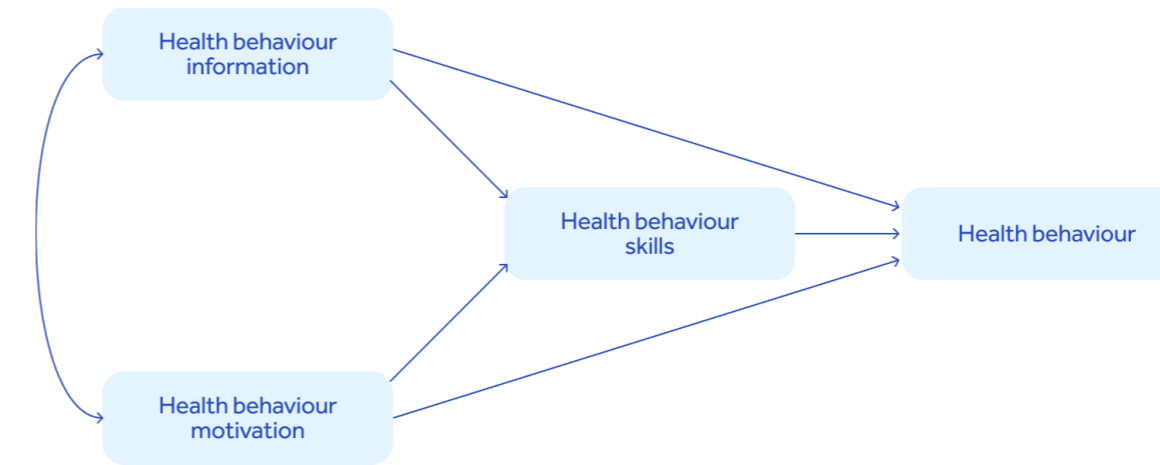


Figure 49. The Information-Motivation Behavioural Skills (IMB) model of health behaviour (Fisher & Fisher, 1992)

6.2 Theoretical foundations

The vision and analogy in Chapter 5 describe what a future of intentional, supported news engagement looks like. The theoretical foundations introduced in this section uncover how behaviour like this could be enabled, formed and sustained. Three theoretical strands ground the design direction.

6.2.1 Information Motivation behavioural Skills model

Tamboer's (2023) model of news literacy is based on the Information-Motivation Behavioural Skills (IMB) model (Fisher & Fisher, 1992), which suggest that knowledge alone does not drive behaviour change but that information, motivation and behavioural skills are causally related and must be addressed together. This model was originally developed for health related behaviour and suggests that when individuals are well informed, motivated to act and possess the behavioural skills for effective action, they will be more likely to initiate and maintain health-promoting behaviours and to experience positive outcomes (Fisher & Fisher, 2002), displayed in Figure 49.

In line with the analogy, news consumption may be seen as health behaviour, where news literacy application is the desired behavior to be moving towards. The implication for the design is that the intervention cannot rely on knowledge transfer alone, but must also build motivation and create repeated opportunities to practise behavioural skills. Thus this pushes for a shift of focus of the intervention, from applying news literacy to the foundations that are below that; information, motivation and skills. The design direction may focus mainly on the motivation aspect of the model, playing into social influences and building motivation to apply the information and skills that young adolescents have, ultimately pushing youth from expecting ambient behaviour to intentional engagement.

6.2.2 Habit theory

Habits form through repetition in stable contexts. Wood and Neal (2007) describe habits as emerging from "the gradual learning of associations between responses and the features of performance contexts that have historically covaried with them," with the consequence that once a habit is formed, perception of the context triggers the associated response without conscious deliberation. This is illustrated by the habit loop, cycling between cue, routine and reward as seen in Figure 50. In line with this, Duhigg (2013) described a habit like water, it "hollows out for itself a channel, which grows broader and deeper, and, after having ceased to flow, it resumes, when it flows again, the path traced by itself before." It is exactly that path that the design should attempt to hollow out.

Groot Kormelink (2022) applies this directly to news consumption, sharing that for news engagement to become habitual, "a more or less stable context is required", and that the disappearance of such contexts is part of why news consumption among young people have become less habitual. In addition, Lally et al. (2010) show that habit formation typically takes between 18 and 254 days of repeated practice in the same context, with a median of 66 days; habits need time and contextual stability. The implication for the design is that the intervention needs a recurring rhythm, a stable context, and enough time for the behaviour to consolidate.

6.2.3 Vygotsky's Zone of Proximal Development (ZPD)

Leaning in closer to how development takes place, Vygotsky's (1978) social constructivism argues that learning happens through guided social interaction. The Zone of Proximal Development (ZPD) describes the space between what a learner can do independently and what becomes possible with the support of a more knowledgeable other (Smagorinsky, 2018). Learning is most effective when learners are supported just beyond what they can do alone; a process Vygotsky called scaffolding, demonstrated in the ZPD in Figure 51.

For news engagement, this strand emphasises the importance of bridging towards the lived worlds of a student, or as a developer of education programmes mentioned "knowledge sticks to knowledge; you can only acquire new knowledge if you can connect it to something new that you recognize" (T9). Thus, the design direction may focus on building on scaffolding, enabled by peers and teachers in a young adolescents social environment.

6.2.4 Connecting the theories

These three strands operate at different levels but converge on a single design implication. IMB points in the direction of what has to be present in the experience, and how motivation may form a base to focus on. Habit theory sets out a stable and recurring context which must be present, while ZPD names who is needed to support the learning and how scaffolding enables this. The design direction which follows, builds on all three of these pillars.

6.3 Design goal

The problem definition, theoretical foundations and future framing of chapter 5 converge on what the design must do. Pointing towards an intervention that is recurring rather than one-off, set in a stable context that young adolescents share, focused on motivation and application rather than knowledge alone, and enabled by NOS within the wider ecosystem. An educational context is the one setting that meets all of these conditions at once; stable, recurring, socially shared and reaching all adolescents regardless of background. This leads to the design goal:

Design goal

Enable NOS to stimulate young adolescents (12-16) in their news literacy application through a recurring news experience set within the educational context.

The goal names what the project sets out to enable, with each phrase carrying part of the work. Enable NOS positions NOS as an enabler rather than the sole deliverer, contributing journalistic substance and editorial scaffolding to an experience that schools and teachers ultimately mediate. Stimulate centres the design on motivation: drawing on the IMB model, it works first on the will to engage, since knowledge and skills alone do not change behaviour. News literacy application keeps the application focus as the north star: success is measured not by what adolescents know about news, but by what they do with it. A recurring news experience anchors the design in habit theory; it must repeat, not happen once; and signals an experience rather than a product or content offering, integrating multiple touchpoints such as content, format, social setting, and scaffolding into one moment of engagement. Finally, set within the educational context locates that experience in a stable, recurring context young adolescents share, and the only one universally accessible regardless of background.

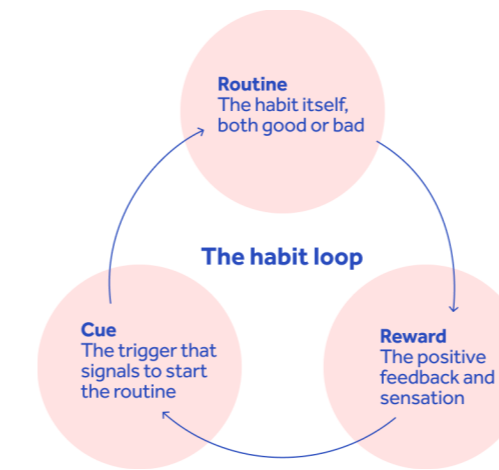


Figure 50. The habit loop (Duhigg, 2013)

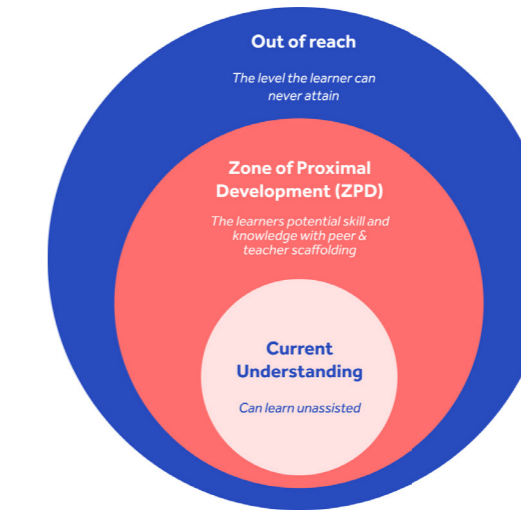
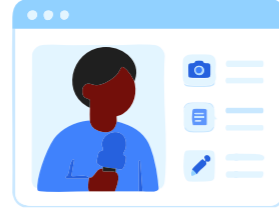


Figure 51. Zone of Proximal Development diagram, adapted from Gabillon (2016)

6.4 Design principles

The six principles below translate the design goal, the future framework, and the theoretical foundations into operational guidance for concept development. Each

principle is grounded in literature, contextual and empirical evidence, and each addresses one or more of the emerging conditions identified in Chapter 5.



Principle 1

Embed news into the recurring rhythm of school life

Design the news experience as a regular, repeating moment in the school week, where news initially ambly comes to the adolescents, so that engagement can consolidate into habit within a stable recurring context young adolescents already inhabit.

This responds directly to the weakened rituals identified across the empirical research (A10, P4, N2; chapter 4.2). Habit theory provides the grounding: habits form through repetition in stable contexts (Wood & Neal, 2007; Lally et al., 2010), and Groot Kormelink (2022) argues that the disappearance of such contexts is part of why news consumption among young people has become less habitual. School offers what family viewing no longer reliably does; a stable recurring context, supported by the burgerschap mandate (Heijstekhofman et al., 2025; Chapter 3.4).

Principle 2

Build trust through visibility

Make journalism's people and processes visible, building credibility through recognisable journalists and transparent depiction of how news is produced, sourced, and edited.

Trust among adolescents is built relationally, through recognisable faces and familiar voices rather than institutional logos (A6, A9; chapter 4.2). The principle is grounded in Swart and Broersma's (2022) work on relational trust and Tully et al.'s (2021) framing of news literacy as knowledge of news-production processes. NOS staff articulate it as a strategic priority; "we must invest in our legitimacy. Explain how journalism works" (N11); positioning transparency as a public-service responsibility in an AI-mediated information environment (chapter 3.1.3).

Principle 3

Provide context and multiple perspectives

Design news to land rather than pass by, offering the background, framing, and plurality of viewpoints that young adolescents themselves identify as the conditions for making sense of what they encounter.

Adolescents named context as a missing element across interviews (A2, T8; Chapter 4.2), and prioritised balance and in the Diamond-9 card sorting (chapter 4.4.2). The principle is grounded in Tully et al.'s (2021) definition of news literacy as knowledge of how news is produced and circulated, and directly counters the structural condition surfaced in chapter 3.1; an information environment optimised for engagement rather than understanding.

Principle 4

Cater to the developmental stage

Calibrate the depth, pacing, and framing of news to the developmental capacities of 12-16 year-olds, supporting young adolescents to engage with the world in an age-appropriate manner and to connect on their own terms.

This is grounded in adolescent developmental psychology (Sisk & Gee, 2022; Valkenburg & Piotrowski, 2017; chapter 2.2) and responds to the empirical finding that young adolescents engage in self-protective behaviour when news feels overwhelming (A3; chapter 4.3), and to expert framing of these years as developmentally vulnerable but formative (E4). Catering to the developmental stage rather than shielding from it aligns with the empowerment view of news literacy adopted in chapter 2.4.1.

Principle 5

Design for collective sensemaking

Design news engagement as a social activity in which adolescents process news together with teachers, peers, parents and others around them, recognising that critical reflection develops through guided discussion rather than solitary consumption

This principle is grounded in Vygotsky's (1978) social constructivism and the ZPD: critical news engagement sits just beyond what most adolescents can do alone but becomes possible through guided interaction (Smagorinsky, 2018). It also draws on the social-influences component of Tamboer's (2023) model. The empirical research supports it: the friends value card surfaced as both a route to news and a context for processing it (P6, GS102), and teachers frame their own role as guides (T2, T1).

Principle 6

Design as a coordinated ecosystem intervention

Design the intervention as part of a coordinated broader ecosystem of media, education, platforms, policy, and societal actors, positioning NOS as a structural partner rather than a standalone content provider.

This principle is grounded in Geels's (2005) socio-technical systems theory (chapter 3.3.1) and the responsible-innovation literature (Stilgoe et al., 2013). It responds directly to the cross-stakeholder finding that news literacy is "everyone's responsibility and no one's mandate" (chapter 4.2), to expert calls for explicit coordination (E5, E7), and to the fragmented intervention landscape surfaced in chapter 3.4, positioning the design not as a single intervention but as a structural move within a larger ecosystem.



Key insights

This chapter translated the future direction into an actionable design direction: a sharpened problem definition, three theoretical foundations, a design goal, and six design principles. The key takeaways are presented to the right.

The goal and principles define the territory the design must occupy; the goal names what the experience is for, the principles what it must do. The develop and deliver phases take this forward: chapter 7 explores the divergent ideation and three concept directions, selects the leading one, and develops it; chapter 8 presents the final design and its roadmap; and chapter 9 validates the concept against the design goal and principles.

A reframed problem



An informed next generation underpins democratic participation, yet reaching young people has become a structural challenge across public service media. As adolescents enter secondary school, the guided, shared contexts in which they once met news fade. The barrier is not a shortage of news or knowledge, but a missing stable, recurring, shared context in which news literacy application could consolidate into habit.

Three theoretical foundations.



Behaviour change needs motivation, not knowledge alone (IMB); habits form through repetition in a stable, recurring context (habit theory); and learning is carried by guided social support (ZPD); grounding the intentional, ritual, and guided qualities of the Collective nourishment future.

A design goal



Enable NOS to stimulate young adolescents (12-16) in their news literacy application through a recurring news experience set within the educational context.

Six design principles



Embed news into the recurring rhythm of school life; build trust through visibility; provide context and multiple perspectives; cater to the developmental stage; design for collective sensemaking; and design as a coordinated ecosystem intervention.

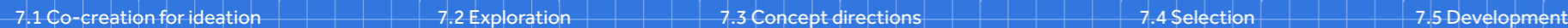
DEVELOP



The Develop phase opens the second diamond by turning the design goal and principles into possible concept directions. The aim of this phase is to explore how a recurring, guided and school-based news experience could take shape, while keeping the design grounded in the needs of young adolescents, teachers and NOS.

Chapter 7 presents the co-creation and ideation process. Ideas were developed with young adolescents, design peers and NOS teams, and informed by external benchmarks. These inputs were clustered into three concept directions. The chapter then compares these directions against the design principles and develops the strongest route into the concept direction. This phase starts answering RQ4 by showing how the principles can be translated into a concept-level news experience.

7. Ideation



Where Chapters 5 and 6 present the future the design works toward and the principles that guide it, this chapter takes those into the develop phase of the Double Diamond (Design Council, 2005). It sets out the co-creative approach to ideation (7.1), the additional exploration that turned the ideation into three concept directions (7.2), those three directions (7.3), the selection of what to take forward (7.4) and the iterative development of one direction into the project's final design; NieuwsWijzer (7.5), which is fully presented in chapter 8. Together with Chapters 8 and 9, this chapter begins to address RQ4: How can the design principles be developed and validated as a concept-level news experience supported by NOS? Chapter 7 covers the development part; chapter 8 presents the concept level news experience; validation follows in Chapter 9.

Approach

The develop phase used co-creation as its primary method (Sanders & Stappers, 2008), positioning the people affected by the design; young adolescents, teachers, NOS staff, design peers, and external benchmarking partners, as active participants in shaping it. Six co-creation moments were held, complemented by external benchmarking conversations with two public service media organisations working in adjacent terrain. The selection of a leading direction used a Harris profile (Van Boeijen et al., 2020) scored against the six design principles from Chapter 6, supplemented by the innovation sweet spot

framework of desirability, feasibility, viability, and responsibility (Brown, 2009; Baldassarre et al., 2024; Stilgoe et al., 2013). The chosen direction was then developed through iterative prototyping (Van Boeijen et al., 2020) using a vibecoding methodology that connected Figma, ChatGPT, Claude, and Lovable through a shared codebase.



7.1 Co-creation for ideation

Building on the future-oriented brainstorming from the discover phase group sessions, GS1-GS3, described in chapter 4.4.1-4.4.3, the ideation phase ran six additional co-creation moments, each contributing differently to the divergent and convergent thinking the phase required.

Figure 52 summarises these, there SS = student session, GS = youth group session, NS = NOS session.

The sessions were structured to produce both divergent and convergent thinking (van Boeijen et al., 2020). Divergence drew on brainwriting (Heijne & van der Meer, 2019), concept sketching (Buxton, 2007), a criminal round (reverse brainstorm) (Heijne & van der Meer, 2019), and How Might We questions (IDEO, 2015), each based on the six design principles to keep the ideation driven by the principles rather than completely free form. Convergence used plus, minus, interesting (PMI) evaluation and dot-voting (van Boeijen et al., 2020) to test which directions resonated with which participant groups. Each session was designed

with the participant group's expertise in mind: adolescents brought lived experience, IDE students brought design judgement and NOS staff brought editorial and product perspective.

Alongside these sessions, three semi-structured conversations with public service media organisations working in youth-news intervention terrain were held; one with NTR Schooltv and two with the Swedish SVT's Nyhetskoll. These provided practice-based reference points that informed the directions. These exchanges are presented in chapter 7.2.

Code	Date	Participants	No.	Time	Format	Purpose
SS1	22/04	TU Delft students	6	60	Brainwriting on the six design principles, PMI on concepts, dot-voting	Designer-perspective ideation and concept direction formation and feedback
GS4	23/04	Adolescents	7	45	Group brainstorm and discussion on news encounters, future ideas and concept scoring	Divergent ideation and concept direction feedback
GS5	23/04	Young adolescents	3	30	Brainstorm on news encounters, ideas, concept scoring	Ideation and concept direction feedback
NS1	04/05	NOS product team	7	60	Future-mapping (probable / preferable / wildcard), reverse "criminal round" brainstorm	Strategic framing and concept direction feedback and sharpening
NS2	12/05	NOS Stories editorial team	6	60	Future timeline 2026 to 2036, concept feedback	Editorial framing and concept feedback and sharpening
GS6 (O&O)	28/05	Young adolescents	20	40	PvE presentation, rapid brainstorm, concept formulation	Independent research work as ideation input

Figure 52. Overview of co-creation moments informing the Develop phase

7.1.1 Ideation sessions

Each Discover-phase session closed with a future-oriented brainstorm opened by a prompt along the lines of "if there were no social media, how would you be informed?" Ideas ranged from a return to newspapers, radio and TV, to news in the places young people already are such as "watching news in social studies," or via the "teacher", to abstract notions like "a cushion that informs you of the latest news during your sleep." Further examples in Figure 53; full detail in chapter 4.4. Across the three sessions, adolescents clearly prioritised news that comes to them, and repeatedly proposed school as a venue for news consumption themselves. These outcomes are the starting material for the Develop phase, steering ideation toward formats that arrive in shared, low-effort settings rather than ones young people must seek out.

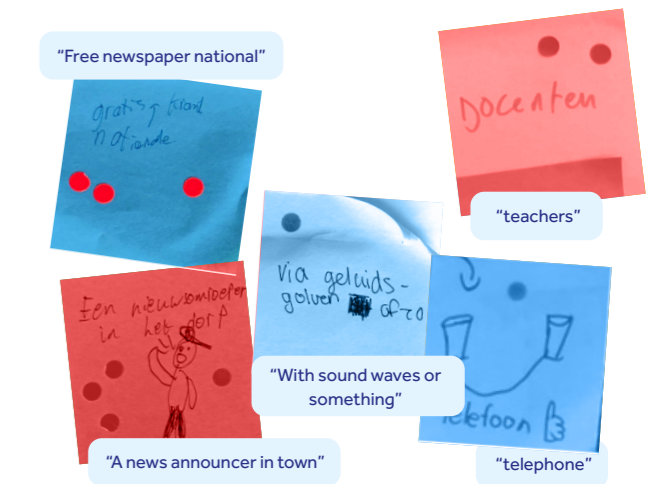
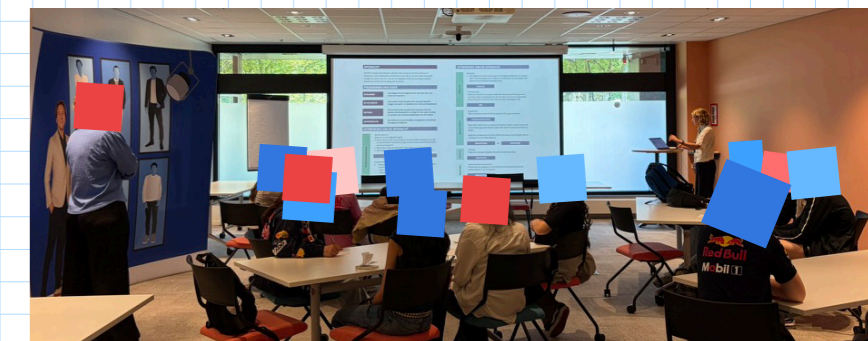
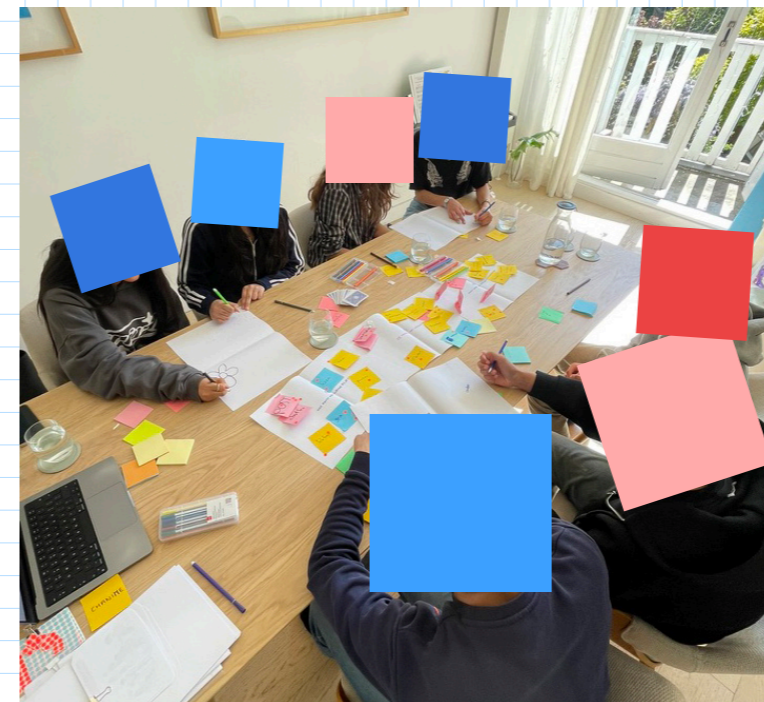
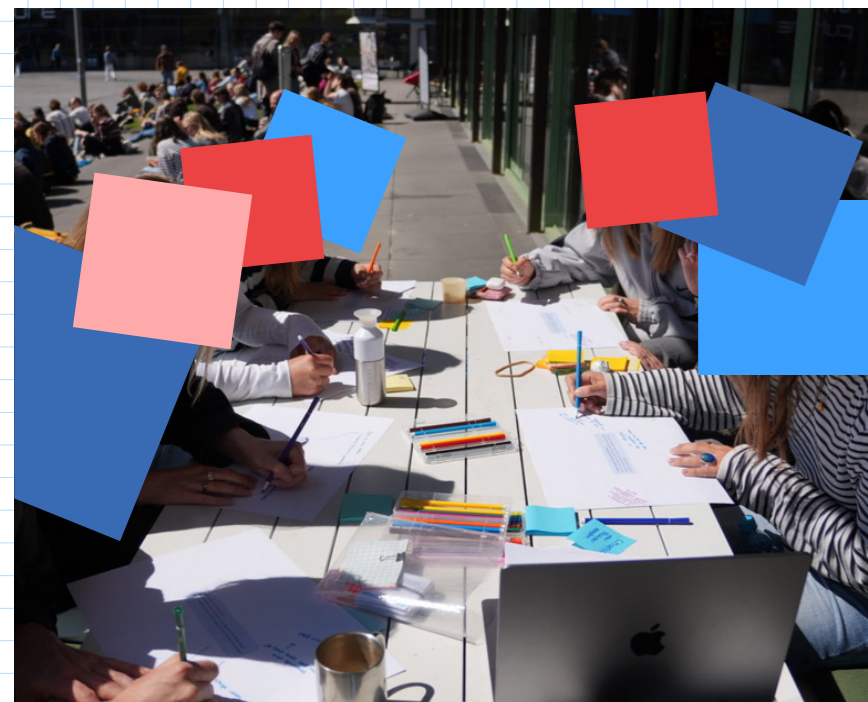


Figure 53. Selection of ideas from the co-creation session



7.1.2 TU Delft students (SS1)

The first develop-phase session was held with fellow students at TU Delft, acting as an opportunity to generate ideas from a design and engineering perspective, as well as acting as a pilot for the rest of the sessions in the develop phase. This was structured around brainwriting on six A4 sheets, one per design principle phrased as a "how might we" question. It was the only session to ideate explicitly at the principle level. The brainwriting produced ideas connecting to the framework ranging from concrete concepts such as a weekly summary every Friday, a news quiz, podcast or 15 minutes of news every morning to systemic moves such as "making it mandatory by the government" and "a new brand that is seen everywhere." The session closed with structured PMI and dot-voting that fed the later selection in chapter 7.4.

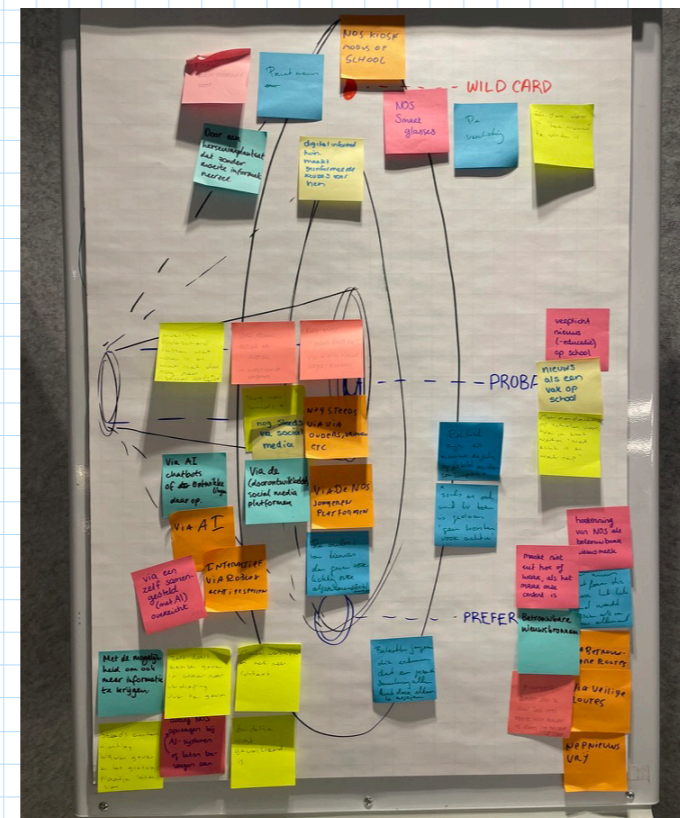
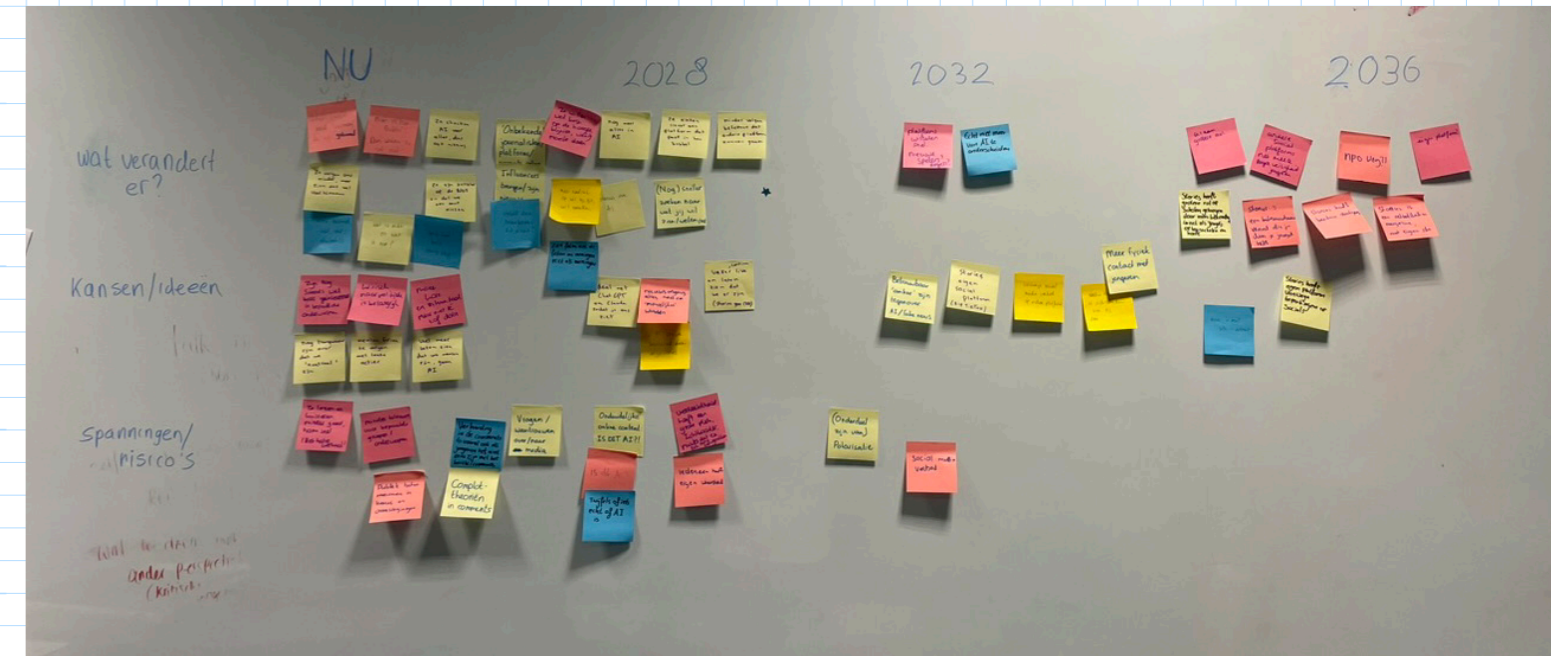
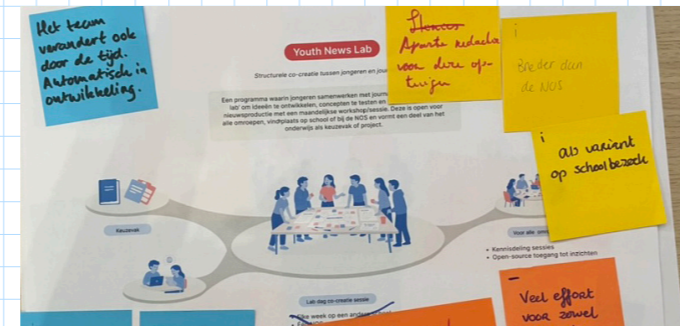


7.1.3 Young adolescents (GS4 & GS5)

Two sessions were held on the same day. The first was larger, with seven 14-year-olds who did not all know each other; the unfamiliarity showed as some held back a little and it took a while to break the ice. The second was smaller and more intimate, with two 12-year-olds and one 13-year-old, and the conversation came easier. Both sessions opened with brainstorm prompts such as "where do you hear the news, who tells it and how does it reach you" before moving into concrete ideas. Many of these leaned toward ambient news that arrives in everyday places, like "flower radios" that play the news all the time. The adolescents were also clear about what they wanted: news that is more positive, comes with more explanation, and is presented by people their own age. The same pattern surfaced in both groups; they are unlikely to look up news themselves, but are open to it when it is brought to them, as long as it does not cost them or their teachers extra time. Together, the two sessions gave a clear user-side reading that fed the selection (7.4); the classroom is the venue where news is most likely to reach them.

7.1.4 O&O co-creation (GS6)

The final co-creation input was a session with sixteen students from Veurs Lyceum's "Research and Design" project, who had spent several weeks running their own design process on the project brief: "Design a product that helps 12-16 year olds stay informed, understand how news is made, and take a critical stance." The students presented their program of requirements and ran a co-creative brainstorm at NOS together with a NOS Product team member joining each group. The brainstorm was structured around their own design requirements and brought a fresh user-led perspective, as students stood in the role of designers as well as target group. The session surfaced concrete ambient-format directions that supported ideas that went into the development of the refining of the concept.



7.1.5 NOS Product team

The first NOS session was conducted with the NOS product team, consisting of data analysts, product owners, a UX designer and project manager of innovation. This session brought a strategic and digital product focussed lens, using a possible, plausible, probable, preferable and wildcard futures mapping structure, based on Voros (2003) and building forth on the future scenario thinking presented in chapter 5.3.1. This future mapping was followed by a reverse “criminal round” brainstorm, thinking out the scenarios and steps NOS should explicitly not take, for youth to be engaged with news in the future. The probable future surfaced mandatory “news at school,” more attention to telling “what is fake and real,” and new regulation, with near-term routes running through social media, parents, friends, and AI such as “a self-curated overview made with AI”. The preferable future centred on NOS as a recognised, reliable brand

reached through “safe routes” to news. Wildcards ranged from a “NOS kiosk in schools” and “NOS smart glasses” to the darker “news interests no one anymore.” Across these, the same themes recurred: the pull of social surroundings, platform dependency, the role of AI, and the call for safe, ambient routes to news. The team’s mapping largely re-traced the framework from 5.3.1: their probable future echoed snacking the wild web, while their preferable one aligned with collective nourishment, the direction this project commits to. In addition, upon discussing concept directions, the session surfaced the question of the division of tasks and responsibilities in regards to news literacy between NOS and NTR, and what the limitations are to public broadcasters in competing with educational publisher. These questions are further explored in the conversation with NTR in chapter 7.2.1.

7.1.6 NOS Stories team

The internal session was conducted with editors, final editors and presenters of NOS Stories. This brought a more editorial and audience facing focus, bringing an editorial and audience facing perspective. It ran in two parts: a general introduction and discussion of the project, followed by a future-timeline mapping exercise from the present to 2036. The aim was to learn how the team themselves see the future of news, to test whether the project’s framing of the future from chapter 5 aligned with theirs, and to steer which formats were most worth developing.

The timeline mapping exercise tasked NOS stories team members to identify developments, chances and risks on a timeline from present to 2036. In the current context, the team identified a shift already underway: young people increasingly encounter news through non-journalistic

and “unknown journalists” or “platforms” or “accounts online.” In addition, the role of AI surfaced, with cards such as youth “they [youth] check AI for everything.” Moving forward toward 2028, platform dependency emerges as a concern with “NPO gone?!” and “stories needs its own platform,” signalling that distribution can no longer be taken for granted. By 2032, the tension around trust and AI-generated content sharpens; post-its such as “doubts about whether something is real or AI” and “is this AI?” reflect a growing challenge that public broadcasters are positioned to address. The horizon towards 2036 revealed two diverging directions; an accelerated, hyper-personalised information environment against a desire for physical, community-rooted connection with “more in-person contact with young people.” The space between 2028 and 2032 remained sparsely mapped; possibly too abstract to picture from here, yet where the most consequential decisions for youth news may sit.

The picture largely mirrored the empirical findings of Chapter 4; trust and authenticity under AI pressure, personalisation and fragmentation, and a shift from institution-led to person-led journalism; and confirmed that the project’s framing resonated with how the team saw it. The emphasis differed, though: the team’s timeline leaned heavily on AI, eroding trust and a fragmenting world of everyone’s own truth, whereas the Collective nourishment future of Chapter 5 centres more on the coordinated, shared response to those forces. Still, the team’s own preferred role pointed back towards that response: they described Stories’ future role as “a trustworthy friend through your youth” and a “trustworthy anchor against AI / fake news,” with a growing physical presence in young people’s lives.

7.2 Exploration

Alongside the co-creation sessions, additional research was conducted to inform the concept directions. In exploring a range of formats which currently work towards educational goals or target youth, or those surrounding youth, as their user, a number of examples surfaced which may inform the concept direction. These surfaced from the ideation sessions themselves, conversations internally and with peers, as well as desk research. The Flip Side (theflipside.io) which presents news with perspectives from across the political spectrum, inspired the multiple-perspectives logic in design principle 3. The Reuters Institute notes that podcast use is valued for building knowledge and adding depth, and that the human dimension of audio is a defence against AI-driven content (Newman, 2026); supporting the recurring-format direction. Educational platforms Brilliant and Kahoot served as interaction-design references for possible teacher-friendly scaffolding (Brilliant, 2026; Kahoot, 2026). A Vox article on schools' contradictory approach to technology captured a tension relevant to this project; as one researcher put it: "young people want adults to help them with this, and they want advice and guidance. That advice and guidance needs to come in conversation with them" (Tench, in Vox, 2026), reinforcing the role of a teacher as a guide.

Beyond these references, three in-depth conversations were held with public service media organisations working in directly adjacent terrain: one with an editor from NTR's Schooltv in the Netherlands and two with editors from SVT's youth brand Nyhetskoll in Sweden. Both are presented in more detail here.

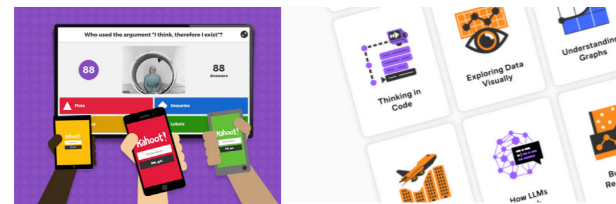


Figure 55. Kahoot and Brilliant (Kahoot, 2026; Brilliant, 2026)



Figure 54. Screens from Schooltv (Schooltv, 2026)

7.2.1 NTR Schooltv

The NTR is an independent Dutch service broadcaster, that provides informational, educational and cultural programming for the national broadcasting system, the NPO, as introduced in section 3.3.1 (Over NTR, 2026). NTR operates Schooltv, currently the only platform aggregating all public broadcaster content for educational use. Schooltv is a B2B service aimed at teachers and maintains a panel of approximately 100 teachers for feedback (E8, 2026).

A conversation with an editor from NTR helped sharpen the practical and organisational boundaries of bringing current public-service news into classrooms. This is relevant within a public broadcasting landscape that is already being reorganised. Recent political proposals describe a "4+1 model" for the Dutch public broadcasting system from 2029 onwards: four broadcaster-houses, alongside a cooperation between NOS and NTR as task broadcasters (NU.nl, 2026). While no conclusions can be drawn yet about what that cooperation will look like in practice, this public reform context shows that the system is in movement and that changes which might be ahead form an important design consideration.

Three practical insights from the conversation informed the concept direction. First, the current workflow for

getting NOS content onto Schooltv is multi-step, takes time and involves multiple people; a fragment is selected, pulled in from the NPO by NTR, lightly edited, given new subtitling, technically processed, and published, limiting how current the content can be as a number of manual steps are needed.

Second, teachers need low-effort materials that help them connect news to lessons without adding preparation time. The value of a classroom-facing news intervention lies not only in the quality of the content, but in how easily a teacher can find, select and activate it in class.

Third, public broadcasters may not compete with educational publishers: short videos and contextual materials are acceptable, but complete curriculum packages sit in sensitive territory (E8, 2026). This sharpened the role the concept direction: it should not become a full teaching method, but a teacher-facing layer that makes current NOS journalism easier to use in school.

The conversation also surfaced a potential collaboration idea between NOS and NTR on this subject, which will return in the roadmap (Chapter 8.1).

7.2.2 SVT Nyhetskoll

Two conversations were held with SVT: the Swedish national broadcaster, which 1.5 years ago launched a new format targeted at youth together with the educational broadcaster UR, comparable to NTR. One conversation was held with an editor from SVT and an editor from the Nyhetskoll team, and the second conversation was with a pedagogical editor at UR.

Nyhetskoll is a youth-focused news brand targeted at 12-19 year olds (E9 & E10, 2026), comparable to a Swedish equivalent of NOS Stories. What makes them distinct though, is with Nyhetskoll skola, where they provide a weekly fifteen-minute news summary video. This brand and format was developed over 1.5 years through co-creation with a reference group of 40 teachers and pilot testing in schools. It is now used by approximately 50% of teachers in the lower years of secondary school, reaching an estimated 200,000 students per week (E11, 2026).

The fifteen-minute ceiling is deliberate, leaving room for the teacher to do something else in the lesson. Teachers use it mainly in social sciences and mentor class, and the quiz following each episode has become the second most-used quiz on the entire UR platform. Editorially, Nyhetskoll shifted over time from covering the regular news agenda toward topics young people cannot find well explained elsewhere, built on the lesson that "they know less than adult journalists think; you need more explained." In maintenance of the format, accompanying materials take the pedagogical editor roughly four to five hours a week to produce (E11, 2026).

Teacher adoption has been strong. The pedagogical editor described it as "such a huge success" and noted that "teachers are already overwhelmed and this helps them, they love it" the format removes work rather than adding it as "Its current examples of what they need to teach anyway". An unexpected finding: classroom presence built brand familiarity that carried over to social

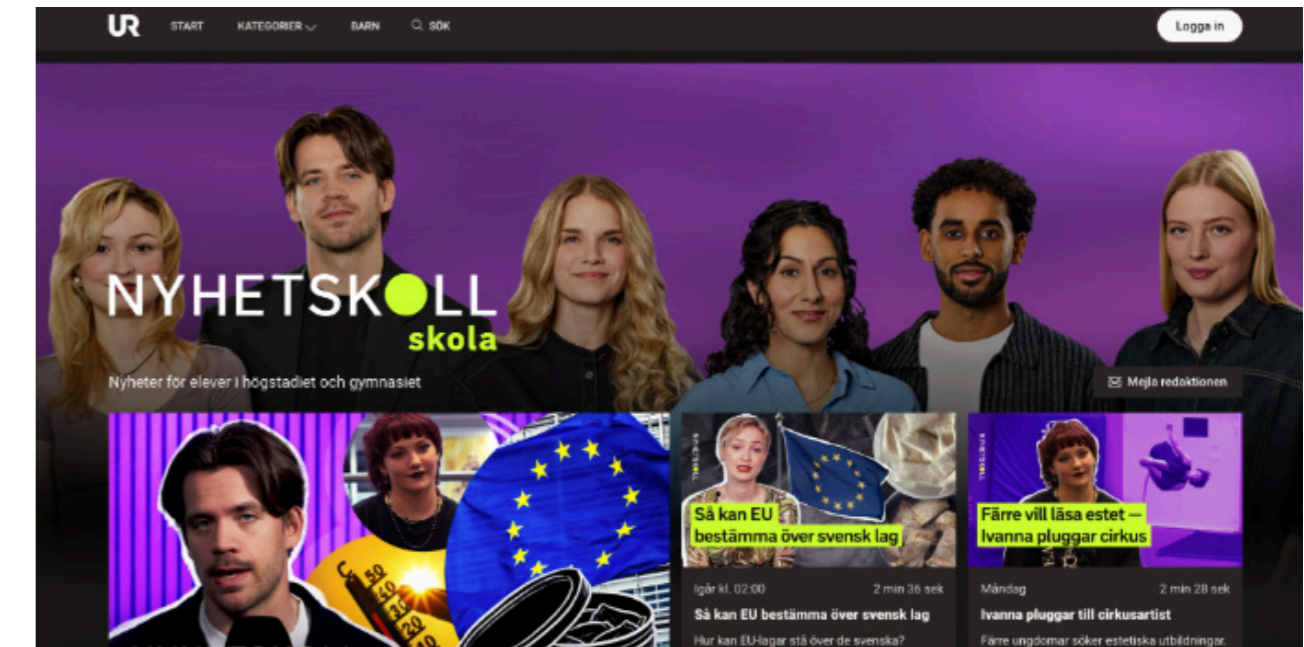


Figure 56. Nyhetskoll homepage (Nyhetskoll Skola, 2026)

media engagement, countering initial fears that being in classrooms would feel boring (E9 & E10, 2026).

Their headline advice captured what made it work: find where the curriculum and the news already meet, and make it something teachers can integrate without adding an extra thing.

What these conversations changed

Together, NTR and SVT validated both a format direction;

a recurring fifteen-minute summary, teacher-friendly and curriculum-aligned, already adopted at scale in Sweden. As well as a teacher-facing platform direction that responds to the need for easier, more current and better-scaffolded classroom use of public-service news. They also sharpened specific design requirements if the concept were to go in this direction; a teacher-panel model, a fifteen-minute ceiling, curriculum-alignment logic, and the editorial preparation time; that carried directly into the concept directions and choices which followed.

7.3 Concept directions

Initial concept directions formed out of the discover and define phase, as well as the first group sessions GS1-GS3. Following this, the brainstormings of the develop phase, from GS3-6 and SS1 to NS1-2, added specific sub-ideas to the concept directions, refined and sharpened them.

The brainstorming across the all sessions produced a high density of ideas, ranging from concrete formats such as a daily news game, a new app in which news becomes scrollable like a social media feed, to ambient and wildcard ideas such as radio flowers, news through a pillow and a public news announcer in the village. A glimpse of these idea post-its are presented in Figure 56. These ideas were consequently clustered in a morphological chart, leading to the identification of three directions.



Figure 57. Selection of ideation post-its from co-creation sessions

7.3.1 Morphological chart

A morphological chart is a systemic idea-generation tool used to explore the design space (Van Boeijen et al., 2020). It allows for a deconstruction of a problem into core functions, in this case the design principles defined in chapter 6.4. Based on these principles, idea directions were collected, followed by the identification of three directions, indicated by the colours light blue, purple and red in Figure 58.

Throughout the previous chapters a few directions might have stood out already, with one focussed more on the presence of news in the classroom facilitated by a teachers, another on a format which summarise the week's news, similar to Nyhetskoll, and a third focussed on involving youth more in the process of news creation and shaping the future of news. All of these ideas take shape in the following three main concept directions; news in the

class (Nieuws in de klas), NOS the week (NOS de week), and Youth News Lab. These directions are introduced and elaborated upon on the next page.

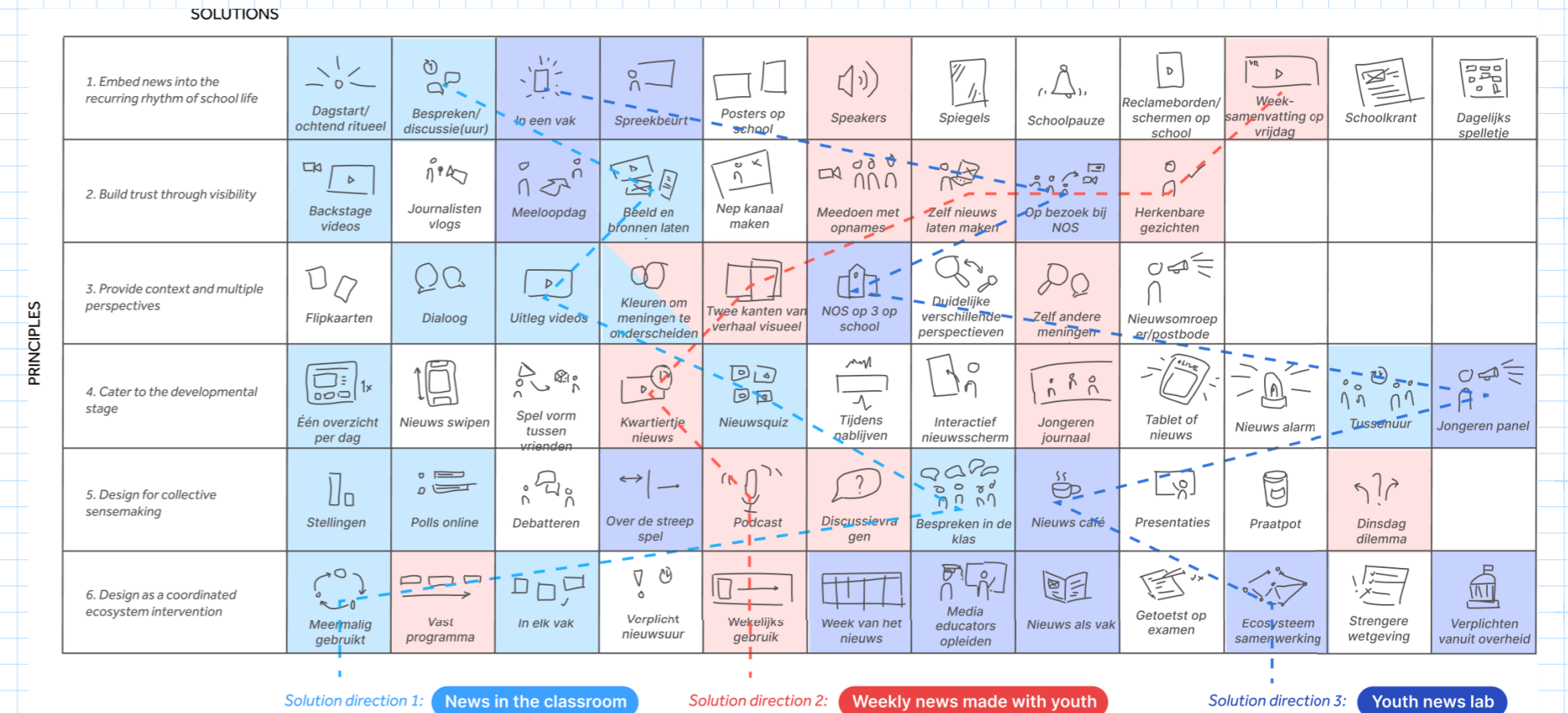


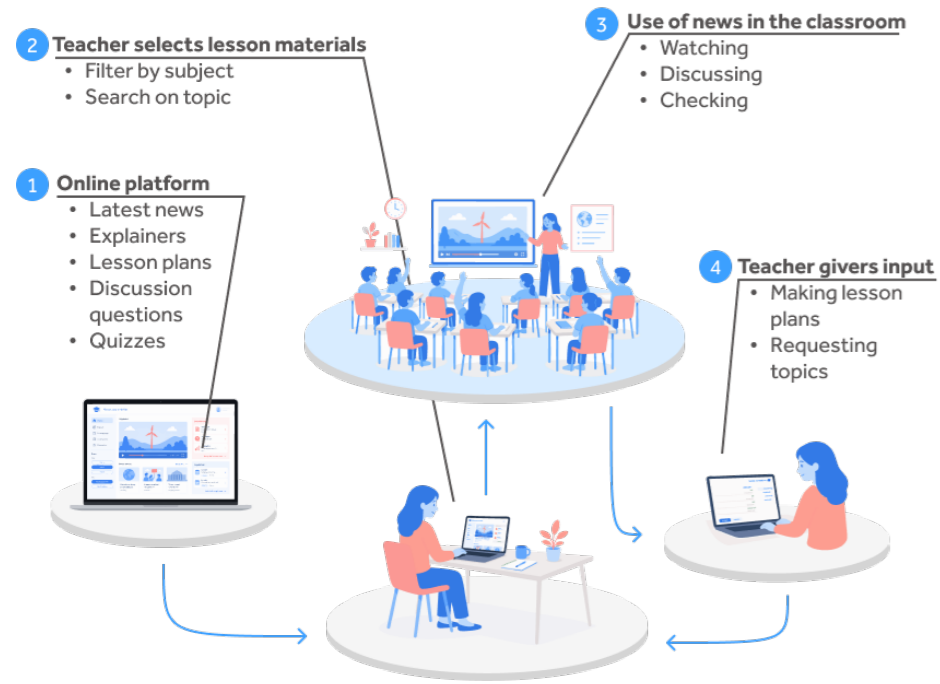
Figure 58. Morphological chart based on design principles

7.3.2 News in the classroom

A digital platform that supports teachers in integrating news into their lessons. It offers current news items, context, teaching materials, and in-depth perspectives, tailored to various subjects and levels. It attempts to lower the threshold for teachers to use news in the classroom, playing into habit theory and Vygotski's theory of proximal development.

"Nieuws in de klas"

Teacher as a guide in the world of news.

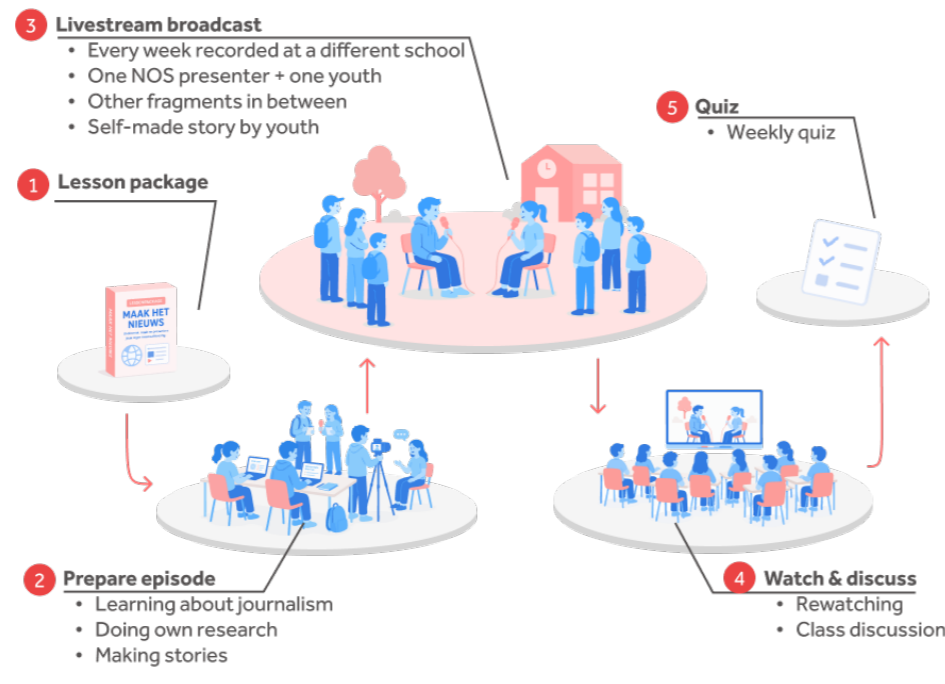


7.3.3 Weekly news

Every Friday, a livestream video podcast broadcast from a different schoolyard each week, co-presented by youth & NOS, featuring a brief weekly overview, in-depth exploration of a single topic, and various perspectives on the news. Each week, a different class prepares the broadcast using a news-making lesson package.

"De week"

Every week, a summary of the news, for and by young people.

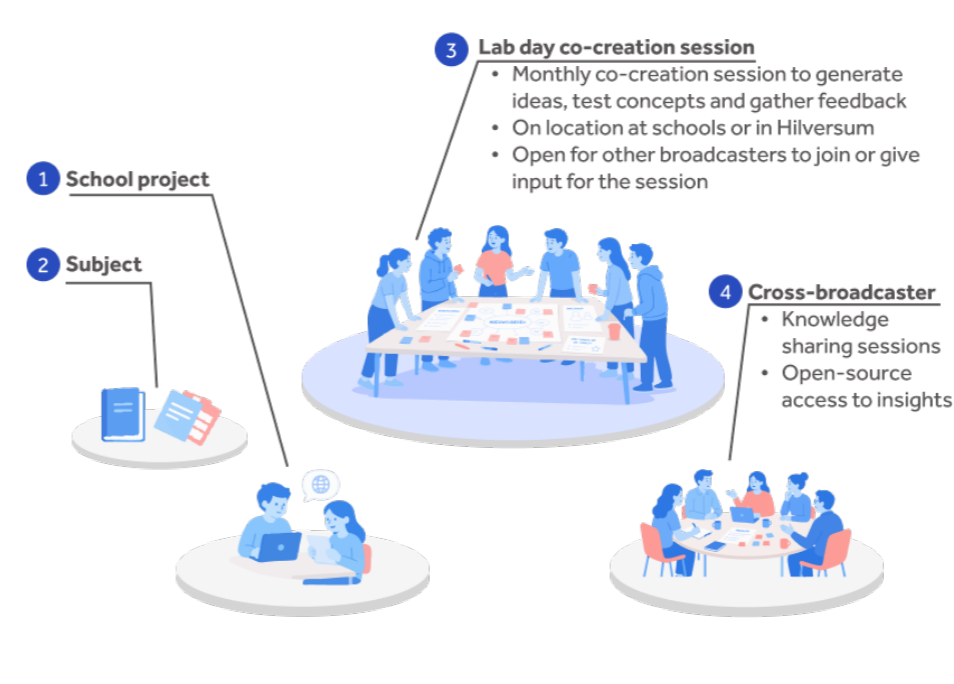


7.3.4 Youth news lab

A program in which young people collaborate with journalists in a 'news lab' to develop ideas, test concepts, and contribute to news production through a monthly workshop/session. This is open to all broadcasters, takes place at school or at the NOS, and forms part of the curriculum as an elective or project.

"Jongeren nieuws lab"

Structural co-creation between youth and journalism.



7.3.5 Across the directions

Each direction addresses a distinct subset of the six design principles which were defined in chapter 6.4. News in the classroom is strongest on embedding news in the school rhythm and on ecosystem intervention, but lighter on collective sensemaking. Weekly news brings context, multiple perspectives and relational credibility, but is harder to anchor structurally. Youth news lab goes deepest on co-creation and collective sensemaking, but is intensive and limited in reach. To sharpen directions to meet all principles, Initial versions of the three directions were shared across all co-creation sessions introduced in 7.1, where PMI evaluations, dot-voting and open feedback shown in Figure 58 helped shape and sharpen them, and ultimately drove toward the formation of one final concept.



Figure 59. Feedback collection across co-creation sessions

7.4 Selection

To choose a direction to take forward, the three concept directions were tested against each other in three steps: dot-voting across three co-creation sessions, a Harris profile scoring them against the six design principles based session feedback, and a final selection that weighed the outcomes together.

7.4.1 Dotvoting

Across SS1, GS4 and GS5, the three initial directions were dot-voted, shown in [Figure 58](#). A clear divergence emerged. TU Delft students favoured Weekly news, drawn to the video-podcast format and to summarising the week's news in one pass. The adolescents nearly unanimously preferred News in the classroom. Their reasoning was consistent: they would not seek out a format on their own, but would engage with it once the classroom set the context. The split read less as a contest than as an integration signal; the classroom as the venue, a recurring format as the content it carries.

7.4.2 Harris profile

The three directions were then scored on a Harris profile (Van Boeijen et al., 2020) against the six design principles on a minus to plus scale shown in [Figure 10](#). This draws on the PMI evaluations and open feedback gathered across all co-creation sessions. News in the classroom scored highest on the principles the research established as foundational; embedding news in the school rhythm and ecosystem intervention. Weekly news scored highest on what makes the moment itself work; context and multiple perspectives, and building trust through visibility. Youth news lab scored highest on collective sensemaking but lost ground on embedding and reach.

7.4.3 Final selection

What rose out of SS1 and NS1 was that a single concept may lose what each direction contributes, and that a valuable direction would be a combination of elements of all three. The PMI in SS1 flagged Weekly news as ambitious but hard to fit into the curriculum, while News in the classroom was seen as the strongest infrastructure move but constrained by teacher time and weaker on student-facing engagement; a suggestion there was to add a daily quiz or puzzle to drive engagement. Adolescents in GS4 and GS5 reinforced the integration point in their own words: "Yeah, I'd think it was cool if we watched it in class, but I wouldn't turn it on myself" (GS4), telling the same story from the user side: structured exposure works, self-directed exposure does not. NS2 added the editorial steer that the video format is worth pursuing if it shows the behind-the-scenes of journalism, and that the platform should focus on teachers first, students second.

The output was therefore structured not as one concept but as a roadmap and one deeply designed entry point. The vision for the roadmap, presented in chapter 8, is the collective nourishment future of chapter 5; this forms the north star that it works towards. This roadmap sequences all three directions, with News in the classroom as the entry point, Weekly news as the medium-term activation format, and Youth News Lab as a long-term structural commitment. The entry point is News in the classroom combined with elements of Weekly news, taking form in the concept NieuwsWijzer (NewsWise). Several findings justify it as the entry point: it is strongest on equity and reach, since every adolescent attends school regardless of background (Tamboer et al., 2023; chapter 3.4); it fits the burgerschap mandate that legally anchors news in Dutch secondary education (Heijstekhofman et al., 2025); and it builds on the teacher-as-guide insight that recurred across the interviews (chapter 4.2).

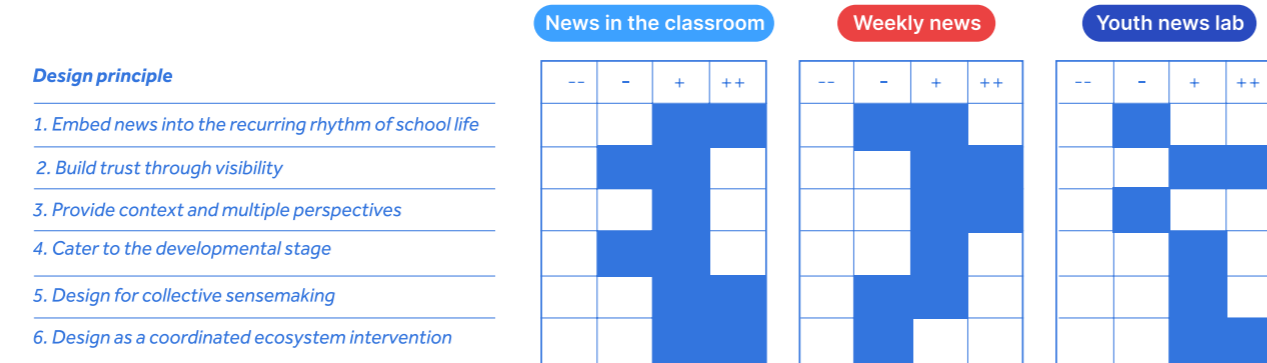


Figure 60. Harris profile scoring of the three concept directions

7.5 Development

The development of news in the class into the final design, NieuwsWijzer, proceeded through iterative prototyping (van Boeijen et al., 2020) across roughly six weeks. The process moved from initial sketches in Figma, through several rounds of vibecoded prototyping, to a working high-fidelity prototype that could be tested with teachers in chapter 9.

7.5.1 Vibecoding process

The prototyping used a methodology coined vibecoding: an approach described as "a way to write software by simply expressing what you want in plain English while AI takes care of the actual code" (Boghossian, 2026). In the scope of this project, it took the form of an iterative cycle in which design intent, held in Figma sketches and visual references, is translated through prompts into working code, with rapid iteration across short sprints. The cycle moved between four tools. Figma held the design intent, initial sketches, component-level visuals, and structural references. ChatGPT was used to construct prompts that translated the visual intent into language. Claude Code generated component-level code, working from a shared GitHub repository. Lovable ran the live prototype from the same repository, allowing immediate visual feedback. When the output did not match the intent, the cycle returned to Figma to refine the design or to the prompt to sharpen the language as illustrated in [Figure 62](#).

This approach was opted for as the development phase created room to create a high-fidelity prototype which teachers could actually test in validation, instead of only static screens. First attempts used Figma "make" and Figma "site" as well as in Lovable on its own, but neither produced the fidelity or lay-out that the design called for. The approach that worked tied multiple tools together, using each tool for what they do best. A recurring lesson was that the design had to be sound before it was vibecoded; when the underlying idea was not grounded, the generated output drifted from the intent. Time

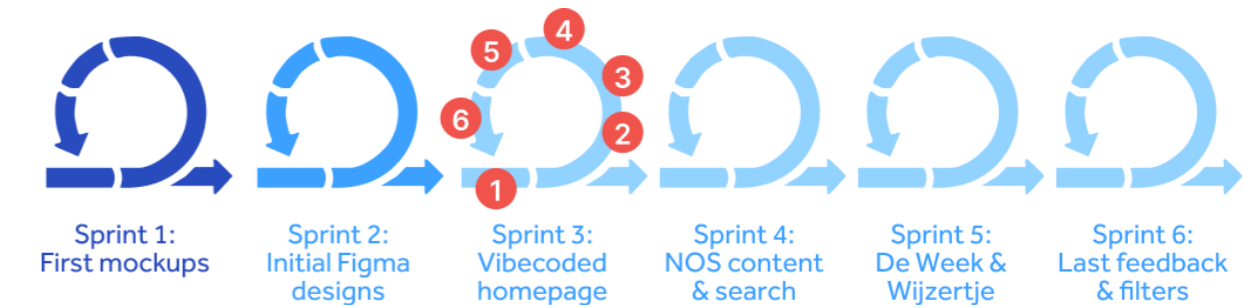


Figure 61. Development process with sprints, including lightest colour vibecoding sprints

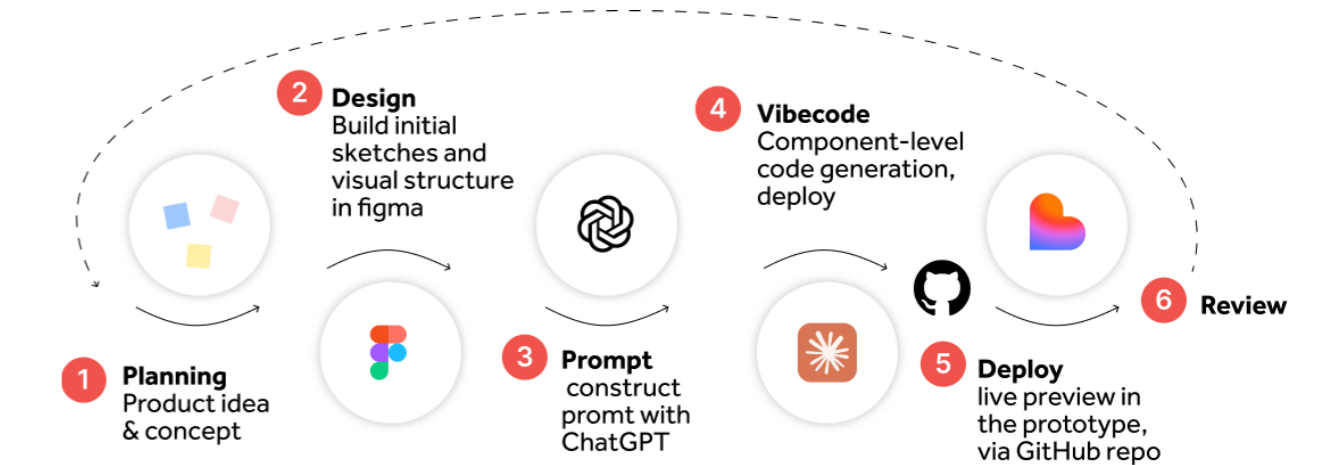


Figure 62. Vibecoding process steps

therefore went first into getting the Figma design right, and only afterwards translating them into prompts. The pipeline allowed rapid iteration across short sprints, with the ability to switch direction quickly or recover earlier versions easily, turning prototyping into a fast feedback loop with peers, NOS staff and teachers. The workflow

itself was not streamlined from the start, but formed through iterative testing and learning about vibecoding from online sources, peers, and learning by doing. The sprints are illustrated in [Figure 61](#) and expanded on the next page.

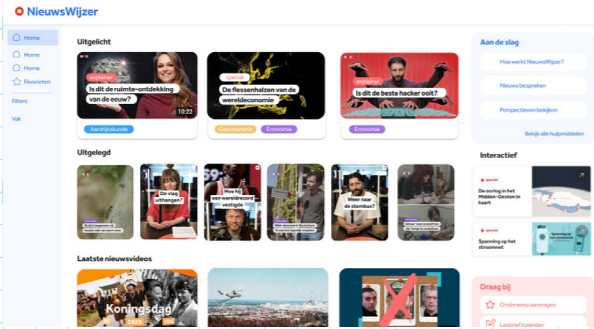
Sprint 1: First mockups

Initial experimentation with AI tools and vibecoding workflows tested what was possible before settling on the integration of Figma, ChatGPT, Claude Code and Lovable. These first mockups mainly served to learn the workflow and the tools



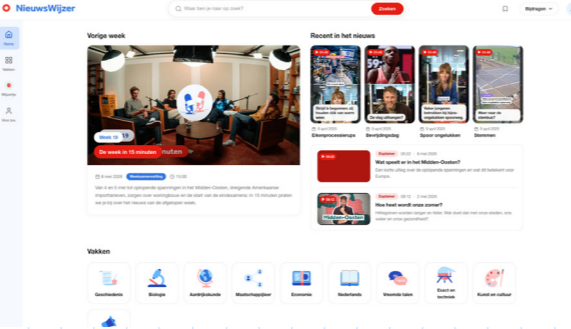
Sprint 2: Initial Figma designs

More detailed screens were built in Figma, basing components on those of NOS where possible and building new use-case-specific elements for NieuwsWijzer. This formed the visual foundation that the rest of the vibecoded development would build on.



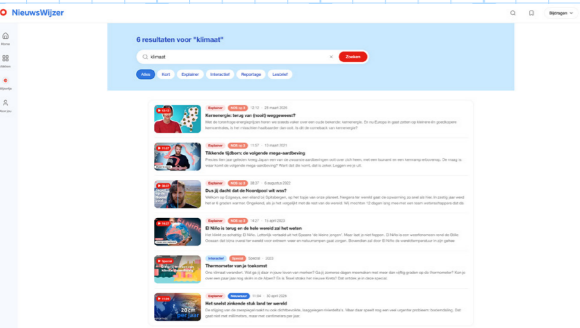
Sprint 3: Vibecoded homepage

The first vibecoded prototype in Lovable focused on building the homepage, moving from a general overview toward a more search-driven, filterable interface. This round established the structural logic and basic interactions.



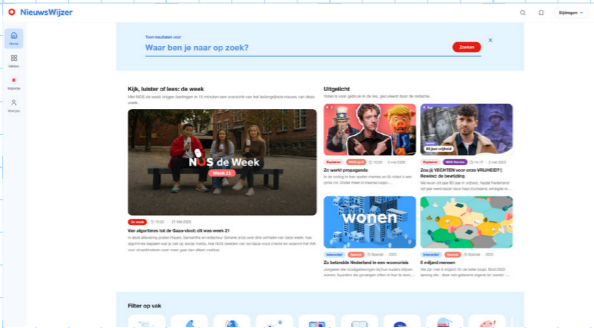
Sprint 4: NOS content & search

Actual NOS content, curated for education and embedded from YouTube, was brought into the prototype. The search and filter logic, video-player layout, collection structure and lesson-brief integration were all refined to support the way teachers would navigate.



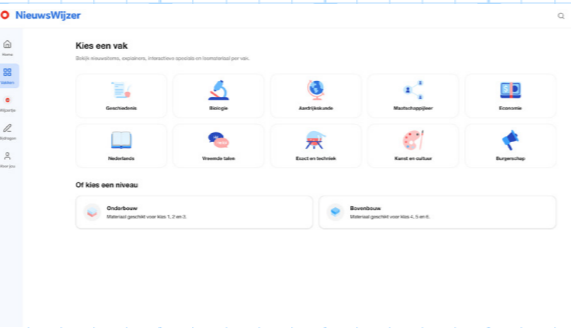
Sprint 5: De Week & Wijzertje

This round added the NOS de Week weekly format and built Wijzertje, the AI-driven teacher companion that helps teachers find relevant content through natural-language search, with the search query kept visible alongside the results.



Sprint 6: Last feedback & filters

The final round gathered remaining specific and validation phase feedback, producing specific changes: making search more visible, adding onboarding, restructuring filters, filling collections and refining the structure, leading to the final concept presented in chapter 8.



Key insights

This chapter turned the design goal and principles of Chapter 6 into a concept, through co-creation, exploration, selection and development. The key takeaways are to the right.

Chapter 8 presents NieuwsWijzer in full, alongside the strategic roadmap that positions all three directions in a sequenced rollout. Chapter 9 then validates the design against the design goal and the six design principles, drawing on the teacher concept test and the wider feedback gathered across the Develop phase.

Co-creative ideation process

Six co-creation moments across young adolescents, design peers and NOS staff, building on the discover-phase group sessions and on three benchmarking conversations with adjacent public service media organisations; NTR Schooltv and SVT Nyhetskoll, kept the ideation grounded in the perspectives the design needs to hold.

Three concept directions

Clustered through a morphological chart organised on the six design principles, three directions emerged: News in the classroom, a teacher-facing platform that integrates news into lessons; Weekly news, a recurring weekly summary co-presented by youth and NOS; and Youth news lab, a programme for structural co-creation between young people and journalism. Each addresses a distinct subset of the principles, and no single direction covers them all.

Roadmap and entry point

Rather than choosing a single concept, the output was structured as a roadmap with one deeply designed entry point. The roadmap in chapter 8 sequences elements of all directions toward the Collective nourishment future of chapter 5, with News in the classroom as the entry point combined with Weekly news as the medium-term activation format, and Youth news lab as a long-term structural commitment.

NieuwsWijzer (NewsWise)

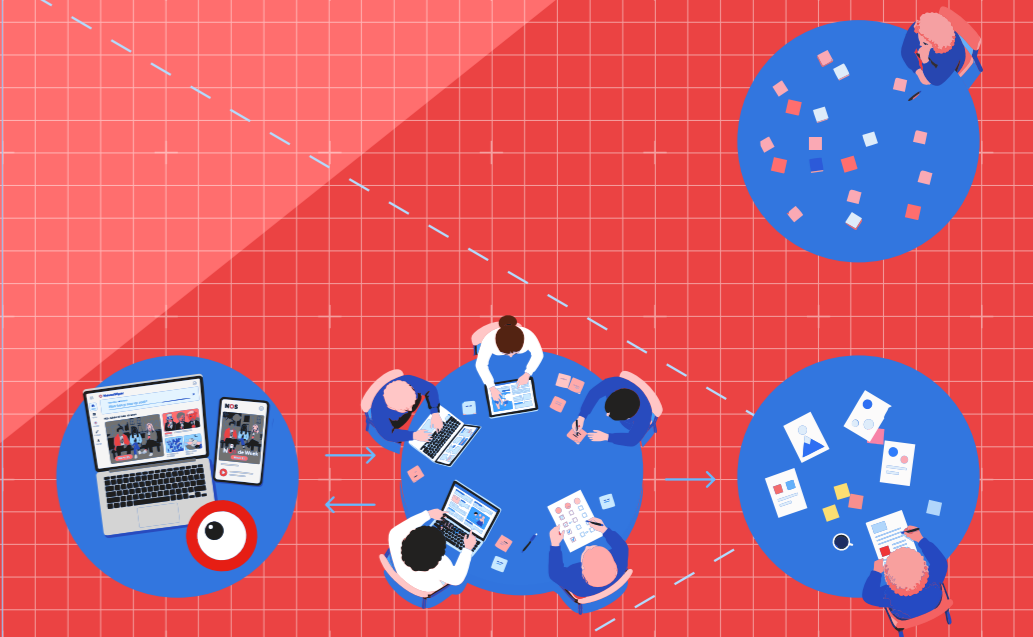
The entry point combines News in the classroom with elements of Weekly news, taking form in the concept NieuwsWijzer. It was developed across six sprint rounds using a vibecoding methodology that connected Figma, ChatGPT, Claude Code and Lovable through a shared codebase, producing a system of two components that work together: NieuwsWijzer as the teacher-facing platform, with NOS de Week as the weekly format hosted on it.



DELIVER

The Deliver phase closes the second diamond by presenting the final concept and evaluating whether it is strong enough to take forward. The aim is not to prove long-term behavioural change, but to assess whether the proposed direction is desirable, feasible, viable and responsible as a next step for NOS.

Chapter 8 presents NieuwsWijzer in detail: a teacher-facing platform combined with the weekly format NOS de Week, positioned within a strategic roadmap for launch, scaling and longer-term ecosystem development. Chapter 9 then validates the concept through teacher feedback, implementation planning, a business case and responsible innovation reflection. Together, these chapters complete RQ4 by showing both what the concept is and under which conditions it could become a realistic first step toward supporting young adolescents' news literacy application. These are followed by the conclusion and reflection on the project.



8. Final design

8.1 Roadmap

8.2 The concept: NieuwsWijzer

8.3 Launch and marketing

8.4 Design principles in NieuwsWijzer

Where Chapter 7 uncovers the entry-point direction and develops it through co-creation and iterative prototyping, this chapter presents the final design, NieuwsWijzer, in three parts. Section 8.1 presents a strategic roadmap, laying out the steps to be taken toward the north star vision, and what role NieuwsWijzer plays in this as the entry point. Section 8.2 presents NieuwsWijzer itself; the teacher platform and weekly format. Section 8.3 sets out the implementation plan that brings NieuwsWijzer from prototype to production in NOS's organisational context.

Approach

The final design presentation marks the last phase of the double diamond; deliver. The roadmap presented follows design roadmapping (Simonse, 2017) and is structured across three horizons. The concept, NieuwsWijzer is presented through a general overview and walkthrough of a six step user journey (Van Boeijen et al., 2020). The implementation plan is based on NOS's internal working process as well as the exchange with SVT of chapter 7.7.2.



8.1 Roadmap

The roadmap translates the project's preferred future into a staged trajectory NOS can act on, with the vision, introduced in chapter 5.4.1, acting as the north star which the roadmap works toward. It follows strategic design roadmapping (Simonse, 2017), which positions a roadmap as a strategic artefact bridging vision and concept by sequencing what is built, when, and with whom. This sequence is structured along McKinsey's three-horizon framework (Baghai et al., 2000): executing on existing strengths (Horizon 1), building emerging opportunities (Horizon 2), and creating future business (Horizon 3). In this project, the three horizons are defined as Launch & reach, Scale & engage and Embed & empower (Figure 63).

The need for this roadmap comes from the gap between the probable future and the preferred one. Chapter 5 showed that, without intervention, young adolescents' news consumption is likely to drift further into snacking the wild web; an ambient individualised future in which news arrives through platforms, algorithmically curated feeds and non-journalistic voices, extrapolated from the current trajectory. With this, journalism and with it its democratic role are under pressure, as "legacy news media are now merely a source of news among many others" (Swart & Broersma, 2022). Thus, there is a call for a counter-direction, which this roadmap provides: a deliberate move toward the collective nourishment future, in which news engagement becomes intentional through habit formation, supported by education, and systemically driven.

The concept of news literacy provides an anchor for supporting young adolescents in building resilience for the platformised and algorithmic information world. Yet, news literacy application is not reached through a single product or one off intervention. Tamboer (2023) proposes a stepwise approach: first stimulating intrinsic motivation and news consumption itself, then building value for news literacy, behavioural skills and peer social norms. This

roadmap follows that stepwise logic. Building on the information motivation behavioural skills model (Fisher & Fisher, 1992), it aims to support the move from knowing to doing, through habits built in a stable and recurring context (Groot Kormelink, 2022), as well as bringing knowledge close to the lived word of adolescents through "more knowledgeable others" (Vygotsky, 1978), in this case the teacher as the first guide. Together, these theories, also introduced in chapter 6.2, explain how the roadmap can move from ambient to intentional, and toward the future of collective nourishment: by building motivation, repetition and social scaffolding into the news experience. Figure 62 shows the interconnection of these theories.

Horizon 1 uses NOS' existing strength in reliable youth news and the school context as the first stable entry point, playing into the "news finds me" mindset, bringing with the concept NieuwsWijzer and NOS de Week to adolescents through teachers.

Horizon 2 expands this first entry point into a wider ecosystem where youth become more active co-producers, and NieuwsWijzer is scaled.

Horizon 3 positions NOS not only as a content producer, but as a structural actor in a wider socio-technical system (Geels, 2005), where youth are co-makers and wider collaboration is the norm.

The future vision horizon represents the long-term preferred future: young adolescents growing up with news as part of a coordinated ecosystem, rather than navigating fragmented feeds alone. NieuwsWijzer is the first move along this trajectory; the entry point that makes Horizon 1 a reality. The concept is presented in full on the next page.

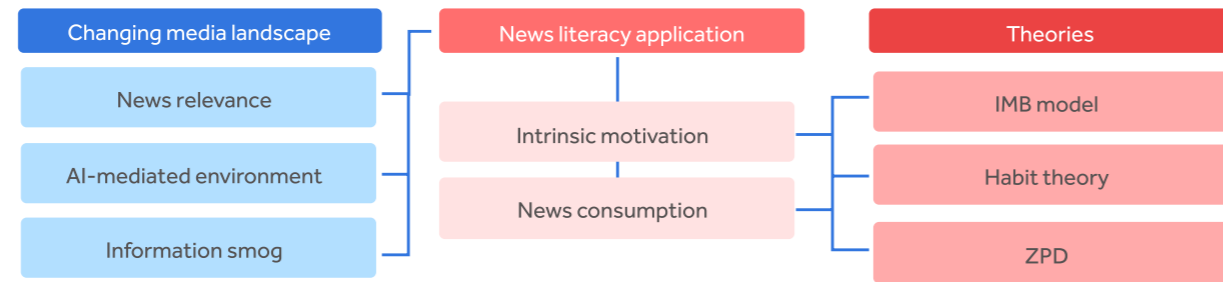


Figure 63. News literacy application as an approach to addressing factors in the changing media landscape, enabled through theories of IMB, habit and ZPD (see chapter 6)

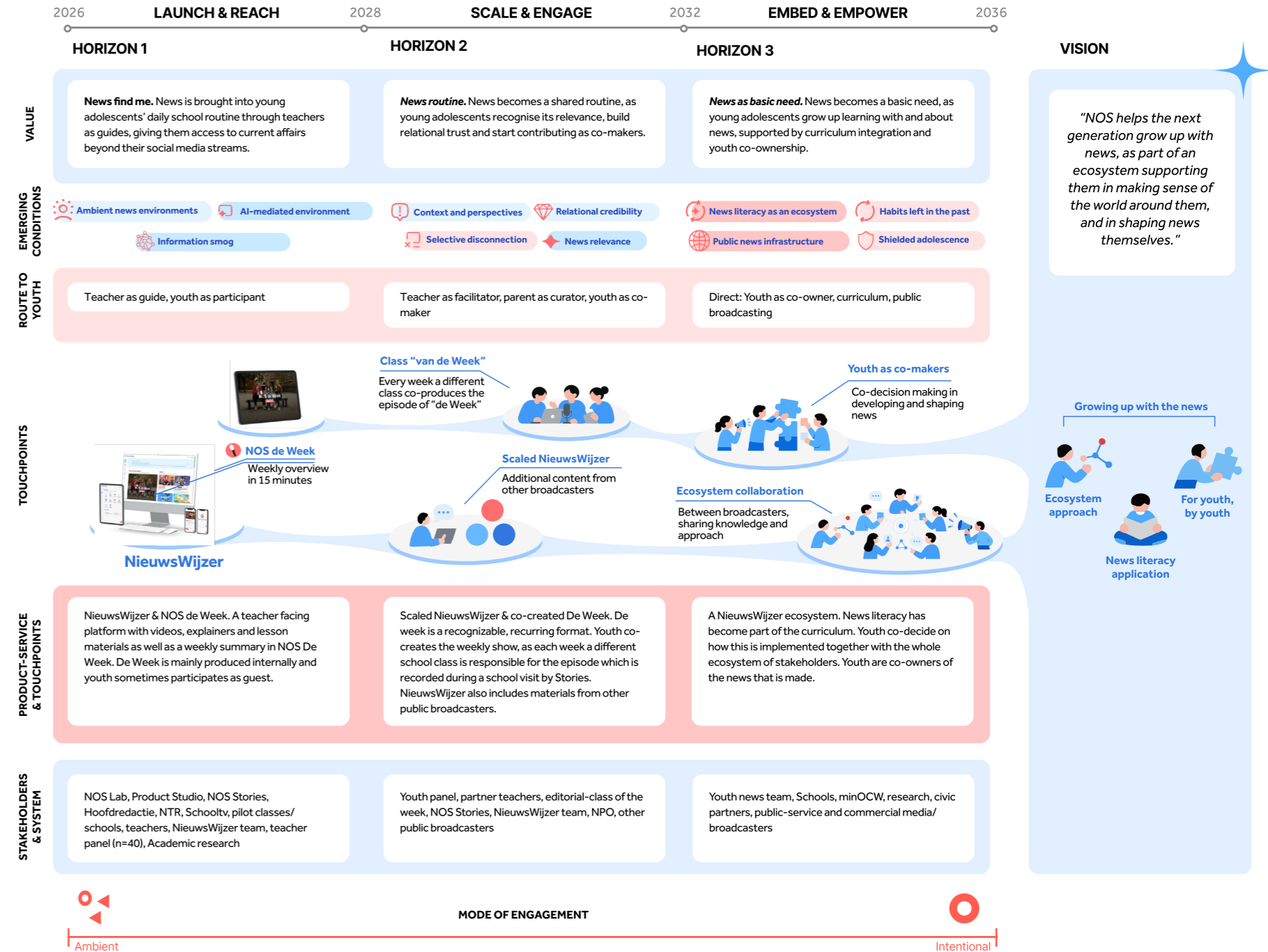


Figure 64. Roadmap towards the vision with NieuwsWijzer

8.2 The concept: NieuwsWijzer

The vision will not be reached in a single step; it asks for a trajectory in which each horizon builds on the last. The first horizon, launch & reach, gives NOS what every later move depends on; a working relationship with teachers, a structurally embedded distribution channel, trust-by presence and the foundation for habit creation that future engagement depends on. This is realised with NieuwsWijzer.

Introducing NieuwsWijzer

NieuwsWijzer (NewsWise) helps teachers bring current NOS news into the classroom easily, recurrently, and meaningfully; so that students build a news routine and learn to apply news literacy. It is a system of two integrated components: a teacher-facing platform that aggregates and scaffolds NOS news content for classroom use, and NOS de Week, a recurring 15-minute weekly news format.

The name NieuwsWijzer is a play on words which carries a double meaning in Dutch (Figure 11). The name emerges from the Dutch naming of news literacy, which is referred to as "nieuwswijsheid", directly translated as "news-wisness". Dissecting further, wijzer means both compass or pointer, the thing that shows you the way, and more knowledgeable. Thus, a "nieuwswijzer" is both: an instrument that points teachers and students toward the news that matters, and what they become through using it; more knowledgeable about news. The AI-driven helper that runs through the platform, Wijzertje, leans into exactly that meaning.

NieuwsWijzer operationalises the design goal of chapter 6.3: enable NOS to stimulate young adolescents (12-16) in their news literacy application through a recurring news experience set within the educational context. Each phrase of the goal lands somewhere concrete in the design. NieuwsWijzer enables NOS to reach young adolescents



Figure 65. Name dissection of NieuwsWijzer

through teachers; positioning NOS as a structural partner rather than the sole deliverer, with editorial scaffolding tied to curriculum subjects. It stimulates by making the path of least resistance for the teacher the path that brings news into the classroom; lowering effort and friction so motivation can take hold. News literacy application is the focus throughout: not what students know about news, but how they engage with it, discuss it, and over time co-produce it themselves. The recurring news experience sits in NOS de Week, the weekly 15-minute anchor that gives the rhythm its shape, and is reinforced by the platform's place in lesson preparation across the school week. The educational context is where the design lives; the one setting that meets all four conditions the project's theory of change requires: stable, recurring, socially shared, and reaching all adolescents regardless of background. NieuwsWijzer is positioned to respond to a broader structural opportunity in the current landscape. Public service media are under financial, organisational and platform-related pressure, while schools are increasingly expected to support citizenship and media literacy without always having the time, materials or current examples

www.nieuwswijzer.lovable.app



Figure 66. NieuwsWijzer QR to website

to do so. NieuwsWijzer addresses this opportunity by enabling teachers to bring current NOS news into lessons easily, with editorial scaffolding aligned to the school context, and by enabling NOS to remain visible and useful in the everyday environments young adolescents inhabit: the school week.

Visit NieuwsWijzer using the QR or URL in Figure 65 or discover the main features of the concept in Figure 66 on the page to the left.



NieuwsWijzer helps teachers bring current NOS news into the classroom easily

Search all NOS content

Which has been editorially selected to be relevant for education

- Short
- Explainer
- Interactive
- Article
- Lesson brief

Forms of NOS content

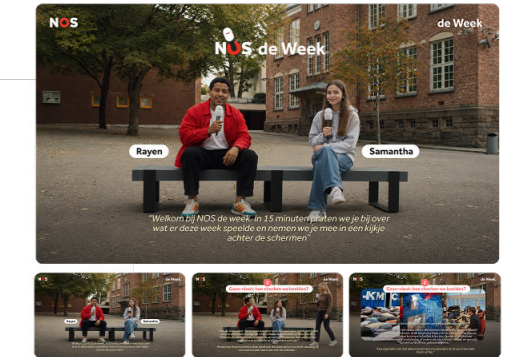
From short videos and explainers to articles and interactive specials from the different NOS brands.



NOS de Week: weekly summary of the news

In a podcast/video/livestream format, a summary of the news is brought as well as a look behind the scenes of the NOS, co-presented with a different adolescent each week.

- Podcast
- Livestream
- Video



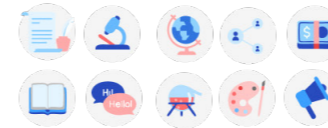
15 minutes

Contribute

Tip the editorial team, send in a lesson brief, give feedback or sign up for the teachers' panel

Filter by subject

From history to arts and sciences



Filter by level

Lower or higher classes



Wijzertje shows you around

A smart AI-driven helper, which gets to know the user and helps find the right material for a lesson



- Onboarding upon first visit
- Accessible on every page
- Smart search & recommendations

Figure 67. Main features of the NieuwsWijzer concept

8.2.1 NOS de Week

With NOS de week, adolescents get an overview of the most important news of the week in 15 minutes. It is natively recorded as a video-podcast, but can be listened to, watched, or read, based on audience preference. An NOS stories presenter talks through the week together with an adolescent who brings questions from their lived experiences. They are joined by an NOS editor who provide context and transparency with “behind the news” for one specific story, sharing how news is produced, sourced and edited, with a current example. A general set up for this format is explained in **Figure 68**. A sample storyboard for an episode is shown in **Figure 69**.

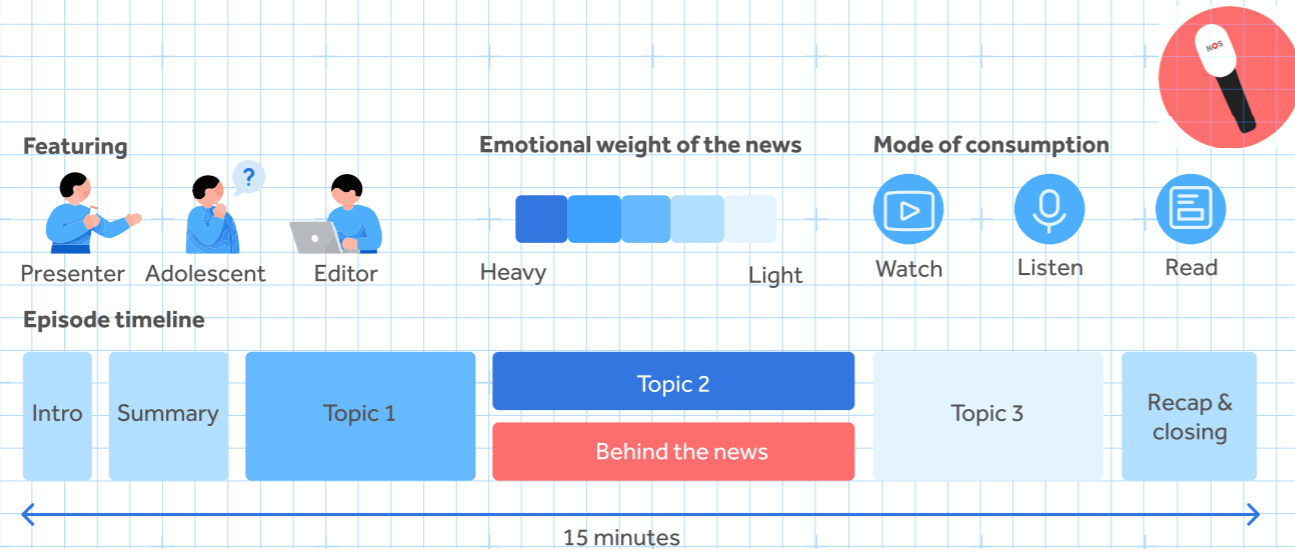


Figure 68. General set up and features of NOS de Week

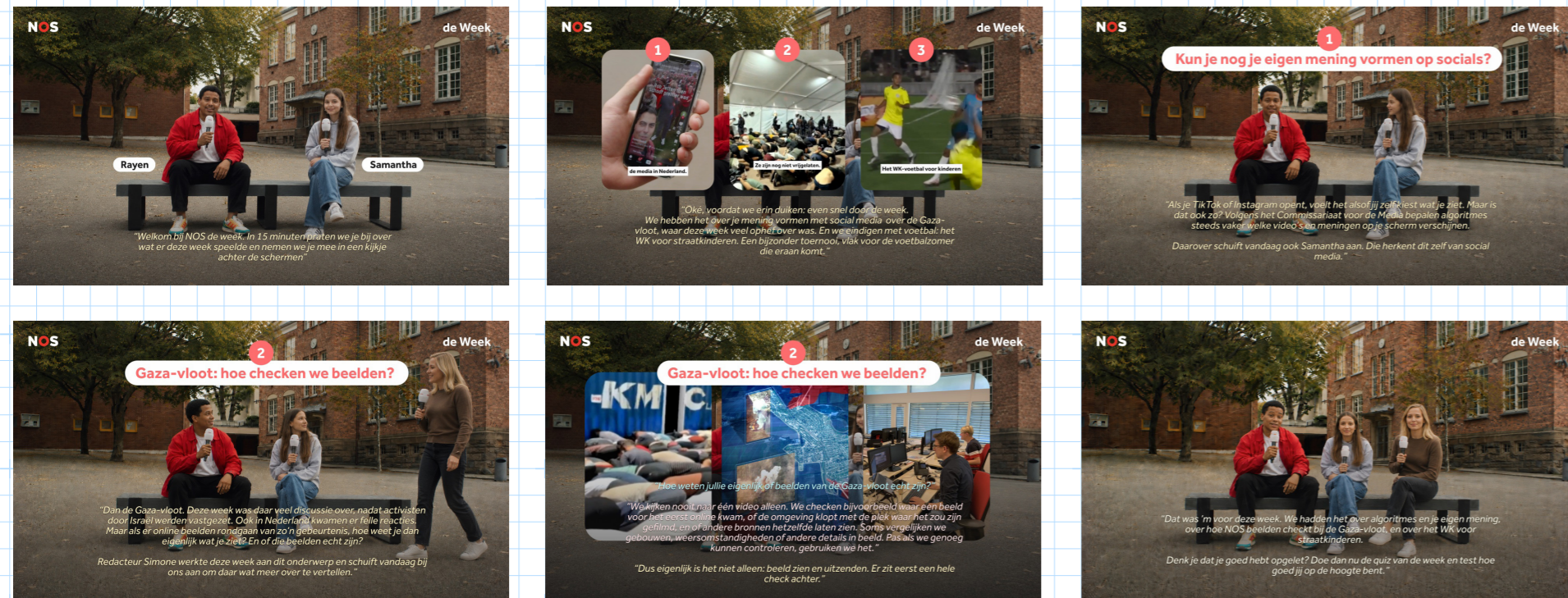


Figure 69. Sample Storyboard for NOS de Week

8.2.2 User journey

Having introduced the main features and general set up of NOS de Week, more details on the features of NieuwsWijzer will be explained alongside the user journey. This user journey is a simplified version of a customer journey map (Van Boeijen et al., 2020).

This user journey describes a typical use cycle of NieuwsWijzer by a teacher through six steps. These describe how a teacher moves from planning to recurring use and how news moves from NOS into the worlds

of young adolescents. On the next page, features of NieuwsWijzer are introduced which specify the interaction in each step.

The six steps describe a journey, but the design’s real argument is that the steps form a loop. Each step contributes to supporting a teacher, attempting to take pressure off the workload and help them. Planning is supported by editorial curation, removing an “I don’t know what to search for” barrier. Searching is filtered to the

teacher’s context, removing the “it doesn’t fit my subject” barrier. Selecting offers multiple formats, removing an “I only need a graph, not a video” barrier. Sharing takes one click and enables viewer to watch within an NOS, safe and curated environment. Sensemaking is scaffolded by curated lesson materials; and contributing makes the teacher’s experience visible to NOS. Together, the six steps close the gap between a teacher who thinks news in the classroom might be a good idea and a teacher who actually does it every week.

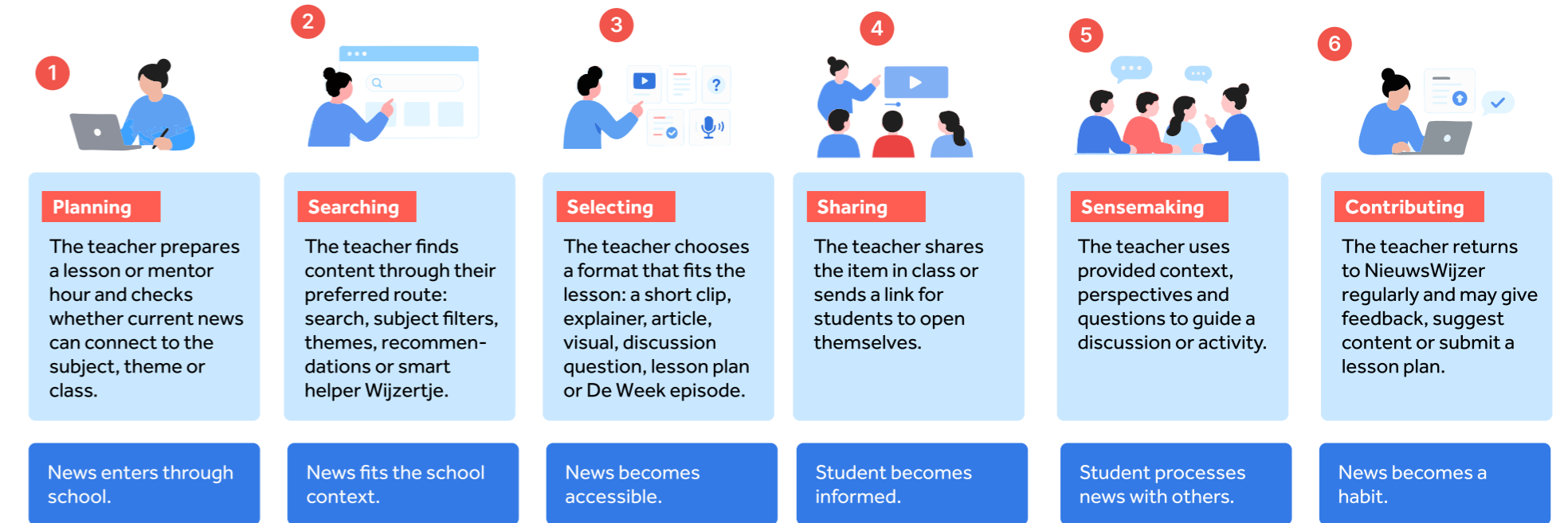


Figure 70. Teacher user journey for NieuwsWijzer

1

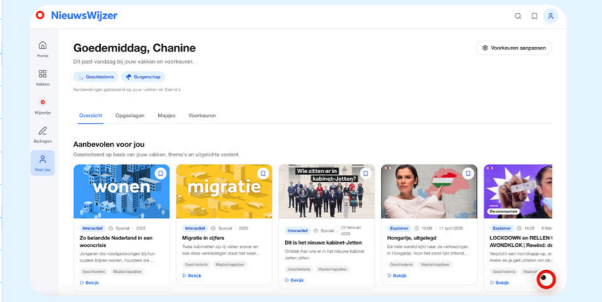
Planning

Homepage
The landing page, displayed in Figure 67, brings the user first recommended content with de Week and featured, as well as the option to search, navigate using the left navigation bar as well as filter by subject, theme or level.

Onboarding with Wijzertje
Upon first visit, Wijzertje pops up with a six step spotlighted onboarding tour around NieuwsWijzer, showing key features and tools



For you page
A personal homepage features curated content for a teacher once they log in.

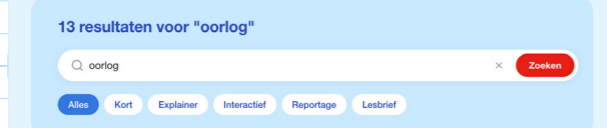


Preferences selection Saving Personal folders

2

Searching

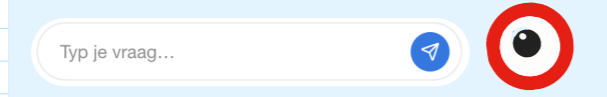
Search
From any page, teachers can search on topics, keywords or queries to find a specific item. Refinement chips allow users to specify their search to selected content types.



Subjects, levels and topics
From home and the subjects page, users can filter by secondary school subject or level, as well as topic or collection



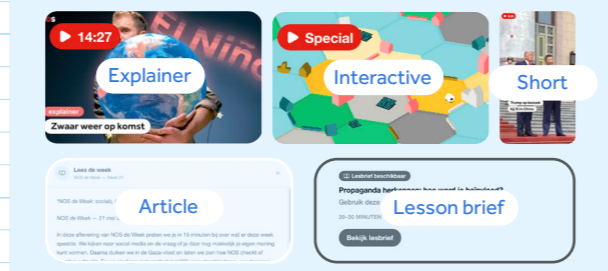
Wijzertje
The smart helper Wijzertje is a contextual assistant available on every page in the bottom right. Help teachers filter and search, as well as searching based on open query. Being AI driven, it brings suggestions based on what is on a teachers' lesson plan.



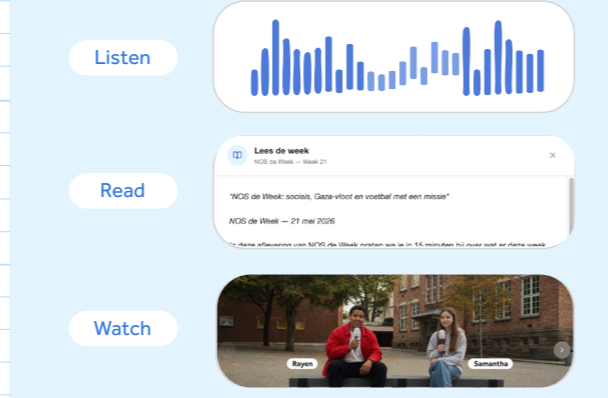
3

Selecting

Content types
Teachers may select from a variety of content types, ranging from long form explainer videos and interactive click-through sites, to short vertical latest news videos. All material on the site is curated from existing NOS outlets.



Liquid content
For NOS de Week, there is the possibility to choose which form the user would like to consume the episode in, so either video, audio or a written article. This allows the viewer to personalise their content consumption experience to their liking.



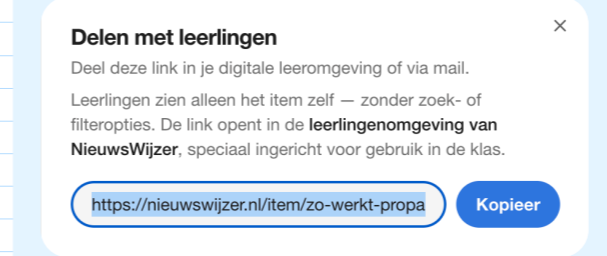
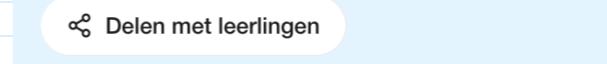
4

Sharing

Direct projection
Teachers can open content in a classroom view and project it directly on the smartboard. This supports plenary use during a lesson, mentor hour or weekly news moment.



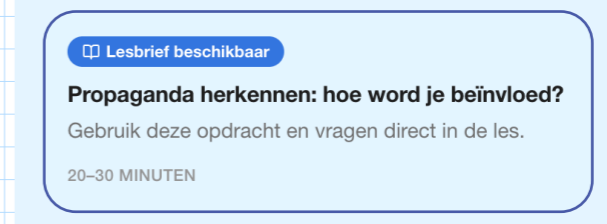
Link sharing
Teachers can also share content with students through a special student link. This allows students to open the item themselves within the safe environment of NieuwsWijzer, with no distraction from other forms of content asking for attention. This could be used during an activity or homework task.



5

Sensemaking

Lesson brief
A lesson brief gives teachers a ready-to-use structure for using a news item in class. It includes a short introduction, suggested timing, learning goal and activity steps.



Discussion questions
Each item can include questions that help students reflect on the news. These questions support classroom discussion, different perspectives and links to students' own lives. They provide a guide to the teacher to facilitate discussion about difficult or sensitive subjects, with tips and support.

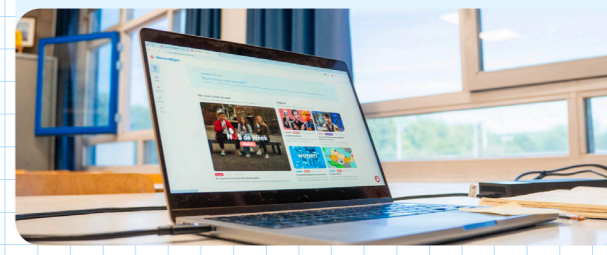


Quiz and activities
Short quizzes and activities are added to select content forms. These help make lessons interactive, can be used to check understanding or start a conversation. Each week there is a weekly newsquiz after NOS de Week.

6

Contributing

Weekly use
NieuwsWijzer is designed for repeated use. Teachers can return each week to use De Week, new lesson materials or current news connected to their subject, curated for them on their for you page.



Contribute
Teachers can contribute by giving feedback, suggesting topics or submitting lesson plans. This helps NieuwsWijzer grow with classroom practice and teacher needs.

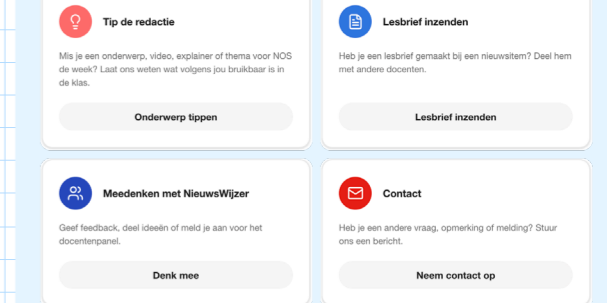


Figure 71. NieuwsWijzer features explained based on the user journey

8.3 Launch and marketing

NieuwsWijzer's launch is best approached as an adoption campaign rather than a conventional marketing campaign. The product only succeeds if teachers use it every week, which depends on concrete materials, low preparation effort and structural embedding in a school, not on broad awareness. Because NieuwsWijzer is a free, teacher-facing public-service product, the marketing mix is framed through the 4C's (Belz & Peattie, 2012), which describe it from the user's perspective; the key shift is in cost, where the relevant cost to a teacher is not money but time and effort, which the design is built to lower.

The launch delivers the first horizon of the roadmap, Launch & reach, and unfolds across five stages; the first three carry the Horizon 1 launch, and the last two bridge into Horizon 2, Scale & engage, shown in [Figure 72](#).

The sequence begins with evidence rather than promotion; the pilot phase proves NieuwsWijzer as a concept and flows into the second stage teacher-to-teacher spread of the concept. Adoption in education often depends on trust, peer examples and practical proof, thus NieuwsWijzer leverages before public launch in the third stage. Public visibility through NOS's own channels

positions NieuwsWijzer within NOS's public mission and the broader need for accessible, teacher-facing news materials in the school context. The final stages focus on maintaining momentum after launch: school and youth activation turn first use into recurring practice, while ecosystem embedding prepares NieuwsWijzer to move from product adoption toward structural collaboration in Horizon 2. The feasibility of executing this launch, and the reach and business case behind it, are assessed in Chapter 9 (Sections 9.2 and 9.3).

Stage	Main action	Goal
1. Pilot phase	Build on the pilot schools and teachers from validation; use their experience as first evidence	Prove that NieuwsWijzer works in real classrooms, and identify adjustments needed before wider launch
2. Teacher network beta	Stimulate pilot teachers to introduce NieuwsWijzer in their school and teacher networks	Scale through trusted teacher-to-teacher networks and test whether adoption spreads beyond the initial pilot group
3. NOS public launch	Publish via NOS.nl and Over NOS, supported by NOS Stories	Public visibility and credibility through the public-service position
4. School and youth activation	Link NieuwsWijzer to NOS Stories school visits, journalist-in-class moments and recurring classroom activities, as well as involving youth in the NOS de Week process	Turn first use into recurring classroom practice and keep NieuwsWijzer visible after launch. Building up youth involvement.
5. Ecosystem embedding	Connect NieuwsWijzer to educational and media-literacy partners such as NTR, Netwerk Mediawijjsheid and citizenship-education networks.	Move from product adoption to structural embedding, bridging toward Horizon 2: Scale & engage.

Figure 72. Five-stage launch and adoption rollout.

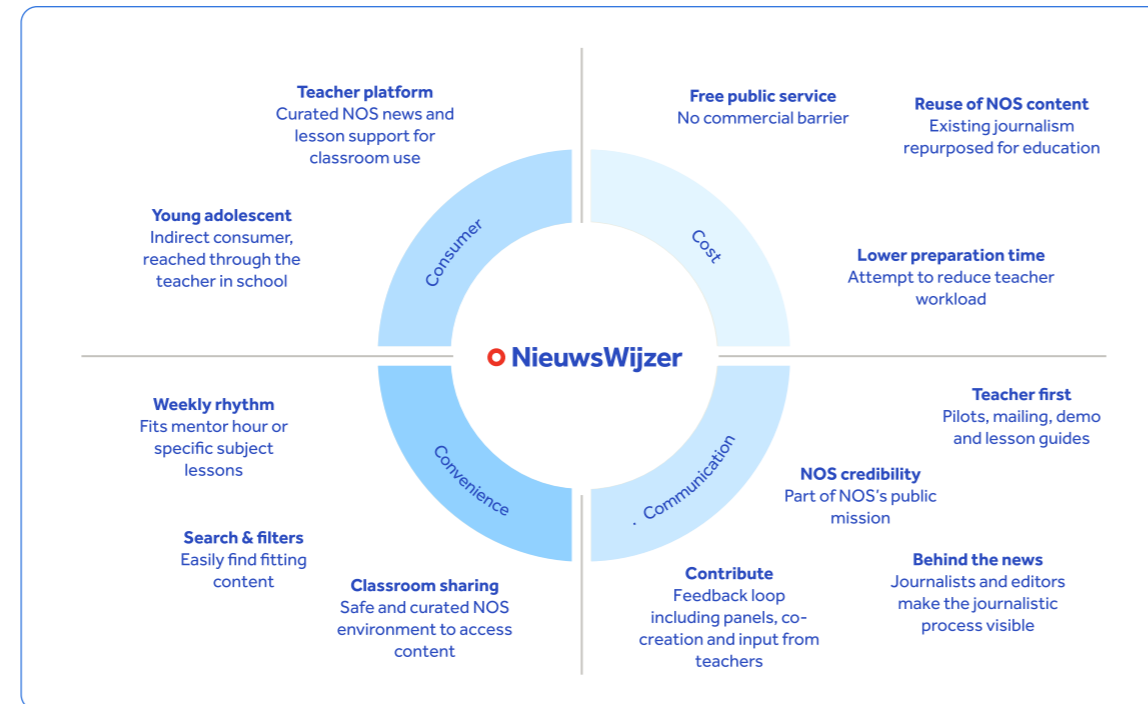


Figure 73. The launch marketing mix for NieuwsWijzer, framed through the 4C's (Belz & Peattie, 2012)

8.4 Design principles in NieuwsWijzer

Chapter 6.4 set out six design principles. This section shows how each principle lands in NieuwsWijzer, so that the concept can be read against its own criteria before it is put to the test in Chapter 9.

Principle 1

Embed news into the recurring rhythm of school life

NieuwsWijzer is designed to land in school, a place where young adolescents already are every day. NOS de Week creates a weekly fifteen-minute anchor, while the platform supports teachers in returning to news across the school week. The six-step user journey is therefore designed as a loop rather than a one-off interaction. This principle draws on habit theory, which stresses stable contexts and recurring cues, and on the information-motivation-behavioural skills model (Fisher & Fisher, 1992), by using repeated exposure to support motivation and practical engagement with news (Wood & Neal, 2007)). The principle is strongly translated into the concept, but only works if teachers actually adopt it weekly.

Principle 2

Build trust through visibility

Trust is built by making journalism's people, processes and choices more visible. Through existing NOS content, curated platform material and NOS de Week, recognisable NOS faces enter the classroom. In the weekly format, presenters and editors explain not only what happened, but also how stories are selected, checked, sourced and edited. This follows a relational view of trust, in which credibility is built through familiarity, transparency and visible journalistic practice (Swart & Broersma, 2022; Tully et al., 2021). The principle is clearly addressed, but visibility alone is not enough; the tone must feel open and reflective rather than institutional.

Principle 3

Provide context and multiple perspectives

NieuwsWijzer is designed to make news understandable and discussable, not only visible. This lands most clearly in NOS de Week, where there is space to explain what sits behind the headlines, why a story matters and which perspectives are involved. The platform supports this through curated background material, discussion questions and lesson briefs. However, this principle is less fully served than intended. Multiple perspectives are present through journalistic norms such as hearing different sides of a story, but they are not yet a systematic feature across the platform. Further development should make perspective-taking, source comparison and contextual layers more explicit.

Principle 4

Cater to the developmental stage

NieuwsWijzer responds to the gap between the Jeugdjournaal and adult news formats such as the eight o'clock news. It does this through NOS Stories and NOS op 3 content, filters for lower and upper secondary years, and a weekly format aimed specifically at secondary-school students. In NOS de Week, adolescent questions and lived experiences are used as a starting point for explanation, making the news more relatable without treating students as children. This follows developmental literature on adolescence, identity, autonomy and media engagement (Valkenburg & Piotrowski, 2017; Sisk & Gee, 2022). The principle is addressed, but the 12-16 age range remains broad and needs further testing.

Principle 5

Design for collective sensemaking

NieuwsWijzer treats news engagement as something that can be done together. Discussion questions, lesson briefs and classroom activities support teachers in starting conversations about current affairs, even when topics feel difficult or sensitive. In this way, the teacher acts as the more knowledgeable guide, helping students interpret news, ask questions and connect current events to their own lives (Vygotsky, 1978; Smagorinsky, 2018; Tamboer, 2023). The contribute step further supports this by letting class questions and topic requests flow back to NOS. The principle is meaningfully present, but its quality still depends on teacher confidence and classroom dynamics.

Principle 6

Design as a coordinated ecosystem intervention

NieuwsWijzer is a first step toward a more coordinated ecosystem around young adolescents and news. It connects NOS journalism, teachers, schools, NOS Stories, possible public media collaboration and later media-literacy partners into one recurring news experience. This matters because news literacy application cannot be built by a single actor or one-off intervention alone; it requires repeated exposure, educational scaffolding and shared responsibility (Geels, 2005; Stilgoe et al., 2013). However, this principle is not yet fully served. Partnerships and ownership structures are still proposed rather than secured, so NieuwsWijzer should be seen as an entry point toward an ecosystem intervention, not the completed intervention itself.

Key insights

This chapter presented the final design: a staged roadmap toward the vision, the concept NieuwsWijzer, and an implementation plan for its first horizon. The key takeaways are to the right.

Chapter 9 puts the concept to the test, validating NieuwsWijzer against the design goal and the six design principles, drawing on the teacher concept test and the wider feedback gathered across the Develop phase.

Roadmap toward the vision

An informed next generation underpins democratic participation, yet reaching young people has become a structural challenge across public service media. As adolescents enter secondary school, the guided, shared contexts in which they once met news fade. The barrier is not a shortage of news or knowledge, but a missing stable, recurring, shared context in which news literacy application could consolidate into habit.

Launch and adoption

Because value depends on weekly use, the go-to-market is framed as an adoption campaign: it leads with classroom evidence and low-effort first use, times the teacher-facing steps to term boundaries to support habit formation, and treats the relevant cost as teacher time rather than money, before extending reach through educational and media-literacy partners in Horizon 2.

NieuwsWijzer

NieuwsWijzer is a system of two integrated components: a teacher-facing platform that curates and scaffolds NOS news for classroom use, and NOS de Week, a recurring fifteen-minute weekly format. It operationalises the design goal by reaching adolescents through teachers rather than directly, by making the low-effort path the one that brings news into the classroom, and by embedding news in the recurring rhythm of the school week.

Principles in NieuwsWijzer

NieuwsWijzer translates the six design principles into concrete design choices, but not all principles are served equally. The recurring school rhythm, trust through visibility and collective sensemaking are strongly present through NOS de Week, recognisable NOS faces, classroom materials and discussion scaffolds. The developmental-stage principle is addressed through NOS de Week as a specific format, but would still need testing across the age range. Context and multiple perspectives are present, but less systematic than intended. The ecosystem principle is only partly served: NieuwsWijzer is a first step toward coordinated collaboration, not yet the completed ecosystem intervention.

9. Validation

- 9.1 Desirability
- 9.2 Feasibility
- 9.3 Viability
- 9.4 Responsibility

This chapter presents the validation of NieuwsWijzer, structured along the four dimensions of the innovation sweet spot. Section 9.1 evaluates desirability, where the empirical validation sits, 9.2 feasibility, through the implementation plan, 9.3 viability, through the business case, and 9.4 responsibility. With this, the final part of the fourth research question is addressed, RQ4: How can the design principles be developed and validated as a concept-level news experience supported by NOS?

With this, the final research question is fully addressed RQ4: How can the design principles be developed and validated as a concept-level news experience supported by NOS?

Approach

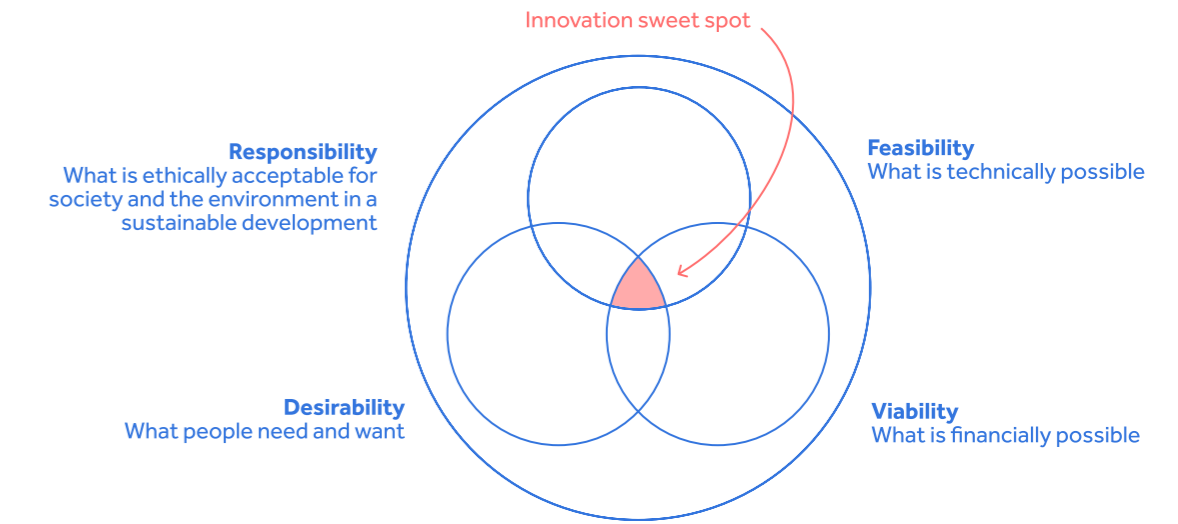
NieuwsWijzer was validated through formative evaluation (Scriven, 1967): the aim is to improve the concept and test whether the conditions for its intended effect are in place, not to prove behavioural change, which the project's timeframe cannot capture. The validation is structured along the innovation sweet spot, extended with responsibility (Brown, 2009; Baldassarre et al., 2024; Stilgoe et al., 2013). Desirability is evidenced through a teacher walkthrough, a teacher survey and student co-creation; feasibility is set out through an implementation plan based on the conversation with SVT and NTR as well as internal

NOS processes; viability through the business case; and responsibility against NOS's public-service mission.

9.1 Desirability

The innovation sweet spot model (Brown, 2009; Baldassarre et al., 2024) extended with responsibility (Stilgoe et al., 2013), evaluates whether the design sits at the intersection of what is desirable, feasible, viable and responsible.

Desirability asks whether NieuwsWijzer is wanted by the people who would use it, and it is the most heavily evidenced dimension of the validation. The evidence establishes plausibility, not proof: the design's theory of change rests on habit formation, which takes between 18 and 254 days of repeated practice in a stable context (Lally et al., 2010) and cannot be tested here. What can be tested is whether teachers recognise the concept, see it fitting their practice, and can imagine using it recurrently. The sample is small and sourced through teachers that enabled the co-creation sessions. Unfortunately, the first walkthrough skewed toward the subjects least suited to the concept, leading to an additional survey being administered. The two teacher groups involved in validation are presented in Figure 75. Students, the ultimate beneficiaries, did not test the final prototype directly as this did not fit within the timeframe of the project. Students, the ultimate beneficiaries, took part only indirectly through the co-creation rather than testing the product itself.

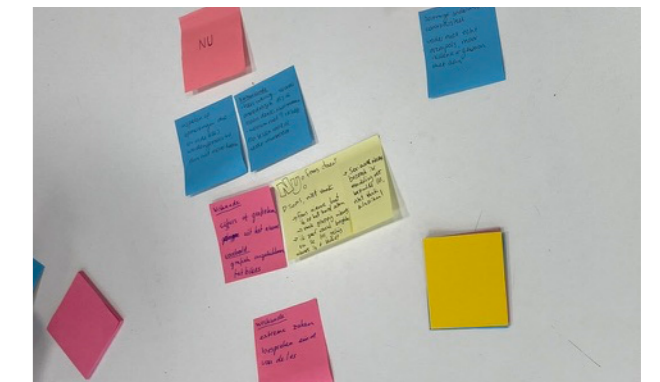
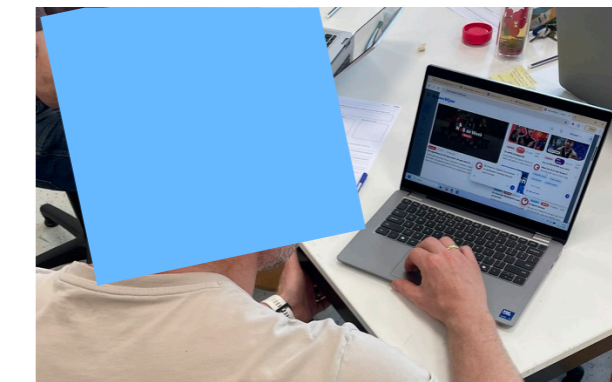


Group	Method	Focus
Teachers (n=4)	Usability walkthrough (Wharton et al., 1994), contextual interview (Nielsen, 1993)	Usability, curriculum fit, perceived value
Teachers (n=15)	Structured written feedback, Likert-scale ratings	Broader desirability across subjects

Figure 75. The two teacher groups for validation



Figure 74. Usability walkthrough session with four teachers



9.1.1 Usability walkthrough

The high-fidelity prototype was tested with four teachers, French (Frans, x2), mathematics (wiskunde, with O&O) and physics (natuurkunde), through a free-exploration phase, two scenario-based tasks, and a structured feedback round with Likert ratings of 1-5 against five statements, from strongly disagree to strongly agree.

The concept was understood immediately (mean 4.75), but the spread on the other items is the more honest signal. The mathematics and physics teachers saw direct value, while the two French teachers scored low, one giving the minimum on "I would use this myself." This was a content problem: the prototype's database held little French-relevant material, so the platform's value to them could not show. The point is structural, as the design's value scales with content breadth. One teacher articulated the value over open alternatives: "I expect there is a certain quality behind it because it carries the name NOS; you are more likely to use that than random things," and located the appeal in browsing: "Sometimes you're without inspiration and you don't know a search term. If you just scroll, you'll find something."

The strongest finding was unprompted: several teachers independently named the mentor class as the natural slot for NOS de Week. One teacher stated "I could just say: guys, we'll just start with this after the Christmas break. Every Friday, we'll start with fifteen minutes of this." (T12) This is promising but should be read as a hypothesis for the pilot, not validated behaviour. Usability was generally positive, with navigation, search and the "More about this topic" function valued, and pain points around unclear collection terminology and the contribute button as well as limited content stating that "this would be great if the database were huge." At the close, all four teachers agreed the platform would land better with subjects closer to current affairs, and that it was essential to test it with history (geschiedenis), social studies (maatschappijleer) and geography (aardrijkskunde) teachers. This directly shaped the next step.



Figure 76. Likert results from the teacher walkthrough on a dotplot (n=4, scale 1 to 5).

With NOS de Week for mentor class
"I could just say: guys, we'll just start with this after the Christmas break. Every Friday, we'll start with fifteen minutes of this."

— T11

"Schools are opening up more and more to current affairs, and the news is opening up to schools"

— survey response

9.1.2 Teacher survey

Acting on that recommendation, the survey reached teachers of the better-fitting subjects the walkthrough had lacked. It closed with 25 responses; after removing two who did not give consent and eight incomplete responses, fifteen teachers completed the items in full. The respondents covered a wider range than the walkthrough, including four history teachers, three geography teachers and one teaching incidental social studies, alongside science and technology (NLT, O&O) teachers; ten of the fifteen also teach a mentor class, the time which NOS de Week may target. The statements were reworded to remove leading language and a dedicated set for NOS de Week was added, so platform and format are reported separately. Several questions were optional, so the number of respondents varies by item; each figure below is reported against the number who answered it (n), which is why some are out of 15, others out of 14 or 11.

The pattern beneath the means is more instructive than any single figure. The clearest result is for understanding NOS de Week (14/14, M=4.14) and its educational value (12/14, M=4.00), yet the intention to actually use it is the weakest of the nine items (9/14, M=3.57); the element teachers find clearest and most valuable is the one they are least sure they would use, which points back to the structural-commitment barrier rather than to the format. The two weaker platform items, fit with practice (11/15) and finding material quickly (10/15), are the content-dependent ones, echoing the walkthrough. Science and technology teachers were again the most reserved, and their open responses say why: one named a specific gap, "What I sometimes miss are concrete data, numbers that can be used for calculations, for example." (technology teacher), and another raised the first explicit complaint about recency, which is serious for a news product, "Via Wijzertje earthquake explanation, I get a video from 2021, which is not very current." (chemistry teacher). A third drew the boundary honestly: "It might be interesting at times, but for my subject classes it is too broad. Maybe more for Social Studies or something like that."

Against this, the best-fit subjects gave the clearest desirability signal of the whole validation. A history teacher wrote: "This is what we've been waiting for! Very nice and very useful." A teacher of history and citizenship added: "Wow! What you have created is incredibly good! Compliments on not turning your research into a paper tiger, but into something truly useful for education." The survey also captured adoption intent: of the eleven who answered, 8/11 rated themselves likely or very likely to use NieuwsWijzer if it were developed (M=4.09). On the firmer commitment question, 7/15 said they would be willing to pilot it with a class next term, 7 were open to it and 1 declined, and 8/15 were open to a follow-up conversation. These are encouraging, and willingness to pilot is firmer than willingness to use, but both remain stated intentions, not behaviour.

9.1.3 Students

Students were not part of the formal test, but the desirability of a school-based route rests on what the earlier extensive research established about them. Across the co-creation of Chapter 7, adolescents consistently said they would not seek news out on their own and described a "news finds me" attitude, and they named school as the venue where engagement would actually work. This is the foundation of the whole concept: a teacher-mediated, in-school route is desirable precisely because the alternative, self-directed news-seeking, is something this group says it will not do. The student survey sharpened the underlying need, showing self-reported news-literacy skill (4.22 on a 1 to 6 scale) running well ahead of actual behaviour (2.66), the application gap NieuwsWijzer is built to close.

Two honest limits apply. The product itself was never tested with students, so product-level student desirability is inferred from the co-creation, not measured; and the same application gap is a caution in reverse, since a stated preference for news at school is not proof that students

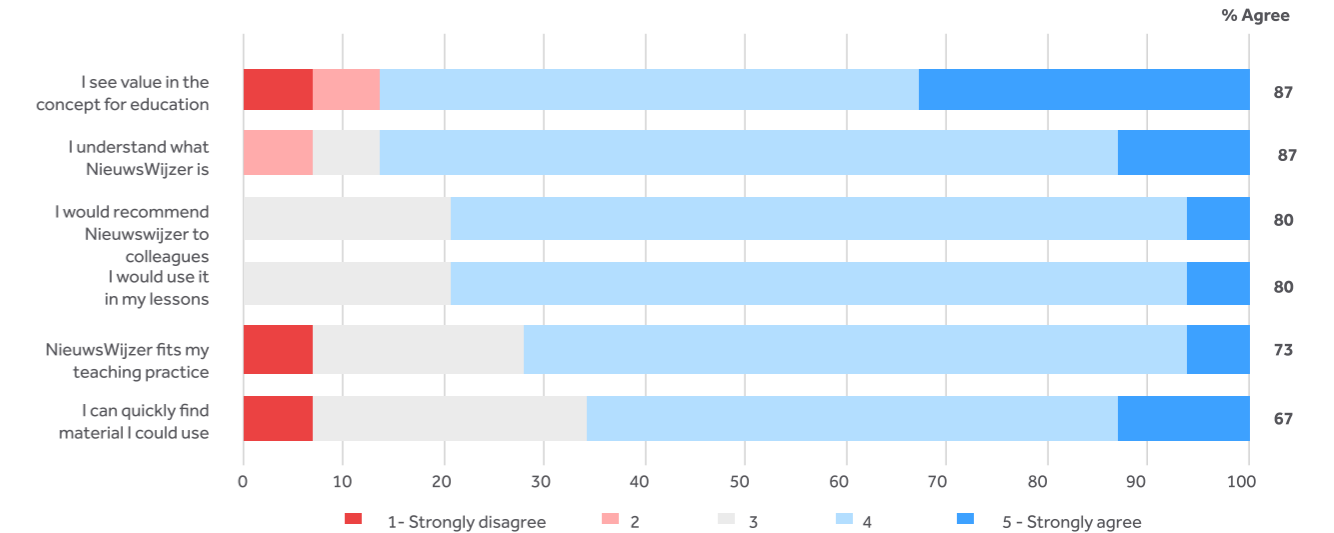


Figure 77. Distribution of teacher responses across Likert items (n=15, scale 1 to 5)

will engage when it arrives. Student desirability is therefore the least directly evidenced part of this dimension and a priority for further development.

"This is what we've been waiting for! Very nice and very useful."

— survey response

14/15
 teachers responded "yes" or "maybe" to participating in a pilot with their class

12/15
 would use NieuwsWijzer in their lessons

Desirability

A final verdict on NieuwsWijzer's desirability is described here:

- Perceived value (strong): teachers recognise the concept and see an editorial quality open platforms cannot match, and the best-fit subjects are enthusiastic.
- Subject fit (moderate) is conditional, strong in history, social studies and geography and weak in the sciences.
- Adoption intent (moderate) is positive but unproven, since stated intent runs ahead of behaviour in the project's own student data.
- Student-side desirability (limited test) is the least evidenced, inferred from the co-creation rather than tested on the product.

9.2 Feasibility

Feasibility asks whether NOS can build and sustain NieuwsWijzer. It is evidenced by the implementation plan, which brings the concept from prototype to production over roughly sixteen months across the Double Diamond's discover, define, develop and deliver phases, based on NOS Digital Media's existing development process (NOS digitale media, 2026) and informed by SVT's staged build of Nyhetskoll, developed over roughly 1.5 years (Om Oss SVT, 2026). The plan focuses on Horizon 1 of the roadmap: launch and reach, presented in [Figure 78](#).

Within each phase the project runs in short agile sprints, each delivering a testable increment. The platform increments take shape in search, filters and topic request flow for example. The content increments take shape in one NOS de Week episode plus discussion activity. User validation takes the form of teacher testing, classroom observation and student feedback. At each stage sits an iteration decision, either continue, adjust, postpone, or remove.

9.2.1 Roles and ownership

Where responsibility initially lands with the team lab, this soon shifts to the product owner (P.O.) in the defined phase of the implementation plan. This is where the product begins to take form and moves towards production. As indicated in the plan, multiple actors are involved across NOS and its partners. Each holds specific roles and responsibilities, and the implementation depends on these. These roles are elaborated upon in [Figure 79](#).

The list is not exhaustive: the implementation also calls for cross-border insight sharing with SVT and the BBC, and collaboration with public broadcasters such as NTR and the NPO above them.

Phase	Discover	Define	Develop	Deliver
Timing	Month 0-3	Month 3-6	Month 6-12	Month 12-16
Main focus	Validate direction	Define MVP	Build and test beta	Launch & evaluate
Who	Team Lab; P.O.; Team Data; UX designers; Hoofdredactie; NOS Stories	P.O.; UX designer; Team Data; Development team; Tech Lead; NOS Stories	P.O.; Development team; Scrum master; Team Data; Design; NOS Stories	P.O.; Development team; Scrum master; Team Data; NOS Stories
Business	Project plan; Ownership model; Initial budget & team setup; Merge/align with NTR	Hypotheses and success criteria; MVP scope	Market launch plan; Install editorial team	Execute launch & evaluate
User	Existing and additional research/data; Pilot school recruitment; Co-creation & interviews with students and teachers	Test UX; Teacher interviews; Co-creation	Testing; Teacher panel testing; Classroom pilots; Co-creative feedback loops	Test hypotheses through data and user research; Teacher & student satisfaction
Technology	Technical feasibility; Existing NOS systems	Technical feasibility and concept optimization	MVP build; DoD product; Performance check	Lead time; Bug fixing
NieuwsWijzer Platform	Translate prototype to MVP requirements	Build archive/search, filters, feedback, topic requests	Internal testing; Pilot with teachers; Public beta	Public beta, then public launch; Usage tracking
De Week production (NOS Stories)	Define format, tone, cadence	Produce pilot episodes	Weekly pilot episodes; Stable weekly production	Refine format based on use
Educational layer	Define lesson brief template	Develop discussion activity + quiz format	Educational review workflow + teacher testing	Improve materials per subject/level
Partnerships	Align NOS Lab, Stories, Digital Media, Hoofdredactie	Learn from global colleagues (SVT/BBC); Recruit NieuwsWijzer editorial team	Prepare NieuwsWijzer editorial team	NieuwsWijzer team in action

Figure 78. Suggested implementation plan for the build phase of NieuwsWijzer structured along the four phases of the double diamond

Actor	Role
NOS Lab	Innovation owner, project direction, validation, MVP scope
Product Studio/Digital Media	MVP definition, platform architecture, UX, CMS, analytics, technical delivery
NOS Stories	Produces and presents De Week together with the NieuwsWijzer editorial team, delivers content for NieuwsWijzer, facilitates school visits
NieuwsWijzer redactie	Educational curation, weekly homepage, lesson/activity layer, topic requests, teacher feedback and collaboration, school visits with Stories, co-producing De Week with Stories
Hoofdredactie	Editorial mandate, journalistic quality, NOS alignment
Teachers / Teacher panel	Classroom testing, recurring use, feedback, adoption signals
Pilot schools	Continuous validation, topic needs, usability feedback
Academic research	Scoping out opportunity areas, advice to NOS, evaluation of adoption, impact, use patterns and educational value

Figure 79. Suggested roles and ownership across NOS and its partners.

9.2.2 Team and resourcing

To sketch a more complete picture of the requirements for development and sustaining of NieuwsWijzer, an estimate is made of the required team and resources for this, looking specifically at required full-time equivalents (FTE's). One FTE is one person working full time. In this case, the average FTE's required per month are displayed across the 16 month build state, crossing the discover, define, develop and deliver phases of the implementation plan in [Figure 70](#), as well as the steady ongoing state after NieuwsWijzer has been launched.

The estimate is deliberately lean. NieuwsWijzer does not produce news from scratch; it curates, connects and pedagogically translates journalism NOS already produces, so the recurring work is a small layer between journalism, education and product rather than a new newsroom. The capacity splits across two sides: the Digital Media side carries the platform and is front-loaded, dropping to light

maintenance after launch, while the editorial side carries the recurring content layer and persists, staying lean because NOS Stories produces NOS de Week within its existing capacity.

Both columns are averages. Build capacity averages about X.X FTE across the sixteen-month, four-phase trajectory, since the full team is not needed at the same intensity throughout, and after launch the team settles to a lean steady state of about X.X FTE. These figures are indicative and require validation with NOS, including how far NOS Stories and Digital Media can absorb parts of the work within existing teams. The central resourcing risk sits in the steady state rather than the build: habit formation is the design's premise, so the recurring editorial capacity, above all the pedagogical and general editor, must be sustainable indefinitely, which is why sustainable editorial workload is a condition in the following decision gates.

Actor	Build	Steady	Reasoning
Digital Media (platform)			
Product Owner	X.X	X.X	One PO per product squad in NOS Digital Media's standard development process
UX designer	X.X	X.X	Squad role; drops to light upkeep once the platform stabilises
Developers	X.X	X.X	Building from prototype to production needs a small dev team; SVT built Nyhetskoll over roughly 1.5 years
Tech lead	X.X	X.X	Standard team role, concentrated in the build
Scrum master	X.X	X.X	Standard team role, shared across teams
Data	X.X	X.X	Usage tracking is required to measure the repeat-use decision gate
DM total	X.X	X.X	
NieuwsWijzer editorial team			
Strategist	X.X	X.X	Roadmap ownership, partnerships, pilot coordination with schools, teacher panel management, cross-editorial collaboration, cross-media collaboration, school rollout and launch evaluation
Pedagogical editor (1 day/week)	X.X	X.X	One day per week for the weekly lesson layer; the role is substantive because news-literacy materials need deliberate didactic design (Tamboer, 2023) and teachers ask for ready, curriculum-fitting materials
General editor or youth news editor	X.X	X.X	Roughly 4 to 5 hours of weekly editorial preparation plus coordination with NOS Stories, NOS op 3, Jeugdjournaal and Journaal; De Week is produced by NOS Stories, so this role curates rather than produces
Editor in chief	X.X	X.X	Journalistic quality and sign-off; possibly shared with NOS Stories or NOS op 3
NW total	X.X	X.X	
Both teams total	±X.X	±X.X	

Figure 80. Indicative and estimated team and resourcing for NieuwsWijzer (Horizon 1), in average FTE per month required in the build (16 months) and steady (12 month, yearly) state

9.2.3 Decision gates

The implementation builds in decision points to confirm the design is delivering. The project should continue and scale when weekly use among pilot teachers is increasing, when at least 50% of the teacher panel shows repeat use during the public beta, when teachers report that NieuwsWijzer lowers their preparation time, when NOS de Week becomes a recurring classroom moment, when editorial workload is sustainable, and when students report improved understanding and relevance of current affairs. It should pivot when teachers express interest but do not return weekly, a signal that the habit logic is not landing. It should stop development when repeat teacher use stays low across multiple pilot cycles, when editorial production is structurally unsustainable, when teachers see no added value or when ownership between cannot be clarified for long-term maintenance.

The implementation plan as presented requires more in-depth validation with NOS; the timing, team allocation, decision-gate thresholds and reach assumptions are proposals based on the project's research and the SVT comparison, not commitments NOS has yet made.

Feasibility

- Feasibility is sound in the build:
- **Technical platform (strong):** builds on existing NOS infrastructure and workflows rather than new systems.
 - **Editorial production of NOS de Week (moderate):** Aimed to be produced in collaboration with NOS Stories, but capacity can not be guaranteed
 - **Ownership and integration (open):** who maintains the platform and how responsibility divides should be settled timely

9.3 Viability

Viability asks whether NieuwsWijzer is worth sustaining and can reach enough of its audience to justify the investment. It is viable as a long-term, mission-driven investment rather than a short-term return, and is best assessed as a public-value efficiency case rather than a commercial one.

9.3.1 Reach

In the Netherlands, 926,387 students are enrolled in secondary education (OCW in cijfers, 2025), part of a cohort of 1,171,826 young people aged 12 to 18 (CBS, 2026). NieuwsWijzer reaches them through teachers, and its target group is lower-secondary students: the 786,880 students in years 1 to 4 (CBS, 2026), the age range of about 12 to 16 that corresponds to the Swedish högstadie reached by Nyhetskoll. The reach ambition follows the Nyhetskoll trajectory: after roughly 1.5 years, SVT and UR reached just over one in three lower-secondary students, and use is still rising (SVT & UR, 2026). Building on this, the Horizon 1 target is to reach 50% of this group, about 393,000 young people. Because uptake depends on teachers, who cannot be required to use the platform, this is an ambition for the launch phase rather than a commitment.

926'387

Total number of students in secondary education in the Netherlands

393'000

Target reach at the end of Horizon 1

9.3.2 Business case

The business case for NieuwsWijzer is not a commercial return-on-investment case, but a public-value efficiency case. As a public-service concept, NieuwsWijzer is not expected to generate direct revenue; its value lies in whether a relatively small investment can extend existing NOS journalism into a stable educational context, reaching young adolescents repeatedly and supporting NOS's public mission. In its 2025 annual report, NOS describes its task as delivering independent, truthful and accessible news, context and live coverage for all inhabitants of the Netherlands, while pointing to pressure on that task through budget cuts, changing media use, declining news interest, and the growing role of platforms and algorithms in how people encounter news. In that context, NieuwsWijzer should be judged not by financial return but by its potential to create repeated public value: reach among young adolescents, recurring contact with reliable news, educational relevance, and a stronger relationship between NOS and the school.

The case rests on incremental value. NieuwsWijzer does not require NOS to build a new newsroom or produce news from scratch; it adds a small educational and product layer around journalism NOS already produces, curating current news, translating it for classroom use, and connecting it to a weekly routine through NOS de Week. The main investment therefore sits in coordination, product development, educational curation and recurring editorial scaffolding.

The cost estimate builds on the resourcing in Section 9.2. The build phase is estimated at an average of approximately X.X FTE over sixteen months, since the full product and editorial capacity is not needed at the same intensity across the four phases. After launch, the concept moves into a lean steady-state team of approximately X.X FTE, covering platform maintenance, coordination, educational curation and editorial scaffolding. Using the NOS 2025 financial report as a proxy, personnel costs are estimated at approximately €102,000 per FTE per year, calculated by dividing NOS personnel costs in employment by the average number

Business case metric	Indicative outcome
Average build capacity	± X.X FTE
Build duration	16 months
Build effort	± X.X FTE-years
Steady-state capacity	± X.X FTE
Steady-state period within 3-year case	20 months
Total three-year effort	± X.X FTE-years
Cost proxy per FTE/year	± €X
Three-year personnel investment	± €X
Rounded three-year case, including uncertainty	
Steady-state annual cost	± €X
Horizon 1 reach ambition	± 393,000 students
Three-year cost per reached student	± €X
Steady annual cost per reached student	± €X
Cost per weekly student moment (annual basis)	± €X
Cost per weekly classroom moment	± €X

Figure 81. Indicative and estimated public-value business case for NieuwsWijzer.

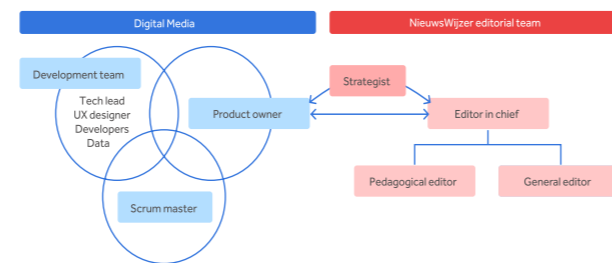


Figure 82. Suggested set up for development and organisation of NieuwsWijzer

of FTE, or a more conservative €116,000 per FTE per year when personnel not in employment is also included. These are not a formal NOS cost rate, but a transparent, source-based estimate for a concept-level case.

Over a three-year horizon of a sixteen-month build and launch followed by twenty months of steady-state operation, the build equals X.X FTE-years and the steady-state period approximately X.X FTE-years, together about X.X FTE-years. The three-year personnel investment is therefore approximately €X to €X, rounded with a small margin for supporting costs to approximately €X to €X; in steady state, the annual cost is approximately €X to €X.

Set against the Horizon 1 ambition of about 393,000 lower-secondary students, this is a low cost per reached student. In steady state, NieuwsWijzer would cost less than one euro per reached student per year; used as a weekly routine across roughly 40 school weeks, that is about one cent per student moment, or around thirty cents per weekly classroom moment at an average class size of 25.

This figure should be read critically rather than as a headline. The case is only strong if reach is recurring: one-off awareness or occasional teacher visits would not deliver the public value the concept promises, which comes from repetition, teachers returning, NOS de Week

becoming part of the school rhythm, and students meeting news in a stable, shared context. A sensitivity check shows how dependent the case is on adoption

At the full ambition the steady-state cost is about €X to €X per student per year; at 100,000 recurring students it rises to about €X to €X, still efficient from a public-value perspective; at 50,000 it becomes about €X to €X; and below that level the case is hard to justify as a structural product unless educational impact is clearly proven. The main financial risk is therefore not the build but the relationship between structural editorial capacity and actual repeat adoption.

For that reason the business case is promising but conditional. It supports investment in a staged launch provided the decision gates of Section 9.2 stay in place, testing whether teachers use NieuwsWijzer weekly, whether the editorial workload stays sustainable, and whether students find the weekly format understandable, relevant and useful. NieuwsWijzer is worth investing in as a staged public-value experiment, not as an unconditional structural product from day one. The assumptions behind the figures are based on the NOS 2025 Financial report as well as suggestions based on the conversation with Nyhetskoll. All of these assumptions should thus be validated with NOS.

Actual recurring student reach	Steady cost per student/year	Cost per weekly classroom moment
25,000 students	± €X	± €X
50,000 students	± €X	± €X
100,000 students	± €X	± €X
393,000 students	± €X	± €X

Figure 83. Sensitivity of the business case to actual recurring reach.

Viability

A final verdict on NieuwsWijzer's viability is described here:

- Audience reach (moderate): the 393,000 target is benchmarked against Nyhetskoll but sits above what the comparator has so far achieved.
- Strategic fit and complementarity (strong): NieuwsWijzer opens a channel through the education system that Stories does not, and the NOS product team confirmed the positioning as aligned.
- Cost and resourcing (moderate): at roughly X.X FTE and about €X a year in steady state, the recurring cost is lean against the reach, but only as an incremental layer on existing journalism.
- Dependence on recurring reach (limited): viability rests on school-level commitment and recurring weekly use, both untested, and weakens quickly below roughly 50,000 recurring students.

9.4 Responsibility

Responsibility asks whether NieuwsWijzer is the right thing for NOS to do. The reason the evaluation adds it as a fourth criterion is that the desirability, feasibility and viability triad has a known blind spot: desirability captures what individuals want, which can diverge from, or work against, the collective interest of society (Baldassarre et al., 2024). NieuwsWijzer sits precisely in that gap, and is most defensible as an expression of NOS's public-service mission.

The individual-versus-collective tension (strong). This is the heart of the responsibility case. The research showed that, left to individual preference, young adolescents drift toward an ambient, platform-curated news diet and largely will not seek news out themselves; individual desirability points away from public-service news. Yet the democratic health of society depends on this generation staying informed, the collective interest that the market and individual preference do not serve. Under the Mediawet, NOS is mandated to serve exactly that: to provide independent, reliable news and to reach all segments of society, not only those who already want it, a task NOS staff named as their hardest ("de grootste uitdaging is kinderen bereiken die nog niet betrokken zijn", N9). NieuwsWijzer is responsible because it acts on this collective, democratic interest, reaching adolescents through the school, the one venue that does not depend on self-selection, with the burgerschap mandate as a durable anchor (Heijstekhofman et al., 2025; Swart & Broersma, 2022). For NOS it is not a side project but a way of doing its core public task at the point where it is hardest.

The four dimensions of responsible innovation. Read against Stilgoe, Owen and Macnaghten's (2013) four dimensions of responsible innovation, which the responsibility lens is built on, NieuwsWijzer is strong on two and open on two. It is strong on anticipation: the concept is the product of systemic futures work (Chapters 3 to 5), designed against a foreseen and undesirable ambient-news future rather than for short-term appeal. It is strong on responsiveness by design: the decision gates and kill switch (Section 9.2) commit NOS to adjusting or stopping as evidence emerges, rather than pressing on regardless. It is more open on inclusion:

adolescents, teachers and NOS editorial took part in the co-creation and validation, but students never tested the product, no school leaders were involved, and the governance with possible educational and public-media partners is unsettled, so not all affected interests have yet been brought in. And it is most open on reflexivity: the democratic stakes were reflected on throughout, but the ethical implications of a public broadcaster shaping what counts as the week's news for minors, and of handling pupil data, were not, and need deliberate attention in the pilot.

Beyond NOS itself, the concept steps into a public rather than commercial opportunity: the platform could eventually carry or connect content from multiple public-service and educational partners. In that sense, NieuwsWijzer can strengthen the public-service system as a whole rather than NOS's position alone, helping keep a generation within reach of trustworthy news at the moment that reach is most at risk.

Taken together across the four dimensions, NieuwsWijzer reaches the sweet spot as a direction: its core in each dimension is strong, desirability in the value teachers see, feasibility in the existing platform, viability in strategic fit, and responsibility in the public-service mission, but each dimension also carries open conditions, concentrated in subject fit and behaviour, in sustaining content, in resolving ownership, in securing commitment, and in governing a tool for minors. These conditions are exactly what the implementation plan sets out as its decision gates.

Responsibility

A final verdict on NieuwsWijzer's responsibility is described here:

- Public-service mission and the individual-versus-collective interest (strong): the concept serves the collective democratic interest the Mediawet obliges NOS to meet, where individual desirability does not.
- Anticipation and responsiveness (strong): grounded in systemic futures work and built with decision gates that adjust or stop as evidence emerges.
- Inclusion and reflexivity (limited): students never tested the product, governance with is unsettled, and the editorial-power and pupil-data questions are unaddressed.
- Strengthening the public-service ecosystem (moderate): positioned to strengthen the wider system, but the multi-broadcaster arrangement is a stated commitment, not a built one.

Key insights

This chapter validated NieuwsWijzer along the four dimensions of the innovation sweet spot, with the implementation plan and business case set out as the feasibility and viability evidence. The key takeaways, including what could not be established, are below.

Chapter 10 draws the project to a close, returning to the research questions, setting out the contribution and its limitations, and giving recommendations for NOS on how to take NieuwsWijzer from a validated direction toward the pilot it now needs.

Desirability



Teachers understood NieuwsWijzer immediately and saw added value (13/15), and the best-fit subjects were enthusiastic, but desirability is conditional on subject and content: strong in history, social studies and geography, weak in the sciences, where teachers flagged content that was too broad, not quantitative, and not current enough

Feasibility



The implementation plan sits on existing NOS infrastructure and a lean team, averaging about X.X FTE during the build and X.X in steady state, but feasibility turns on resolving the ownership question between NOS Lab, Digital Media, NOS Stories and potential educational partners.

Viability



The reach ambition of about 393,000 young people is benchmarked against Nyhetskoll and the recurring cost is lean (roughly X.X FTE, about €X a year) as an incremental layer on existing journalism, but the case is promising rather than proven: it holds only if teachers return weekly, and below roughly 50,000 recurring students it weakens quickly. It supports a staged build-and-test, not an unconditional structural product.

Responsibility



NieuwsWijzer answers a real blind spot of desirability-led design, that what individuals want can work against the collective interest, by serving NOS's public-service mission and reaching the disengaged group the Mediawet obliges it to serve. Against the four dimensions of responsible innovation it is strong on anticipation and responsiveness, but open on inclusion and reflexivity: students never tested the product, governance is unsettled, and the editorial power and pupil-data questions of a news tool for minors are unresolved.

10. Conclusion & discussion

10.1 Conclusion

This chapter draws the whole thesis to a close, reflecting on what has been discovered, the future which has been defined, the development process and the solution which is delivered. First the four sub-research questions are answered in turn before the main research question is concluded upon (10.1). This is followed by a discussion of the limitations (10.2), as well as contributions to the field of news literacy, NOS, public service media and strategic product design (10.3). The chapter closes with recommendations (10.4) for NOS, schools, policymakers and future research.

10.2 Limitations

10.3 Contributions

10.4 Recommendations

10.1 Project conclusions

If free, independent and reliable news is one of the foundations of democracy then young people need places where they can learn to understand and use it. This thesis set out to explore how public service news can continue to support informed citizenship and public debate in a rapidly changing media landscape, focussing on young adolescents at the moment their news habits and civic orientation begin to take shape. Over the course of the past six months, more than 100 people have contributed to this project, including 50 adolescents spoken to through interviews and co-creation sessions. Moving through the double diamond, the project connected literature on youth news use, adolescence, news literacy application and habit formation with the perspectives of NOS, teachers, parents and young people themselves. This led to the central insight that the issue is not a lack of news literacy skills, but a stable, social and recurring context in which young adolescents can apply them. NieuwsWijzer responds to this by bringing NOS news into the rhythm of the school week through a teacher facing platform and the weekly format NOS de Week, ultimately contributing to creating the conditions for young adolescents to apply news literacy, contributing to a wider ecosystem supporting youth in this.

The relevance of this project did not stand still while it was carried out. Throughout the research, and up to the final weeks before submission, new reports kept confirming and sharpening the problem it set out to address. As cherry on top, the 2026 Reuters Institute Digital News Report, coined by some as the news industry's annual health check, was released in the week before submission, documenting the same shift the project began from: news moving onto platforms, trust in news on social media falling and a generation growing up with news on terms set largely outside journalism (Egan et al., 2026). That the picture kept moving and pointing in the same direction, is telling in itself that this is a live and fast changing area, and that the question of how young people grow up with news is becoming more pressing rather than less.

To bring the thesis to a close, the following section presents the conclusions for each of the initial research questions followed by a general conclusion on the whole graduation research project.

10.1.1 Subquestion 1

What conditions shape how young adolescents engage with news and apply news literacy?

The first subquestion was answered through a literature review in chapter 2 which synthesised existing research, while the context analysis of chapter 3 used desk research, DEPEST, ecosystem mapping and brand analysis to understand the broader system around young adolescents and news. This was structured around the four analytical lenses introduced in chapter 1.

Through the changing media landscape lens, news remains democratic infrastructure, carrying an information, control and forum function, yet the way it reaches young people has fundamentally changed: news now arrives through social platforms and video networks, where it competes with entertainment, opinion and other content for their attention (Schut et al., 2024; Newman et al., 2026). This produces an ambient "news-finds-me" pattern in which news is snacked between other activities; engagement is driven by personal relevance and trust is granted to recognisable faces rather than institutions. At the same time, adolescence is a formative window in which news habits, civic orientation and media routines begin to take shape, while public service media, schools and existing interventions operate within a fragmented system under platform, budgetary and organisational pressure.

Thus, read across the four lenses, the same condition surfaces: applying news literacy depends less on knowledge or skill than on motivation, social context and a stable, recurring setting in which the behaviour can repeat into habit (Fisher & Fisher, 2002; Wood & Neal, 2007; Groot Kormelink, 2022), and it is precisely these conditions that become less strong as adolescents enter secondary school.

10.1.2 Subquestion 2

How do young adolescents and the stakeholders around them experience and describe news engagement, and what does news literacy application look like in practice?

Having established the conditions, chapter 3 enabled qualitative and quantitative methodological triangulation, supporting the findings of chapter 2 and 3 with 44 semi-structured interviews with adolescents, parents, teachers, experts and NOS staff, three group sessions with young adolescents and a baseline survey filled in by 33 adolescents. These show how news engagement and literacy look in practice.

Across stakeholders, the issue was described not as disinterest but as a mismatch: adolescents value being informed yet say news "just passes by", with context named repeatedly as the missing element, and their trust is relational, attached to recognisable faces and inherited from a Jeugdjournaal childhood. The shared contexts that once anchored engagement, family viewing and classroom discussion, fade as young people move into secondary school, and news literacy was described across the board as "everyone's responsibility and no one's mandate". The baseline survey made the gap concrete: on identical six-point scales, respondents rated their own news literacy skills at 4.22 but their actual critical behaviour at only 2.66, with the largest gaps on the verification behaviours. The same survey located the missing context precisely, as news was discussed at home by most respondents but more rarely in class or with friends.

Thus, young adolescents and stakeholders describe news engagement as valued but weakly embedded: young people want to understand the world, but lack recurring contexts, prompts and guidance to do so critically. In practice, news literacy application looks less like systematic checking and more like occasional sensemaking, triggered when news is discussed, contextualised and made trustworthy by people or settings young adolescents recognise. The issue is therefore not disinterest, but a missing bridge between encountering news and learning how to use it.

10.1.3 Subquestion 3

What design goal and principles can be derived from a future framing and vision of young adolescent news consumption?

The third subquestion was answered through the future framing in Chapter 5 and the design direction in Chapter 6. Chapter 5 used an adapted Vision in Product approach, translating 198 context factors from the Discover phase into 45 themes and eleven emerging conditions. These were structured into a future framework along two tensions: ambient versus intentional, and individual versus systemic. Chapter 6 then translated the preferred future into a problem definition, theoretical foundations, a design goal and six design principles.

The preferred future was defined as Collective nourishment: a future in which young adolescents do not have to navigate news alone, but are supported by a coordinated ecosystem that helps them build intentional, recurring and guided engagement with news. This was translated into the vision that NOS helps the next generation grow up with news, as part of an ecosystem supporting them in making sense of the world around them and shaping news themselves. The news-as-nutrition analogy made this direction tangible: news literacy application becomes a balanced news diet, supported not only by individual choice but by the environments, people and institutions around young adolescents.

This led to the design goal: "Enable NOS to stimulate young adolescents (12-16) in their news literacy application through a recurring news experience set within the educational context." The corresponding principles are to embed news into the recurring rhythm of school life, build trust through visibility, provide context and multiple perspectives, cater to the developmental stage, design for collective sensemaking, and design as a coordinated ecosystem intervention. Together, these define the answer to RQ3: the design should not be a one-off lesson or more youth content, but a recurring, guided and ecosystem-supported news experience that creates the conditions for news literacy application.

10.1.4 Subquestion 4

How can the design principles be developed and validated as a concept-level news experience supported by NOS?

The fourth subquestion was answered through the Develop and Deliver phases in Chapters 7, 8 and 9. Chapter 7 translated the six design principles into three concept directions through co-creation with adolescents, NOS staff, design peers and public-service media benchmarks: News in the classroom, weekly news and Youth News Lab. The selection showed that the strongest route was not one isolated concept, but a staged trajectory: a teacher-facing classroom platform as the entry point, a weekly news format as the recurring rhythm, and youth co-creation as a longer-term ambition.

This became NieuwsWijzer: a teacher-facing platform that curates and scaffolds NOS news for classroom use, combined with NOS de Week, a fifteen-minute weekly news format. The concept operationalises the design principles by embedding news in the school rhythm, making journalism visible, adding context and discussion prompts, and positioning teachers as guides. Chapter 9 validated this through formative evaluation across desirability, feasibility, viability and responsibility. The validation showed that teachers understood the concept and that best-fit subjects saw strong value, but it also exposed important conditions: subject fit and content breadth remain uneven, student-side desirability was not directly tested, the habit-formation premise could not be proven within the project timeframe, and long-term feasibility depends on editorial ownership, sustainable weekly production and ecosystem collaboration.

Thus, the design principles can be developed into a concept-level news experience by turning them into a recurring, teacher-mediated platform and weekly format. The validation shows that NieuwsWijzer is a promising direction, but one that still needs classroom pilots to prove repeated use and long-term impact.

10.1.5 Main question

How can designing a concept-level news experience supported by NOS stimulate young adolescents (12-16) to apply news literacy?

Bringing the four subquestions together, this project concludes that a concept-level news experience supported by NOS can stimulate news literacy application by creating the conditions in which application becomes more likely. The research showed that the issue is not simply a lack of knowledge or skill, but the weakening of the stable, social and recurring contexts in which young adolescents can practise using news critically. NieuwsWijzer therefore does not try to solve the application gap by adding another lesson about news literacy. Instead, it rebuilds the conditions beneath application: motivation, social guidance, recurring exposure and a trusted context.

NieuwsWijzer does this by placing NOS news into the rhythm of the school week through a teacher-facing platform and the weekly format NOS de Week. The platform lowers the threshold for teachers to bring news into the classroom, while the weekly format gives news engagement a recurring cue. In this setting, students do not have to seek news out alone; they encounter it in a shared environment, guided by a teacher with NOS providing reliable news, visible journalism, context and discussion prompts. This aligns with the theoretical foundations of the design: motivation and skills need to be addressed together (Fisher & Fisher, 2002), habits require repetition in a stable context (Wood & Neal, 2007; Lally et al., 2010), and learning is strengthened through guided social interaction (Vygotsky, 1978).

The answer to the main research question is therefore conditional. NieuwsWijzer can stimulate young adolescents to apply news literacy by turning news engagement into a recurring, guided and socially supported classroom practice, backed by NOS and connected to the wider education and public-service media ecosystem. However, this project cannot yet prove that young adolescents will apply news literacy more often over time. NieuwsWijzer is, in this sense, a first step: not a finished solution, but the opening move toward an ecosystem in which young adolescents are supported in growing up with news and learning to apply news literacy for themselves.

10.2 Limitations

While the research was grounded in extensive user research, collaboration with NOS and academic guidance from TU Delft mentors, several limitations need to be acknowledged. The methods of this project were adapted and realigned as the work developed, which kept the process responsive to what each phase revealed. That responsiveness came with trade-offs, which are addressed in this section.

Breadth of methods

This project employed a broad range of methods, as summarised in Section 1.4.4. The combination of literature review, context analysis, interviews, group sessions, co-creation, future framing, prototyping and validation enabled triangulation across multiple sources and stakeholder perspectives. This methodological breadth strengthened the overall synthesis and generated a rich body of insights. At the same time, the breadth of the approach placed limits on the depth with which each method could be analysed. The volume and diversity of data collected required substantial time for processing and synthesis, meaning that not all findings could be explored to their full analytical depth within the timeframe of the graduation project.

A similar limitation applies to the future framing. The decision was made not to follow the full Vision in Product process, but to work with an adapted version. This choice was made because the far-future orientation of the full method did not fully align with the near-term strategic timeframe in which the design needed to operate, and because the project timeframe did not allow for the complete ViP process to be carried out in depth. Likewise, the business case and implementation plan should be understood as grounded estimates rather than formally validated organisational plans. The strength of the project lies in its ability to connect many perspectives into a coherent design direction; its limitation is that not every perspective could be investigated with equal methodological depth.

Sampling and researcher bias

The empirical research relied partly on participants recruited through schools, NOS contacts, professional networks, personal networks and project opportunities. As a result, the sample was partly convenience-based. Although the research included adolescents, teachers, parents, experts and NOS staff, it cannot be assumed to represent the full diversity of young adolescents in the Netherlands. In particular, the adolescent participants were primarily drawn from theoretically schooled backgrounds, such as havo and vwo. This is a significant limitation, as young people from more practically schooled backgrounds or socioeconomically disadvantaged contexts may be especially relevant to research on news literacy application, given their potentially greater exposure to information inequality.

Researcher bias also needs to be considered. In this project, the researcher acted as both analyst and designer, meaning that interpretation was inevitably shaped by design intent, personal perspective and the strategic context of NOS. The research attempted to mitigate this through triangulation across literature, interviews, group sessions, co-creation and validation, as well as through regular reflection with mentors and stakeholders. Nevertheless, such bias cannot be fully eliminated, particularly in a research-through-design project where analysis, framing and concept development are closely intertwined.

Use of AI

Artificial intelligence was used throughout the project as a supportive tool. Its role extended beyond spelling or grammar correction: AI functioned as a sparring partner for consolidating findings, structuring arguments, sharpening wording and supporting concept development. In addition, AI played a central role in the prototyping process through vibecoding, in which Figma, ChatGPT, Claude and Lovable were combined to translate design intent into a high-fidelity prototype. This enabled a more advanced and interactive prototype to be developed within the limited

timeframe of the graduation project.

However, the use of AI also introduces methodological limitations. AI-generated outputs can subtly steer reasoning, introduce assumptions, or create a premature sense of coherence and completeness. For this reason, AI was treated as a tool for acceleration and exploration, not as a source of evidence. Design decisions were made independently by the researcher and grounded in research findings, stakeholder input and the design principles. Nonetheless, because AI contributed to the structuring, writing and prototyping process, its role should be made transparent and recognised as a methodological condition of the project.

Domain expertise

The project is situated at the intersection of journalism, education, adolescent development, news literacy and strategic design. As a design graduation project, it cannot claim full disciplinary expertise across all of these domains. Domain knowledge was incorporated through literature, interviews with experts, conversations with NOS staff and engagement with teachers, but the final synthesis remains a design-led interpretation.

This limitation is particularly relevant in relation to journalism. Although I have experience in the media sector and have worked within the NOS context during the project, I am not a trained journalist and do not have a journalistic education. Proposals concerning the content, editorial structure and format of NieuwsWijzer and NOS de Week therefore build on insights gained during the project and through collaboration with NOS, but would require further refinement by editorial specialists to ensure alignment with the principles, routines and responsibilities of reliable journalism. A similar limitation applies to the educational layer of the concept. The lesson briefs, discussion prompts and classroom activities proposed in the design would benefit from further development with pedagogical experts, curriculum specialists and teachers before implementation.

Validation of the concept

The prototype was validated with a small teacher group and through a fifteen-teacher survey, and was not tested directly with adolescents, although the direction itself emerged from ideation with adolescents and from their own accounts of how news was used in the classroom. A fuller usability study would have been preferable. Validation also surfaced that the prototype's content base, although it held more than 130 items, was already too thin for teachers to judge the experience fully, which was itself a limitation in testing. Most importantly, the central premise of habit formation cannot be validated in a short project timeframe. Whether NieuwsWijzer actually leads to repeated use and increased news literacy application can only be tested through longer classroom pilots.

Implementation and organisational position

Within the project's scope and timeframe it was not possible to test NieuwsWijzer in a live product environment, nor to validate the full implementation plan with all the relevant members of Digital Media and the wider NOS; this is set out as the next step of the implementation, following this project. The interface was aligned with NOS's identity as far as possible, but the site was not built entirely from NOS components, so further development is needed on that front. The business case, for reasons of scope and time, covered the workforce but not the software costs. Because the project was hosted within Digital Media, the guidance it received leaned toward the product, its UX and its UI, more than toward the editorial side and NOS de Week, which calls for further work with teams such as NOS Stories. Future organisational arrangements within the public-service media landscape may influence the ownership and ecosystem positioning of the concept, but these fall outside the scope of this thesis. In addition, while Horizon 1 is designed and validated in depth, Horizons 2 and 3 are positioned on the roadmap but not deeply developed.

Scope of news literacy application

The project's central claim, that the design supports news literacy application, could not be tested behaviourally within its timeframe. Habit formation takes between 18 and 254 days of repeated practice in a stable context (Lally et al., 2010), and application is by nature slow to form and to observe, so the validation establishes the conditions for the intended effect rather than the effect itself. In retrospect, the scope committed early and strongly to news literacy application even though it is hard to enable and to measure; a narrower focus on news consumption would have been possible, but it was precisely the inclusion of application that made it possible to set the north-star vision that gave the project its direction. The project also deliberately bounded itself to the school context and does not address what happens to young adolescents' news engagement outside it.



10.3 Contributions

Beyond the concept itself, the project makes three main contributions: to the academic field of news literacy, to NOS and public service media in practice, and to strategic product design methods.

10.3.1 The field of news literacy

The study of news literacy has increasingly argued that being knowledgeable and skilled does not equal behaving in a news-literate manner (Tamboer et al., 2023; Vraga & Tully, 2021), and has called for a shift of attention from competence to application. This thesis contributes to that turn in three ways. First, it adds an empirical, measured instance of the application gap that the literature largely theorises: using matching scales for self-reported skills and behaviour, it gives the gap a concrete shape. Second, it offers a reframing, treating news literacy application not as a property of the individual to be taught but as something dependent on social and habitual conditions, and in doing so connects Tamboer's application lens with habit-formation theory (Wood & Neal, 2007; Groot Kormelink, 2022), social-constructivist learning (Vygotsky, 1978) and a systemic, multi-level perspective on change (Geels, 2005), a combination the field has not previously brought together. Third, it answers the field's call for application-focused interventions with an actual intervention: rather than diagnosing the problem and prescribing what should be made, it designs, prototypes and validates a concrete, structurally embeddable concept and a route to implement it, showing how such an intervention could work and not only that it is needed.

10.3.2 NOS and public service media

For NOS, the project reframes news literacy from an educational add-on into a core expression of the public-service mission. The research showed that, left to individual preference, young adolescents drift toward an ambient, platform-curated news diet and largely will not seek news out themselves, so individual desirability points away from public-service news, while the democratic interest depends on this generation staying informed. Under the Mediawet, NOS is mandated to serve exactly that collective interest and to reach all segments of society, not only those who already want it. NieuwsWijzer offers NOS a concrete way to act on that mandate at its hardest point: reaching adolescents through the school, the one venue that does not depend on self-selection, in the transition between the Jeugdjournaal years and NOS Stories. It also shows how NOS can strengthen the wider public-service system rather than its own standing alone, since the platform is built to carry content from multiple public broadcasters. In doing so it gives NOS a tested first step, with decision gates, toward its vision of keeping the next generation growing up with news.

10.3.3 Strategic product design methods

Methodologically, the project brings strategic and participatory design to a domain more often studied through educational and communication-science methods, and shows what that lens adds. It demonstrates how a futures-framing approach, adapted from Vision in Product Design, can be used to design against a foreseen and undesirable ambient-news future rather than only for short-term appeal, and how the Double Diamond, youth co-creation and the innovation sweet spot, extended with responsibility, can be combined to move from a societal problem to a validated, structurally embeddable concept. It also offers an early, honest account of AI-supported rapid prototyping, or vibecoding, as a design method: used critically, it allowed the project to reach a higher-fidelity, interactive prototype than would otherwise have been feasible within the time and technical constraints of the thesis, while keeping the reasoning and judgement with the designer. Together these show how strategic design can contribute not only a diagnosis but a workable response in a field that has more often been studied than designed for.

10.4 Recommendations

Closing off the project, this section outlines the recommended next steps for taking the potential of NieuwsWijzer forward. The recommendations focus first on NOS, as the actor best positioned to take the concept into a next phase, and then on future research, schools, policymakers and the broader public-service media ecosystem.

10.4.1 NOS

Pilot NieuwsWijzer in real classrooms

The most important next step is to take NieuwsWijzer from prototype into a real classroom pilot. This should be done with a larger and continuously refreshed body of content, a small group of committed pilot schools and teachers, and clear decision gates based on Chapter 9. The pilot should run long enough to test repeated use, ideally across a school term or school year, since the concept's central premise depends on habit formation rather than one-off use. Mentor class, history, geography and citizenship-related subjects are the most logical first contexts, as the validation showed the strongest fit there.

The pilot should measure both teacher uptake and student experience. On the teacher side, NOS should track whether teachers return weekly, whether NieuwsWijzer lowers preparation time, which content is used, and where teachers drop off. On the student side, the pilot should test whether students find the format understandable, relevant and trustworthy, and whether repeated exposure changes how they discuss, evaluate and seek further information about news.

Include students more directly

The final prototype was not tested directly with students, which makes this a priority for the next phase. NOS should involve young adolescents not only as respondents, but as recurring co-testers of the format, tone, topics and classroom activities. This should deliberately include vmbo

students, practically schooled adolescents and students from socioeconomically disadvantaged contexts, since these groups were underrepresented in this research and may face greater information inequality.

This is not only a research concern, but also a public-service responsibility. If NieuwsWijzer aims to support all young adolescents in growing up with news, the next phase should test whether the concept works beyond the theoretically schooled groups that were most accessible in this project.

Resolve ownership and partnerships

NOS can start executing the first phase of the implementation plan now, but should resolve the ownership question early. NieuwsWijzer sits between product development, journalism, youth engagement and education. Long-term maintenance depends on a clear agreement between NOS Lab, Digital Media, NOS Stories, editorial leadership and potential educational partners. If NieuwsWijzer is to become part of a broader public-service education ecosystem, the pedagogical layer, curriculum fit and school-facing distribution should not be treated as secondary. A shared ownership model could prevent the concept from becoming either too editorial to fit education, or too educational to remain close to current NOS journalism.

Strengthen the editorial and pedagogical layer

Before a pilot, the concept should be sharpened with editorial and pedagogical specialists. Editorially, NOS de Week needs clear principles for topic selection, balance, source transparency, youth participation and how much behind-the-scenes journalism can be shown without oversimplifying editorial work. Pedagogically, the lesson briefs, discussion prompts and perspective-taking activities need further development with teachers and curriculum specialists.

This is also where the principle of multiple perspectives should be strengthened. In the current prototype, context

and discussion are present, but perspective-taking is not yet systematic enough. A next version should include clearer ways for students to compare viewpoints, understand why sources differ, and see how NOS makes editorial choices.

Internal validation of business case and implementation Before any structural commitment, the FTE estimates, the split between new and reallocated capacity and the cost assumption behind the business case should be checked against NOS's own figures as well as making the addition of software and infrastructure costs.

Co-creation within NOS

Beyond this project, it shows a concrete way for NOS to work with co-creation, and how much it gives back to participants to know that their ideas are being used, or will shape something they may later encounter. This is a method NOS could draw on more widely when designing for and with young audiences as well as the wider range of audiences it serves.

10.4.2 Future research

Longitudinal study of application

For researchers, the open question is whether an intervention like this changes news literacy application over time. This calls for longitudinal study that observes behaviour rather than self-report, and that deliberately includes practically oriented students, who were underrepresented here and whom the school route could reach best.

10.4.3 Broader public-service media ecosystem

NieuwsWijzer as a cross-media starting point

NieuwsWijzer should be seen as a first step rather than a finished solution, and not as a concept bound to NOS alone. It demonstrates what may be possible when public-service journalism is connected to education in a recurring, teacher-mediated format. In the longer term, the platform could carry content from multiple public broadcasters and connect to partners such as NTR, Netwerk Mediawijsheid and citizenship-education networks.

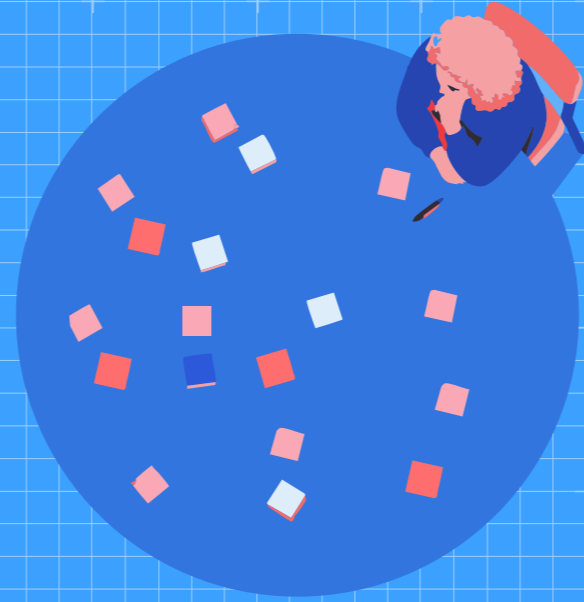
This ecosystem direction is important because the problem is systemic. Young adolescents do not grow up with news through one platform, one classroom or one broadcaster alone. Supporting news literacy application requires a coordinated public response, in which NOS can play a leading role without becoming the only responsible actor.

10.4.4 A first step

NieuwsWijzer is not a finished solution, and it does not claim to close the application gap on its own. What the project shows is that supporting young adolescents' news literacy application is less a matter of teaching more, and more a matter of rebuilding the shared, recurring contexts in which young people meet and make sense of news together, and that the school, supported by a public broadcaster acting on its public-service mission, is a credible place to begin. If those conditions can be created and sustained, NieuwsWijzer offers NOS a concrete first step toward its vision of keeping the next generation growing up with news, and through that, toward a generation better equipped to form its own judgments in a crowded information environment.



11. Reflection



11.1 Final reflection

This final chapter reflects on the graduation project from two perspectives: the design process and my personal development as a designer. First, it revisits the Research through Design approach and the different phases of the Double Diamond, reflecting on how the project evolved from exploration to definition, development and delivery. Second, it reflects on the personal learning goals formulated at the start of the project: gaining experience with Research through Design, collaborating within an organisation, applying participatory design, and managing my own perfectionism. Together, these reflections show not only what the project produced, but also what the process taught me.

11.1 Final reflection

This graduation project has been one of the most rewarding projects I have undertaken. It not only resulted in the design of NieuwsWijzer, but also shaped my development as a strategic designer. Looking back, the project can be reflected upon from two perspectives: the design process itself and the personal learning goals formulated at the start of this graduation project.

11.4.1 Reflection on the design process

The project followed a Research through Design approach, combining the Double Diamond process with co-creation and a broad range of research methods. Looking back, the process reflected both one of my greatest strengths and one of my greatest challenges: curiosity.

Discover

The Discover phase became broader than originally anticipated. News literacy proved to be a timely and multifaceted topic, connected to many different stakeholders. As many were willing to contribute, this led to a large number of interviews, conversations and collaboration opportunities. While this richness of perspectives strengthened the project, it also resulted in a large amount of qualitative data that could not always be analysed with the desired depth.

In hindsight, the challenge was not only the breadth of the topic, but also my own enthusiasm to follow every relevant lead. This taught me to prioritise more strictly. Focusing on fewer activities would have created more space for deeper analysis and reflection.



Define

During the Define phase, I initially explored a Vision in Product Design (ViP) approach. Although valuable, its long-term orientation did not fully align with the practical direction of this project, which aimed to develop a concept that could realistically be implemented in the near future. As a result, defining the design goal required several iterations before the project direction became clear.

It was while writing the thesis report that the different elements started to come together. The research findings, design vision, ecosystem perspective and concept direction gradually formed a coherent story. This reinforced my understanding of design as an iterative process, in which clarity often emerges through making, writing and reflecting.

Develop

The Develop phase reminded me that projects rarely unfold exactly as planned. My original intention was to organise several co-creation sessions with partner schools during the ideation phase. However, school holidays made this difficult. Initially, this felt like a setback, but discussing the problem with colleagues quickly led to an alternative route through NOS, which allowed me to organise valuable sessions with adolescents.

This experience taught me that sharing uncertainty can be more productive than trying to solve everything independently. Throughout the project, conversations with colleagues, supervisors and peers continuously improved both the design and my own thinking.

Another important development was discovering the potential of AI-supported prototyping. Learning to work with AI-assisted coding allowed me to rapidly prototype and iterate on NieuwsWijzer beyond what I would previously have considered possible. At the same time, I became more aware that AI requires careful direction.

Learning to structure prompts, refine outputs and critically evaluate results has become a valuable addition to my design toolkit.

Deliver

The Deliver phase was difficult mainly because it required deciding when to stop. Even while writing this reflection, I still see ideas I would like to explore, people I would like to speak to and improvements I would like to make.

This project reminded me that design is rarely truly finished; at some point, it becomes ready to be shared. Accepting that distinction remains one of my main personal challenges. I also learned that what feels unfinished to me is often already complete enough for others to understand and value.

11.1.1 Reflection on personal learning goals

At the start of this project, I formulated four personal learning goals.

Research through Design

This project expanded my experience with using design as a way of generating knowledge. Rather than treating research and design as separate phases, I learned how understanding can emerge through making, testing and reflecting. Prototyping, co-creation and iteration did not only support the development of NieuwsWijzer, but also helped clarify the problem, sharpen the design goal and reveal what the concept needed to become.

Organisational collaboration

One of my goals was to learn how to navigate a large public organisation. I expected organisational barriers and bureaucracy, but experienced the opposite. NOS offered remarkable openness, allowing me to connect with journalists, editors, researchers and external experts.

This taught me the importance of proactively approaching people and sharing ideas, as many opportunities emerged simply through conversation.

Participatory design

Facilitating co-creation sessions with adolescents became one of the most rewarding parts of the project. Initially, standing in front of classrooms felt outside my comfort zone. However, I discovered how much energy I gained from working directly with young people. Their creativity, critical questions and unexpected perspectives consistently improved the project and confirmed my belief in designing with users rather than for users.

Managing perfectionism

Finally, I wanted to learn how to better manage my perfectionism. This remains an ongoing learning process. While my high standards have undoubtedly strengthened the quality of the project, they also made it difficult to prioritise, scope realistically and recognise when something was good enough. Looking back, I realise that striving for excellence does not require doing everything. Instead, it requires making deliberate choices about where effort creates the most value.

11.1.2 Closing remarks

Although this report marks the end of my graduation project, it is not the end of the journey. NieuwsWijzer represents only a first step towards supporting the next generation in growing up with news, just as this graduation project represents the first step in my career as a strategic designer. I leave Delft not only with new knowledge and skills, but also confidence in the designer I have become, and excitement for the opportunities that lie ahead.

To borrow the words of a news presenter, albeit in written form: thank you for reading, and hopefully, see you next time.



Works cited

Ashley, S., Maksl, A., & Craft, S. (2013). Developing a news media literacy scale. *Journalism & Mass Communication Educator*, 68(1), 7–21. <https://doi.org/10.1177/1077695812469802>

Axelsson, C. A. W., Nygren, T., Roozenbeek, J., & van der Linden, S. (2025). Bad News in the civics classroom: How serious gameplay fosters teenagers' ability to discern misinformation techniques. *Journal of Research on Technology in Education*, 57(5), 992–1018. <https://doi.org/10.1080/15391523.2024.2338451>

Baghai, M., Coley, S., & White, D. (2000). *The alchemy of growth: Practical insights for building the enduring enterprise*. Perseus Books.

Baldassarre, B., Calabretta, G., Karpen, I. O., Bocken, N. M. P., & Hultink, E. J. (2024). Responsible design thinking for sustainable development: Critical literature review, new conceptual framework, and research agenda. *Journal of Business Ethics*, 195, 25–46. <https://doi.org/10.1007/s10551-023-05600-z>

Beeld & Geluid. (2025, August 12). Beeld & Geluid lanceert eerste Nederlandse Manifest Nieuwswijsheid. <https://nieuws.beeldengeluid.nl/252978-beeld-geluid-lanceert-eerste-nederlandse-manifest-nieuwswijsheid/>

Belz, F.-M., & Peattie, K. (2012). *Sustainability marketing: A global perspective* (2nd ed.). Wiley.

Berger, L. M., Kerkhof, A., Mindl, F., & Münster, J. (2025). Debunking “fake news” on social media: Immediate and short-term effects of fact-checking and media literacy interventions. *Journal of Public Economics*, 245, Article 105345. <https://doi.org/10.1016/j.jpubeco.2025.105345>

Blakston, A., Chambers, S., & Notley, T. (2025). Young people, algorithms and news: Exploring the relationship between algorithmic literacy and news literacy. *Journal of Youth Studies*. <https://doi.org/10.1080/13676261.2025.2571491>

Bogosavac, N. (2026, January 23). Steun voor socialemediaverbod voor jongeren groeit, vooral onder Gen Z. NOS. <https://nos.nl/artikel/2599319-steun-voor-socialemediaverbod-voor-jongeren-groeit-vooral-onder-gen-z>

Boghossian, R. (2026). What is vibe coding? Lovable. <https://lovable.dev/blog/what-is-vibe-coding>

Boik, A., Greenstein, S., & Prince, J. (2016). The empirical economics of online attention. *MIS Quarterly*, 40(2), 329–361. <https://doi.org/10.25300/MISQ/2016/40.2.04>

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>

Brilliant. (2026). Brilliant. Retrieved June 24, 2026, from <https://brilliant.org/>

Britannica. (2025). News. In *Encyclopaedia Britannica*. <https://www.britannica.com/topic/publishing/Growth-of-the-newspaper-business-in-the-English-speaking-world>

Britannica. (2026). What is news literacy and why does it matter? In *Encyclopaedia Britannica*. <https://www.britannica.com/topic/What-is-news-literacy-and-why-does-it-matter>

Brown, T. (2009). *Change by design: How design thinking creates new alternatives for business and society*. HarperBusiness.

Burroughs, S., Brocato, K., & Hopper, P. F. (2009). Media literacy: A central component of democratic citizenship. *The Educational Forum*, 73(2), 154–167. <https://doi.org/10.1080/00131720902739644>

Buxton, B. (2007). *Sketching user experiences: Getting the design right and the right design*. Morgan Kaufmann.

CBS. (2026). Dashboard bevolking: Jongeren. Centraal Bureau voor de Statistiek. Retrieved June 24, 2026, from <https://www.cbs.nl/nl-nl/visualisaties/dashboard-bevolking/leeftijd/jongeren>

CED Groep. (2026). Nieuwsbegrip. Retrieved June 24, 2026, from <https://www.nieuwsbegrip.nl/>

Coalitieakkoord. (2026). Aan de slag: Bouwen aan een beter Nederland. Coalitieakkoord 2026–2030. <https://www.rijksoverheid.nl/documenten/2026/01/30/aan-de-slag-bouwen-aan-een-beter-nederland>

Coleman, S. (2012). Believing the news: From sinking trust to atrophied efficacy. *European Journal of Communication*, 27(1), 35–45. <https://doi.org/10.1177/0267323112438806>

Commissariaat voor de Media. (2024). Jongeren, nieuws en sociale media: Een blik op de toekomst van het nieuws. <https://www.cvdm.nl/documents/3124/Rapport-Jongeren-nieuws-en-sociale-media.pdf>

Commissariaat voor de Media. (2026). Naar democratisch gezonde feeds. https://www.cvdm.nl/documents/3845/Toegankelijk_Rapport_Naar_democratisch_gezonde_feeds.pdf

Costera Meijer, I. (2007). The paradox of popularity: How young people experience the news. *Journalism Studies*, 8(1), 96–116. <https://doi.org/10.1080/14616700601056874>

Craft, S., Ashley, S., & Maksl, A. (2016). Elements of news literacy: A focus group study of how teenagers define news and why they consume it. *Electronic News*, 10(3), 143–160. <https://doi.org/10.1177/1931243116656716>

<https://doi.org/10.1177/1931243116656716>

De Bruin, K. (2025). Seeking nuance in news avoidance: Implications for individuals, journalism and society [Doctoral dissertation, Wageningen University]. Wageningen University & Research. <https://doi.org/10.18174/682405>

De Dag Vandaag. (2026). #Waarzeggers. Retrieved June 24, 2026, from <https://waarzeggers.org/>

De Leyn, T. (2021). Mediawijsheid door de bril van jongeren. Kenniscentrum Data & Maatschappij. <http://hdl.handle.net/1854/LU-8769612>

Design Council (2005). *A Study of the Design Process - The Double Diamond*. [https://www.designcouncil.org.uk/sites/default/files/asset/document/ElevenLessons_Design_Council%20\(2\).pdf](https://www.designcouncil.org.uk/sites/default/files/asset/document/ElevenLessons_Design_Council%20(2).pdf)

DichterBijNieuws. (2026). Toolkit nieuwswijsheid. Retrieved June 24, 2026, from <https://www.dichterbijnieuws.nl/toolkit>

Drok, N., Hermans, L., & Kats, K. (2018). Decoding youth DNA: The relationship between social engagement and news interest, news media use and news preferences of Dutch millennials. *Journalism*, 19(5), 699–717. <https://doi.org/10.1177/1464884917703469>

Duhigg, C. (2013). *The power of habit: Why we do what we do in life and business*. Random House.

Duvekot, S., Valgas, C. M., de Haan, Y., & de Jong, W. (2024). How youth define, consume, and evaluate news: Reviewing two decades of research. *New Media & Society*. <https://doi.org/10.1177/14614448241262809>

Edgerly, S., & Vraga, E. K. (2020). Deciding what's news: News-ness as an audience concept for the hybrid media environment. *Journalism & Mass Communication Quarterly*, 97(2), 416–434. <https://doi.org/10.1177/1077699020916808>

Edgerly, S., Vraga, E. K., Bode, L., Thorson, K., & Thorson, E. (2018). New media, new relationship to participation? A closer look at youth news repertoires and political participation. *Journalism & Mass Communication Quarterly*, 95(1), 192–212. <https://doi.org/10.1177/1077699017706928>

Egan, J., Robertson, C. T., Ross Arguedas, A., Newman, N., Kleis Nielsen, R., Mukherjee, M., & Fletcher, R. (2026). Reuters Institute Digital News Report 2026. Reuters Institute for the Study of Journalism. <https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2026>

European Broadcasting Union. (n.d.). Public service media. Retrieved June 24, 2026, from <https://www.ebu.ch/about/public->

service-media	Groot Kormelink, T., Braan, M., & van de Kar, D. (2026). Managing media use: How young adults deal with information abundance. <i>Media, Culture & Society</i> . https://doi.org/10.1177/01634437261429325	kahoot.com/		Mann, R. B. (2026). Navigating digital realities: Understanding young people's engagement with social media for news, political information, and identity formation. <i>Journal of Adolescent & Adult Literacy</i> , 69, Article e70028. https://doi.org/10.1002/jaal.70028	from https://www.nieuwsindeklas.nl/evenementen/breaking-news/	in de klas. Retrieved June 24, 2026, from https://www.oberon.eu/portfolio/evaluatie-landelijke-afpraak-over-mobielgebruik-in-de-klas/
European Commission. (2025). AI literacy: Questions & answers. https://digital-strategy.ec.europa.eu/en/faqs/ai-literacy-questions-answers	Groot Kormelink, T., & Lamot, K. (2025). Netherlands. In N. Newman, A. Ross Arguedas, C. T. Robertson, R. Kleis Nielsen, & R. Fletcher, Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	Kendrick, A., & Fullerton, J. A. (2019). Dimensions of news media literacy among U.S. advertising students. <i>Journal of Advertising Education</i> , 23(1), 7–21. https://doi.org/10.1177/1098048218824895	Marchi, R. (2012). With Facebook, blogs, and fake news, teens reject journalistic "objectivity." <i>Journal of Communication Inquiry</i> , 36(3), 246–262. https://doi.org/10.1177/0196859912458700	Nicolaou, A., & Fontanella-Khan, J. (2021). The fight for the future of America's local newspapers. <i>Financial Times</i> .	OCW in cijfers. (2025). Leerlingenaantallen voortgezet onderwijs. https://www.ocwincijfers.nl/sectoren/voortgezet-onderwijs/leerlingen/leerlingenaantallen-voortgezet-onderwijs	
European Commission. (2026). Digital Services Act. Retrieved June 24, 2026, from https://digital-strategy.ec.europa.eu/en/policies/digital-services-act	Heijne, K., & van der Meer, H. (2019). Road map for creative problem solving techniques: Organizing and facilitating group sessions. <i>Boom</i> .	Kleemans, M. (2024). Als ik de baas zou zijn (van het journaal) [Inaugural lecture]. Radboud Universiteit. https://hdl.handle.net/2066/304187	McCombs, M., Holbert, R. L., Kioussis, S., & Wanta, W. (2011). The news and public opinion: Media effects on civic life. Polity Press.	Over NOS. (n.d.-a). Over de NOS. Retrieved March 20, 2026, from https://over.nos.nl/	Over NOS. (n.d.-b). Taken en missie. Retrieved June 24, 2026, from https://over.nos.nl/organisatie/taken-en-missie/	
European Union. (2024). European Media Freedom Act. https://eur-lex.europa.eu/EN/legal-content/summary/european-media-freedom-act.html	Heijstek-Hofman, A., van Amelsvoort, M., & van Dijk-Groeneboer, M. (2025). Burgerschap in de volle breedte: Analyse van elf schoolleiden burgerschapsvakken in het openbaar voortgezet onderwijs in het licht van de wettelijke burgerschapsopdracht. <i>Religie & Samenleving</i> , 20(2), 83–109. https://doi.org/10.54195/RS.18444	Kleemans, M., & Eggink, G. (2016). Understanding news: The impact of media literacy education on teenagers' news literacy. <i>Journalism Education</i> , 5(1), 74–88.	Meyer, T., Kerkhof, A., Cennamo, C., & Kretschmer, T. (2024). Competing for attention on digital platforms: The case of news outlets. <i>Strategic Management Journal</i> , 45(9), 1731–1790. https://doi.org/10.1002/smj.3600	NOS. (2026). NOS digitaal bereik [Internal data]. Nederlandse Omroep Stichting.	NOS. (2026). NOS digitaal bereik [Internal design file]. Nederlandse Omroep Stichting.	
Fisher, J. D., & Fisher, W. A. (1992). Changing AIDS-risk behavior. <i>Psychological Bulletin</i> , 111(3), 455–474. https://doi.org/10.1037/0033-2909.111.3.455	Hekker, P., & van Dijk, M. (2011). Vision in design: A guidebook for innovators. BIS Publishers.	Kohnstamm Instituut, & Oberon. (2026). Eindrapport monitoring landelijke afspraak mobiele telefoons en andere devices in de klas. https://kohnstammstituut.nl/rapport/eindrapport-monitoring-landelijke-afpraak-mobiele-telefoons-en-andere-devices-in-de-klas/	Mindich, D. T. Z. (2005). Tuned out: Why Americans under 40 don't follow the news. Oxford University Press.	NOS. (2026). NOS Financieel Jaarverslag 2025. https://over.nos.nl/wp-content/uploads/2026/04/NOS-Financieel-Jaarverslag-2025-ter-publicatie.pdf	NOS. (2026). NOS Financieel Jaarverslag 2025. https://over.nos.nl/wp-content/uploads/2026/04/NOS-Financieel-Jaarverslag-2025-ter-publicatie.pdf	
Fisher, J. D., & Fisher, W. A. (2002). The information-motivation-behavioral skills model. In R. J. DiClemente, R. A. Crosby, & M. C. Kegler (Eds.), <i>Emerging theories in health promotion practice and research: Strategies for improving public health</i> (pp. 40–70). Jossey-Bass.	Helliwell, J. F., Layard, R., Sachs, J. D., De Neve, J.-E., Aknin, L. B., & Wang, S. (Eds.). (2026). <i>World Happiness Report 2026</i> . Sustainable Development Solutions Network. https://files.worldhappiness.report/WHR26.pdf	Kolb, D. A., Boyatzis, R. E., & Mainemelis, C. (2001). Experiential learning theory: Previous research and new directions. In R. J. Sternberg & L.-F. Zhang (Eds.), <i>Perspectives on thinking, learning, and cognitive styles</i> (pp. 227–247). Lawrence Erlbaum.	Muratovski, G. (2022). Research for designers: A guide to methods and practice (2nd ed.). SAGE.	NOS. (2026). NOS Lab jaarplanning 2026 [Internal planning document]. Nederlandse Omroep Stichting.	NOS. (2026). NOS Lab jaarplanning 2026 [Internal planning document]. Nederlandse Omroep Stichting.	
Fleming, J. (2014). Media literacy, news literacy, or news appreciation? A case study of the news literacy program at Stony Brook University. <i>Journalism & Mass Communication Educator</i> , 69(2), 146–165. https://doi.org/10.1177/1077695813517885	Hermida, A. (2010). From TV to Twitter: How ambient news became ambient journalism. <i>M/C Journal</i> , 13(2). https://doi.org/10.5204/mcj.220	Ku, K. Y. L., Kong, Q., Song, Y., Deng, L., Kang, Y., & Hu, A. (2019). What predicts adolescents' critical thinking about real-life news? The roles of social media news consumption and news media literacy. <i>Thinking Skills and Creativity</i> , 33, Article 100570. https://doi.org/10.1016/j.tsc.2019.05.004	NDP Nieuwsmedia. (n.d.). Nieuws in de klas. Retrieved June 24, 2026, from https://www.nieuwsindeklas.nl/	NOS op 3. (2025, November 29). Zijn sociale media het nieuwe roken? [Video]. NOS. https://nos.nl/op3/video/2592476-zijn-sociale-media-het-nieuwe-roken	NOS op 3. (2025, November 29). Zijn sociale media het nieuwe roken? [Video]. NOS. https://nos.nl/op3/video/2592476-zijn-sociale-media-het-nieuwe-roken	
Gabillon, Z. (2016). The Zone of Proximal Development [Figure]. ResearchGate. https://www.researchgate.net/figure/The-Zone-of-Proximal-Development_fig2_342479798	Het Klokhuis. (2026). Brand. Retrieved June 24, 2026, from https://brand.hetklokhuis.nl/nl	Lally, P., van Jaarsveld, C. H. M., Potts, H. W. W., & Wardle, J. (2010). How are habits formed: Modelling habit formation in the real world. <i>European Journal of Social Psychology</i> , 40(6), 998–1009. https://doi.org/10.1002/ejsp.674	NDP Nieuwsmedia. (n.d.). Nieuws in de klas. Retrieved June 24, 2026, from https://www.nieuwsindeklas.nl/	NEMO Kennislink. (n.d.). Wie is de trol? Retrieved June 24, 2026, from https://www.nemokennislink.nl/series/wie-is-de-trol	NEMO Kennislink. (n.d.). Wie is de trol? Retrieved June 24, 2026, from https://www.nemokennislink.nl/series/wie-is-de-trol	
Geels, F. W. (2005). Technological transitions and system innovations: A co-evolutionary and socio-technical analysis. Edward Elgar.	Het Mediateam. (2026). Filterbubbel.nl. Retrieved June 24, 2026, from https://www.filterbubbel.nl/	Lee, J. Y., Park, S., & Notley, T. (2025). Exploring how young people's access to news literacy education influences their digital civic engagement. <i>Journal of Applied Youth Studies</i> . https://doi.org/10.1007/s43151-025-00200-2	Newcom. (2026). Nationale Social Media Onderzoek 2026. https://www.newcom.nl/nationale-sociale-media-onderzoek-2026/	Network Mediawijsheid. (n.d.). Iedereen mediawijs. Retrieved June 24, 2026, from https://netwerkmediawijsheid.nl/	Network Mediawijsheid. (n.d.). Iedereen mediawijs. Retrieved June 24, 2026, from https://netwerkmediawijsheid.nl/	
Geers, S., Boukes, M., & Moeller, J. (2020). Bridging the gap? The impact of a media literacy educational intervention on news media literacy, political knowledge, political efficacy among lower-educated youth. <i>Journal of Media Literacy Education</i> , 12(2), 41–53. https://doi.org/10.23860/JMLE-2020-12-2-4	Hobbs, R. (2010). Digital and media literacy: A plan of action. The Aspen Institute.	Maks, A., Ashley, S., & Craft, S. (2015). Measuring news media literacy. <i>Journal of Media Literacy Education</i> , 6(3), 29–45. https://digitalcommons.uri.edu/jmle/vol6/iss3/3/	Newman, N. (2026). Journalism, media, and technology trends and predictions 2026. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-ps1d-np11	Network Mediawijsheid. (n.d.). Week van de Mediawijsheid. Retrieved June 24, 2026, from https://www.weekvandemediawijsheid.nl/	Network Mediawijsheid. (n.d.). Week van de Mediawijsheid. Retrieved June 24, 2026, from https://www.weekvandemediawijsheid.nl/	
Gil de Zúñiga, H., Weeks, B., & Ardèvol-Abreu, A. (2017). Effects of the news-finds-me perception in communication: Social media use implications for news seeking and learning about politics. <i>Journal of Computer-Mediated Communication</i> , 22(3), 105–123. https://doi.org/10.1111/jcc4.12185	Human. (2026). Medialogica. Retrieved June 24, 2026, from https://www.human.nl/medialogica.html	Malik, A. (2025). The future of print media: Is there a path to sustainability? https://www.researchgate.net/publication/395257834_THE_FUTURE_OF_PRINT_MEDIA_IS_THERE_A_PATH_TO_SUSTAINABILITY	Newman, N., Fletcher, R., Schulz, A., Andi, S., Robertson, C. T., & Kleis Nielsen, R. (2021). Reuters Institute Digital News Report 2021. Reuters Institute for the Study of Journalism. https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2021	NPO. (2026a). NPO schrappt in aanbodkanalen en organisatie. https://npo.nl/pers/persberichten-en-publicaties/npo-schrapt-in-aanbodkanalen-en-organisatie	NPO. (2026a). NPO schrappt in aanbodkanalen en organisatie. https://npo.nl/pers/persberichten-en-publicaties/npo-schrapt-in-aanbodkanalen-en-organisatie	
Groot Kormelink, T. (2022). How people integrate news into their everyday routines: A context-centered approach to news habits. <i>Digital Journalism</i> , 11(1), 19–38. https://doi.org/10.1080/21670811.2022.2112519	IDEO. (2015). The field guide to human-centered design. IDEO.org.	Malik, M., Cortesi, S., & Gasser, U. (2013). The challenges of defining "news literacy." Berkman Center for Internet & Society. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2342313	Newman, N., Ross Arguedas, A., Robertson, C. T., Kleis Nielsen, R., & Fletcher, R. (2025). Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	NPO. (2026b). Perspectief op een toekomstbestendige publieke omroep. https://npo.nl/pers/persberichten-en-publicaties/perspectief-op-een-toekomstbestendige-publieke-omroep	NPO. (2026b). Perspectief op een toekomstbestendige publieke omroep. https://npo.nl/pers/persberichten-en-publicaties/perspectief-op-een-toekomstbestendige-publieke-omroep	
Groot Kormelink, T. (2022). How people integrate news into their everyday routines: A context-centered approach to news habits. <i>Digital Journalism</i> , 11(1), 19–38. https://doi.org/10.1080/21670811.2022.2112519	Inspectie van het Onderwijs. (n.d.). Wettelijke opdracht burgerschap. Retrieved June 24, 2026, from https://www.onderwijsinspectie.nl/onderwerpen/toezicht-2017/burgerschap/wettelijke-opdracht	Newcom. (2026). Nationale Social Media Onderzoek 2026. https://www.newcom.nl/nationale-sociale-media-onderzoek-2026/	Newman, N., Ross Arguedas, A., Robertson, C. T., Kleis Nielsen, R., & Fletcher, R. (2025). Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	
Groot Kormelink, T. (2022). How people integrate news into their everyday routines: A context-centered approach to news habits. <i>Digital Journalism</i> , 11(1), 19–38. https://doi.org/10.1080/21670811.2022.2112519	Kahoot! (2026). Kahoot! Retrieved June 24, 2026, from https://kahoot.com/	Newcom. (2026). Nationale Social Media Onderzoek 2026. https://www.newcom.nl/nationale-sociale-media-onderzoek-2026/	Newman, N., Ross Arguedas, A., Robertson, C. T., Kleis Nielsen, R., & Fletcher, R. (2025). Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	
Groot Kormelink, T. (2022). How people integrate news into their everyday routines: A context-centered approach to news habits. <i>Digital Journalism</i> , 11(1), 19–38. https://doi.org/10.1080/21670811.2022.2112519	Inspectie van het Onderwijs. (n.d.). Wettelijke opdracht burgerschap. Retrieved June 24, 2026, from https://www.onderwijsinspectie.nl/onderwerpen/toezicht-2017/burgerschap/wettelijke-opdracht	Newcom. (2026). Nationale Social Media Onderzoek 2026. https://www.newcom.nl/nationale-sociale-media-onderzoek-2026/	Newman, N., Ross Arguedas, A., Robertson, C. T., Kleis Nielsen, R., & Fletcher, R. (2025). Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	
Groot Kormelink, T. (2022). How people integrate news into their everyday routines: A context-centered approach to news habits. <i>Digital Journalism</i> , 11(1), 19–38. https://doi.org/10.1080/21670811.2022.2112519	Inspectie van het Onderwijs. (n.d.). Wettelijke opdracht burgerschap. Retrieved June 24, 2026, from https://www.onderwijsinspectie.nl/onderwerpen/toezicht-2017/burgerschap/wettelijke-opdracht	Newcom. (2026). Nationale Social Media Onderzoek 2026. https://www.newcom.nl/nationale-sociale-media-onderzoek-2026/	Newman, N., Ross Arguedas, A., Robertson, C. T., Kleis Nielsen, R., & Fletcher, R. (2025). Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	
Groot Kormelink, T. (2022). How people integrate news into their everyday routines: A context-centered approach to news habits. <i>Digital Journalism</i> , 11(1), 19–38. https://doi.org/10.1080/21670811.2022.2112519	Inspectie van het Onderwijs. (n.d.). Wettelijke opdracht burgerschap. Retrieved June 24, 2026, from https://www.onderwijsinspectie.nl/onderwerpen/toezicht-2017/burgerschap/wettelijke-opdracht	Newcom. (2026). Nationale Social Media Onderzoek 2026. https://www.newcom.nl/nationale-sociale-media-onderzoek-2026/	Newman, N., Ross Arguedas, A., Robertson, C. T., Kleis Nielsen, R., & Fletcher, R. (2025). Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	
Groot Kormelink, T. (2022). How people integrate news into their everyday routines: A context-centered approach to news habits. <i>Digital Journalism</i> , 11(1), 19–38. https://doi.org/10.1080/21670811.2022.2112519	Inspectie van het Onderwijs. (n.d.). Wettelijke opdracht burgerschap. Retrieved June 24, 2026, from https://www.onderwijsinspectie.nl/onderwerpen/toezicht-2017/burgerschap/wettelijke-opdracht	Newcom. (2026). Nationale Social Media Onderzoek 2026. https://www.newcom.nl/nationale-sociale-media-onderzoek-2026/	Newman, N., Ross Arguedas, A., Robertson, C. T., Kleis Nielsen, R., & Fletcher, R. (2025). Reuters Institute Digital News Report 2025. Reuters Institute for the Study of Journalism. https://doi.org/10.60625/risj-8qqf-jt36	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	NTR. (n.d.). Over NTR. Retrieved June 24, 2026, from https://over.ntr.nl/	

Russo, S., & Stattin, H. (2017). Stability and change in youths' political interest. *Social Indicators Research*, 132, 643–658. <https://doi.org/10.1007/s11205-016-1302-9>

Salmela-Aro, K. (2011). Stages of adolescence. In B. B. Brown & M. J. Prinstein (Eds.), *Encyclopedia of adolescence* (pp. 360–368). Academic Press.

Sanders, E. B.-N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *CoDesign*, 4(1), 5–18. <https://doi.org/10.1080/15710880701875068>

Schooltv. (n.d.). Schooltv. Retrieved June 24, 2026, from <https://schooltv.nl/>

Schrijvers, E., Damstra, A., Askari, L., Hoogendoorn, K., & Bijleveld, C. (2026). Media matters: Towards new safeguards for their democratic functions. Springer. <https://doi.org/10.1007/978-3-032-11327-6>

Schut, K., Costera Meijer, I., & Lauf, E. (2024). Jongeren, nieuws en sociale media: Een blik op de toekomst van het nieuws. Commissariaat voor de Media. <https://www.cvdm.nl/documents/3124/Rapport-Jongeren-nieuws-en-sociale-media.pdf>

Scriven, M. (1967). The methodology of evaluation. In R. E. Stake (Ed.), *Curriculum evaluation* (pp. 39–83). Rand McNally.

Seo, H., Xiong, A., & Lee, D. (2022). Trust it or not: Effects of machine-learning warnings in helping individuals mitigate misinformation. *Information, Communication & Society*, 25(14), 2100–2116. <https://doi.org/10.1080/1369118X.2021.1961858>

Simonse, L. (2017). Design roadmapping: Guidebook for future foresight techniques. BIS Publishers.

Sisk, L. M., & Gee, D. G. (2022). Stress and adolescence: Vulnerability and opportunity during a sensitive window of development. *Current Opinion in Psychology*, 44, 286–292. <https://doi.org/10.1016/j.copsyc.2021.10.005>

Skipper, Y., Jolley, D., & Reddington, J. (2023). “But wait, that isn’t real”: A proof-of-concept study evaluating Project Real, a co-created intervention that helps young people to spot fake news online. *British Journal of Developmental Psychology*, 41(4), 371–384. <https://doi.org/10.1111/bjdp.12456>

Smagorinsky, P. (2018). Deconflating the ZPD and instructional scaffolding: Retranslating and reconceiving the zone of proximal development as the zone of next development. *Learning, Culture and Social Interaction*, 16, 70–75. <https://doi.org/10.1016/j.lcsi.2017.10.009>

Staatscommissie tegen Discriminatie en Racisme. (2026, February 11). Uitspraken politici vergroten online discriminatie: Discriminerende taal wordt normaal. <https://www.staatscommissietegendiscriminatieenracisme.nl/actueel/nieuws/2026/02/11/uitspraken-politici-vergroten-online-discriminatie-discriminerende-taal-wordt-normaal>

Stappers, P. J., & Giaccardi, E. (2017). Research through design. In M. Soegaard & R. Friis-Dam (Eds.), *The encyclopedia of human-computer interaction* (2nd ed.). Interaction Design Foundation.

Ster. (n.d.). NPO 3. Retrieved June 24, 2026, from <https://www.ster.nl/bereik-doelgroepen/np0-3/>

Stilgoe, J., Owen, R., & Macnaghten, P. (2013). Developing a framework for responsible innovation. *Research Policy*, 42(9), 1568–1580. <https://doi.org/10.1016/j.respol.2013.05.008>

Om Oss SVT. (2026, June 11). Drygt var tredje högstadielev använder Nyhetskoll: Så kan mediehusen bli bättre på att nå unga. <https://omoss.svt.se/arkiv/bloggarkiv/2026-06-11-drygt-var-tredje-hogstadielev-anvander-nyhetskoll---sa-kan-mediehusen-bli-battre-pa-att-na-unga.html>

Sveriges Television. (n.d.). Om oss. Retrieved June 24, 2026, from <https://www.svt.se/omoss/>

Swart, J. (2021). Tactics of news literacy: How young people access, evaluate, and engage with news on social media. *New Media & Society*, 25(3), 505–521. <https://doi.org/10.1177/14614448211011447>

Swart, J., & Broersma, M. (2021). The trust gap: Young people's tactics for assessing the reliability of political news. *The International Journal of Press/Politics*, 27(2), 396–416. <https://doi.org/10.1177/19401612211006696>

Swart, J., & Broersma, M. (2022). Met het hoofd of met de buik? Tactieken van jongeren om te bepalen of politiek nieuws “betrouwbaar genoeg” is. *Mens & Maatschappij*, 97(1), 104–109. <https://doi.org/10.5117/MEM2022.1.014.SWAR>

Tamboer, S. L. (2023). Understanding and stimulating early adolescents' news literacy application [Doctoral dissertation, Radboud University]. Radboud Repository. <https://repository.ubn.ru.nl/>

Tamboer, S. L., Kleemans, M., & Daalmans, S. (2022). “We are a neeeew generation”: Early adolescents' views on news and news literacy. *Journalism*, 23(4), 806–822. <https://doi.org/10.1177/1464884920924527>

Tamboer, S. L., Kleemans, M., & Daalmans, S. (2023). Developing a model of news literacy in early adolescents: A survey study. *Mass*

Communication and Society, 26(1), 74–98. <https://doi.org/10.1080/15205436.2022.2048027>

Tamboer, S. L., Molenaar, I., Bosse, T., & Kleemans, M. (2024). Testing an intervention to stimulate early adolescents' news literacy application in the Netherlands: A classroom experiment. *Journal of Children and Media*, 18(1), 60–79. <https://doi.org/10.1080/17482798.2023.2271078>

Tamboer, S. L., Vlaanderen, A., Bevelander, K. E., & Kleemans, M. (2024). Do you know what fake news is? An exploration of and intervention to increase youth's fake news literacy. *Youth & Society*, 56(4), 774–792. <https://doi.org/10.1177/0044118X231205930>

Tandoc, E. C., Jr., Lim, Z. W., & Ling, R. (2018). Defining “fake news”: A typology of scholarly definitions. *Digital Journalism*, 6(2), 137–153. <https://doi.org/10.1080/21670811.2017.1360143>

Tench, B. (2026, May 7). Why banning kids from AI isn't the answer. *Vox*. <https://www.vox.com/life/487845/ai-ban-kids-manitoba-social-media-education-schools>

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8, Article 45. <https://doi.org/10.1186/1471-2288-8-45>

Tilt Studio. (n.d.). Bad News. Retrieved June 24, 2026, from <https://www.getbadnews.com/>

Tully, M., Vraga, E. K., & Bode, L. (2021). Designing and testing news literacy messages for social media. *Mass Communication and Society*, 24(1), 22–46. <https://doi.org/10.1080/15205436.2020.1821670>

United Nations. (n.d.). Youth. Retrieved June 24, 2026, from <https://www.un.org/en/global-issues/youth>

UseTheNews. (n.d.). UseTheNews. Retrieved June 24, 2026, from <https://www.usethenews.nl/>

Valkenburg, P. M., & Piotrowski, J. T. (2017). *Plugged in: How media attract and affect youth*. Yale University Press.

van Boeijen, A., Daalhuizen, J., & Zijlstra, J. (Eds.). (2020). *Delft design guide: Perspectives, models, approaches, methods* (Rev. ed.). BIS Publishers.

van der Heijden, K. (2005). *Scenarios: The art of strategic conversation* (2nd ed.). Wiley.

Verplanken, B. (2018). *The psychology of habit: Theory, mechanisms, change, and contexts*. Springer. <https://doi.org/10.1007/978-3-319-97529-0>

Voros, J. (2003). A generic foresight process framework. *Foresight*, 5(3), 10–21. <https://doi.org/10.1108/14636680310698379>

Vraga, E. K., & Tully, M. (2016). Effective messaging to communicate news media literacy concepts to diverse publics. *Communication and the Public*, 1(3), 305–322. <https://doi.org/10.1177/2057047316672671>

Vraga, E. K., & Tully, M. (2021). News literacy, social media behaviours, and skepticism toward information on social media. *Information, Communication & Society*, 24(2), 150–166. <https://doi.org/10.1080/1369118X.2019.1637445>

Vraga, E. K., Tully, M., & Rojas, H. (2015). Media literacy training reduces perception of bias. *Newspaper Research Journal*, 36(4), 376–388. <https://doi.org/10.1177/0739532915612687>

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Wharton, C., Rieman, J., Lewis, C., & Polson, P. (1994). The cognitive walkthrough method: A practitioner's guide. In J. Nielsen & R. L. Mack (Eds.), *Usability inspection methods* (pp. 105–140). Wiley.

Wood, W., & Neal, D. T. (2007). A new look at habits and the habit-goal interface. *Psychological Review*, 114(4), 843–863. <https://doi.org/10.1037/0033-295X.114.4.843>

Wunderlich, L., Hölig, S., & Hasebrink, U. (2022). Does journalism still matter? The role of journalistic and non-journalistic sources in young people's news related practices. *The International Journal of Press/Politics*, 27(3), 569–588. <https://doi.org/10.1177/19401612211072547>

York, C., & Scholl, R. M. (2015). Youth antecedents to news media consumption: Parent and youth newspaper use, news discussion, and long-term news behavior. *Journalism & Mass Communication Quarterly*, 92(3), 681–699. <https://doi.org/10.1177/1077699015588191>

