

## Analysis of Eco-Literacy in Online News Coverage of Plastic Waste Reduction Campaigns

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### Abstract

*This study examines the representation of ecological literacy in online news coverage of plastic waste reduction campaigns published by The Jakarta Post. Using a qualitative descriptive approach with content analysis, the study analyzed twelve English-language online news articles to identify how ecological literacy elements are embedded in environmental reporting. The analysis was guided by an ecological literacy framework focusing on five key dimensions: Ecological Knowledge, Environmental Awareness, Affective Engagement, Responsible Behavior, and Systematic Thinking. The findings indicate that ecological knowledge and environmental awareness are the most dominant dimensions, reflected through scientific explanations, problem-oriented narratives, and factual descriptions of the impacts of plastic waste. Meanwhile, affective engagement and systematic thinking appear less frequently due to the news' structural characteristics that prioritize objectivity and concise information. Responsible behavior is represented through descriptions of concrete environmental actions and sustainability initiatives. Overall, this study shows that online news serves not only as a source of information but also as an informal educational medium that contributes to increasing ecological literacy and environmental awareness. These findings highlight the important role of online journalism in supporting sustainability discourse and plastic waste reduction efforts in Indonesia.*

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## 1. INTRODUCTION

Plastic waste has become a serious environmental problem that continues to threaten ecosystems and human well-being, particularly in developing countries like Indonesia. The widespread use of single-use plastics, combined with limited public awareness and ineffective waste management systems, has contributed to the increasing accumulation of plastic pollution in marine and terrestrial environments United Nations Environment Programme UNEP (2021). Environmental degradation caused by plastic waste poses long-term risks to ecosystems and human health, as non-biodegradable materials continue to accumulate in oceans, rivers, and landfills Pedelty (2015). In response to this problem, various plastic waste reduction campaigns have been initiated by governments, non-governmental organizations, and other stakeholders to encourage environmentally responsible behavior and promote sustainable practices. These campaigns are often disseminated through mass media, particularly online news platforms, which play a crucial role in shaping public understanding of environmental issues Bailey (2022).

In recent years, online news has become a primary source of information due to its accessibility, speed, and broad audience reach. Online journalism serves not only as a channel for conveying information but also as a medium that frames environmental issues in ways that influence how readers interpret problems and solutions Dame Laoera and Wibowo (2023). At the same time, the concept of eco-literacy has gained increasing attention in environmental studies. Eco-literacy refers to the ability to understand ecological systems, recognize environmental problems, and act responsibly towards the environment McBride et al (2013). This concept emphasizes the interconnectedness of humans and nature and highlights the importance of environmental awareness and informed decision-making for sustainability Hannah and Varuneshwaran (2024).

Previous studies on environmental news coverage have largely focused on media framing, agenda-setting, and public awareness of environmental issues such as climate change, pollution, and sustainability Pezzullo (2021). While these studies underscore the crucial role of media in environmental communication, most examine environmental content in general. Research specifically applying an eco-literacy perspective to news text analysis is limited. Specifically, studies exploring how eco-literacy elements are represented in online news coverage of plastic waste reduction campaigns in the Indonesian context are still scarce. This situation indicates a clear research gap that requires further academic investigation.

This study addresses this identified gap by analyzing online news articles using an eco-literacy framework to examine how ecological knowledge, environmental awareness, and responsible behavior are represented in the news. Rather than simply identifying environmental topics, this study focuses on how eco-literacy elements are embedded within the linguistic and thematic structures of news texts. Media that integrates eco-literacy elements has the potential to function as an educational tool that fosters public understanding of environmental systems and sustainable practices Ardoin et al (2013).

Based on this background, the research problem of this study relates to how environmental literacy is represented in online news coverage of plastic waste reduction campaigns. Therefore, this study aims to analyze the representation of eco-literacy in selected online news articles and explain how these elements reflect the role of online media in promoting environmental awareness and sustainability among readers.

## **2. METHOD**

This study uses a qualitative descriptive approach with content analysis to examine the representation of environmental literacy in online news coverage of plastic waste reduction campaigns. Content analysis was chosen because it allows for a systematic examination of textual data to identify patterns, meanings, and thematic elements related to environmental literacy within news articles. This approach is suitable for analyzing how environmental literacy components are embedded and communicated through online news texts.

The data source for this study consisted of English-language online news articles published by The Jakarta Post. These articles were selected because The Jakarta Post is one of the leading English-language online news platforms in Indonesia with a wide readership and influence. A total of twelve news articles related to the plastic waste reduction campaign were selected from the initial dataset using a purposive sampling technique. Selection criteria included relevance to the issue of plastic

waste reduction, explicit discussion of environmental campaigns, and publication within the specified research period.

Data collection was conducted by identifying, selecting, and compiling relevant online news articles from The Jakarta Post. Each selected article was carefully read and prepared for analysis. The data were then analyzed using an eco-literacy content analysis framework adapted from McBride et al., which focuses on key elements of eco-literacy such as ecological understanding, awareness of environmental impacts, and encouragement for responsible environmental action. These elements were used as analytical indicators to examine how eco-literacy was represented in news coverage.

The data analysis process followed several stages. First, selected news articles were coded based on eco-literacy indicators. Second, the coded data were categorized to identify recurring patterns and dominant themes related to eco-literacy representations. Finally, the findings were interpreted to explain how online news coverage contributes to the spread of eco-literacy in the context of plastic waste reduction campaigns. The results of this analysis are then discussed in relation to existing studies on eco-literacy and environmental communication.

### **3. RESULTS AND DISCUSSION**

This study reveals clear scientific findings regarding the representation of ecological literacy in online news coverage of a plastic waste reduction campaign published by The Jakarta Post. Rather than presenting raw data, the findings demonstrate a patterned representation of ecological literacy dimensions within news texts. The analysis identified five core dimensions: Ecological Knowledge, Environmental Awareness, Affective Engagement, Responsible Behavior, and Systematic Thinking, which emerged with varying degrees of dominance. These findings confirm that online news serves not only as a source of information but also as a medium for constructing environmental understanding and meaning for readers.

The most dominant scientific finding is the strong presence of Ecological Knowledge and Environmental Awareness throughout the articles analyzed. Ecological knowledge is primarily conveyed through scientific explanations, cause-and-effect descriptions, and technical environmental terminology related to plastic pollution and its ecological consequences. This pattern occurs because online news prioritizes factual accuracy, explanatory reporting, and scientific legitimacy when discussing environmental issues. As noted by McBride et al (2013), cognitive understanding of environmental systems forms the basis of eco-literacy, making it more visible in news media formats. This finding is consistent with Ardoin et al (2013), who emphasized that scientific framing in environmental journalism enhances readers' understanding of ecological processes, and with Kadarisman et al (2023), who reported that Indonesian digital media frequently integrate ecological facts to strengthen public eco-literacy.

Environmental awareness also stands out due to the frequent use of quantitative data, problem-oriented narratives, and descriptions of environmental risks. This trend occurs because awareness-raising is a primary goal of environmental reporting, particularly in the context of the national plastic waste challenge. By emphasizing the urgency, scale, and severity of environmental damage, online news media frame plastic pollution as a critical issue requiring public attention. This finding aligns with McBride et al (2013), who describe environmental awareness as an acknowledgment of environmental problems and their broader consequences, and supports

Kadarisman et al (2023), who highlight the effectiveness of data-driven environmental narratives in raising public awareness.

In contrast, Affective Engagement and Systems Thinking appear less frequently and less explicitly. This trend can be explained by the structural characteristics of news writing, which often prioritizes objectivity, factual reporting, and brevity over emotional or systems-based narratives. Affective engagement requires reflective and value-laden language that fosters emotional connection, which tends to appear selectively rather than consistently in news texts. However, when present, affective elements encourage empathy, moral concern, and personal responsibility for environmental issues. This finding supports McBride et al (2013) and is consistent with Sigit et al (2023) and Ekselsa et al (2023), who argue that emotional framing in environmental discourse enhances ethical sensitivity but is less prevalent in conventional news formats.

Similarly, moderate representations of Systems Thinking reflect the complexity of conveying interconnected ecological processes within the confines of news reporting. Systems-based explanations require a longitudinal perspective and detailed causal chains, which are not always compatible with event-focused journalism. However, when systems thinking is applied through explanations of pollution pathways, environmental leakage, and cumulative ecological impacts it enhances readers' understanding of environmental complexity. This finding aligns with McBride et al (2013) and supported by Esmene et al (2020), who noted that systems-oriented environmental reporting enhances public understanding of interconnected ecological processes.

The Responsible Behavior dimension occupies an intermediate position, emerging through descriptions of concrete environmental actions, sustainable practices, and waste reduction initiatives. This trend occurs because action-oriented reporting is generally associated with campaign-based or solution-focused news coverage rather than reporting routine events. The representation of responsible behavior demonstrates how online news can translate environmental knowledge and awareness into practical examples of sustainable action. This finding aligns with McBride et al (2013) and supports Hannah and Varuneshwaran (2024), who emphasize that solutions-based environmental journalism plays a crucial role in promoting environmentally responsible behavior.

Overall, variations in the importance of ecological literacy dimensions reflect the interaction between five goals of environmental reporting. Cognitive and awareness-based dimensions dominate because they align with the informational function of online news, while affective and systems-based dimensions appear more selectively due to narrative and structural constraints. These findings are consistent with previous studies in environmental communication, which report similar patterns in the representation of eco-literacy and environmental meaning in digital news media.

Taken together, the scientific findings of this study answer the research objective by demonstrating that eco-literacy is systematically embedded in online news coverage of plastic waste reduction campaigns, albeit with varying emphasis across dimensions. The results confirm that The Jakarta Post contributes to public environmental understanding by prioritizing ecological knowledge, awareness, and actionable solutions, while providing more limited but meaningful representations of affective engagement and systems thinking. This confirms the study's assumption that online news coverage plays a significant role in promoting eco-literacy and shaping sustainability discourse related to plastic waste reduction.

#### 4. CONCLUSION

This study concludes that environmental literacy is represented in online news coverage of plastic waste reduction campaigns. Based on the research objectives, the findings indicate that online news articles incorporate elements of environmental literacy in presenting information related to plastic waste issues. These elements reflect the role of online media in supporting environmental awareness and sustainability discourse.

The representation of environmental literacy in online news demonstrates that media coverage has the potential to function not only as a source of information but also as an informal educational medium. By presenting environmental issues alongside action-oriented explanations and messages, online news contributes to the development of public understanding and responsible attitudes towards the environment.

Overall, this study highlights the importance of online news in communicating environmental values through environmental literacy. The findings provide insights into how digital media can support plastic waste reduction efforts by promoting awareness and encouraging sustainable behavior, in line with the objectives of this study.

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