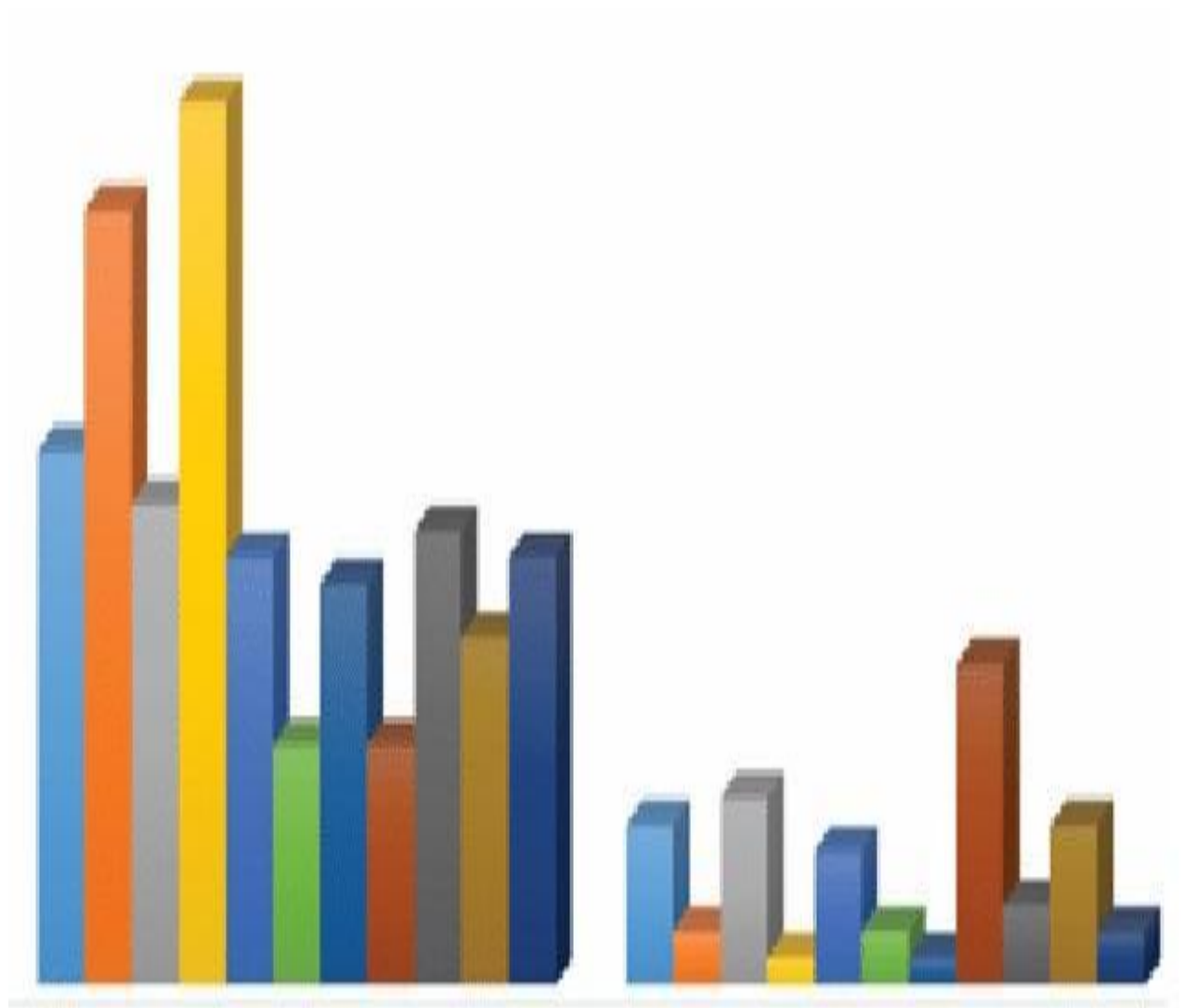


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Research Article

Cultural Perceptions of Green Graphic Design Practices: Focus Groups with Students and Professionals

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ABSTRACT

Green graphic design has become an essential dimension of sustainable design discourse, emphasising environmentally responsible practices in visual communication. This study investigates cultural perceptions of green graphic design practices among students and professionals through a qualitative analysis of secondary data derived from focus group studies. Grounded in eco-design theory, cultural theory, and social constructivism, the research explores how environmental awareness, cultural context, education, and professional experience shape attitudes toward sustainable design. The findings reveal a notable divergence between students' idealistic, theory-driven perspectives and professionals' pragmatic, market-oriented approaches. Cultural and socio-economic factors significantly influence the adoption and interpretation of green design, particularly in resource-constrained contexts where sustainability is often secondary to cost and functionality. Additionally, the study identifies key challenges, including limited access to sustainable materials, lack of standardisation, and ethical concerns such as greenwashing. Despite these barriers, emerging opportunities driven by digital innovation and increasing environmental awareness suggest a growing potential for sustainable design practices. The study highlights the need for culturally responsive education, interdisciplinary collaboration, and policy support to advance green graphic design globally.

Keywords: green graphic design; sustainability; cultural perception; eco-design; visual communication; design education; environmental ethics

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1. Introduction

The accelerating environmental crisis, characterised by climate change, biodiversity loss, pollution, and unsustainable resource consumption, has prompted a paradigm shift across multiple disciplines, including design. Within this evolving discourse, graphic design has emerged as a critical medium for communicating sustainability and influencing environmentally responsible behaviour. Traditionally perceived as a discipline concerned primarily with aesthetics and communication, graphic design is increasingly recognised as a strategic tool for advancing ecological awareness and promoting sustainable practices (Liu, 2025).

Green graphic design, also referred to as sustainable or eco-graphic design, integrates environmental considerations into the design process. It encompasses both the material and communicative dimensions of design, including the use of eco-friendly materials, reduction of waste, energy-efficient production processes, and the creation of visual content that encourages sustainable lifestyles (Zhang et al., 2023). As such, green graphic design operates at the intersection of environmental ethics, technological innovation, and cultural expression.

The importance of green graphic design is amplified by the pervasive influence of visual communication in contemporary society. In an era dominated by digital media, advertising, and branding, visual messages shape public perceptions, consumer behaviour, and cultural values. Designers,

therefore, play a crucial role not only as creators of visual artefacts but also as agents of social change. By embedding sustainability into visual narratives, designers can contribute to the development of environmentally conscious societies (Shalal, 2024).

However, the adoption and interpretation of green graphic design practices are not uniform across contexts. Cultural factors significantly influence how sustainability is perceived, valued, and implemented. Culture shapes individuals' attitudes toward nature, consumption, and responsibility, thereby affecting their engagement with sustainable design practices. For instance, societies with strong environmental awareness may prioritise ecological considerations in design, whereas those facing economic constraints may prioritise cost and functionality over sustainability (Vadiraj & Harilal, 2024).

The role of education and professional experience further complicates these dynamics. Students, who are often exposed to sustainability concepts through academic curricula, tend to approach green design from an idealistic and theoretical perspective. In contrast, professionals operate within market-driven environments where practical constraints such as budget, client expectations, and production feasibility influence decision-making. This divergence creates a gap between theoretical knowledge and practical application, highlighting the need for a deeper understanding of how different groups perceive and implement green design.

Previous research has explored various aspects of sustainable design, including eco-

design principles, lifecycle analysis, and green marketing strategies (Mathieux et al., 2007). However, limited attention has been given to the cultural dimensions of green graphic design, particularly in relation to the perceptions of students and professionals. Understanding these perceptions is essential for developing effective educational strategies, design practices, and policy interventions that promote sustainability.

This study addresses this gap by examining cultural perceptions of green graphic design practices through a qualitative analysis of secondary data derived from focus group studies involving students and professionals. By synthesising existing research, the study aims to identify key themes, patterns, and differences in how sustainability is understood and applied in graphic design across cultural contexts.

The research is guided by the following objectives:

- To explore the level of awareness and understanding of green graphic design among students and professionals.
- To examine the influence of cultural factors on perceptions of sustainability in graphic design.
- To identify differences between academic and professional perspectives on green design practices.
- To analyse the barriers and challenges associated with implementing sustainable design.

By addressing these objectives, the study contributes to the broader discourse on

sustainable design by integrating cultural analysis with green graphic design practices. It also provides insights into how education and professional practice can be aligned to promote sustainability more effectively.

In doing so, the study adopts a multidisciplinary approach, drawing on eco-design theory, cultural theory, and social constructivism. This theoretical integration allows for a comprehensive understanding of how environmental, cultural, and social factors interact to shape perceptions of green graphic design.

Ultimately, the study underscores the importance of viewing sustainability not merely as a technical or aesthetic concern but as a culturally embedded practice that requires collaboration among designers, educators, policymakers, and society at large.

2. Literature Review

Green graphic design is a subset of sustainable design that focuses on minimising environmental impact while maximising communicative effectiveness. It extends beyond the aesthetic dimension of design to include environmental responsibility throughout the design lifecycle. This includes material selection, production processes, distribution, and disposal (Liu, 2025).

Scholars emphasise that green graphic design involves both tangible and intangible elements. Tangible aspects include the use of recycled or biodegradable materials, eco-friendly inks, and energy-efficient production methods. Intangible aspects involve the communication of sustainability messages

through visual elements such as colour, typography, and imagery (Zhang et al., 2023).

The concept is closely linked to the broader notion of sustainability, which encompasses environmental, social, and economic dimensions. Sustainable graphic design seeks to balance these dimensions by reducing ecological impact while maintaining functionality and aesthetic appeal.

2.1 Eco-Design Theory and Lifecycle Thinking

Eco-design theory provides a foundational framework for understanding green graphic design. It emphasises the integration of environmental considerations into the design process from the earliest stages. A key principle of eco-design is lifecycle thinking, which involves evaluating the environmental impact of a product or design across its entire lifecycle, from raw material extraction to disposal (Mathieux et al., 2007).

Lifecycle assessment (LCA) is a commonly used tool in eco-design, enabling designers to quantify environmental impacts and identify opportunities for improvement. In the context of graphic design, LCA can be applied to assess the environmental footprint of printing processes, packaging, and digital media.

Recent studies highlight the importance of adopting a holistic approach to eco-design that considers not only environmental impact but also social and economic factors (Rio & Tyl, 2021). This approach aligns with the principles of sustainable development and underscores the need for interdisciplinary collaboration.

2.2 Graphic Design as a Tool for Sustainability Communication

Graphic design plays a critical role in communicating sustainability and influencing public behaviour. Visual communication is particularly effective in conveying complex environmental issues in an accessible and engaging manner.

Research indicates that graphic design can enhance environmental awareness by using persuasive visual strategies, including symbolism, storytelling, and emotional appeal (Shalal, 2024). For example, the use of green colour palettes, natural imagery, and minimalist design can evoke associations with sustainability and environmental responsibility.

Moreover, graphic design is integral to green marketing, which promotes environmentally friendly products and practices. Effective design can influence consumer perceptions and encourage sustainable consumption (Vadiraj & Harilal, 2024).

However, the use of sustainability in design also raises concerns about “greenwashing,” where environmental claims are exaggerated or misleading. This highlights the need for ethical standards and transparency in green graphic design.

2.3 Cultural Perspectives on Sustainability and Design

Culture plays a significant role in shaping perceptions of sustainability. Cultural values influence how individuals interpret environmental issues and prioritise sustainability in their daily lives.

Studies suggest that cultural differences can affect design preferences, including colour symbolism, visual aesthetics, and communication styles. For instance, certain colours associated with sustainability in one culture may have different meanings in another.

In the context of green graphic design, cultural factors influence both the production and reception of design. Designers must consider cultural context when creating sustainability messages to ensure they are relevant and effective.

Furthermore, socio-economic conditions often intersect with cultural factors. In developing regions, economic constraints may limit the adoption of sustainable materials and technologies, leading to different interpretations of green design compared to developed countries (Zhang et al., 2023).

2.4 Educational Influence on Green Design Perception

Education is a key factor in shaping perceptions of sustainability among designers. Design schools increasingly incorporate sustainability into their curricula, exposing students to eco-design principles and practices.

Research shows that students who receive sustainability education demonstrate higher levels of environmental awareness and are more likely to adopt green design practices (Liu, 2025). However, the effectiveness of such education depends on how it is integrated into the curriculum.

Experiential learning approaches, such as project-based learning and collaboration with industry, are particularly effective in bridging the gap between theory and practice. These approaches enable students to apply sustainability concepts in real-world contexts.

2.5 Professional Practice and Market Constraints

While students may embrace sustainability from an idealistic perspective, professionals often face practical constraints that influence their ability to implement green design practices. These constraints include budget limitations, client expectations, and the availability of sustainable materials.

Studies indicate that professionals must balance environmental responsibility with economic viability. In many cases, sustainability is considered a secondary priority unless it aligns with business objectives (Vadiraj & Harilal, 2024).

Additionally, the lack of standardised guidelines for green graphic design creates uncertainty among practitioners. This highlights the need for industry-wide standards and policies to support sustainable design practices.

2.6 Barriers and Opportunities in Green Graphic Design

The literature identifies several barriers to the adoption of green graphic design, including:

- High cost of eco-friendly materials
- Limited availability of sustainable resources
- Lack of awareness and education

- Resistance to change within the industry

Despite these challenges, there are also significant opportunities. Advances in digital technology, for example, have reduced the need for physical materials, thereby lowering environmental impact. Additionally, growing consumer demand for sustainable products is encouraging businesses to adopt green practices.

3. Theoretical Framework

The present study is grounded in an interdisciplinary theoretical framework that integrates eco-design theory, cultural theory, and social constructivism. This combined framework enables a comprehensive understanding of how environmental considerations, cultural contexts, and social interactions shape perceptions of green graphic design practices among students and professionals.

3.1 Eco-Design Theory

Eco-design theory, also known as design for the environment (DfE), emphasises the integration of environmental considerations into the design process. It is rooted in the broader sustainability discourse, which seeks to balance environmental protection, economic development, and social well-being (Mathieux et al., 2007). Eco-design extends beyond the final product to encompass the entire lifecycle, including material extraction, production, distribution, use, and disposal.

A central concept within eco-design is lifecycle thinking, which encourages

designers to evaluate the environmental impact of design decisions at every stage. In graphic design, this may involve selecting sustainable materials (e.g., recycled paper, biodegradable inks), minimising energy consumption in digital production, and reducing waste in printing processes (Zhang et al., 2023). Eco-design theory also advocates for dematerialisation, such as shifting from print to digital formats, thereby reducing resource consumption.

Eco-design is not merely a technical approach but also an ethical framework. It requires designers to consider their responsibility toward the environment and society. As Liu (2025) argues, ecological graphic design involves both environmental stewardship and creative innovation, positioning designers as key actors in promoting sustainability.

In the context of this study, eco-design theory provides a foundational lens for understanding the principles and practices of green graphic design. It also helps explain how designers evaluate and implement sustainability in their work, particularly in relation to material choices and production processes.

3.2 Cultural Theory

Cultural theory examines how values, beliefs, norms, and practices shape human behaviour and perception. It is particularly relevant for understanding variations in how sustainability is interpreted and implemented across different contexts. Culture influences not only aesthetic preferences but also ethical considerations, including attitudes toward environmental responsibility.

Scholars have long recognised that design is a culturally embedded practice. Visual elements such as colour, typography, and imagery carry different meanings in different cultural contexts. For example, the colour green may symbolise environmental sustainability in some cultures, while in others it may have religious or symbolic connotations unrelated to ecology (Vadiraj & Harilal, 2024).

Cultural theory also highlights the role of socio-economic conditions in shaping perceptions of sustainability. In developed societies, where environmental awareness is often higher, green design may be viewed as a moral imperative. In contrast, in developing contexts, economic constraints may lead to a more pragmatic approach, where cost and functionality take precedence over environmental considerations (Zhang et al., 2023).

Furthermore, cultural theory underscores the importance of localised knowledge and practices. Sustainable design solutions that are effective in one cultural context may not be applicable in another. This necessitates culturally responsive design approaches that take into account local values, traditions, and resources.

In this study, cultural theory provides a framework for analysing how students and professionals from different backgrounds perceive and interpret green graphic design. It also helps explain the diversity of perspectives identified in the secondary data.

3.3 Social Constructivism

Social constructivism posits that knowledge and meaning are constructed through social

interactions and experiences. It emphasises the role of context, language, and social processes in shaping understanding (Vygotsky, 1978). In the context of design, social constructivism suggests that perceptions of sustainability are not fixed but are developed through education, professional practice, and cultural engagement.

For students, sustainability knowledge is often constructed through formal education, including lectures, workshops, and design projects. These experiences shape their understanding of green design as an ethical and creative practice. However, this understanding is often idealised and may not fully account for real-world constraints.

Professionals, on the other hand, construct their knowledge through practical experience, client interactions, and industry norms. Their perceptions of sustainability are influenced by market demands, organisational policies, and technological limitations. This often leads to a more pragmatic approach to green design.

Social constructivism also highlights the role of discourse in shaping perceptions. Media, academic literature, and professional networks contribute to the construction of sustainability narratives. These narratives influence how individuals interpret and prioritise environmental issues.

By applying social constructivism, this study examines how students and professionals develop their perceptions of green graphic design through different social contexts. It also provides insight into the gap between

theoretical knowledge and practical application.

3.4 Integrative Framework

The integration of eco-design theory, cultural theory, and social constructivism provides a holistic framework for analysing green graphic design practices. Eco-design theory addresses the environmental and technical aspects of sustainability, cultural theory explores contextual influences, and social constructivism explains how perceptions are formed and evolve.

Together, these perspectives enable a nuanced understanding of the complex interplay between environmental responsibility, cultural context, and social experience. This integrative framework is particularly useful for analysing qualitative data derived from focus group studies, where multiple perspectives and experiences intersect.

4. Methodology

This study adopts a qualitative research design based on secondary data analysis, with a specific focus on studies that employed focus group methodologies. Qualitative research is particularly suitable for exploring perceptions, experiences, and meanings, making it appropriate for investigating cultural interpretations of green graphic design (Creswell & Poth, 2018).

Secondary data analysis involves the systematic examination of existing data to address new research questions. In this study, previously published research involving focus groups with students and professionals in design-related fields serves as the primary

data source. This approach allows for a comprehensive synthesis of diverse perspectives without the constraints of primary data collection.

4.1 Data Sources and Selection Criteria

The data for this study were collected from peer-reviewed journal articles, conference proceedings, and academic reports published between 2007 and 2025. The selection criteria included:

- Studies focusing on green graphic design, eco-design, or sustainability in visual communication.
- Research involving students and/or professionals in design-related disciplines.
- Studies employing qualitative methods, particularly focus groups or interviews.
- Publications available in English and indexed in reputable academic databases.

Key databases consulted included Scopus, Web of Science, Google Scholar, and ScienceDirect. Keywords used in the search process included “green graphic design,” “sustainable design,” “eco-design,” “cultural perception,” and “focus groups.”

4.2 Data Analysis Method

The study employs thematic analysis, a widely used qualitative method for identifying, analysing, and interpreting patterns within data (Braun & Clarke, 2006). The analysis followed a six-phase process:

- **Familiarisation:** Reviewing and summarising selected studies to gain an overall understanding.
- **Coding:** Identifying relevant segments of data related to sustainability perceptions.
- **Theme Development:** Grouping codes into broader themes, such as awareness, cultural influence, and professional constraints.
- **Theme Review:** Refining themes to ensure coherence and relevance.
- **Theme Definition:** Clearly defining and naming each theme.
- **Reporting:** Integrating themes into a coherent narrative.

Thematic analysis allows for the identification of recurring patterns across different studies, providing insights into shared and divergent perspectives.

4.3 Analytical Framework

The analysis is guided by the theoretical framework outlined in Section 3. Specifically:

- **Eco-design theory** informs the analysis of environmental practices and material considerations.
- **Cultural theory** guides the examination of contextual and cultural influences.
- **Social constructivism** informs the interpretation of how perceptions are formed through education and professional experience.

This theoretical alignment ensures that the analysis is both systematic and conceptually grounded.

4.4 Validity and Reliability

To enhance the credibility and reliability of the study, several strategies were employed:

- **Triangulation:** Using multiple sources of data to validate findings.
- **Transparency:** documentation of data selection and analysis.
- **Theoretical consistency:** Aligning findings with established theories.

Although secondary data analysis limits direct interaction with participants, the use of peer-reviewed sources ensures data quality and reliability.

4.5 Ethical Considerations

The study adheres to ethical standards for research involving secondary data. All sources are properly cited, and no confidential or sensitive information is used. Since the data are derived from published studies, issues related to informed consent and participant confidentiality are managed by the original researchers (Mannan & Farhana, 2026).

4.6 Limitations

Despite its strengths, the methodology has several limitations:

- **Dependence on existing studies:** control over data quality and scope.
- **Cultural representation:** Selected studies may not fully represent all cultural contexts.
- **Lack of primary data:** Absence of direct participant interaction may limit depth.

Future research could address these limitations by conducting primary qualitative

studies, including cross-cultural focus groups and interviews.

5. Findings and Analysis

This section presents a thematic synthesis of findings derived from the secondary qualitative data. Drawing on focus group-based studies involving students and professionals in design-related disciplines, the analysis identifies key patterns related to awareness, cultural influences, educational impacts, professional constraints, and emerging tensions within green graphic design practices.

5.1 Awareness and Conceptual Understanding of Green Graphic Design

The findings indicate a clear divergence in how students and professionals conceptualise green graphic design. Students generally demonstrate a high level of theoretical awareness, often influenced by formal education and exposure to sustainability discourse. Their understanding tends to emphasise ethical responsibility, environmental stewardship, and innovation. Many student participants in the reviewed studies associate green design with ideals such as minimising ecological harm, promoting environmental awareness, and adopting sustainable materials (Liu, 2025).

However, this awareness is frequently abstract and lacks practical depth. Students often articulate sustainability in broad, aspirational terms, with limited reference to the operational realities of design practice. This aligns with the principles of social constructivism, where knowledge is

constructed through educational environments that prioritise theoretical frameworks (Vygotsky, 1978).

In contrast, professionals exhibit a more nuanced and pragmatic understanding of green graphic design. Their conceptualisations are shaped by real-world constraints, including client expectations, production limitations, and market dynamics. Professionals tend to view sustainability as one of many competing priorities rather than a central guiding principle. As noted by Vadiraj and Harilal (2024), designers in professional settings often integrate sustainability selectively, balancing environmental considerations with economic viability.

This divergence highlights a significant gap between academic discourse and professional practice. While students are equipped with conceptual knowledge, they may lack the practical skills and contextual awareness needed to implement sustainable design effectively. Conversely, professionals possess practical expertise but may not fully engage with the broader ethical and environmental implications of their work.

5.2 Cultural Influences on Perception and Practice

Cultural context emerges as a critical factor shaping perceptions of green graphic design. The analysis reveals that cultural values, norms, and socio-economic conditions significantly influence how sustainability is interpreted and prioritised.

In cultures with strong environmental awareness, such as those in parts of Europe and North America, sustainability is often

perceived as an ethical obligation. Designers in these contexts are more likely to adopt eco-friendly practices and integrate sustainability into their design philosophy. Visual elements associated with green design-such as natural imagery, organic forms, and earthy colour palettes-are widely recognised and accepted (Zhang et al., 2023).

In contrast, in developing regions, sustainability is often viewed through a pragmatic lens. Economic constraints, limited access to sustainable materials, and a lack of institutional support can hinder the adoption of green design practices. In these contexts, designers may prioritise cost-effectiveness and functionality over environmental considerations. This does not necessarily indicate a lack of awareness but rather reflects structural limitations.

Furthermore, cultural symbolism plays a significant role in shaping design choices. Colours, images, and visual metaphors associated with sustainability may carry different meanings across cultures. For instance, while green is commonly associated with environmentalism in many Western contexts, it may have religious or cultural connotations in other regions. This underscores the importance of culturally responsive design practices that account for local interpretations and meanings (Vadiraj & Harilal, 2024).

The findings also suggest that globalisation and digital media are contributing to a convergence of design practices. Exposure to international design trends and sustainability discourse is influencing designers across cultures. However, local contexts continue to

shape how these influences are interpreted and applied.

5.3 Educational Influence and the Formation of Sustainability Mindsets

Education plays a pivotal role in shaping perceptions of green graphic design. The analysis indicates that students who are exposed to sustainability concepts through formal education demonstrate higher levels of awareness and engagement with green design practices.

Design curricula that incorporate eco-design principles, lifecycle thinking, and sustainability projects contribute to the development of environmentally conscious designers. Experiential learning approaches, such as project-based assignments and collaborations with industry, are particularly effective in bridging the gap between theory and practice (Creswell & Poth, 2018).

However, the findings also reveal limitations in current educational approaches. In many cases, sustainability is treated as a peripheral topic rather than a core component of design education. This can result in fragmented understanding and limited practical application. Students may be aware of sustainability concepts but lack the technical skills and industry knowledge required to implement them effectively.

Moreover, the transition from academic environments to professional practice often leads to a shift in priorities. Graduates entering the workforce may encounter organisational cultures that do not prioritise

sustainability, leading to a decline in their engagement with green design practices.

These findings highlight the need for more integrated and practice-oriented sustainability education that prepares students for the realities of professional design environments.

5.4 Professional Constraints and Industry Realities

One of the most prominent themes in the analysis is the role of professional constraints in shaping green graphic design practices. Designers operating in professional settings face a range of challenges that influence their ability to implement sustainability.

Cost is a significant barrier to the adoption of sustainable materials and processes. Eco-friendly materials, such as recycled paper and biodegradable inks, are often more expensive than conventional alternatives. This can deter clients from choosing sustainable options, particularly in competitive markets where cost efficiency is a priority (Vadiraj & Harilal, 2024).

Clients play a crucial role in shaping design outcomes. In many cases, clients prioritise aesthetics, branding, and cost over sustainability. Designers may have limited influence over decision-making, particularly in commercial contexts where client satisfaction is paramount.

Access to sustainable materials and technologies varies across regions. In some contexts, designers may have limited options for eco-friendly production, restricting their ability to implement green design practices.

The absence of standardised guidelines for green graphic design creates uncertainty among practitioners. Designers may lack clear criteria for evaluating the sustainability of their work, leading to inconsistent practices.

These constraints highlight the systemic nature of the challenges facing green graphic design. Addressing these issues requires coordinated efforts across industry, education, and policy.

5.5 Ethical Tensions and the Problem of Greenwashing

The findings also reveal ethical tensions within green graphic design, particularly in relation to greenwashing. Greenwashing refers to the practice of presenting products or services as environmentally friendly without substantive evidence to support such claims.

Designers are often involved in creating visual narratives that promote sustainability, raising questions about their ethical responsibility. While some designers actively advocate for authentic sustainability, others may participate in greenwashing due to client demands or lack of awareness (Shalal, 2024).

This tension underscores the need for ethical guidelines and accountability in green graphic design. Designers must navigate the complex relationship between communication, persuasion, and truthfulness.

5.6 Emerging Opportunities and Innovations

Despite the challenges, the analysis identifies several opportunities for advancing green graphic design. Digital technologies, for

example, offer alternatives to traditional print-based design, reducing material consumption and waste. Additionally, growing consumer awareness of environmental issues is driving demand for sustainable products and practices.

Collaborative approaches, involving designers, educators, policymakers, and industry stakeholders, are also emerging as effective strategies for promoting sustainability. These approaches emphasise shared responsibility and collective action.

6. Discussion

The findings of this study provide important insights into the cultural perceptions of green graphic design practices, revealing a complex interplay between knowledge, context, and practice. This section interprets these findings in relation to the theoretical framework and existing literature, offering a deeper understanding of the implications for design education, professional practice, and sustainability discourse.

6.1 Bridging the Gap Between Theory and Practice

One of the most significant findings is the gap between students' theoretical understanding and professionals' practical application of green graphic design. This gap reflects the broader tension between idealism and pragmatism in sustainability discourse.

From a social constructivist perspective, this divergence can be understood as a result of different learning environments. Students construct their understanding of sustainability within academic settings that

emphasise ethical principles and conceptual frameworks. Professionals, on the other hand, construct their knowledge through practical experience and interaction with market forces (Vygotsky, 1978).

This suggests the need for educational reforms that better align academic training with industry realities. Integrating real-world projects, industry collaborations, and practical training into design curricula can help bridge this gap. Such approaches can enable students to develop both conceptual understanding and practical skills.

6.2 Cultural Context as a Determinant of Sustainability Practices

The findings underscore the importance of cultural context in shaping perceptions of green graphic design. Cultural theory provides a useful lens for understanding these variations, highlighting how values, norms, and socio-economic conditions influence design practices.

The divergence between developed and developing contexts illustrates how sustainability is not a universal concept but is interpreted differently based on local conditions. In resource-rich environments, sustainability may be framed as an ethical imperative, while in resource-constrained contexts, it may be viewed as a secondary concern.

This has important implications for global sustainability initiatives. Standardised approaches to green design may not be effective across diverse cultural contexts. Instead, there is a need for localised strategies

that account for cultural and economic realities.

6.3 Reframing Sustainability as a Systemic Issue

The challenges identified in the findings-such as cost constraints, client expectations, and lack of standardisation-highlight the systemic nature of sustainability in graphic design. These challenges cannot be addressed solely at the level of individual designers but require broader structural changes.

Eco-design theory emphasises the importance of lifecycle thinking and systemic approaches to sustainability (Mathieux et al., 2007). Applying this perspective to graphic design suggests the need for integrated solutions that involve multiple stakeholders, including designers, clients, manufacturers, and policymakers.

For example, policy interventions such as incentives for sustainable materials, regulations on environmental claims, and support for green innovation can create an enabling environment for sustainable design practices.

6.4 Ethical Responsibility and Professional Practice

The issue of greenwashing raises important ethical questions about the role of designers in promoting sustainability. Designers are not merely passive participants in the design process but active agents who shape narratives and influence public perception.

From an ethical standpoint, designers have a responsibility to ensure that their work accurately represents environmental claims. This requires critical engagement with client

briefs and a commitment to transparency and integrity.

The development of ethical guidelines and professional standards for green graphic design can help address these challenges. Such guidelines can provide designers with a framework for making ethical decisions and resisting pressures to engage in misleading practices.

6.5 The Role of Innovation and Technology

Technological innovation offers significant opportunities for advancing green graphic design. Digital media, for example, can reduce reliance on physical materials, while new printing technologies can improve energy efficiency and reduce waste.

However, technology alone is not sufficient to achieve sustainability. As the findings suggest, cultural and social factors play a crucial role in shaping how technologies are adopted and used. This highlights the need for a holistic approach that integrates technological innovation with cultural and social considerations.

6.6 Implications for Education, Policy, and Practice

The study has several practical implications:

Education

- Integrate sustainability as a core component of design curricula
- Emphasise experiential learning and industry collaboration
- Develop interdisciplinary approaches to sustainability

Policy

- Establish guidelines and standards for green graphic design
- Provide incentives for sustainable practices
- Promote awareness and education

Practice

- Encourage collaboration among stakeholders
- Develop transparent communication strategies
- Adopt lifecycle thinking in design processes

7. Conclusion

This study set out to examine cultural perceptions of green graphic design practices among students and professionals through a qualitative synthesis of secondary data. By integrating eco-design theory, cultural theory, and social constructivism, the research provides a multidimensional understanding of how sustainability is interpreted, valued, and implemented within the field of graphic design.

The findings reveal that perceptions of green graphic design are shaped by a complex interplay of educational background, professional experience, and cultural context. Students tend to conceptualise sustainability in idealistic and ethical terms, reflecting their exposure to academic frameworks and sustainability discourse. In contrast, professionals adopt a more pragmatic approach, influenced by real-world constraints such as budget limitations, client expectations, and market demands. This

divergence highlights a persistent gap between theoretical knowledge and practical application, underscoring the need for stronger alignment between design education and industry practice.

Cultural context emerges as a critical determinant of sustainability perceptions. Variations in socio-economic conditions, environmental awareness, and cultural values significantly influence how green design is understood and prioritised. In developing contexts, sustainability is often constrained by economic realities, while in more resource-rich environments, it is framed as an ethical imperative. These differences emphasise the importance of culturally responsive approaches to sustainable design, rather than relying on universal models.

The study also identifies systemic challenges that hinder the adoption of green graphic design, including high costs of sustainable materials, lack of standardised guidelines, and limited institutional support. Additionally, ethical concerns such as greenwashing highlight the need for greater accountability and transparency within the design profession.

Despite these challenges, the study points to promising opportunities for advancing green graphic design. Technological innovations, particularly in digital media, offer pathways to reduce environmental impact, while growing public awareness of sustainability is driving demand for environmentally responsible design solutions.

In conclusion, promoting green graphic design requires a holistic and collaborative approach that integrates education, industry

practice, and policy interventions. Future research should build on these findings by incorporating primary data and exploring cross-cultural comparisons in greater depth. By addressing both cultural and structural dimensions, the field of graphic design can play a transformative role in advancing global sustainability.

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