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THE ROLE OF MIL AS A KEY STRATEGY TOWARDS DISPELLING CLIMATE CHANGE MISINFORMATION



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List of Abbreviations

GES - Ghana Education Service

JHS - Junior High School

ME 1- Media Educator 1

ME 2 - Media Educator 2

MIL - Media and Information Literacy

SHS - Senior High School

UNESCO - United Nations Educational, Scientific and Cultural Organization

UniMAC-GIJ – University of Media, Arts and Communication – Ghana Institute of
Journalism

Abstract

Climate change has gained significant attention in recent times. On a daily basis, regardless of the platform one uses to stay informed on issues, we are inundated with information on climate science. Despite the fact that this is an important step towards the fight against climate change, very little is known about the authenticity and accuracy of such information. And this, coupled with the proliferation of media platforms, has risen in tandem with climate change misinformation.

In light of this, this study explores the role of MIL as a key strategy towards dispelling climate change misinformation. The study used both quantitative and qualitative research methods, in which questionnaires as well as in-depth interviews were used to collect and analyze data from respondents. The data was processed using thematic analysis, and major recommendations were made on how MIL can be integrated into climate change education. Overall, the findings affirm the existence of climate change misinformation in the media. The findings from the study show that media and information literacy (MIL) has become an important requisite needed to fight climate change misinformation. MIL has the potential to equip individuals with the necessary skills needed to critically assess and create media content, as well as become informed and active participants in the media environment in general.

However, integrating MIL as a strategy for dispelling climate change misinformation in the media is hampered, according to the study's findings, by three major challenges. These challenges include a lack of financial means to disseminate MIL information to citizens, a low level of media and information literacy among the populace, and limited expert knowledge or insufficient subject matter expertise. The study recommended that deliberate steps must be taken by relevant stakeholders like the Ghana Education Service as a means to informally introduce the basics of MIL and climate change education as part of co-curricular activities in Ghanaian schools.

1.0 Introduction

The advent of social media and other online platforms have increased the spread of climate change misinformation, which obviously has implications for climate action efforts. One of the most significant challenges to climate change communication has been the spread of misinformation with fabricated and misleading content being disseminated through social media platforms. Thus, Media and Information Literacy (MIL) has come up strongly in climate change communication discourse in recent years. MIL can play a critical role in curbing climate change misinformation. The United Nations Educational, Scientific and Cultural Organization, (UNESCO), (2021) describes MIL as an antecedent of science literacy which can empower ordinary citizens to contribute to the fight against climate change. This study explores the role of MIL as a key strategy towards dispelling climate change misinformation. Thus, the study will look at the prevalence of climate change misinformation in the media and its adverse effects on public perception and the total understanding of the issue.

2.0 Literature Review

Treen et al. (2020) defined misinformation as information that is erroneous or misleading, but not necessarily intentionally malicious. The authors of this study recognize the specificity of the definition by Treen et al, however, will go a step further to add that climate change misinformation is an information published to confuse or mislead the public. Ulrich (2022) posited that misinformation constrains climate action by taking care of people's values, belief systems, and lifestyle characteristics to mist judgment towards important social and political decisions addressing the climate crisis. The spread of misinformation about climate change is a significant concern as it has the potential to weaken public understanding and trust in climate science. This may also lead to a lack of action and policy in dealing with climate change.

Several studies have buttressed the fact that misinformation is prevalent on social media platforms and it is often targeted at vulnerable population. Farrell, (2019) and Farrell et al., (2019) established that efforts to address the climate change problem have been hindered by the influence of various misinformation on the subject matter. As noted by Oreskes & Conway (2011), spreading doubt about scientific consensus remained the most prevalent technique used in climate change misinformation.

Several initiatives have been undertaken to promote MIL as a key strategy towards dispelling climate change misinformation. UNESCO for instance, has developed a framework to promote MIL in the context of sustainable development, including climate change. The framework stresses the need for MIL to empower individuals to participate in democratic discourse, make informed decisions, and take action towards sustainable development.

MIL plays a critical role in educating individuals on how to critically analyze information and separate fact from fiction. It provides individuals with the necessary skills to assess the credibility of sources, understand scientific research, and identify bias, enabling them to make informed decisions on climate change. According to research, people who have higher MIL skills are less likely to be swayed by false information on climate change. Similarly, a study by the European Commission in 2018 concluded that persons who had higher MIL skills were more likely to recognize the difference between opinions and facts and were less likely to be influenced by fake news. These conclusions have been reiterated by a UNESCO study in 2021 which also stressed that persons that received MIL education were more likely to take action to address climate change and supporting climate policies.

Another study conducted by the University of Oxford found that individuals with higher MIL skills were more likely to recognize false information about climate change. Educators can incorporate critical thinking and media literacy skills into climate change education, allowing students to understand the difference between scientific consensus and misinformation.

Additionally, MIL can be used to empower individuals to participate in climate action efforts by providing them with the necessary skills to evaluate and act upon information. Research has shown that media literacy interventions can be effective in reducing the belief in climate change misinformation. For instance, a study conducted by van der Linden et al. (2017) found that a media literacy intervention increased the recognition of misinformation about climate change and reduced the belief in that misinformation. MIL can be instrumental in promoting climate action by equipping people with relevant skills to understand the causes and impacts of climate change and to initiate climate action. MIL education, according to research can lead to changes in attitude and behavior towards climate change.

3.0 Methodology

This is an exploratory study that aims to explore the role of Media and Information Literacy as a key strategy towards dispelling climate change misinformation. Data was collected using a quantitative survey where questionnaires were administered online using google forms. The questionnaire included questions on media and information literacy, climate change knowledge and beliefs as well as people's attitude and perception towards climate change misinformation. Participants for the study included media personnel, climate change communicators and scientists. They were recruited through social media platforms and other online forums. The data collected was analyzed using descriptive statistics and grouped into themes. The themes centered on climate change misinformation in the media, and how it impacts public perception and understanding of climate change, media and information literacy as a mitigating strategy to climate change misinformation and challenges and opportunities for integrating MIL as a key strategy in dispelling climate change misinformation in media

4.0 Findings and Discussions

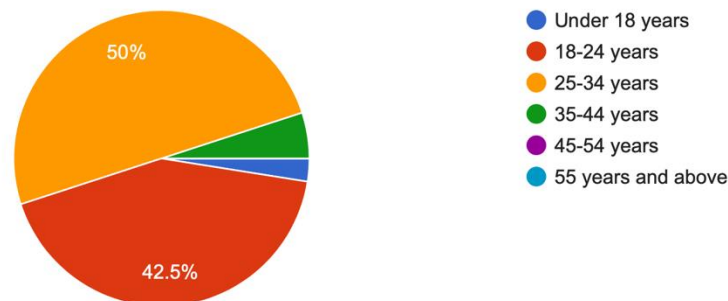
This section deals with data analysis, presentation, and the interpretation of findings based on the data collected during the study. The result of the study was presented and discussed based on the research objectives stated earlier. The main aim of this study was to explore the role of MIL as a key strategy for dispelling climate change misinformation. Data for this study was collected through surveys and in-depth interviews. This chapter presents the findings from the surveys conducted with 40 respondents, the majority of whom are young people. It also presents the findings from the interviews conducted with two media and information literacy educators.

4.1 Quantitative Analysis

4.1.1 Respondents' demographics

1. Age

40 responses

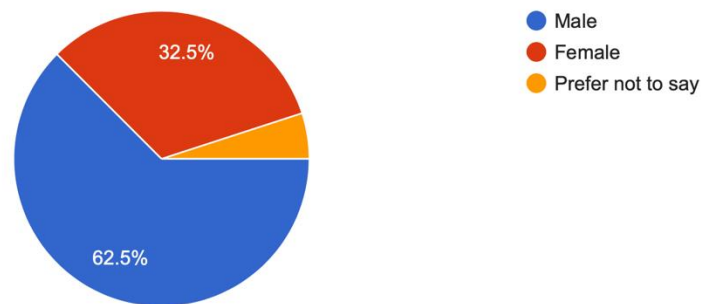


Source: Field data (2023)

The age distribution of the respondents is outlined in the pie chart above. 20 of the respondents, representing 50% are in the 25–43 age bracket, while 17 of the respondents, accounting for 42.5% are in the 18–24 age bracket. 5% of the respondents are between the ages of 35 and 44, and one person, representing 2.5% of the respondents, is below the age of 18. Interestingly, none of the respondents was 55 years of age or older. This means that the population of the respondents is youthful.

2. Gender

40 responses

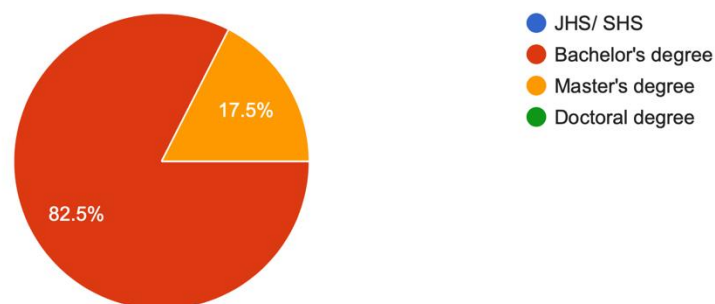


Source: Field data (2023)

The chart above shows the sex of the respondents. The responses collated show that 25 out of the 40 respondents, representing 62.5%, were males, while 13 out of the 40 respondents, representing 32.5%, were females. However, two respondents, representing 2%, preferred not to specify their gender. This means that most of the responses gathered were predominantly from males, as they make up a greater percentage of the respondents sampled.

3. Highest level of education

40 responses

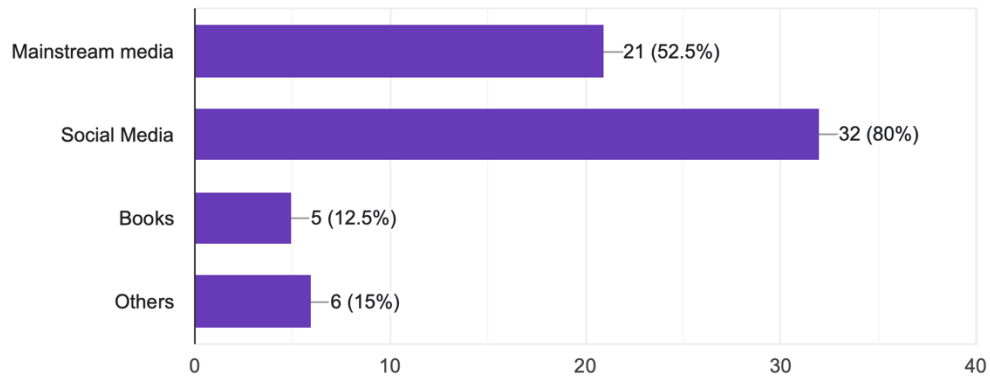


Source: Field data (2023)

The chart above shows the level of education of the respondents. It can be deduced that 33 out of the 40 respondents, representing 82.5%, hold a bachelor's degree in various disciplines, while 7 of the respondents, accounting for 17.5%, hold a master's degree. However, none of the respondents hold a doctoral degree.

4. Where do you access information on climate change?

40 responses

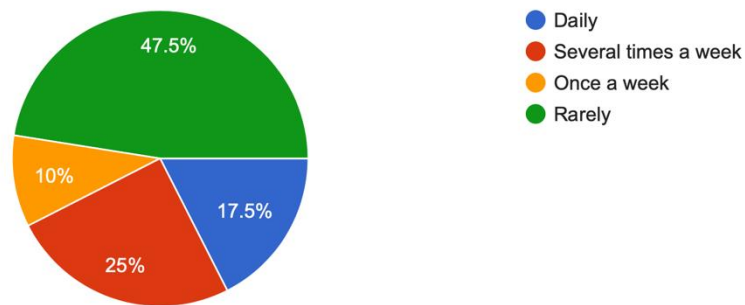


Source: Field data (2023)

Regarding access to information on climate change, 32 of the respondents, accounting for 80% of the respondents engaged in this study, asserted that social media is their "go-to" platform for information. While 52.5% of the respondents also use mainstream media, 12.5% rely on books, with the remaining 15% depending on other sources for information on climate change.

5. How often do you use social media to access information on climate change?

40 responses



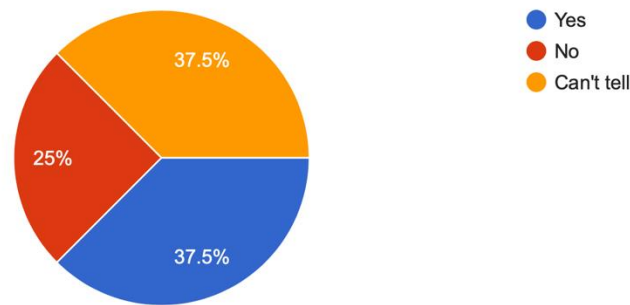
Source: Field data (2023)

The chart above shows how respondents often make use of social media in searching for information on climate change. Analysis of the data gathered revealed that on a daily basis, 7 out of the 40 respondents, representing 17.5%, stay informed on issues regarding climate change via social media. Meanwhile, 25% of the respondents make use of social media several times within the week, and 10% make use of it once a week. It is worth noting that, per the

data, 19 of the respondents representing 47.5%, rarely make use of social media to access information on climate change. This means that the majority of the respondents do not rely on social media for information on climate change.

6. Are you able to identify and avoid climate change misinformation?

40 responses

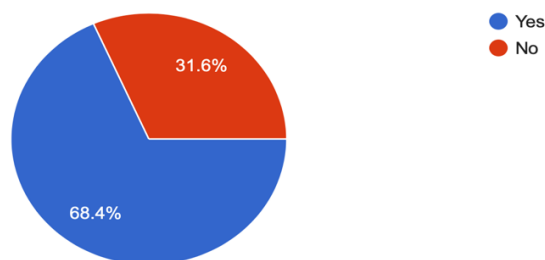


Source: Field data (2023)

The chart below depicts whether or not respondents are able to identify and avoid climate change misinformation. 15 out of the 40 respondents, representing 37.5%, asserted that they cannot tell whether the climate change information they come across is false or not. 25% of the respondents said "no," while 37.5% of the population said they could tell if climate change information was false.

7. Have you ever been exposed to climate change misinformation?

38 responses

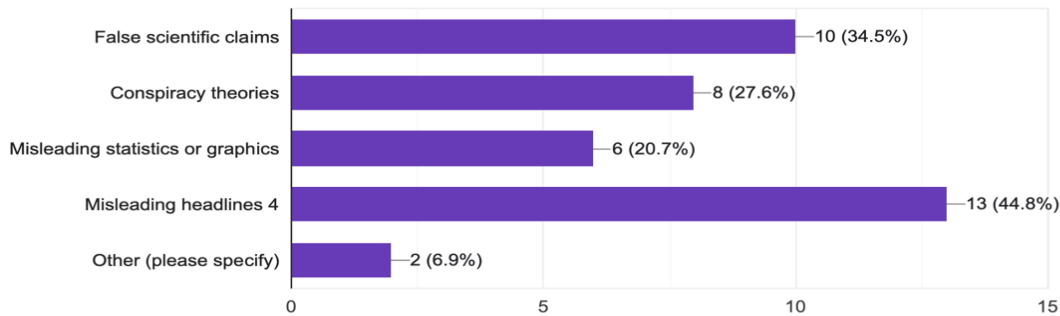


Source: Field data (2023)

Regarding exposure to climate change misinformation, the data gathered revealed that 26 of the respondents, representing 68.4%, have been exposed to some form of climate change

misinformation, while 12 of the respondents, representing 31.6%, have not. This means that the majority of the respondents have been exposed to some form of climate change misinformation.

If yes, what type of climate change misinformation have you encountered? (Select all that apply)
29 responses

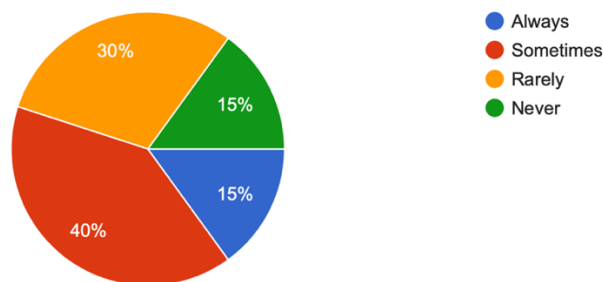


Source: Field data (2023)

To learn more about the types of misinformation respondents had encountered regarding climate change, the researcher probed further. Analysis of the data gathered showed that the majority of climate change misinformation was carried in misleading headlines. 44.8% of respondents encountered misleading headlines, 34.5% false scientific claims, 27.6% conspiracy theories, and 20.7% and 6.9% misleading statistics or graphics, respectively.

9. How often do you fact-check information related to climate change before sharing it on social media or other platforms?

40 responses



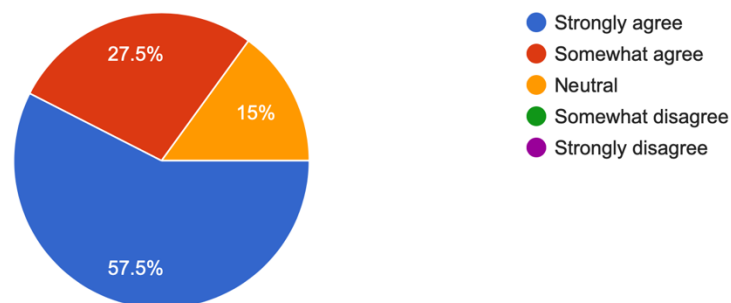
Source: Field data (2023)

The chart above shows how often respondents' fact-check climate change information before sharing it on social media and other platforms. Fact checking is the act of checking factual assertions in non-fictional text in order to determine the veracity and correctness of the factual

statements in the text. This may be done either before (ante hoc) or after (post hoc) the text has been published or otherwise disseminated. 40 responses were recorded for this question, out of which six, representing 15% of respondents, said they always fact-check, with 40% of the population saying they sometimes do, while 30% and 15% of the respondents said they rarely or never did. From the analysis of the data gathered, it means 18 of the respondents, representing 45%, never fact-check the climate change information they receive, and that is quite worrying.

10. Do you believe that MIL can help individuals distinguish accurate information from misleading information on climate change?

40 responses

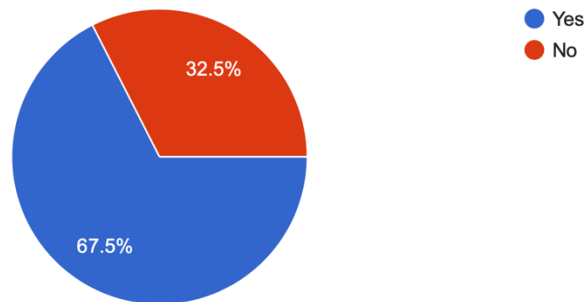


Source: Field data (2023)

The chart above represents data gathered from respondents on whether they believe MIL can help distinguish accurate information from misleading information on climate change. 23 of the respondents, accounting for 57.5% strongly believe MIL can help distinguish accurate information from misleading information on climate change, while 11 of the respondents, representing 27.5%, somewhat agree, with 15% being neutral. This means that the majority of the respondents believe that MIL is a critical antidote to climate change misinformation.

11. Have you received any Media and Information Literacy (MIL) education?

40 responses

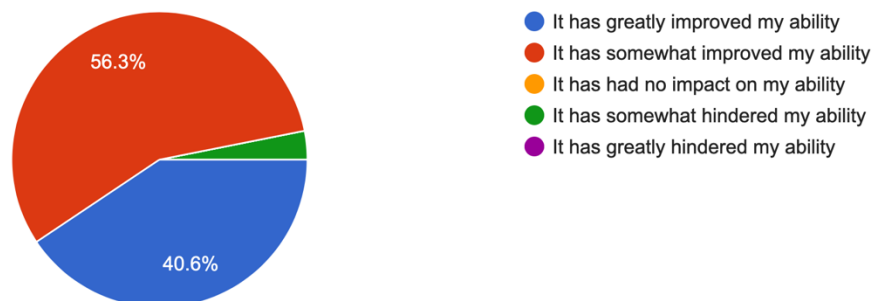


Source: Field data (2023)

Media and information literacy education has the potential to enhance people's competencies to access, analyze, create, reflect, and take action on media content. This research question sought to find out from respondents whether they had received any form of MIL education. Analysis of the data gathered revealed that the majority of the respondents have undertaken or received some form of training in MIL. 27 of the respondents, representing 67.5%, alluded to receiving some education on MIL, while 13 of the respondents, representing 32.5%, asserted that they have not received any form of MIL education.

12. If yes, how has MIL education impacted your ability to recognize and avoid climate change misinformation?

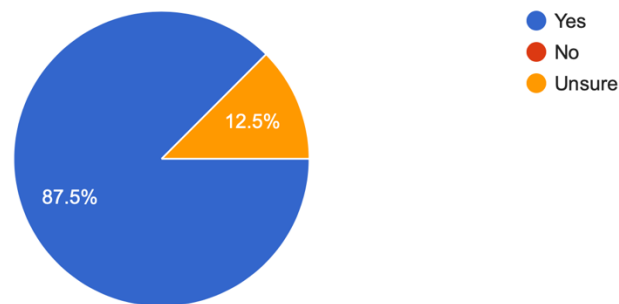
32 responses



Source: Field data (2023)

The researcher probed further to find out from respondents how the MIL trainings they received have impacted their ability to recognize and avoid climate change misinformation.. 13 of the respondents, representing 40.6%, asserted that MIL education has greatly improved their ability to recognize, critically analyze, and avoid climate change misinformation. Analysis of the chart also indicates that 18 of the respondents, representing 56.3%, asserted that MIL education has somewhat improved their abilities. It is also worth noting that 1 person, representing 3.1% of the respondents, said the education received on MIL, to some extent, hindered his/her ability to recognize and avoid climate change misinformation.

13. Do you think MIL should be included as part of climate change education?
40 responses

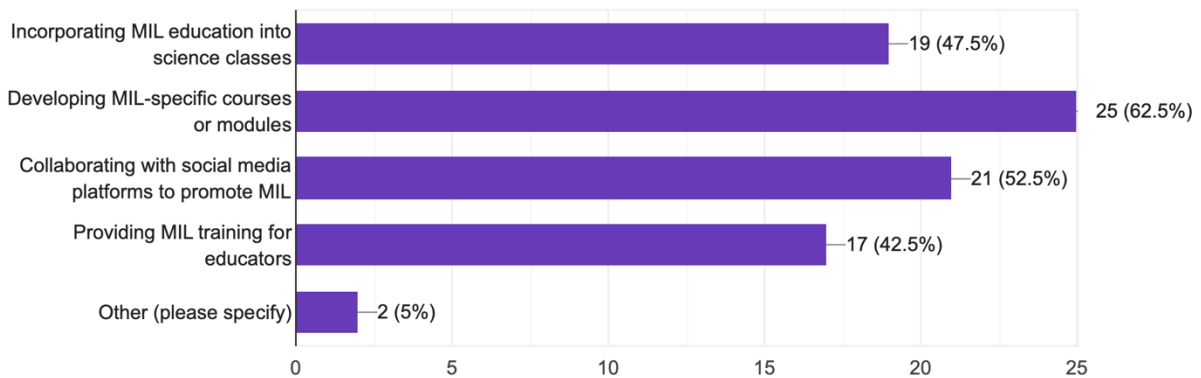


Source: Field data (2023)

The chart above is a graphical representation of the views of respondents on whether or not MIL should be included as part of climate change education. Analysis of the data revealed that 35 out of the 40 respondents, representing 87.5%, asserted that MIL should be included as part of climate change education, while 5 of the respondents, representing 12.5%, were not certain as to whether or not MIL should be included in climate change education. It is also worth noting that none of the respondents said “no”.

14. How do you think MIL can be effectively integrated into climate change education? (Select all that apply)

40 responses



Source: Field data (2023)

Lastly, the researcher sought to find out from the respondents how they think MIL can be effectively integrated into climate change education. The chart above shows the responses from the 40 respondents engaged in this study. 19 of the respondents, representing 47.5% believe MIL education should be incorporated into science classes, while 25 of the respondents, representing 62.5%, are of the view that MIL-specific courses or modules should be developed. The data analyzed also indicated that 52.5% of the population wants media educators, institutions, and policymakers to collaborate with social media platforms to promote MIL. 17 of the respondents, representing 42.5%, also asserted that there is a need to provide MIL training for educators, while 5% of the respondents did not specify how MIL can be integrated into climate change education.

4.2 Qualitative Analysis

This section of the research examines the results of interviews conducted with two respondents who are media and information literacy educators on exploring "*the role of media and information literacy as a key strategy towards dispelling climate change misinformation*".

In order to ensure the anonymity of the research participants, the researcher assigned special tags to the interview participants. The first interviewee is referred to as MIL Educator 1 (ME 1), and the second is referred to as MIL Educator 2 (ME 2). The research (interview) questions that were administered to the respondents are as follows:

1. What is the extent of climate change misinformation in the media, and how does it impact public perception and understanding of climate change?
2. How does media and information literacy contribute to mitigating climate change misinformation?
3. What are some of the most effective MIL strategies for promoting accurate climate change communication?
4. What are the challenges and opportunities for integrating MIL as a key strategy in dispelling climate change misinformation in the media?
5. How can these challenges (stated in Q4) be addressed?
6. What are the implications of effective MIL for addressing climate change misinformation, particularly in the context of public policy and climate action?

4.2.1 Demography of respondents (MIL educators)

Special tag	Gender	Age	Nationality	Organization	Field of Expertise	Years of Practice	Level of Operation
ME 1	Female	30-35	Ghanaian	Penplusbytes	Media and Information Literacy	5	Local and National
ME 2	Male	30-35	Ghanaian	Ghana Institute of Journalism	Media and Information Literacy	6	Local and National

4.2.2 Extent of climate change misinformation in the media and its impact on public perception and understanding of climate change.

The study sought to find out from respondents the level of coverage of climate change by the media and how such information is shaping the minds of the general public. According to respondents, there is no verifiable data that shows the extent of climate change information in the Ghanaian media. Analysis of the data gathered from respondents suggests that, generally, media coverage of climate change is very low. And this, coupled with the proliferation of various social media platforms, makes it believable that the surge of these platforms moves in tandem with the rate of misinformation, of which climate change misinformation is not exclusive.

ME 1, who is a media and information literacy educator with Penplusbytes, one of the leading organizations in Ghana equipping citizens with MIL skills and knowledge, asserts in the interview:

The extent of climate change information in the media I believe is unknown unless empirical evidence suggests it to us. However, with news articles, social media posts, and other content related to climate change on the rise with recent weather occurrences, it is ideal to say that misinformation will be rife as well. The public's perception and understanding of climate change will also be minimal, as there is little to no effort to create much awareness about the realities of climate change in our part of the world.

Regarding the impact of climate change misinformation, data analysis showed that, given the extent of media coverage of the issue, misinformation about climate change has the potential to mislead the public and, as a result, lessen the importance that would otherwise be accorded to it by relevant stakeholders, including the general public.

4.2.3 Media and information literacy's contribution to mitigating climate change misinformation

When MIL is combined with science literacy, it can empower ordinary citizens to contribute to the fight against climate change (UNESCO, 2021). According to UNESCO, media and information literates are able to verify claims disseminated through various forms of online and

traditional media. Respondents assert that media and information literacy has the potential to address all forms of malpractice and serve as an antidote to any form of abuse in the media.

Respondent ME 2, a Media and Information Literacy trainer with the Ghana Institute of Journalism (UniMac-GIJ) notes:

MIL could help people to think critically and pick out accurate climate change information from false or misleading information. Media-literate people could also take action to address the challenges associated with climate change if they are motivated

4.2.4 Effective MIL strategies for promoting accurate climate change communication

When MIL educators employ a variety of strategies to teach media and information literacy, they equip individuals with the skills they need to become informed and active participants of the media environment (Boudreau, 2021). Some of the most effective MIL strategies for spreading knowledge about climate change were recognized by respondents. They include social media campaigns, debunking myths about climate change, and creating succinct but engaging and educational videos to convey climate change issues. A respondent asserted that, “*despite the fact that MIL strategies are usually needs-specific, on a mass scale, a well-structured media campaign that targets all segments of the population will help promote climate change communication*”.

4.2.5 Challenges and opportunities for integrating MIL as a key strategy in dispelling climate change misinformation in the media

One of the objectives of this study is to bring to the fore the challenges of integrating MIL as a key strategy in dispelling climate change misinformation in the media and how such challenges could be addressed. Integrating MIL as a strategy for dispelling climate change disinformation in the media is hampered, according to the study's findings, by three major challenges. These challenges include a lack of financial means to disseminate MIL information to citizens, a low level of media and information literacy among the populace, and limited expert knowledge or insufficient subject matter expertise. Respondents also opined that the high cost of media airtime also affected their ability to use the different traditional media outlets as MIL educators to educate the general public.

According to ME 1:

The main challenge will be that of resources, i.e., financial resources, as media airtime and wide circulation are quite high. Nonetheless, with a more youthful population like ours here in Ghana, using social media will also be effective in reaching a large number of people.

Regarding how the aforementioned challenges could be addressed, analysis of the data gathered suggested that funds from donor agencies should be made accessible to organizations promoting the MIL agenda in Ghana.

Currently, there are few international organizations supporting local ones with funds to equip individuals with MIL skills. Penplusbytes, one of the leading MIL organizations over the past five years, has been receiving support from the Duetche Welle (DW) Akademie.

4.2.6 The implications of effective MIL for addressing climate change misinformation, particularly in the context of public policy and climate action

Policy-making, awareness-raising, and other levels of intervention against climate change cannot be done outside of the information and media spheres (UNESCO, 2021). The findings of this study show that MIL is the antidote to addressing all forms of climate change miscommunication. Citizens who lack MIL competencies are prone to climate-related misinformation and unverified claims disseminated through various forms of online and offline media. Findings from the study show that MIL is critical to building one's analytical competencies. MIL can be effectively used to address misinformation, and this will help everyone become cautious in their media consumption behavior and look out for certain elements of bias, lies, and manipulations in climate change communication for the betterment of policy implementation.

ME 2 asserts that *"media and information literacy would help policymakers and citizens understand the problem better and take action towards its amicable resolution."*

5.0 Conclusion and Recommendations

The findings from the study show that media and information literacy (MIL) has become an important requisite needed to fight climate change misinformation. MIL has the potential to equip individuals with the necessary skills needed to critically assess and create media content, as well as become informed and active participants in the media environment in general.

Key informants also consent that social media has become their go-to platform for all types of information, including those related to climate change. However, as a result of their lack of MIL skills, the majority of respondents cannot tell whether or not the information they receive on climate change is factual or not.

It was also evident that a lot of climate change misinformation was carried on the wheels of misleading headlines and false scientific claims.

Overall, these findings affirm the existence of climate change misinformation in the media. Although there is little or no empirical evidence regarding the extent, the proliferation of social media platforms and the mushrooming of numerous radio and television stations move in tandem with the rate of misinformation, of which climate change misinformation is not exclusive. As such, there is a need to integrate MIL as a strategy for dispelling climate change disinformation in the media.

5.1 Recommendations

Based on the findings of this study, the researchers recommend the following:

- ✚ There is a need for policymakers, legislators, and state-owned institutions to form partnerships aimed at promoting MIL in Ghana.
- ✚ Additionally, organizations already pushing the MIL agenda in Ghana must partner with relevant institutions like the Ghana Education Service as a means to informally introduce the basics of MIL and climate change education as part of co-curricular activities in Ghanaian basic schools.
- ✚ Digital innovations such as social media, podcasts, and videos must be used to continuously engage young people and enhance their understanding of MIL and climate change.
- ✚ MIL organizations must also begin to look at other alternative ways to finance their MIL initiatives apart from the ones received from international organizations.

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