

BUILDING LEARNER RESILIENCE TO CLIMATE CHANGE DISINFORMATION THROUGH MEDIA AND INFORMATION LITERACY: A SOUTH AFRICAN CASE STUDY

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ABSTRACT

Climate change poses one of the most complex global challenges, significantly impacting vulnerable populations such as children. Despite increasing media information on climate change, little focus has been placed on equipping children with critical Media and Information Literacy (MIL) skills to combat climate disinformation. This study explores how MIL skills, including critical thinking, credible sourcing, and fact-checking, empower young learners to identify, challenge, and build resilience against climate misinformation. The findings highlight the transformative role of MIL in turning children into active agents for climate truth and recommend integrated MIL approaches in educational and policy frameworks to strengthen youth resilience against climate disinformation.

INTRODUCTION

Climate change is one of the world's biggest challenges with complex impacts, especially on vulnerable groups like children. Despite growing information on climate change across traditional and digital media, relatively little attention has been given to equipping children with the skills to counter the widespread mis- and disinformation about its causes and impacts. This paper examines how Media and Information Literacy (MIL) can provide children with critical thinking, credible sourcing, and fact-checking skills to combat climate disinformation and build resilience. The research hypothesizes that MIL skills focused on these areas can empower learners to effectively challenge climate misinformation. This study uses the Article 12 Policy Working Group who have been trained on digital and media literacy in South Africa as a case study. The paper is organized into five sections: Section one establishes the problem and defines key terms; Section two presents MIL's five core competencies and reviews its relevance and effectiveness in climate education; Section three details the qualitative comparative methodology involving 16 learners split between MIL-trained Article 12 Policy Working Group in Gauteng and non-MIL-trained learners in KwaZulu-Natal; Section 4 discusses findings from mixed-method data collected via Zoom polls, image analysis, and interviews; and Section 5 offers recommendations and conclusions for educators, policymakers, and practitioners aiming to strengthen learners' resilience against climate disinformation.

BACKGROUND & PROBLEM STATEMENT

UNESCO proposes two definitions that are particularly helpful in trying to understand mis and disinformation.

- Misinformation is generally used to refer to “misleading information created or disseminated without manipulative or malicious intent.”
- Disinformation is generally used to refer to “deliberate (often orchestrated) attempts to confuse or manipulate people through delivering dishonest information to them.”¹

The major difference in these two definitions is the concept of intention, which implies that with disinformation, there is a strategic plan of action or activities carried out using online platforms to disseminate posts, videos, and/or messages to an intended audience, with the clear intention to cause confusion or evoke fear, anxiety and anger, and build a distrust when authority speaks - all of which has the potential to cause public harm.² Therefore for the purpose of this research, the focus will be on disinformation as it relates to climate change.

Climate change disinformation is the creation and/or spreading of misleading information about climate change that is not based on scientific evidence or research, and which overwhelms and plays on people’s emotions with the intention to cause confusion and conflict around action that should be taken to tackle climate change.³

The United Nations Convention on the Rights of the Child (UNCRC) General Comments 25 and 26 emphasize protecting children’s digital rights, including addressing online harms like disinformation. The African Charter on the Rights and Welfare of the Child (ACRWC) reinforces this by prioritizing the best interests of the child (Article 4), guaranteeing their right to freely express opinions (Articles 4 and 7), and ensuring the right to education that fosters respect for the environment (Article 11). Climate change disinformation on social media infringes on children’s rights to freedom of expression and access to accurate information, as their developing cognitive and emotional capacities affect their ability to critically engage with content. This exposure undermines their ability to make informed decisions and participate in climate change adaptation and mitigation efforts.⁴

The following characteristics of social media are worth mentioning as they illustrate

¹ UNESCO, ‘Journalism, ‘fake news’ and disinformation’: Handbook for journalism education and training’ (2018) (accessible [here](#)).

² Media Monitoring Africa, ‘Climate Disinformation: Consequences and Solutions’(2024) (accessible [here](#)).

³ Media Monitoring Africa (n2).

⁴ Media Monitoring Africa (n2).

the impact of disinformation, especially on children's right to freedom of expression and access to information.

1. Artificial intelligence(AI), which is machine learning, makes it difficult for children to distinguish between truth and fiction.
2. The speed of dissemination of online content has created a global community where time and space no longer has a significant impact on how we communicate online. This means that a single post, image or video can reach millions of people instantaneously and users, including children can engage by sharing ,liking or even commenting on content.
3. Bots which are often used to spread certain messaging online, ensure that certain online content remains visible to its intended audience.
4. Algorithms track online behavior to suggest content that aligns with children's preferences. This creates echo chambers that lock children in a specific set of viewpoints, and reinforces their own existing beliefs and interests and closes them off from other differing viewpoints.
5. Polarisation of children's views on climate change issues,make it extremely difficult to encourage climate change action.⁵

The benefits of MIL skills for learners

A key area of MIL research examines whether MIL training equips individuals to detect and combat inaccurate news. Although not child-focused, Jones-Jang, Mortensen, and Liu (2019)⁶ studied whether individuals that possessed greater literacy (media, information, news, and digital literacies) had a greater ability to recognise fake news. Research findings showed that information literacy skills significantly increased the likelihood of an individual's ability to identify fake news stories, when compared to other literacies (media, news and digital). The research also highlighted that in thinking about MIL skills, the focus should move away from developing MIL skills that teach learners the difference between fake news and truthful content but rather focus on developing learners' resilience and cynicism for all media so they are always applying critical thinking to information and content.⁷ In another international case study by Julian McDougall (2019) which solicited views from a diverse range of participants, including US and UK researchers, industry experts and stakeholders, journalists, students and teachers. The study found that information literacy that focuses on critical media literacy training and projects that improved young people's competencies, rather than providing resources and tools (i.e verification tools), had the

⁵ Media Monitoring Africa (n2).

⁶ Jones-Jang M., Mortensen, T., & Jingjing, L. (2019). 'Does Media Literacy Help Identification of Fake News? Information Literacy Helps, but Other Literacies Don't'. American Behavioral Scientist.(accessible [here](#)).

⁷ Jones-Jang M. et al. (2019) (n6).

greatest impact in increasing young people's resilience when engaging with media.⁸ Research that highlights the state of media literacy in the Sub-Saharan African⁹, as well as research conducted by Afrika Check¹⁰ within the South African context both refer to a new concept within the MIL space, misinformation literacy which is the knowledge and skills needed to identify and dismiss false information. It is defined as: 'Knowledge of the forms that misinformation and accurate information take, the processes by which they are produced or emerge, are distributed and consumed, by whom, where, and on what topics, and the skills to distinguish one from the other.'¹¹ Both pieces of research suggest that misinformation literacy training, tools and resources against the backdrop of an increasingly digital world, is required within the South Africa context. Especially because as of 2019, only one province (the Western Cape) out of 9 provinces in South Africa have introduced basic informational literacy through an online safety initiative into the schooling curriculum.

UNESCO presents Media and Information Literacy (MIL) as an umbrella term that is characterized by the interrelatedness of competencies that relate to information and communication broadly and media in particular. This concept also brings into focus certain human literacy rights such as the right to receive and impart information - which are underpinned by computer literacy, data and information literacy, privacy rights, news literacy and intercultural communication and literacy. In light of this broad and all encompassing definition of MIL, it becomes clear that it is an increasingly essential life skill especially in the digital world where online platforms are increasingly interconnected with individual identity.¹²

In recent years researchers have explored five different attributes of an individual who is considered to have digital, media and information literacy. These are:

- Access: The ability to use media and technology to find relevant and appropriate information. directly translated into a This can be translated to
- Analyze: The ability to apply critical thinking to a given message or piece of information to better understand the intended message, who it's targeted at, assess the credibility of that message and the potential consequences of that information on the actions and behaviors of its intended audience.
- Create: The ability to create messages or information that illustrate creativity, proper use of communication techniques and has a clear intended purpose.

⁸ Julian Mcdougall. (2019). 'Media Literacy versus Fake News: critical thinking, resilience and civic engagement.' (accessible [here](#)).

⁹ Cunliffe-Jones, P., Gaye, S., Gichunge, W., Onumah, C., Pretorius, C., & Schiffrin, A. (2021). 'The State of Media Literacy In Sub-Saharan Africa 2020 and a Theory of Misinformation Literacy. In Misinformation Policy In Sub-Saharan Africa: From Laws and Regulations to Media Literacy.' (pp. 5–96). University of Westminster Press.

¹⁰ Afrika Check (2022). 'An Assessment of Media Literacy and Fact-checking Training Needs in South African Schools and Universities.' (accessible [here](#)).

¹¹ Cunliffe-Jones, P. et al. 2021(n9).

¹² UNESCO, <https://en.unesco.org/themes/media-and-information-literacy> [accessed 12/09/2024].

- Reflect: The ability to understand how technology and information shapes society's thinking and behavior and the need to use technology and information ethically and in a manner that advances human rights.
- Act: The ability to use the information to work with others to solve problems and participate in decision making processes that strengthen community and democratic values.¹³

While the mentioned studies are relevant for this research as it validates the hypothesis that MIL skills can contribute towards building resilience against disinformation, it is clear that there is no one set of literacy skills that are exclusive to fighting against disinformation. There is also limited research within the South African context on the specific impact of MIL skills as a tool to empower learners to fight against climate change disinformation, actively participate in planning for disasters and response, and build supportive health and mental well-being strategies to tackle trauma and stress related to climate change, as well as protect natural systems. Therefore this research relies heavily on the voices, opinions and work of the Web Ranger Article 12 Policy Working Group¹⁴ as the curricula used to train these learners contain the different kinds of digital, media and information literacies, practical tools to fight against disinformation, as well as a platform to cautiously engage in discussions around such topics. Although the research focuses on MIL skills, climate change disinformation is amplified through digital platforms and an important component of MIL is also around understanding and mastering digital literacy, thus the Article 12 learners bring a unique perspective to the study.

RESEARCH DESIGN & METHODOLOGY

Research Question: To what extent can Media and Information Literacy (MIL) skills be used as an educational tool to facilitate the reduction of the risk of climate change disinformation and build resilience of learners?

The research findings will answer the following sub-questions:

1. What specific MIL skills are most relevant to climate change topics?

¹³ The Aspen Institute Communications and Society Program, 'Digital and Media Literacy: A Plan of Action' Washington, DC (2010) (accessed [here](#)).

¹⁴ The Article 12th Working Group is made up of Web Ranger ambassadors who have been trained in digital and media literacy and have a special interest in policy work. They provide a basic overview of All of the Article 12 members are children, ranging in age from 13 to 17 years old. Article 12 members engage in ICT-related policy submissions and discussions that ensure that their voices are heard, and opinions are considered by policymakers and industry leaders.

2. How effective are these MIL skills in helping learners identify climate change disinformation?
3. How does MIL education impact learners' resilience to climate change disinformation?
4. What recommendations can be suggested by climate change experts and children that facilitate the reduction of the risk of climate change disinformation and build resilience of learners in South Africa ?

Overview

This small-scale qualitative study does not aim to be representative of all South African learners but provides rich insights into the impact of climate change disinformation, the specific Media and Information Literacy (MIL) skills learners acquire, and how these skills empower them to counter disinformation and build resilience. By examining learners' experiences, the study offers valuable perspectives on the role of MIL in the South African context.

Participant Recruitment and Group Composition

MIL is a layered competency developed over time through consistent training, engagement, and participation in campaigns and discussions that shape critical thinking and behaviour. To better understand which MIL skills enable learners to respond effectively to climate disinformation and enhance their resilience, the study engaged 16 learners divided into two distinct groups.

The test group comprised members of Media Monitoring Africa's Article 12 Working Group, a youth-led initiative based in Gauteng. These learners, aged 13–17, are Web Ranger ambassadors who have received ongoing training in digital and media literacy over the past three years. Their exposure includes a specific focus on critical thinking, evaluating source credibility, and fact-checking skills directly relevant to addressing climate disinformation. Given their continued engagement in ICT-related policy and MIL content, this group represents learners equipped with relevant competencies.

The control group consisted of learners from IkamvaYouth branches in KwaZulu-Natal, who have not received formal MIL training. The choice of KwaZulu-Natal was intentional, as the province has experienced acute climate-related challenges over the past two years. As a result, these learners' lived experiences provide unique and important insights into how climate change disinformation is perceived and internalized by youth without MIL exposure.

Participatory Research and Co-Authorship

This research was co-developed with members of the Article 12 Working Group (Gomoelo Pooe and Tinotenda Gohodzi), who served as co-researchers and co-authors throughout the study. Their involvement extended beyond participation to include shaping the research questions, designing data collection tools (e.g., polls, image prompts, interview questions), and interviewing other learner participants. This participatory model ensured that the research process remained grounded in lived youth experiences, reflecting their priorities and analytical lenses. The active role of the Working Group aligns with the participatory rights articulated in Article 12 of the UN Convention on the Rights of the Child (UNCRC) and the African Charter on the Rights and Welfare of the Child (ACRWC), both of which affirm children's right to be heard in matters affecting them.

Research tools

The study employed a mixed-methods approach adapted to each group's context:

- **Test Group (Article 12 Working Group):** Learners first completed an online image analysis survey focused on climate change disinformation. This was followed by an in-person group session where they responded to semi-structured interview questions (see link to questions here - <https://forms.gle/rMHofPBFMstgtVmMA>) and co-developed recommendations based on their experiences and reflections.
- **Control Group (IkamvaYouth learners):** Learners participated in a 90-minute Zoom session comprising a brief poll, analysis of two disinformation-related images or posts, and a group interview to explore their understanding, perceptions, and experiences with climate change information. A debrief session concluded the engagement, helping clarify core concepts and foster reflective learning.

Limitations

A significant limitation of this study relates to the uneven distribution of age groups and school grades between the Gauteng and KwaZulu-Natal participant groups. The demographic data reveals notable differences in the composition of the two provincial samples that may have influenced the findings.

Ethical Considerations

This study adheres to key ethical principles to ensure the safety, dignity, and autonomy of all participants, particularly as it involves minors aged 13 to 17. Informed consent was obtained from both participants and their parents or guardians before participation. Participants were informed of the study's purpose, procedures, and their right to withdraw at any time without consequence.

Anonymity and confidentiality were maintained throughout the research process. No identifying information was collected or reported, and all data was stored securely. Special care was taken to create a safe, respectful environment during both online and in-person sessions, ensuring that learners could express themselves freely without fear of judgment or harm.

Given the power dynamics involved in adult-led research with children, efforts were made to facilitate child-friendly engagement, encourage voluntary participation, and uphold children's right to be heard in line with the UNCRC and South African legal standards.

KEY FINDINGS & DISCUSSION

This section lays out qualitative insights from learner responses, revealing nuanced differences between both groups while identifying common challenges. Special attention is given to the relationship between critical thinking, Content verification and building resilience against disinformation.

4.1 What specific MIL skills are most relevant to climate change topics?

The literature suggests that MIL training that engages learners in active questioning (applying critical thinking) and collaborative analysis (through source verification, fact checking etc) are more likely to produce lasting changes in their ability to detect and respond to disinformation. Tools and resources are only as effective as the learners' capacity to use them thoughtfully and meaningfully.

This aligns directly with the "Access", "Analyse" and "Reflect" competencies in the UNESCO framework, which emphasise the process of critical thinking, questioning and working to verify information, which has the ability to build resilience against disinformation and directly aligning with the "Create" and Act competencies. For climate change education, this means equipping learners not just with tools to fact

check, but with the ability to navigate conflicting narratives, resist emotional manipulation, and act on accurate information in ways that promote environmental justice.

The literature collectively points to a three key conclusion that this study builds upon as it relates to climate change disinformation. MIL competencies are not equally impactful; emphasis should be placed on critical evaluation (building Analysis competences), content verification (building access competences) and lastly action-oriented skills (building reflective, Creative and action competences). An important point worth mentioning that didn't emerge from the research is the need for MIL to be adapted to local realities, including digital access, cultural norms, and political contexts, for it to be meaningful.

4.2 How effective are these MIL skills (critical thinking & content verification) in helping learners identify climate change disinformation?

The 16 learners completed a survey which had two parts to it. The first part consisted of questions to gather information on whether they understood climate change and the specific skills needed to tackle climate change disinformation. The second part of the survey was a scenario analysis which required learners to review an image of a Volcano and answer a set of questions that sought to give insight into how learners apply MIL skills and whether this leads to resilience.

Question 9 of the survey: Top 3 most mentioned skills, learners believe are important to fight climate change disinformation

Article 12 learners:

1. Critical Thinking: logical reasoning and analytical approaches to information evaluation
2. Source Verification/Reliability Checking: cross-referencing multiple sources and assessing credibility
3. Media and Digital Literacy: to understand how digital platforms work and information verification techniques

KZN learners:

1. Research Skills & Source Investigation: basic information-seeking skills

2. Social Media updates: following news on TikTok, Instagram, and newspapers as a skills for fighting climate change disinformation
3. Information Verification & Reporting: general awareness of need to verify and report false information

Question 10: Top 3 most mentioned skills learners possess for fighting climate change disinformation

Article 12 learners:

1. 5 out of 8 learners mentioned that they possess Source Verification/Fact-checking skills
2. 4 out of 8 learners mentioned that they possess Digital Literacy skills
3. 2 out of 8 learners mentioned that they possess Critical Thinking skills

KZN learners:

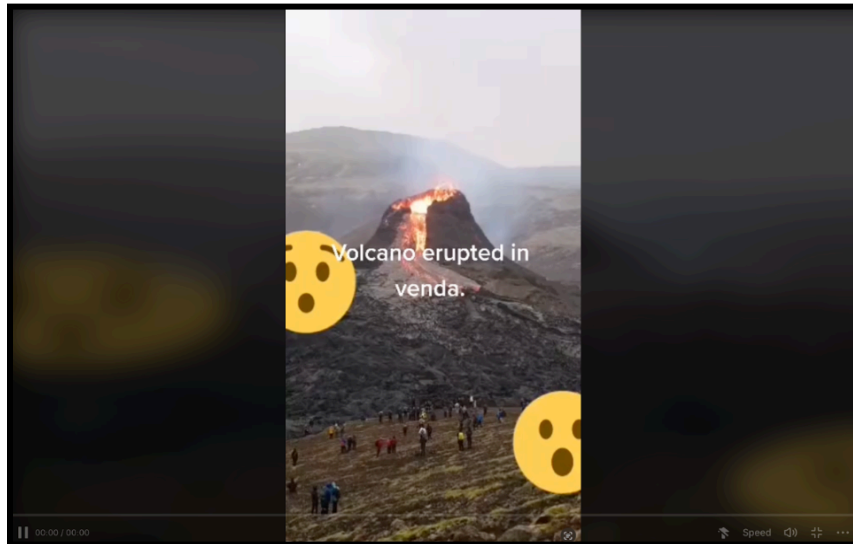
1. 2 out of 8 learners mentioned that they possess reporting skills (they knew how to report disinformation when they encountered it)
2. 1 out of 8 learners mentioned that they possess Source Verification/Fact-checking skills
3. Question Misunderstood - Many responses focused on climate adaptation rather than disinformation skills with participants quoted saying:

“Wear a hat, stay indoors, sunglasses” KZN participant

The comparison reveals a clear practice gap especially evident in KZN responses. While learners could mention concepts about fighting disinformation in Question 9, their actual possessed skills (Question 10) were significantly limited. This disconnect suggests that:

- Conceptual awareness may exist without practical application
- There maybe insufficient support to help learners move from understanding the ideas to using them in real-life situations

Question 12 dealt with the Venda Volcano scenario as shown below:



This is a video of a Venda Volcano. While the video is playing, a male voice can be heard saying in Tshivenda: “zwo itea vhana vha mukalaha, hanefha Matangari, ila volcano ye hapfi ainga thuthubi khei I khou thuthuba.” (It is happening now in Matangari village, the volcano they said is not active is now erupting.)

Learners were then asked a series of questions.

Using responses for questions 12.3 (If a friend or family member shared this post with you, how would you respond ?), Q12.4 (List the top 3 steps would you take to verify the accuracy of this information?) and Q12.6 (How could you use the image presented to verify the accuracy of this post?), Gauteng learners demonstrated a relatively balanced distribution of critical thinking and questioning competencies. Specifically:

- 2 out of 8 learners demonstrated High Critical Thinking & Questioning Competency, characterised by the ability to critically evaluate sources and motives, ask reflective questions, and seek diverse perspectives.
- 2 out of 8 learners demonstrated Emerging Critical Thinking & Questioning Competency, occasionally recognising questionable information but with inconsistent analysis.
- Another 2 out of 8 learners reflected Limited Critical Thinking & Questioning

Competency, often accepting information without question.

This equal spread suggests that among Gauteng learners, critical thinking skills range from strong analytical engagement to minimal questioning. Learners with higher competency levels made proactive suggestions for addressing disinformation, such as:

“I would make them aware that this is false information and make them aware of the effects of them viewing and believing such information... and how to identify disinformation the next time.” – Gauteng Participant

In contrast, KZN learners showed significantly lower levels of critical thinking competency:

- 6 out of 8 learners demonstrated Limited Critical Thinking & Questioning Competency, often reacting emotionally rather than analytically.
- 2 learners showed Emerging Competency, with occasional questioning but no consistent pattern.

For example, one learner responded:

“I would be scared because I live with this person.” – KZN Participant

These responses indicate a tendency to personalise or internalise the disinformation without critically evaluating its content or source.

In terms of Content Verification Skills, 6 out of 8 Gauteng learners demonstrated Advanced Competency. Their responses showed the ability to conduct research on the topic, cross-check information, and engage their communities:

“I would research how volcanoes work and what provokes them, then communicate via social media and report the misinformation.” – Gauteng Participant

It became clear that Article 12 learners applied systematic verification strategies, including source credibility checks and fact-checking steps, showcasing a solid grasp of content verification. Regarding Content Verification Skills, none of the KZN learners showed evidence of applying MIL concepts. Instead, responses leaned towards general climate adaptation advice rather than verification, e.g.: **“Wear warm/cool clothes;**

stay indoors.” Such answers reflect a fundamental misunderstanding of MIL application, resulting in minimal to no systematic verification behaviors, with a tendency to accept information without critically evaluating it.

Overall, while Gauteng learners showed a more developed set of MIL skills, both in critical thinking and in verifying information, KZN learners demonstrated significant gaps. These findings have the following significant implications:

- **Unequal Preparedness for Information Challenges:** The data shows that Gauteng learners are significantly better equipped to navigate our complex information landscape, while KZN learners showed limited critical thinking competency, suggesting they may be particularly vulnerable to disinformation campaigns.
- **Information Equity Crisis:** These results point to the emergence of an "information elite", meaning that there is now an emerging information divide, between learners who can critically evaluate sources and question narratives versus those who fall prey to manipulation. When faced with climate-related disinformation, the tendency toward emotional rather than analytical responses has the potential to greatly effective climate adaptation and mitigation efforts.

4.3 How MIL Education Impact Learners' Resilience to Climate Change Disinformation: The Article 12 Case Study

Media and Information Literacy (MIL) education serves as a critical defense mechanism against climate change disinformation, particularly for young people who are increasingly consuming information through digital platforms. The Article 12 Web Rangers group, comprising South African youth aged 13-17, provides compelling evidence of how structured MIL training can build robust resilience against climate disinformation.

The Article 12 Model:

The Article 12 Policy Working Group, developed by Media Monitoring Africa (MMA) and partners, represents a systematic approach to building digital literacy skills among young people. The Article 12 Working Group is made up of Web Ranger ambassadors who have been trained in digital literacy and have a special interest in policy work. All of the Article 12 members are children, ranging in age from 13 to 17 years old. As a group, the learners demonstrate how MIL skills impact their resilience to climate change disinformation in the following ways:

4.3.1 Proactive Community Engagement

Article 12 members actively engage in counter-disinformation efforts. They recognise that "disinformation about climate change causes confusion and can divide young people, rather than bring us together in the fight against climate change," and position themselves as agents of accurate information dissemination within their communities. When asked about what climate resilience skills they needed to fight against climate disinformation, KZN learners provided responses like "awareness about climate change" or "critical thinking." Article 12 members, however, propose comprehensive solutions including "digital literacy campaigns teaching young people how to spot climate disinformation" and "competitions about fighting climate disinformation, illustrating the Reflect, Create and Act competencies associated with resilience."

4.3.2 Policy Engagement

In addition to on the ground community engagement, Article 12 Working Group engage in ICT-related policy submissions and discussions that ensure that their voices are heard, and opinions are considered by policymakers and industry leaders. Article 12 members work on submissions to ensure that policies and decisions that affect children are more child-friendly and relevant and relatable to children and their daily lives. Their most recent climate change call to action was through their response to the United Nations Committee on the Rights of the Child's call for comments on the draft guidelines for States on children's environmental rights (General Comment No. 26). Through this call, they made a formal submission highlighting:

- The importance of digital and media literacy which equips young people with critical skills to identify and respond to climate mis- and disinformation.
- The need to see climate change issues as a rights issue and enable children the right to access "accurate, updated, and age-appropriate environmental information" and should be equipped to face environmental challenges.
- The need for government, civil society and business to promote public campaigns and youth competitions on disinformation in order to increase awareness, engagement, and access to reliable climate information.

A quote from Article 12's submission clearly demonstrates a deep awareness of how disinformation undermines their understanding of climate change and jeopardises efforts to build a safe and healthy future online and offline:

"We have experience in learning about the harms of online disinformation and how it affects young people. We want the world we live in to be safe and healthy, and we believe that climate disinformation that is false and harmful can change how people understand climate change. Climate change affects everyone, and disinformation about climate change affects everyone. But we, as young people,

know that climate disinformation affects young people in specific ways and can change how young people learn about, understand, and respond to climate change.”

The Article 12 Web Rangers serve as a powerful proof that MIL education does indeed have an impact on climate disinformation resilience of learners. Their sophisticated analytical capabilities, proactive community engagement, and policy advocacy demonstrate that comprehensive MIL training transforms young people from passive information consumers into active defenders against climate disinformation. This case study underscores the urgent need for scaling MIL education programs to build widespread resilience against climate disinformation among youth populations. The findings from this study provide good evidence that Media and Information Literacy (MIL) skills can serve as a powerful educational tool to reduce the risk of climate change disinformation and build learner resilience.

Addressing the Research Question

This study demonstrates that MIL skills can be highly effective educational tools, but their impact is dependent on several critical factors:

1. **High Effectiveness When Properly Implemented:** Comprehensive MIL education that emphasises critical evaluation, content verification, and action-oriented skills can significantly enhance learners' ability to identify, analyse, and respond to climate disinformation.
2. **Quality and Context Matter:** The effectiveness of MIL education is directly related to implementation quality, with structured long-term initiatives producing substantially better outcomes than sporadic approaches.
3. **Equity Considerations Are Essential:** Without addressing disparities in access to quality MIL education, efforts to build climate disinformation resilience may widen information divides and leave vulnerable populations more susceptible to manipulation.
4. **Collective Impact Potential:** When learners develop robust MIL skills, they become active agents in community-wide disinformation resistance, multiplying the educational impact beyond individual resilience to collective climate action capacity.

Section 5: Article 12 Recommendations

Government's role:

Learners already engage with climate change and topics in the Geography, Life Sciences and Life Orientation classroom. What needs to be added is the MIL because general knowledge about climate change, critical thinking and MIL need to be taught in close connection to each other. The Department of Basic Education (DBE)'s curriculum can recommend sources on getting accurate information through example QR codes at the end of each session/lesson plan, especially information related to how climate change impacts us within the South Africa context.

We know that not all young people have access to the internet and that disinformation can spread offline as well. It is important for all young people, including those in rural areas and those without internet access to still have access to accurate information. Governments should help by putting up posters about climate change in schools, community centres, and public libraries. Awareness about climate change can also be shared in other ways, like in newspapers and magazines and on the radio.

Civil society, Parents & Business's role:

- Climate change activists, activists fighting against disinformation can conduct workshops with communities (parents, learners) to bring awareness about climate change disinformation.
- Digital literacy campaigns teaching young people how to spot climate disinformation and respond to climate disinformation is a good way for young people to be more involved in the fight against climate change.
- Parents's role: Parents and caregivers need to urgently get information and prioritise having conversations with children about climate change disinformation.
- Business's role: should be to fund digital and media literacy/ MIL programs.

Conclusion

This study provides compelling evidence that Media and Information Literacy (MIL) skills serve as a critical educational tool to reduce the risk of climate change disinformation and build resilience among learners. MIL education focused on critical evaluation, content verification, and action-oriented competencies significantly enhances learners' ability to identify and respond to misinformation. However, the effectiveness of MIL education depends on quality, sustained implementation, and equitable access to prevent information divides. The Article 12 Policy Working Group case study demonstrates how comprehensive MIL training transforms children from

passive consumers to proactive defenders against climate disinformation, engaging both community and policy platforms. To maximize impact, MIL must be integrated with local realities and climate education, with coordinated efforts from governments, civil society, parents, and businesses to promote digital literacy and awareness campaigns. Such collaborative approaches are essential to empower children as informed participants in climate action and to safeguard their rights to accurate information and freedom of expression in the digital age.

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