

CHAPTER I

INTRODUCTION

This chapter presents the foundation of the study, beginning with the research background and a review of previous studies, followed by the statement of the problem, research objectives, and research significance.

1.1. Research Background

In recent decades, plastic pollution has become one of the most pressing environmental issues, affecting ecosystems, wildlife, and human life. The accumulation of plastic waste in rivers, cities, and oceans is largely driven by the increasing use of single-use plastics and inadequate waste management systems. From a social semiotic perspective, environmental problems are not only material in nature but are also shaped and communicated through signs and meanings in society (Halliday, 1978). In this sense, plastic pollution can be understood not only as an environmental threat but also as a social issue that requires public awareness and shared responsibility.

In response to this issue, various environmental campaigns have been developed to raise public awareness about plastic pollution. One widely used medium in these initiatives is the Public Service Announcement (PSA) poster. PSA posters are designed to communicate social issues clearly and visually, making them accessible to a broad audience. Beyond providing information, they also encourage viewers to reflect on their responsibility toward the environment, particularly in relation to plastic waste (Hansen, 2019).

In recent years, environmental issues have increasingly been communicated through visual media, especially on digital platforms such as social media. Unlike traditional print media, digital PSA posters circulate in fast-scrolling environments, such as social media feeds, campaign websites, and digital billboards, where audience attention is limited and fleeting. In these contexts, the strategic use of layout, color, salience, typography, and verbal text becomes crucial in conveying meaning effectively within a constrained visual

space (Jewitt et al., 2025). As Kress and van Leeuwen (2021) argue, meaning in such contexts emerges from the deliberate interaction of visual and verbal semiotic resources.

In PSA posters, environmental messages are constructed through the interaction of images, colors, symbols, layout, and written text. Visual representations — such as polluted oceans, endangered marine animals, or symbolic depictions of human actions — often work together with short slogans to reinforce the overall message. As meaning emerges from the integration of visual and verbal elements, PSA posters can be understood as multimodal texts. Therefore, their analysis requires an approach that goes beyond purely linguistic analysis and considers how different semiotic resources contribute to meaning-making.

For this reason, Multimodal Discourse Analysis (MDA), as proposed by Kress and van Leeuwen (2021), provides an appropriate framework for examining how different semiotic resources interact to produce meaning. From a social semiotic perspective, this framework analyzes multimodal texts through representational, interactive, and compositional meanings. The present study applies the 2021 edition of this framework to examine how plastic pollution PSA posters construct environmental meaning through the strategic interaction of verbal and visual elements.

Despite the growing use of MDA in campaign studies, several gaps remain. Existing studies often examine environmental campaigns broadly without focusing specifically on plastic pollution PSA posters. Furthermore, most existing research continues to rely on earlier editions of Kress and van Leeuwen's framework, without incorporating the theoretical updates introduced in the 2021 edition, which are particularly relevant to contemporary digital visual communication. In addition, the interaction between verbal and visual elements has not been examined in a balanced and systematic manner, as many studies prioritize visual analysis while underemphasizing the contribution of verbal modes. The present study therefore seeks to address these gaps through a focused multimodal analysis of plastic pollution PSA posters.

Previous studies have widely applied Multimodal Discourse Analysis (MDA) to various campaign materials, particularly in Public Service Announcements (PSAs), social campaigns, and environmental communication. Belgrimet and Rabab'ah (2021) analyzed three English posters used in campaigns addressing violence against women, applying Kress and van Leeuwen's (2006) Visual Grammar framework to examine representational, interactive, and compositional meanings. The findings show that the posters predominantly employ conceptual processes, with most functioning as offer images that present information rather than directly demanding viewer engagement. In terms of perspective, all three posters adopt a frontal angle, suggesting a sense of involvement between the represented participants and the audience. The study also demonstrates that verbal and visual elements work together to reinforce awareness messages, with the compositional arrangement giving relatively balanced attention to both modes. However, while the study provides a useful model for analyzing how semiotic resources construct meaning in social campaign contexts, its focus on violence against women means it does not extend to environmental communication. The study therefore does not address how multimodal resources construct environmental meanings in plastic pollution PSA contexts.

Rizqi (2025) conducted a multimodal discourse analysis of three anti-bullying campaign posters sourced from international campaigns on Instagram, applying Kress and van Leeuwen's (2006) Visual Grammar framework to examine representational, interactive, and compositional meanings. The findings show that empathy is constructed through the emotional representation of victims, with direct gaze functioning as a demand image that establishes a sense of personal engagement between the poster and the viewer. Compositionally, the posters employ central placement of the main figure, contrasting colors, and strategic typographic choices to direct attention and reinforce the anti-bullying message. The study also highlights that slogans and captions work alongside visual elements to strengthen emotional connection and encourage viewer response. However, while the study demonstrates the effectiveness of MDA in

analyzing social campaign posters and provides useful insights into how visual and verbal elements interact to construct emotional meaning, its focus on social-behavioral issues rather than environmental concerns means it does not extend to environmental communication. The study does not examine how visual and verbal elements construct environmental meanings in plastic pollution PSA posters.

Zhao (2021) conducted a social semiotic analysis of 21 COVID-19 Public Service Advertisements in China, examining how language and visual images construct attitudes and emotions during crisis communication. The study employs Martin and White's (2005) appraisal framework as the primary analytical tool, with reference to Kress and van Leeuwen's Visual Grammar for the analysis of visual elements. The findings indicate that judgement is the most prominent attitudinal resource, with most instances realized as positive and implicit. Appreciation is used to highlight Chinese cultural identity and values such as resilience and harmony, while affect is expressed more explicitly to build emotional confidence among the public. Overall, the study demonstrates that multimodal resources, both verbal and visual, work together to construct persuasive and emotionally engaging PSA discourse. However, while the study offers valuable insights into how semiotic resources construct meaning in PSA contexts, its focus on a public health crisis means it does not extend to environmental communication. The study does not address how verbal and visual elements interact to construct environmental meanings in plastic pollution PSA posters.

Padilla and Padilla (2022) conducted a multimodal discourse analysis of eight COVID-19 vaccination campaign posters produced by the Department of Health (DOH) in the Philippines, applying Kress and van Leeuwen's (2006) Grammar of Visual Design to examine representational, interactional, and compositional meanings. The findings show that narrative processes are dominant, with reactional structures being particularly prominent, as represented participants, mainly healthcare workers and family members, are depicted engaging emotionally with one another and with the viewer. In terms of

interactive meaning, most posters function as offer images, with personal distance established through medium close-up shots and frontal horizontal angles that invite viewer involvement. Compositionally, visual elements are predominantly positioned as new information, making them the primary carriers of meaning, while verbal elements function as given information that provides contextual framing. Overall, the study concludes that the emotional appeal constructed through these multimodal strategies plays a significant role in encouraging vaccination among the intended audience. However, while the study provides valuable insights into how multimodal resources construct meaning in public health PSA posters, its focus does not extend to environmental communication. Moreover, the analysis places greater emphasis on visual elements and does not examine the interaction between verbal and visual modes in a fully balanced way. In addition, the study relies on the 2006 edition of the framework and does not incorporate the theoretical developments introduced in the 2021 edition, which are particularly relevant to contemporary digital visual communication contexts.

Moving closer to environmental communication, Sitorus et al. (2022) conducted a multimodal analysis of five selected Greenpeace environmental campaign posters, applying Kress and van Leeuwen's (2006) Visual Grammar framework alongside Halliday's Systemic Functional Linguistics to examine both visual and verbal elements. The verbal analysis, conducted through transitivity, reveals that material processes dominate the captions, reflecting the posters' intention to encourage viewers to take action in response to environmental issues. Visually, the study finds that conceptual patterns, particularly symbolic processes, are dominant, with non-human participants frequently serving as the main represented subjects. In terms of interactive meaning, the posters predominantly function as offer images presented at a public distance and eye-level angle, suggesting an equal yet relatively detached relationship between the posters and their viewers. Compositionally, verbal and visual elements are given relatively balanced attention, with images often positioned in the ideal zone and text in the given zone, guiding viewer

interpretation in a structured way. However, while the study contributes to understanding how multimodal resources construct environmental meaning in campaign posters, it addresses environmental issues in a broad scope without specifically focusing on plastic pollution. Furthermore, it relies on the 2006 edition of the framework and does not incorporate the theoretical updates introduced in the 2021 edition, which are particularly relevant to contemporary digital visual communication.

More specifically on environmental visual discourse, Huang and Guo (2024) conducted a comparative multimodal analysis of 200 marine ecological protection posters — 100 Chinese and 100 Western — applying Kress and van Leeuwen's (2006) *Grammar of Visual Design* to examine representational, interactive, and compositional meanings. The findings reveal that marine animals are the most frequently used visual symbols in both Chinese and Western posters, appearing in 81% and 79% of the samples respectively, while pollutants and other elements occur less frequently. In terms of compositional strategies, size emerges as the dominant means of establishing salience across both poster groups, followed by a combination of size and color contrast. The study also identifies notable cultural differences: Chinese posters tend to favor symmetrical and centralized compositions, reflecting traditional aesthetic values of harmony and balance, whereas Western posters employ more dynamic and asymmetrical layouts to create visual impact and convey urgency. However, while the study provides valuable insights into how visual elements construct environmental meanings across cultural contexts, its primary emphasis on visual symbolism results in limited attention to how verbal and visual elements interact in meaning-making. Furthermore, although the 2021 edition of Kress and van Leeuwen's framework is cited in the references, the analysis itself is explicitly based on the 2006 edition, indicating that the theoretical developments introduced in the 2021 edition are not substantively integrated.

Most closely related to the present study, Wang and Xing (2024) conducted a corpus-based multimodal discourse analysis of 93 pro-environmental public service advertisements from the World Wildlife Fund

(WWF), applying Halliday's Systemic Functional Grammar to examine verbal elements and Kress and van Leeuwen's Visual Grammar to analyze visual meaning. In terms of verbal analysis, the findings show that declarative sentences are the most frequent mood structure, accounting for 53.4% of the total, followed by imperative sentences at 40.6%, reflecting the dual function of the advertisements in both informing viewers and urging them to take action. Low-value modal operators dominate at 65%, indicating a relatively soft degree of obligation, while second-person pronouns are the most frequently used, establishing a direct relationship between the producers and the viewers. Regarding visual analysis, offer images are overwhelmingly dominant at 89.2%, with social distance most commonly realized through long shots. The oblique angle appears slightly more frequently than the frontal angle, and medium modality accounts for the majority of images at 69.9%. Overall, the study demonstrates that verbal and visual elements work together to construct a cohesive multimodal discourse in environmental PSA communication. However, while the study provides the most directly relevant methodological model for the present research, it primarily focuses on the interpersonal function of verbal text and the interactive meaning of visual images, without giving balanced analytical attention to representational and compositional meanings. Furthermore, its focus on general environmental campaigns rather than specifically on plastic pollution, combined with its reliance on an earlier edition of the framework without incorporating the theoretical developments introduced in the 2021 edition, leaves a significant gap in understanding how representational, compositional, and intermodal meanings operate alongside verbal elements in plastic pollution PSA posters — a gap that the present study seeks to address.

Taken together, the studies reviewed above reveal three significant gaps in the existing literature. First, no study has specifically examined plastic pollution PSA posters as a focused analytical object; although studies such as Sitorus et al. (2022), Huang and Guo (2024), and Wang and Xing (2024) engage with environmental communication, none isolates plastic pollution PSA posters as a distinct focus. Second, the theoretical updates introduced in the 2021 edition

of Kress and van Leeuwen's Grammar of Visual Design have not been consistently applied, as most analyses continue to rely on earlier editions, leaving the updated analytical categories underutilized. Third, the interaction between verbal and visual elements has not been examined in a sufficiently balanced manner, with studies such as Huang and Guo (2024) and Wang and Xing (2024) tending to prioritize visual analysis while underemphasizing the construction of intermodal meanings between verbal and visual modes.

1.2. Statement of the Problem

This study analyzes two central problems in the multimodal analysis of plastic pollution PSA posters. First, how representational, interactive, compositional, and intermodal meanings are realized through the interaction of visual and verbal elements. Second, what recurring patterns of multimodal meaning-making can be identified across the analyzed posters. Accordingly, this study is guided by the following research questions:

1. How are the representational, interactive, compositional, and intermodal meanings realized in plastic pollution PSA posters?
2. What recurring patterns of multimodal meaning-making can be identified across the analyzed plastic pollution PSA posters?

1.3. Research Objective

This study aims to analyze how plastic pollution PSA posters construct environmental meaning through the interaction of verbal and visual elements from a multimodal discourse perspective. Specifically, this study pursues the following objectives:

1. To examine how representational, interactive, compositional, and intermodal meanings are realized in plastic pollution PSA posters.
2. To identify recurring patterns of multimodal meaning-making across the analyzed plastic pollution PSA posters.

1.4. Research Significance

This study contributes to both theoretical and practical understanding in the fields of linguistics, multimodal discourse studies, and environmental communication.

Theoretically, this study extends multimodal discourse analysis in environmental communication by applying the 2021 edition of Kress and van Leeuwen's *Grammar of Visual Design*, which includes updated analytical categories more relevant to contemporary digital visual communication. This distinguishes the present study from previous research that predominantly relied on earlier editions of the framework. By examining how representational, interactive, compositional, and intermodal meanings are realized in plastic pollution PSA posters, and by treating verbal and visual elements as equally significant semiotic resources, this study offers a more balanced and comprehensive understanding of multimodal meaning construction in digital environmental campaigns. The findings are also expected to support future research on how environmental messages are constructed and communicated through digital media.

Practically, the findings of this study offer valuable insights for poster designers, environmental organizations, and educators. For designers and campaign producers, understanding how semiotic strategies, such as gaze, salience, shot size, and compositional arrangement, interact with verbal elements can inform the development of more effective and persuasive environmental PSA posters. For environmental organizations, the findings provide a deeper understanding of how visual and verbal choices shape public perception of plastic pollution and encourage behavioral change. For educators and researchers in linguistics and English literature, this study demonstrates how multimodal discourse analysis can be applied to real-world visual texts, offering a practical methodological model for analyzing meaning-making in digital campaign materials.