



---

**RESEARCH PAPER****Eco-Linguistic Analysis of Flood Representations in  
Selected Print Media: A Case of Climate Change Semiotics**

<sup>1</sup>Ansa Habib\* and <sup>2</sup> Fatima Tuz Zahra

1. M. Phil Scholar, Department of English, Minhaj University Lahore, Punjab, Pakistan

2. Lecturer, Department of English, Minhaj University Lahore, Punjab, Pakistan

\*Corresponding Author | Ansahabib658@gmail.com

---

**ABSTRACT**

This study investigated the socio-linguistic dimensions of flood semiotics and perceptions of climate change within Pakistani print media. The objective of the study was to contribute to a deeper understanding of how floods and climate change are portrayed and perceived in Pakistani media discourse, with implications for enhancing media awareness. The methodology employed was a qualitative approach grounded in eco-linguistic perspectives and guided by a comprehensive theoretical framework of Barthes and Kress and van Leeuwen encompassing semiotics, visual semiotics, rhetoric of image, and eco-linguistics. Analyzing images from Time Magazine depicting floods in Pakistan through semiotic analysis inspired by scholars such as Roland Barthes and Kress and van Leeuwen, the research uncovers social representations, effects of climate change, and linguistic strategies employed in media coverage. The findings revealed themes including devastation, emotional messaging, resilience, realism, and authenticity in the portrayal of Pakistani floods, offering insights into socio-cultural representations and perceptions of climate change. The study's implications extend to recommendations for enhancing media awareness and responsibility, improving journalist training, promoting diverse representation, and encouraging collaboration with environmental experts, advocating for continued research and global collaboration to foster a deeper understanding of climate change communication in the media.

**KEYWORDS** Climate Change, Eco-Linguistic, Flooding, Media Representation, Semiotics, Time Magazine, Visual Analysis

---

**Introduction**

The role of media in shaping discourse surrounding environmental issues in Pakistan, particularly in the context of its agricultural reliance and vulnerability to climate change, has been investigated through qualitative content analyses. Ali (2020) conducted a study focusing on three prominent English newspapers, examining their coverage of environmental issues, particularly on op-ed pages, throughout 2018. The findings revealed varied frames adopted by different newspapers, encompassing themes such as global warming, pollution, melting glaciers, and rising sea levels, reflecting the multifaceted nature of the discourse on climate change. However, the study also highlighted relatively low coverage devoted to environmental issues in mainstream media, which could potentially hinder public awareness and sensitivity towards critical environmental matters.

Furthermore, Javed (2021) conducted a comprehensive analysis of the coverage of natural disasters, specifically floods and droughts, in Pakistani English and Urdu newspapers spanning eight years from 2010 to 2017. Grounded in Agenda Setting Theory and Social Responsibility Theory, the study aimed to gauge the frequency of coverage and understand how media representation shapes public perception and societal responses to

natural disasters. These theoretical frameworks provided insights into the dynamics of media coverage, emphasizing the role of media in informing and updating the public about natural calamities and their impacts.

### **Semiotics and Disaster Coverage of Media**

Semiotics, within the context of disaster coverage, entails the analysis of signs, symbols, and communication systems to grasp how meaning is conveyed. Broekman (2017) highlights several facets of semiotics in disaster reporting: firstly, it involves scrutinizing visual elements such as images and graphics, alongside textual components like language, to understand how they influence interpretations and emotional responses to disasters. Secondly, it considers cultural codes and shared meanings within societies, recognizing the influence of cultural symbols and norms on audience perceptions of disasters. Thirdly, semiotics explores how media acts as a mediator between disasters and the public, shaping opinions through the selection of images, stories, and framing techniques. Lastly, it examines power dynamics within media outlets and their impact on societal perspectives, including agenda-setting mechanisms and the influence of governmental and other powerful entities in shaping public discourse on disasters. By applying semiotics to disaster coverage, one can critically evaluate communication strategies, uncovering underlying meanings, cultural influences, and power dynamics that shape societal perspectives on disasters.

### **Eco-linguistics and Environmental Awareness**

Semiotics and eco-linguistics serve as pivotal frameworks in advancing environmental awareness and fostering a deeper understanding of climate change. Semiotics facilitates the analysis of symbols and visual representations, aiding in the selection of imagery that resonates with audiences and motivates action. It also helps identify how language frames climate narratives, allowing communicators to influence public perceptions and attitudes toward climate change through careful word choice and framing techniques. Meanwhile, eco-linguistics explores linguistic gaps related to ecological concepts, emphasizing the development and popularization of new terms to enrich discussions about environmental issues. Additionally, it recognizes the importance of indigenous languages in preserving traditional ecological wisdom and encourages the use of place-based language to underscore the interconnectedness of communities with their local ecosystems. By leveraging both semiotics and eco-linguistics, communicators can craft culturally resonant messages that inspire sustainable behaviors and contribute to global efforts to combat climate change.

### **Literature Review**

Semiotics, encompassing the study of signs and symbols in various disciplines, offers invaluable insights into how people make sense of their experiences and communicate them, particularly in the context of natural disasters. Through semiotic analysis, scholars like Danladi (2020) and Nazar ud din (2022) have explored how survivors of calamities utilize signs and symbols to construct narratives and cope with trauma, while also illustrating how cultural changes are intertwined with natural disasters from an Eco semiotic perspective. Additionally, semiotics sheds light on media representations of disasters, as evidenced by studies on Hurricane Katrina (Baker, 2011), the 2011 Japanese earthquake and tsunami (Morimoto, 2015), and the 2017 Mexican earthquakes (Baker, 2011), revealing how language, images, and videos shape public perceptions and responses to such events. Understanding the semiotic dimensions of media coverage enables a deeper comprehension of how social constructions of disasters are formed, empowering us to

critically engage with the narratives presented by the media and fostering a more nuanced understanding of these complex phenomena.

### **Environmental Degradation and Reporting**

Eco-linguists advocate for a comprehensive approach to media coverage of floods, emphasizing the importance of going beyond mere reporting on negative impacts to focus on root causes, potential solutions, and empowering narratives. Khan and Mustafa (2023) argue that media representations of floods should not only raise awareness and mobilize responses but also challenge dominant narratives about climate change, environmental degradation, and disaster risk management. By examining how floods are framed, how victims are portrayed, and how responses are covered, eco-linguistic studies provide insights into how the media shapes public understanding and policy decisions regarding these disasters. For instance, eco-linguistic research by Khan and Mustafa (2023) on climate change reports highlights the prevalence of erasure of non-human species and ambivalent framing, offering valuable insights for policymakers, media practitioners, and the public to develop more effective communication strategies, provide balanced coverage, and critically engage with climate change information. This interdisciplinary approach underscores the critical role of language and media in shaping perceptions and responses to environmental challenges like floods, ultimately contributing to more sustainable and equitable disaster management practices.

### **Visual Semiotics**

Images serve as potent semiotic tools in print media, framing ecological issues, eliciting emotions, creating empathy, and influencing attitudes and behaviors towards environmental challenges. Through careful selection and presentation, images can shape public perspectives and prompt action on ecological concerns (Dondero, 2019). Notably, iconic images like those of oil-soaked birds or Earth from space have historically raised awareness and galvanized responses to environmental crises (Clarke & Hemphill). Visual semiotics, an interdisciplinary field, further elucidates how images convey meaning, with studies examining the portrayal of Afghan refugees and climate change in media (Smith, 2005; Khan et al., 2023). In Pakistan, media coverage of floods often emphasizes negative aspects, potentially fostering helplessness and hindering disaster preparedness (Najma Sadiq et al., 2021). However, semiotic analysis of Karachi's record-breaking rains underscores themes of governmental unpreparedness and citizen resilience, illustrating the power of visual representation in critiquing governance (Sarwar et al., 2022). Cultural bias also influences how floods are framed, with news outlets often reflecting stereotypes and differing in their presentation of domestic and international floods (Yu and Chen, 2021). Overall, understanding the semiotic dimensions of visual media is crucial for deciphering its impact on shaping public discourse and responses to ecological issues, offering insights for more effective communication and policy action.

### **Roland Barthes Visual Semiotic**

Roland Barthes, a seminal figure in semiotics, laid the groundwork for understanding the meaning embedded within images, particularly in advertising and photography. His concept of the "Rhetoric of the Image" outlined in his renowned work "Elements of Semiology" (1969) and later expounded upon in "Image, Music, Text" (1977) offers a theoretical framework for analyzing visual communication. Barthes introduced the concepts of denotation and connotation, akin to Ferdinand de Saussure's signifier and signified, to unravel layers of meaning within images, acknowledging their socio-cultural significance. Within an image, Barthes identified three distinct messages: the linguistic

message, which includes textual elements conveying both literal and sociocultural meanings; the non-coded iconic message, representing the literal image; and the coded iconic message, delving into the symbolic connotations embedded in visual composition, color, and contextual associations. Through his analysis, Barthes emphasized the autonomy of perception in decoding these messages, suggesting that no additional knowledge beyond immediate perception is required. By discerning the interplay of signs within images, Barthes provided a framework for understanding how visual communication constructs meaning within societal contexts.

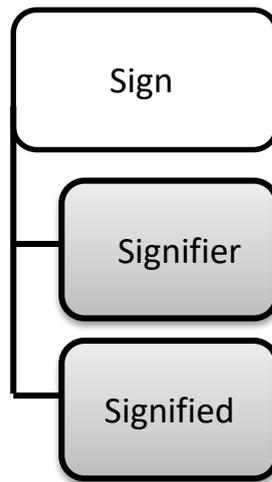


Figure 1: Barthes Framework

### **Kress and van Leeuwen**

According to Kress and van Leeuwen (2006), analyzing the representational meaning in visuals involves scrutinizing how the relationship between the viewer and the image is portrayed. Various elements contribute to describing this interaction, including mood, perspective, social distance, lighting, color, and modality. Mood in visual images is discerned by prioritizing the general essence over intricate details, with colors and lighting playing pivotal roles in conveying the intended mood. Perspective, determined by both vertical and horizontal angles, indicates whether the viewer adopts a subjective or objective point of view. Social distance is depicted through the framing of participants' faces or bodies, with different levels denoting intimacy or public relations. Lighting serves as a code in both print advertisements and cinema, with factors like brightness and light direction conveying meaning. Finally, modality is enhanced in photographs through the use of color, texture, light, and shade, attributing a level of "truthfulness" or "credibility" to the image. By analyzing these elements, one can better understand how visual images construct meaning and engage with viewers.

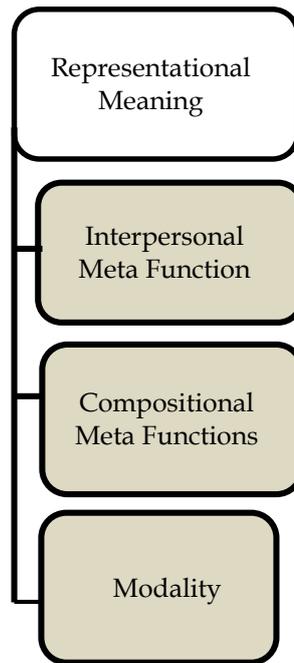


Figure 2: Kress and Van Leeuwen Framework

### Material and Methods

In applying Roland Barthes' (1969) method of signs and signifiers alongside Kress and van Leeuwen's (2006) theoretical dimensions to analyze flood visuals data from Time Magazine about Pakistan, we embark on a comprehensive semiotic investigation. The research questions aim to scrutinize social representations from an eco-linguistic standpoint, probe into the portrayal of climate change effects, and examine linguistic strategies employed in representing the intensity of flooding events in Pakistan. Beginning with Barthes' framework, the focus is on identifying signs within the images, such as a man wading through flooded streets, and deconstructing them into signifiers (physical representations) and signified (concepts). For instance, the man may signify struggle and resilience, while the flooded street symbolizes disruption. Additionally, attention is given to additional signifiers like the flooded street and the man's expression, exploring how these elements contribute to the overall signified, such as the human impact of climate change and the call for action. Moving to Kress and van Leeuwen's dimensions, the meta function analysis examines the main participant's portrayal in a state depicted in the pictures, focusing on ideational meaning related to displacement, struggle, and resilience. The interpersonal meta function delves into the viewer's position and emotional engagement, assessing how viewers are invited to share in the experience and emphasizing interpersonal connection. Compositional meta function analysis scrutinizes the vector and composition of the image, interpreting the sense of movement and progression suggested by the bottom-left to top-right vector.

Lastly, modality evaluation evaluates the realism and authenticity of the image, confirming the high modality of the image and emphasizing its realistic depiction and lack of apparent staging or manipulation. By employing Barthes' method of signs and signifiers alongside Kress and van Leeuwen's theoretical dimensions, researchers can conduct a nuanced semiotic analysis of textual representations, uncovering deeper socio-cultural representations and ideologies embedded within flood-related narratives, and elucidating how language constructs and conveys meaning in the context of these narratives.

## Data Collection

The data collection method for this qualitative research involves selecting Time Magazine issues published between September 1, 2022, and October 31, 2022, from which Thirteen images depicting floods or flood-related scenarios are extracted. Accompanying textual data, including captions, headlines, and article excerpts, are also collected. The images and textual data are systematically organized and cataloged, then subjected to qualitative analysis techniques to explore the conceptual underpinnings of experiences and attitudes surrounding floods.

## Data Analysis

The data analysis method for this research employs semiotic analysis, utilizing Roland Barthes' signifier, additional signifier, and additional signified method alongside Kress and van Leeuwen (2006) 's framework to uncover the nuanced meanings embedded within flood representations in the selected print media. The analysis begins with Barthes' signifier, focusing on the identification and description of the literal visual and textual elements related to floods. This involves cataloging the primary signifiers such as water, destruction, and human subjects within the images and accompanying textual data. Subsequently, the analysis extends to Barthes' concept of additional signifiers, where attention is given to supplementary elements that enhance or modify the primary signifiers' meanings.

## Results and Discussion

In our pursuit of unraveling societal perspectives on floods within Time Magazine, our analysis is structured around three thematic lenses. Firstly, we employ an eco-linguistic perspective to investigate social representations of floods, exploring the symbiotic relationship between language and the environment. Secondly, we examine the portrayal of climate change in print media, focusing on Time Magazine, to elucidate societal perceptions. Thirdly, we analyze linguistic strategies in Time Magazine to represent flooding intensity in Pakistan. Our objective is to understand the interplay between language, media representation, and societal attitudes toward floods.

In the next section, each image from Time Magazine will be analyzed through Barthes' (1969) sign, signifier, signified, and additional signified method, and Kress and van Leeuwen's (2006) Ideational, Interpersonal, and Compositional Meta functions, and Modality. This comprehensive analysis will shed light on socio-linguistic dynamics related to flood representation.

**Table 1**  
**Time Magazine Image Semiotics and Representational Meaning**

Theme	Social Representation	Effects of Climate Change	Linguistic Strategies (Barthes/Kress and van Leeuwen)
<b>Resilience in the face of adversity</b>	Child playing in flood water signifies innocence and adaptability, submerged building symbolizes disruptive impact of flood.	Flooding	Barthes: Signifier (child), Signified (innocence), Sign (relationship between image and meaning); Kress and van Leeuwen: Ideational Meta function (representation of social actors and actions), Compositional Meta function (salient elements, framing)
<b>Emotional and societal impact of flood</b>	Worried expression, conversation, partially submerged house signify disruption, distress, shared experience.	Threat to Infrastructure	Barthes: Signifier (facial expression), Signified (distress), Sign (relationship between image and emotion); Kress and van Leeuwen: Interpersonal Meta function (social relationships and roles), Modality (facial expressions, body language)

<b>Urgency and communal effort to save a life</b>	Open street, flooded village, men using ladder and rope signify environmental challenge and urgency.	Threat to Life	Barthes: Signifier (rope, ladder), Signified (rescue), Sign (relationship between image and action); Kress and van Leeuwen: Ideational Meta function (representation of tools and actions), Compositional Meta function (dynamic elements, information value)
<b>Communication, seeking assistance, vulnerability and resilience</b>	Elderly woman talking to news representatives signifies communication and seeking assistance, elderly man's posture suggests contemplation or helplessness.	Helplessness	Barthes: Signifier (gesture, posture), Signified (communication, vulnerability), Sign (relationship between image and social roles); Kress and van Leeuwen: Interpersonal Meta function (social roles and relationships), Modality (gaze, body language)
<b>Community resilience, shared experience, adaptation to challenging circumstances</b>	Men sitting in poorly organized shelter signifies gathering place, talking and watching news together signify shared activity.	Lack of Shelters	Barthes: Signifier (gathering, interaction), Signified (community, resilience), Sign (relationship between image and social bonds); Kress and van Leeuwen: Interpersonal Meta function (social interaction and roles), Compositional Meta function (proximity, shared space)
<b>Helplessness in the face of adversity</b>	Abdul Ghani's expression and flooded home signify helplessness and emotional impact.	Emotional Impact	Barthes: Signifier (facial expression), Signified (helplessness), Sign (relationship between image and emotion); Kress and van Leeuwen: Interpersonal Meta function (emotional expression), Modality (facial expressions)
<b>Urgency and intensity of evacuation process</b>	Overcrowded speedboat and vast floodwaters signify urgency and challenges of evacuation.	Self Help	Barthes: Signifier (crowded boat, floodwaters), Signified (urgency, danger), Sign (relationship between image and situation); Kress and van Leeuwen: Ideational Meta function (representation of quantity and scale), Compositional Meta function (dominating elements, information value)
<b>Adaptation to flood, vigilance against danger</b>	Man sleeping on embankment signifies adaptation, net-made camp represents makeshift shelter, people walking around suggest communal effort.	Community Resilience	Barthes: Signifier (sleeping position, net camp), Signified (adaptation, vigilance), Sign (relationship between image and response); Kress and van Leeuwen: Ideational Meta function (representation of social actions and roles), Compositional Meta function (social distance, relationships)
<b>Urgent response to flood warning</b>	Residents picking up belongings signifies response to warning; worried expressions convey emotional impact.	Displacement	Barthes: Signifier (action, facial expression), Signified (warning, fear), Sign (relationship between image and situation); Kress and van Leeuwen: Ideational Meta function (representation of social actions), Interpersonal Meta function (emotional expression), Modality (facial expressions, body language)
<b>Flooded Jhuddo in Three Pictures</b>	Bughio's worry about his cattle signifies the dependence of communities on livestock and the threat floods pose to their economic well-being. - Water scarcity and displacement: The image of IDPs gathering around a water tanker highlights the disruption of access to clean water caused by floods, leading to displacement and hardship	Loss of Livestock and Infrastructure	Barthes: Signified of lost livelihood (cattle), Signifier of water scarcity (tanker), Connotation of vulnerability (mother and child). - Kress & van Leeuwen: Ideational Meta function: Theme (flood), Participants (Bughio, IDPs, family), Processes (displacement, struggle). Interpersonal Meta function: Social distance (medium shot of Bughio, long shot of IDPs). Compositional Meta function: Saliency (centralized figures), Framing (focus on water tanker).
<b>Residents of Rajo Nizamani</b>	The focus on the man and his interaction with the floodwater invites viewers to empathize with individual experiences. - Realism: The image's rawness and lack of embellishment convey a sense of immediacy and authenticity.	Loss of Livestock and Lack of Shelters, shortage of food	Barthes: sign (man's expression), signified (destroyed house), additional signified (wading through water). - Kress & van Leeuwen: Ideational Meta function: Theme (flood), Participants (man), Processes (wading, destruction). Interpersonal Meta function: Facial expression (sadness, resignation). Compositional Meta function: Focus (man and water), Angle (low angle emphasizing struggle). Modality: Reality effect (raw, unedited image).
<b>Loss of Business Flooded Bazaar in Hayat Khaskheli</b>	The deserted bazaar conveys a sense of isolation and disconnection caused by the flood, economic loss and devastation.	Loss of Lively Hood	Barthes: sign (empty market stalls), signified (deserted space), additional signified (flood and market). - Kress & van Leeuwen: Ideational Meta function (flood) Compositional Meta function Saliency (empty foreground), Modality: (damaged structures)

## Discussion

In a series of compelling images in Time magazine that captured the multifaceted impact of flooding, diverse social representations emerge, revealing the resilience and vulnerability of communities in the face of adversity. Scenes of children playing in floodwaters symbolize innocence and adaptability, while submerged buildings signify the disruptive impact of floods. Expressions of worry, communal efforts to save lives, and urgent evacuation processes highlight the emotional and societal consequences, as well as the communal responses to environmental challenges. Communication, seeking assistance, and shared experiences are depicted through interactions with news representatives and gatherings in makeshift shelters.

### Effect of Climate Change

In the evocative visual narratives featured in Time magazine, the profound effects of climate change are artfully portrayed through a lens that captures the resilience, vulnerability, and adaptation of communities grappling with environmental challenges. The images of flooding showcase the emotional and societal impact, emphasizing the urgency and communal efforts required to navigate perilous situations.



Figure 3: Children playing in flood water

### Linguistic Strategies

The deserted flooded bazaar's representation of economic loss and devastation employs linguistic strategies to convey a sense of isolation and disconnection, aligning with Barthes' signifiers and signified and Kress and van Leeuwen (2006) 's compositional meta functions. Overall, Time magazine employs a nuanced blend of Barthes' and Kress and van Leeuwen (2006) 's linguistic strategies to construct a compelling narrative that transcends individual images, effectively conveying the complex and interconnected impacts of climate change on diverse communities.



Figure 4:Deserted bazar

### Effect of Climate Change

In the evocative visual narratives featured in Time magazine, the profound effects of climate change are artfully portrayed through a lens that captures the resilience, vulnerability, and adaptation of communities grappling with environmental challenges. The images of flooding showcase the emotional and societal impact, emphasizing the urgency and communal efforts required to navigate perilous situations.



Figure 5:Man getting rescued

### Magazine Portrayal of Pakistani Floods

In Time magazine's coverage of the Pakistani flood, a thematic analysis reveals a poignant depiction of the devastation, resilience, and emotional impact experienced by affected communities. Through powerful visual and textual elements, the magazine portrays the economic and infrastructural devastation caused by the flood, employing recurrent symbols like submerged buildings and individuals wading through floodwaters to signify the challenges faced by Pakistan. Bright and vivid color tones, alongside darker hues, contribute to the visual narrative of distress. The emotional message is conveyed through portraits capturing a range of emotions, from pain to resilience, humanizing the crisis and eliciting empathy from readers. The portrayal of flood victims' resilience underscores the strength of communities in rebuilding their lives, showcasing collective efforts and innovative solutions. Realism and authenticity are maintained through accurate depictions of events and contexts, ensuring ethical journalism and credibility. Overall,

Time magazine's coverage effectively communicates the multifaceted impact of the flood while honoring the resilience and humanity of those affected.

### **Conclusions**

The study provided a comprehensive exploration of the linguistic and semiotic dimensions of media representation, focusing on Time Magazine's coverage of the devastating floods in Pakistan. The integrated approach, drawing from various theoretical frameworks, allowed for a nuanced understanding of how visual and linguistic elements construct narratives and shape public perceptions of climate change-induced disasters. The research objectives guided the exploration, while the thematic analysis offered detailed insights into the semiotic strategies employed by the magazine. Overall, our discussion underscored the crucial role of media in influencing societal attitudes, awareness, and responses to environmental challenges.

### **Recommendations**

Advocating for increased media awareness and responsibility regarding the portrayal of climate change-induced disasters, urging adherence to ethical reporting practices prioritizing accuracy and sensitivity. Secondly, implementing training programs for journalists to enhance their understanding of eco-linguistics and climate change implications. Thirdly, encouraging diverse representation of perspectives in media coverage, including those of affected communities and experts. Additionally, fostering collaboration between media organizations and environmental experts to ensure accurate context in coverage. Furthermore, promoting interactive platforms for engagement and advocating for long-term climate change education in school curricula. Moreover, urging transparency in image selection processes, establishing monitoring mechanisms for evaluating media coverage, and advocating for continued research and global collaboration in addressing climate change. These recommendations collectively aim to foster more responsible, accurate, and nuanced media representation of climate-related events while engaging the public in informed discourse and action.

## References

- Barthes, R. (1969). *Elements of semiology*.: Translated from the French by Annette Lavers and Colin Smith. Hill and Wang.
- Broekman, J. M. (2017). "Verbal and nonverbal" in semiotics. *Semiotica*, 2017(216), 19–40. <https://doi.org/10.1515/sem-2017-0036>
- Cobley, P. and Machin, D (2019). Semiotics. In *The Routledge Companion to Literature and Science*. Routledge. <https://doi.org/10.4324/9780203848739.ch34>
- Clarke, K. C., & Hemphill, J. J. (2002). The Santa Barbara Oil Spill: A Retrospective. *Yearbook of the Association of Pacific Coast Geographers*, 64(1), 157–162. <https://doi.org/10.1353/pcg.2002.0014>
- Danladi, C. (2020). *Semiotics: Poems*. University of Georgia Press.
- Dondero, M. G. (2019). Visual semiotics and automatic analysis of images from the Cultural Analytics Lab: How can quantitative and qualitative analysis be combined? *Semiotica*, 2019(230), 121–142. <https://doi.org/10.1515/sem-2018-0104>
- Javed, N. (2021). Natural Disasters in Pakistan and Media Coverages. A Comparative Study of Pakistani English and Urdu Newspaper. *Media and Communication Review*, 1(2), 39–64. <https://doi.org/10.32350/mcr.12.05>
- Khan, M., & Mustafa, M. (2023). Exploration of Ecological elements: An Eco linguistic Investigation of climate change Reports in Pakistan. *Journal of Policy Research*, 473–477. <https://doi.org/10.5281/zenodo.8073658>
- Kress, G., & Leeuwen, T. V. (2006). *Reading Images: The Grammar of Visual Design*. Taylor & Francis Group.
- Morimoto, R. (2015). Waves of Semiosis. Is It about Time? On the Semiotic Anthropology of Change. In *International Handbook of Semiotics* (pp. 547–564). Springer Netherlands. [https://doi.org/10.1007/978-94-017-9404-6\\_24](https://doi.org/10.1007/978-94-017-9404-6_24)
- Najma Sadiq, Ume Laila, Tahir Mehmood, & Muhammad Saad Shafique. (2021). Natural Calamities and Sensation in Media; A Study of Corona Virus Coverage in Electronic Media of Pakistan. *Journal of Accounting and Finance in Emerging Economies*, 7(1), 23–34. <https://doi.org/10.26710/jafee.v7i1.1505>
- Sarwar, M. (2020). A Textual Enactment of Cartoon and Editorial: CDA and Semiotic Analysis of Daily Dawn Coverage of 89-Year Record Shattering Rains of Karachi. *Pakistan Social Sciences Review*, 4(IV), 47–60. [https://doi.org/10.35484/pssr.2020\(4-iv\)04](https://doi.org/10.35484/pssr.2020(4-iv)04)
- Smith, K. (2005). *Handbook of Visual Communication Research: Theory, methods, and Media*. Mahwah, NJ: L. Erlbaum.
- Scolari, C. A. (2012). Media Ecology: Exploring the Metaphor to Expand the Theory. *Communication Theory*, 22(2), 204–225. <https://doi.org/10.1111/j.1468-2885.2012.01404.x>

- Yelle, R. A. (2021). Semiotics. In *The Routledge Handbook of Research Methods in the Study of Religion*. Routledge. [https://doi.org/10.4324/9780203154281.ch2\\_17](https://doi.org/10.4324/9780203154281.ch2_17)
- Yu, H., & Chen, G. (2021). Their floods and Our floods: News values of flood photo galleries of Associated Press and Xinhua News Agency. *Journalism*, 146488492110567. <https://doi.org/10.1177/14648849211056785>