

The Contribution of Social Semiotics to Text Understanding in Various Disciplines: A Systematic Literature Review

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ABSTRACT

This article investigates the role of social semiotics in enhancing text comprehension across various academic disciplines, addressing a critical gap in interdisciplinary understanding methods. Although previous studies applied social semiotics to specific modes and disciplines, a comprehensive analysis that includes multiple semiotic elements in academic texts remains limited. The objective of this study is to verify how social semiotics can be used to interpret complex, multimodal academic texts, thereby aiding students in diverse fields. By using a Systematic Literature Review (SLR) methodology, the study analyzes findings from 13 relevant articles sourced from Google Scholar between 2020 and 2024. Key findings highlight that social semiotics facilitates understanding by enabling readers to contextualize and interpret multimodal content such as visual elements, data, and narrative structures unique to each discipline. These insights reveal implications for educators in developing interdisciplinary comprehension strategies and underscore the ability of social semiotics as a framework for understanding academic texts holistically. Consequently, this research contributes to the theory and practice of education by providing concrete guidance for improving cross-disciplinary text comprehension, ultimately supporting more effective and inclusive academic learning.

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1. INTRODUCTION

Text comprehension is a fundamental component of academic learning, especially in higher education. Each discipline presents texts differently, using unique terminology, structures, and delivery styles. It creates significant challenges for students, who are required to not only understand the literal content of the text but also catch implicit meanings, contextual interpretations, and relationships between ideas. The reader's ability to recognize and interpret the various semiotic elements greatly influences a deep understanding of academic texts. However, there is still a gap in text comprehension methods that can accommodate this diversity.

One approach that offers deep insight into understanding how texts are constructed and understood is social semiotics. As Halliday (1978) put it, social semiotics focuses on how meaning is constructed in a social context through language and other symbols. This approach views text as a multimodal entity consisting of various modes of communication, such as language, diagrams, images, and even visual placement. Each of these modes

contributes to the formation of meaning and often varies depending on the discipline in which it is contextualized (Kress & van Leeuwen, 2006). Therefore, social semiotics can be a powerful analytical tool in exploring how texts across disciplines convey messages in complex and dynamic ways.

While previous studies have applied social semiotic theory in the context of advertising, media, and visual communication, its application in education, especially to understand cross-disciplinary academic texts, has not been widely explored. Most previous studies are limited to one particular discipline or focus on one mode of communication, such as only written or visual texts, without holistically considering the interaction between modes in creating a complete meaning. For example, research by O'Halloran (2011) shows how social semiotics can be used to analyze scientific texts, but this research has not expanded its application to other academic fields.

This gap creates significant space to explore how social semiotics can be applied more broadly in academic education. The inquiry that requires resolution is how different semiotic elements in academic texts, such as data visualization in science or narrative in the humanities, influence students' comprehension. Can a social semiotic approach help address the challenges of understanding cross-disciplinary texts that vary widely in how they convey information?

This article intends to bridge this gap by investigating the role of social semiotics in comprehending academic texts across disciplines. Through a more in-depth analysis of how semiotic modes interact in scientific, health, and humanities texts, this research is anticipated to significantly contribute to the theory and practice of learning in higher education. In addition, this study will provide more concrete guidance for educators and students in developing more effective text comprehension strategies. Thus, this article aims to answer the question: How do social semiotics contribute to text comprehension across academic disciplines? This study will expand the application of social semiotic theory and provide new insights into more effective text comprehension strategies in multidisciplinary academic environments.

2. LITERATURE REVIEW

2.1 Social Semiotics

Social semiotics is an expansive concept that perceives all communication within a social group as manifested via semiotic resources (Airey, 2015; Airey & Linder, 2017). Michael Halliday's work in 1978 provided the initial impetus, later expanded by Hodge and Kress in 1988 to encompass all human activity (Fomin & Ilyin, 2019). In physics education, these resources include graphs, diagrams, mathematics, language, and laboratory apparatus, often referred to as representations (Airey & Linder, 2017). The field continues to evolve, facing challenges relevant to sociology and expanding its subject matter and methodological dimensions (Fomin & Ilyin, 2019).

Social semiotics, emerging in the 1980s, explores social meaning-making through various approaches worldwide (Moreno Barreneche, 2023). It integrates semiotic and social studies, progressing along the frontiers of material and methodology (Fomin, 2020). The field encompasses sociolinguistics and semiotics of culture, addressing meaning production beyond linguistic structures (Zolyan, 2020). Researchers have developed

theoretical and methodological resources to analyze multimodal texts in contemporary semiotic landscapes, which have implications for teaching critical reading skills (Bezemer & Cowan, 2020). However, the field remains fragmented, with different traditions coexisting in English-speaking, French, Argentinean, Italian, and Brazilian contexts (Moreno Barreneche, 2023). Scholars recognize the need for more integration of social and semiotic sciences (Fomin, 2020) and the development of synthetic methods based on dynamic approaches to meaning production and transmission (Zolyan, 2020). This evolving field continues to adapt to technological changes and their impact on reading practices (Bezemer & Cowan, 2020).

2. 2 Texts and Context

The concept of "text" is multifaceted, encompassing concrete and abstract dimensions. It can refer to written, spoken, or visual manifestations and involves processes of textualization and interpretation (De Angelis, 2020). With the advent of digital texts, new methods like Text Mining have emerged, allowing researchers to extract knowledge by analyzing textual content, occurrences, and frequencies, thus reshaping our understanding of textuality in the digital age (De Angelis, 2020). The relationship between text and context is a complex and multifaceted topic in linguistic research. Lauxtermann (2019) explores this connection in Byzantine literature, examining how texts interact with their contexts, including other texts in anthologies and miscellanies. He also investigates the reuse of texts in new contexts and offers contextual readings of various texts. Pruvost et al. (2018) propose synthesizing text, context, and intertext as central to meaning generation in communication. They emphasize the importance of the text chronotype, shaped by both the author and recipient, and highlight the role of intertextual competence in understanding. Both studies underscore the significance of context in interpreting texts, with Lauxtermann (2019) focusing on historical and literary contexts, while Pruvost et al. (2018) consider linguistic and communicative aspects, including deixis, prosody, and pragmatics.

3. RESEARCH METHODOLOGY

This study utilizes the Systematic Literature Review (SLR) method to collect, evaluate, and analyze relevant literature on Social Semiotics and Text Understanding in Various Disciplines. SLR was chosen because this approach allows researchers to systematically review previous research with a structured methodology, identify research gaps, and synthesize key findings from existing studies (Kitchenham & Charters, 2007). In implementing this SLR, the literature search process followed a clear protocol, including keyword identification, scientific database selection, and strict inclusion and exclusion criteria. All studies that meet the relevance criteria will be analyzed in depth to gain a holistic view of social semiotics and understand various disciplines.

The article search was conducted in October 2024. To find articles relevant to the title and research questions. The investigation was conducted using keywords that had been searched in the Google Scholar database. The keywords used to locate relevant articles were " Social Semiotics to Text Understanding in Various Disciplines " and were limited to articles published between 2020 and 2024. Articles were found in 100 articles from Google Scholar. After filtering the articles, 13 were obtained specifically. The

subsequent procedure is comprehensive text filtering. At the synthesis stage, there were just 13 articles. Figure 1 illustrates the specifics of the article selection procedure.

The formulation of the research issue encompasses the following principal inquiries: (1) What is the role of social semiotics in improving text understanding in language studies? (2) How effective is the Role of Social Semiotics in Improving Text Understanding in Language Studies from the results of the Systematic Literature Review study?

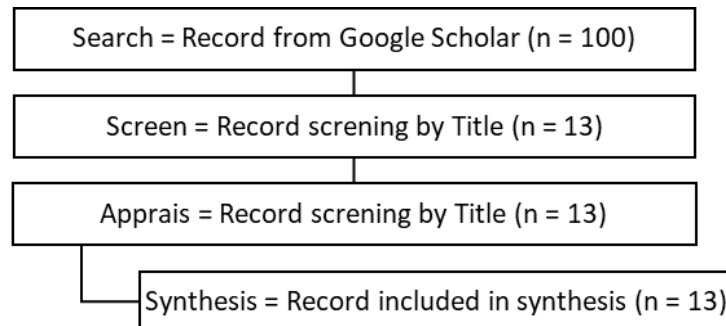


Figure 1. A flowchart illustrating the article selection process was taken from Xiao & Watson (2019).

4. FINDINGS

4.1 Data Findings

Table 1. Articles collected from Google Scholar

| No. | Authors | Title | Year |
|-----|---|--|------|
| 1 | Dery Rovino, Michael Jibrael Rorong, Jai Kishon Goswami | Gender Performance Discourse On Tinder Profile Pictures In London, UK – A Social Semiotics Study | 2020 |
| 2 | Bob Hodge | Knowledge, complexity, power: social semiotics as meta-discipline | 2020 |
| 3 | Vanessa Oechsler, Marcelo C. Borba | Mathematical videos, social semiotics, and the changing classroom | 2020 |
| 4 | I Ketut Suardana | Text of Bengu Mati: Social Semiotics of Systemic Functional Linguistics | 2020 |
| 5 | Moa Eriksson, Urban Eriksson, Cedric Linder | Using social semiotics and variation theory to analyze learning challenges in physics: a methodological case study | 2020 |
| 6 | Ivan Bakhov et al. | Transformational Influence Of The Foundations Of Social Semiotics On Approaches To Language Teaching | 2021 |
| 7 | Christophe Sohn | How to brand a border despite its wall? A social semiotics approach to cross-border place branding | 2022 |
| 8 | Husam Dawoud, Wajeel Daher | Social semiotics comparison between old and new Palestinian mathematics curriculum for the ninth grade | 2022 |
| 9 | Elisabetta Adami, Sophia Diamantopoulou, FeiVictor Lim | Design in Gunther Kress's social semiotics | 2022 |

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| 10 | Nurul Silma Mastika | Khotimah, Ulqiatul | Social semiotics of news reports on the change of the halal logo in detik.com for March 2022 | 2023 |
| 11 | Sri Hariyatmi | | When The Wall Speaks: Social Semiotics Analysis Of (Covid-19)-Themed Murals In Indonesia | 2023 |
| 12 | Taofeek O. Ke Yang | Dalamu, | Exploring 2020 #ENDSARS Protests' Components in Nigeria within the Schematics of Social Semiotics | 2023 |
| 13 | Dariush Stephanie Dryden | Izadi | Woman/life/freedom: The social semiotics behind the 2022 Iranian protest movement | 2024 |

4.2 Data Analysis

The findings were obtained from the analysis of the research data. The findings aim to offer a comprehensive and detailed understanding of the subject under investigation, thereby enhancing the body of knowledge within the pertinent area.

Table 2. Articles (Methodology, Key Findings, Significance)

| No | Authors | Title | Year | Methodology | Key Findings | Significance |
|----|---|--|------|---|---|---|
| 1 | Dery Rovino, Michael Jibrael Rorong, Jai Kishon Goswami | Gender Performance Discourse On Tinder Profile Pictures In London, UK – A Social Semiotics Study | 2020 | <ol style="list-style-type: none"> 1. Approach: Social Semiotic Analysis of Tinder profile pictures. 2. Analysis Protocol: Profile Picture Protocol (PPP) was used to analyze visual elements, such as color coding, spatial position, gestures, and clothing. 3. Data Collection: 60 profile pictures (30 male, 30 female) were collected from a 21 km area around central London over 5 days. 4. Collection Technique: Random assignment and systematic procedures for profile variation for sample representativeness. | <ol style="list-style-type: none"> 1. Use of Color: Both men and women commonly use bright, highly saturated colors, but color alone is not enough to determine gender performance. 2. Clothing and Appearance: Formal attire is more commonly worn by men, while both genders exhibit elements of "strategic skin showing" through clothing. 3. Gesture and Position: Eye-level and frontal angles are commonly used by both genders, indicating social closeness. Profiles are generally placed in the center with close-up or medium shots, indicating a desire for intimacy. 4. Gender Performance: While traditional gender cues exist (men show off their muscles, women show off their feminine features), some elements do not conform to gender norms. | <ol style="list-style-type: none"> 1. Gender Implications: This study challenges binary understandings of gender performance, demonstrating that gender expression is complex and multilayered on digital platforms. 2. Digital Relevance: This study enriches discussions about digital identity and gender construction on social media, particularly in dating apps like Tinder, allowing users to consciously regulate visual cues for social or romantic purposes. 3. Scholarly Contribution: Expands the study of social semiotics by demonstrating the diverse and sometimes contradictory representations of gender in digital |

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| | | | | | | media. |
| 2 | Bob Hodge | Knowledge, complexity, power: social semiotics as meta-discipline | 2020 | <p>1. He Uses a social semiotic approach to analyze interdisciplinarity and complexity in knowledge production.</p> <p>2. A modified Kuhn framework assesses challenges in science and non-scientific disciplines.</p> <p>3. Integrating complexity theory to show how interdisciplinary connections can be enhanced.</p> | <p>1. Traditional disciplinary boundaries are found to be limited in solving "wicked problems" that require metadisciplinary solutions.</p> <p>2. Social semiotics and complexity science are proposed as metadisciplines capable of bridging scientific and non-scientific disciplines.</p> <p>3. A crisis in paradigm occurs when standard disciplines fail to address complex problems.</p> | <p>1. This article emphasizes the importance of a paradigm shift towards a metadisciplinary approach to enhance the adaptability of knowledge systems.</p> <p>2. Social semiotics is suggested as an ideal metadisciplinary tool to facilitate knowledge transfer and enable more dynamic interdisciplinary integration.</p> |
| 3 | Vanessa Oechsler, Marcelo C. Borba | Mathematical videos, social semiotics, and the changing classroom | 2020 | The study involved middle school students from three schools in Blumenau, Brazil. Students were grouped and tasked with creating videos on chosen mathematical topics. They underwent a six-step process: discussion, topic research, script creation, video recording, editing, and video dissemination. Data were gathered through observations, interviews, and video analysis. | Video production in the classroom allowed students to explore mathematical content dynamically, promoting student engagement and learning. Students often re-evaluated their understanding during video creation, leading to greater conceptual clarity. Video projects also transformed traditional classroom roles, with students taking a more active, collaborative role in their learning. | The integration of video production as a teaching tool reshapes classroom dynamics, positioning students as active participants in knowledge creation. It bridges in-class learning with the outside world through the potential for sharing videos online. This method highlights how digital media can foster a multimodal approach to mathematics, enhancing students' understanding and communication. |
| 4 | I Ketut Suardana | Text of Bengu Mati: Social Semiotics of Systemic Functional Linguistics | 2020 | This study uses a qualitative method by applying the theory of systemic functional linguistics (SFL), which focuses on the context of the situation, cultural context, and ideology in the text. The technique used is a literature study, with data taken from a Balinese written text, namely "Bengu Mati" by Suwija. Data were collected and analyzed based on aspects of the | The text "Bengu Mati" has a deep social semiotic meaning, which is often not realized by the Balinese people due to their limited understanding of social context. Through analysis of the context of the situation, culture, and ideology, it was found that this text conveys moral values that can be applied in social life, such as the importance of understanding language in a cultural and social context to avoid misinterpretation. For | This study emphasizes the importance of understanding the social context in language interpretation, which aims to preserve traditional Balinese texts and instill moral values in society. This study also highlights that ignoring the social context in understanding texts can lead to misunderstandings, |

field (activity), tenor (relationship between participants), and mode (way of conveying messages), with a syntagmatic and paradigmatic approach.

example, the character I Belog, who cannot recognize the social situation in the text, causes fatal consequences. This text also shows the importance of contextual education from an early age to help children understand language and culture correctly.

social conflicts, and even tragedies in social interactions. Thus, the results of this study are relevant in the field of education, especially in improving the understanding of cultural context in language teaching for the younger generation.

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| 5 | Moa Eriksson, Urban Eriksson, Cedric Linder | Using social semiotics and variation theory to analyze learning challenges in physics: a methodological case study | 2020 | The study employed a case study approach where students' learning challenges in physics were analyzed using a combination of social semiotics and variation theory. Students engaged in a group problem-solving session, focusing on circular motion in physics. Data was gathered through video recordings of students' discussions and analyzed using social semiotic multimodal transcriptions to capture gestures, language, diagrams, and mathematical expressions. The study highlighted the relevant structure and dimensions of variation in students' understanding of physics concepts. | The analysis revealed that students often have difficulty discerning critical physics concepts due to pre-existing notions and relevant structures that conflict with accurate conceptual understanding. The study demonstrated that by applying both social semiotics and variation theory, students' focal awareness and misunderstandings could be identified, especially when it came to the directionality of forces in a circular motion. This combined methodology was effective in illustrating how students' meaning-making processes are shaped by semiotic resources such as gestures and diagrams. | This research contributes to physics education by offering an analytic framework that combines social semiotics with variation theory, allowing educators to identify and address specific learning challenges in physics. By understanding how students' relevance structures influence their comprehension, educators can design targeted interventions to enhance conceptual understanding. The study highlights the potential for this methodology to be applied broadly in physics education to improve teaching strategies and support students' grasp of complex scientific concepts. |
| 6 | Ivan Bakhov, ET AL | Transformational Influence Of The Foundations Of Social Semiotics On Approaches To Language Teaching | 2021 | The study employs a systemic approach to explore social semiotics in language teaching. Key methods include comparative and historical analyses to examine social semiotics' origins and structural-genetic methods to assess improvements in students' semiotic work. | The research shows that integrating social semiotics into language education enhances understanding by aligning language learning with social context. It suggests that language should be taught as a means of social communication, using authentic texts to foster natural language skills. | This study highlights social semiotics as transformative in language education, proposing curriculum updates to incorporate social contexts, emphasizing real-life text-based activities, and supporting a holistic, socially engaged language-learning experience. |

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| 7 | Christophe Sohn | How to brand a border despite its wall? A social semiotics approach to cross-border place branding | 2022 | Using a social semiotic approach to understand the use of borders as a semiotic resource in cross-border branding. The analysis includes text and visuals in Cali Baja promotional materials, as well as semi-structured interviews with 21 actors. The focus is on the use of border symbols in branding narratives. | <ol style="list-style-type: none"> 1. Critical Mass: Highlights the size and competitiveness of mega-regions with aggregate data, reducing direct reference to borders. 2. Cross-Border Complementarities: Highlights the benefits of cross-border differences, such as cheap labor in Baja California. 3. Borders as Gateways: Shows borders as market access. | Provides insight into the role of border semiotics in cross-border branding, particularly for tightly controlled borders such as the US-Mexico. Demonstrates the importance of selectivity in displaying or hiding border imagery, which is useful for cross-border branding strategies around the world. |
| 8 | Husam Dawoud, Wajeeh Daher | Social semiotics comparison between old and new Palestinian mathematics curriculum for the ninth grade | 2022 | The method used is deductive content analysis, which takes categories and themes from a particular theoretical framework. This study focuses on social semiotic analysis based on the characteristics described by Morgan (1996), Al-Shuwaikh (2013), and O'Keeffe and O'Donoghue (2011). The unit of study is the algebra unit in a ninth-grade mathematics textbook in Palestine, which compares ideational, interpersonal, and textual functions in the old curriculum (2004) with the new curriculum. | The results of the study show several important points: <ul style="list-style-type: none"> Ideational function: The new curriculum uses more relational and verbal processes, emphasizing the exploration of mathematical relationships. Interpersonal function: The use of the pronoun 'we' is higher in the old curriculum, while the pronoun 'I' is higher in the new curriculum, indicating a more individual approach. Textual function: The new curriculum places more emphasis on the transition from 'new knowledge to application knowledge' rather than 'application knowledge to assessing knowledge'. | This study contributes to the development of the mathematics curriculum, especially in improving the semiotic approach and function of teaching materials. This analysis helps textbook authors understand the importance of considering interpersonal relationships, the application of dynamic graphs, and the importance of mental and relational processes in mathematics learning. These findings can be a guide in compiling textbooks that are more relevant to students' needs and a curriculum that is more applicable and strengthens knowledge in real life. |
| 9 | Elisabetta Adami, Sophia Diamanto poulou, FeiVictor Lim | Design in Gunther Kress's social semiotics | 2022 | Using Gunther Kress's social semiotic and multimodality theory approach to analyze the concept of "design." Through theoretical reflection, the author relates Kress's theory to practices in education, | <ol style="list-style-type: none"> 1. Learning as Design: Emphasizing learning as a process of creative transformation of semiotic resources rather than simply the accumulation of competencies. 2. Design in Museums: Understanding how design | The concept of design in Kress's social semiotics enables a new approach to education that focuses on creativity and the transformation of meaning. In museums, the design supports a |

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| | | | | museums, and interactions during the COVID-19 pandemic. | enables visitors to be active agents in shaping their own experiences. | more meaningful visitor experience. In general, design as a research tool enables more inclusive participation and social change. |
| | | | | | 3. Design in Everyday Social Interaction: Design helps individuals adapt and create new ways of communicating during the COVID-19 pandemic. | |
| 10 | Nurul Khotimah, Silma Ulqiatul Mastika | Social semiotics of news reports on the change of the halal logo in detik.com for March 2022 | 2023 | The study used a qualitative research method with a descriptive approach, specifically employing M.A.K Halliday's social semiotic analysis. Data were gathered from detik.com and analyzed by focusing on the text and context of news reports regarding the new halal logo changes. | The analysis revealed that detik.com presented various perspectives on the new halal logo. Reports were diverse, with some favoring the new logo, others being neutral, and some negative. Criticisms centered around issues such as the logo's Javanese cultural elements and aesthetic over-readability. | This research underscores the importance of examining media reports to understand underlying perspectives and cultural context. It highlights the implications of social semiotic analysis in discerning how news representations shape public perception and navigate cultural sensitivities. |
| 11 | Sri Hariyatmi | When The Wall Speaks: Social Semiotics Analysis Of (Covid-19)-Themed Murals In Indonesia | 2023 | The study employed a qualitative approach, analyzing four COVID-19-themed murals in Indonesia. Data collection involved selecting murals through Google image search using specific keywords. Criteria included the presence of both visual and written elements. The analysis applied Kress and van Leeuwen's social semiotics framework, focusing on representational, interactive, and compositional meanings. | The murals utilized the four narrative processes of actional, reactional, speech/mental, and conversion. Key themes included the importance of mask-wearing and social distancing, depicted through cultural symbols familiar to Indonesian audiences (e.g., Indonesian ghosts and local proverbs). The study noted that murals maintain objectivity and social distance but use frontal angles to involve viewers. | This study contributes to multimodal research by showing how murals can integrate visual and verbal elements to convey public health messages. It highlights murals' potential to engage viewers in culturally meaningful ways, using familiar symbols and narratives to foster awareness. The study suggests a need for further research involving real viewer interactions to explore interpretation differences. |
| 12 | Taofeek O. Dalamu, Ke Yang | Exploring 2020 #ENDSARS Protests' Components in Nigeria within the | 2023 | Using social semiotic tools to analyze images and texts related to the #ENDSARS protests. Data were collected from various locations in Lagos (such as Lekki Toll Gate Oshodi-Apapa bridge) as well as online | 1. Written Mode Frequency: The hashtag #ENDSARS dominated the text mode of the protest, indicating a unified social demand. Non-verbal elements such as gestures (e.g., clenched fists and open mouths) and | This research is important because it reveals how semiotic resources can unite a social movement. It provides insight into how symbolic gestures and minimalist texts can trigger strong |

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|----|---------------------------------|---|------|--|---|--|
| | | Schematic s of Social Semiotics | | and newspaper sources. The analysis focused on 13 representative images and texts, using Halliday's Systemic Functional Linguistics (SFL) framework and kinesthetic elements such as gesture and gaze. | proxemics (spatial relationships) reinforced the collective emotion and solidarity of the protesters. | emotional responses, enriching our understanding of multimodal communication in the context of protest. The findings highlight the power of social semiotics in capturing collective grievances, especially in situations where direct political expression is suppressed. |
| | | | | | 2. Visual and Textual Relationships: The analysis found that recurring text elements (#ENDSARS) and visual gestures collectively conveyed a strong demand for justice, depicted through images of grief, solidarity, and courage. Symbols such as clenched fists and national flags added to the meaning of this message. | |
| | | | | | 3. Multimodality of Communication: The study highlights that language alone is not enough to capture the full meaning, whereas non-verbal cues (gestures, colors, postures) add depth to the meaning of the message. | |
| 13 | Dariush Izadi, Stephanie Dryden | Woman/Life/Freedom: The social semiotics behind the 2022 Iranian protest movement | 2024 | The study utilized Mediated Discourse Analysis (MDA) to analyze protest signs within social media actions, specifically Instagram and X (formerly Twitter), which played crucial roles in the dissemination of protest content under strict governmental restrictions. The researchers employed a social semiotic approach, examining 454 photographs to study the materials, content, and arrangement of visual elements. This approach helped in capturing multifaceted expressions of protest and enabled insights into collective identity construction. | Key findings highlighted Mahsa Amini's image as a potent symbol for the Woman, Life, Freedom movement, transcending cultural and geographical boundaries. The photo became emblematic of collective dissent and was widely used across social platforms. Symbols such as hair cutting, hijab removal, and various placards underscored the movement's ideological opposition to oppression. Social media amplified the movement's messages globally, creating solidarity and resonating with communities advocating for Iranian women's rights. | This research sheds light on the power of social semiotics in driving transnational solidarity, where digital symbols enable cultural and political critique. By examining the Woman, Life, Freedom movement, the study underscores the role of digital media in shaping global protest narratives. It emphasizes that symbols shared across platforms can effectively transcend cultural boundaries, influencing discourse on human rights and autonomy on an international level and creating a template for understanding contemporary movements. |

Table 3. Differences and similarities of 13 articles based on title, field of study, methodology, cultural focus, and practical application

| No. | Article Title | Field of Study | Methodology | Cultural/Geographic Focus | Practical Applications |
|-----|--|-----------------------------|--|---------------------------|---|
| 1 | Gender Performance Discourse On Tinder Profile Pictures In London, UK – A Social Semiotics Study | Gender and Social Media | Visual and symbol analysis in social media | London, UK | Understanding gender performance on social media |
| 2 | Knowledge, complexity, power: social semiotics as meta-discipline | Interdisciplinary Knowledge | Interdisciplinary analysis | Global | A new understanding of semiotics as a meta-discipline |
| 3 | Mathematical videos, social semiotics, and the changing classroom | Mathematics Education | Direct observation in class | Blumenau, Brazil | Video-based math learning |
| 4 | Text of Bengu Mati: Social Semiotics of Systemic Functional Linguistics | Traditional Balinese Texts | Literature analysis, SFL | Bali, Indonesia | Preservation of cultural values through traditional texts |
| 5 | Using social semiotics and variation theory to analyze learning challenges in physics | Physics Education | Analysis of variation and social semiotics | Global | Framework for addressing physics learning difficulties |

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|----|--|------------------------------------|----------------------------------|------------------|--|
| 6 | Transformational Influence Of The Foundations Of Social Semiotics On Approaches To Language Teaching | Language Teaching | Systemic analysis | Global | Language learning with a social approach |
| 7 | How to brand a border despite its wall? A social semiotics approach to cross-border place branding | Cross-Border Regional Branding | Text and visual analysis | US-Mexico Border | Branding strategy in border areas |
| 8 | Social semiotics comparison between old and new Palestinian mathematics curriculum for the ninth grade | Palestinian Mathematics Curriculum | Curriculum content analysis | Palestine | Developing a more applicable curriculum |
| 9 | Design in Gunther Kress's social semiotics | Design and Social Semiotics | Multimodal theory and reflection | Global | Application of design in education and museums |
| 10 | Social semiotics of news reports on the change of the halal logo in detik.com for March 2022 | Media and Symbols | News text analysis | Indonesia | Understanding public perception of logo changes |
| 11 | When The Wall Speaks: Social Semiotics Analysis Of (Covid-19)-Themed Murals In | Mural Art and Health Messages | Mural analysis | Indonesia | Murals as a medium for health messages during the pandemic |

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|----|---|----------------------------|-----------------------------------|---------|---|
| | Indonesia | | | | |
| 12 | Exploring 2020 #ENDSARS Protests' Components in Nigeria within the Schematics of Social Semiotics | Social Protests in Nigeria | Image and text analysis | Nigeria | Improving understanding of communication in social protests |
| 13 | Woman/life/freedom: The social semiotics behind the 2022 Iranian protest movement | Protest Movement in Iran | Mediated Discourse Analysis (MDA) | Iran | Global solidarity in the women's rights movement |

5. DISCUSSION

Based on the synthesis of findings across the 13 studies, the contributions of social semiotics are significant in enhancing comprehension of diverse texts across various academic disciplines. Here's a detailed analysis interlinked with theory and prior studies:

Social Semiotics as a Lens for Gender and Identity Construction (Article 1). The study on Tinder profiles illustrates how social semiotics interpret visual cues to understand complex identities, challenging traditional binary gender roles. It aligns with Kress and van Leeuwen's semiotic theory, which asserts that meaning in social interactions is multilayered and context-dependent. It echoes findings in identity construction where visual representations are pivotal in digital identity expressions, supporting the idea that online platforms provide rich semiotic resources for gender studies. **Key Findings:** This study found that Tinder profile pictures represent gender performance through visual elements such as color, clothing, and gestures, challenging traditional binary understandings of gender (Rovino, Rorong, & Goswami, 2020). **Related Theories:** Butler (1990) stated that gender is performative, where gender identity is formed through the repetition of social actions and expressions. Goffman (1959) also supports this with self-presentation theory, which suggests that identity is a situational construction. **Previous Research:** Research on social media profiles (Conti & Carol, 2017) supports these findings by suggesting that online platforms allow users to construct and control their digital identities, often blurring conventional gender boundaries.

Metadisciplinary Role in Knowledge Integration (Article 2). In Hodge's analysis of social semiotics as a meta-discipline, it's argued that this approach can unify disparate fields to tackle complex problems or "wicked problems." His findings resonate with Kuhn's paradigm shift theory, proposing social semiotics as a framework to bridge scientific and non-scientific disciplines. This approach has seen successful applications in sociology and humanities, especially when interdisciplinary insights are necessary for

comprehensive understanding. Key Findings: Hodge (2020) highlighted that social semiotics could function as a meta-discipline that integrates various disciplines to solve complex problems. Related Theories: Kuhn (1962), in paradigm theory, suggests that when old paradigms cannot solve new problems, a paradigm shift is needed. In this context, social semiotics is considered an adaptive paradigm. Previous Research: The existence of a single discipline crisis in addressing complex issues is also supported by an interdisciplinary study by Nowotny (2001), which shows that social problems, such as climate change, require a metadisciplinary approach for comprehensive solutions.

Multimodal Approaches in Education (Article 3). Studies involving mathematics learning through video production demonstrate social semiotics' capacity to enrich educational experiences by incorporating multimodality. It is supported by Kress's work on multimodal literacy, which advocates for multimodal learning to enhance engagement and comprehension. The findings show that by enabling students to create knowledge through digital media, social semiotics fosters active, collaborative learning. Key Findings: The use of videos in mathematics learning encourages active student engagement, improving conceptual understanding (Oechsler & Borba, 2020). Related Theories: Kress and van Leeuwen (2001), in multimodal literacy theory, suggest that learning becomes more effective when students engage with multiple communication modalities. Previous Research: Carter et al. (2015) found that video as a learning tool enriches understanding of mathematical concepts, indicating that a multimodal approach to learning encourages more active student engagement.

Cultural Context in Linguistics (Article 4). The analysis of Balinese texts underscores the importance of situational and cultural context in understanding language. It aligns with Halliday's Systemic Functional Linguistics (SFL), emphasizing that language meaning is deeply rooted in context. This study further advances the theory by emphasizing semiotics' role in preserving cultural heritage, which aligns with studies on language preservation. Key Findings: This study shows that traditional texts have complex semiotic meanings that can only be understood through cultural context (Suardana, 2020). Related Theories: Halliday (1978), with Systemic Functional Linguistics (SFL), asserts that language not only reflects the world but shapes it, with cultural context as the main foundation of meaning. Previous Research: Wardhaugh (2006) also emphasized the importance of cultural context in understanding language, where this study is consistent in stating that without understanding context, meaning can be misinterpreted.

Challenges in Physics Education (Article 5). By applying variation theory with social semiotics, this study in physics education highlights how semiotic resources, such as gestures and diagrams, impact students' grasp of complex concepts. This approach confirms the efficacy of semiotic resources in clarifying difficult content, as outlined in cognitive learning theories. It suggests a broader applicability of social semiotics in science education. Key Findings: The analysis showed that social semiotics and variation theory helped identify students' misconceptions about the concept of circular motion (Eriksson et al., 2020). Related Theories: Variation Theory (Marton, 2015) states that variation in the presentation of concepts helps students distinguish critical aspects of a topic. Previous Research: This finding is supported by research in physics education, which shows that

deep conceptual understanding requires a multimodal approach to address misconceptions (Hake, 1998).

Language Teaching and Social Context (Article 6). Social semiotics in language education suggests a socially engaged approach, moving beyond traditional grammar-focused models. It aligns with Vygotsky's social development theory, indicating that contextual learning can foster authentic language acquisition. This study advocates curriculum reform, pushing for language teaching that reflects social semiotic frameworks. Key Findings: This study emphasizes the importance of social semiotics in language education by emphasizing social context as the basis for teaching (Bakhov et al., 2021). Related Theories: Vygotsky (1978), in his theory of social development, suggested that the most effective learning occurs in a social context. Previous Research: Brown (2000) showed that context-based teaching yields better results in language acquisition, which strengthens the findings of this study that social semiotics directs language education in a more natural direction.

Cross-Border Branding (Article 7). In the context of border branding, Sohn's work demonstrates how borders serve as semiotic resources, adapting their representation for strategic purposes. It is consistent with cultural branding theories, suggesting that social semiotics can enhance branding efforts in complex sociopolitical contexts by enabling dynamic narrative construction. Key Findings: This study shows that border semiotics plays a significant role in regional branding, creating an identity that connects two areas (Sohn, 2022). Related Theory: Cultural Branding Theory (Holt, 2004) states that cultural symbols can strengthen brand image. Previous Research: Ryan and Silke (2010) found that regional branding can leverage geographic and social identities to enhance place appeal, which is in line with the finding that semiotics is a key element.

Curriculum Development in Mathematics (Article 8). The comparison of Palestinian curricula illustrates how semiotic functions evolve to meet educational goals. The study's emphasis on ideational, interpersonal, and textual functions aligns with Halliday's metafunctions, highlighting semiotics' role in curriculum design. It suggests that adopting semiotic perspectives in curricular updates can foster more meaningful student engagement. Key Findings: The Palestinian mathematics curriculum demonstrates the role of ideational, interpersonal, and textual functions in facilitating students' understanding (Dawoud & Daher, 2022). Related Theories: Halliday's metafunctions highlight the importance of semiotic tasks in designing the curriculum to suit students' needs. Previous Research: Mathematics education by Barton (2008) supports the idea that the application of semiotic functions in mathematics teaching materials increases students' engagement.

The Concept of Design in Learning (Article 9). Adami et al.'s exploration of social semiotics in design shows that semiotic resources extend learning beyond traditional settings, especially in museums. It aligns with Kress's notion of design in semiotics as an active meaning-making process, emphasizing that design enables participatory learning experiences. Key Findings: Design in museums and education enables more active participation from visitors and students (Adami et al., 2022). Related Theories: Kress (2010), in semiotic design theory, emphasizes that design enables the transformation of meaning. Previous Research: A study in museums by Hooper-Greenhill (2000) showed

that participatory design increases visitor engagement, supporting the findings of this study on the importance of design.

Cultural Sensitivity in News Analysis (Article 10). The study on the halal logo change demonstrates the importance of cultural sensitivity in media semiotics. Halliday's framework supports this by asserting that language is shaped by its cultural and social functions. It highlights the value of social semiotics in interpreting media content that interacts with diverse cultural identities. **Key Findings:** The change in the halal logo shows the complexity of cultural sensitivity in media representation (Khotimah & Mastika, 2023). **Related Theory:** Halliday's SFL asserts that language choices in the media reflect cultural values. **Previous Research:** Dijk (1998), in critical discourse analysis, supports this finding by showing that the media often directs public perception through the selection of certain discourses.

Public Health Messaging in Murals (Article 11). The analysis of COVID-19 murals in Indonesia illustrates the power of semiotics in public health campaigns. It is supported by studies on multimodal communication, showing that combining visual and verbal elements enhances message clarity and cultural relevance, which is crucial in health communication. **Key Findings:** COVID-19-themed murals in Indonesia show that visual and verbal elements in public art can effectively communicate health messages (Hariyatmi, 2023). **Related Theory:** Kress and van Leeuwen (2001) support the importance of multimodality in public communication. **Previous Research:** Research on public health by Lupton (1994) states that visual images function effectively in reinforcing public health messages.

Digital Activism and Collective Identity (Article 12). The #EndSARS protests reveal social semiotics' role in understanding collective identity formation. The findings reinforce the idea that multimodal semiotic elements (gestures, colors) can articulate collective grievances, aligning with theories on digital activism. It demonstrates semiotics' potential to capture collective emotional responses. **Key Findings:** Digital activism uses semiotic symbols to strengthen solidarity in social movements (#EndSARS) (Dalamu & Yang, 2023). **Related Theory:** Social movement theory by Castells (2012) states that digital symbols enable the formation of collective identities. **Previous Research:** This finding is consistent with social movement research showing that visual symbols reinforce protest messages (Loader & Mercea, 2011).

Transnational Solidarity in Protests (Article 13). The study on the Iranian Woman, Life, Freedom movement underscores social media's role in transnational solidarity, showing that shared symbols transcend cultural boundaries. It relates to McLuhan's global village concept, where digital media fosters a sense of shared identity across geographical divides. **Key Findings:** Research on the Iranian protests suggests that symbols on social media help shape transnational solidarity (Izadi & Dryden, 2024). **Related Theories:** McLuhan (1964), with his "global village" theory, suggested that digital media creates a global sharing space. **Previous Research:** Bennett and Segerberg (2012) also suggest that digital media enables solidarity across cultural boundaries.

The above analysis demonstrates the contribution of social semiotics as an approach that connects theory, culture, and practice across disciplines, effectively utilizing symbols, contexts, and multimodal representations to form deep understandings. In sum, these

studies collectively showcase the versatility of social semiotics in various fields—education, media, digital identity, and activism. By employing social semiotics as an analytical tool, these studies highlight its power to elucidate nuanced meanings, foster interdisciplinary insights, and capture the complexity of human interactions within diverse contexts.

6. CONCLUSION

This article explores the contribution of social semiotics to text comprehension across academic disciplines through an analysis of 13 studies. The main findings suggest that a social semiotic approach can enrich text comprehension by using context, symbols, and multimodal representations to generate deeper understanding. These studies cover a range of topics, from gender performance in social media to the integration of social semiotics in teaching to the use of social semiotics in public health campaigns. By using a social semiotic approach, these studies highlight the momentousness of cultural context, multimodality, and collective consciousness in enriching the understanding and application of knowledge in areas such as education, media, and digital activism.

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