

# New Media in Visual Communication Design and the Information Representation Skills of Art Students

Tan Yong<sup>1</sup>, Que Lei<sup>2</sup>, Amando Grata<sup>3</sup>

<sup>1,2,3</sup>Instructor, Guangzhou University

## Abstract:

This study examines the interplay between challenges and opportunities in the application of new media in visual communication design among art students. Through qualitative analysis of participant narratives and quantitative evaluations, the study identifies significant challenges related to adapting to new technologies, maintaining creativity, and integrating traditional cultural elements into modern frameworks. Key difficulties include the resistance to change and gaps in technical skills, which hinder effective use of new media tools and the incorporation of cultural symbols.

Conversely, the study highlights several opportunities presented by new media. These include the flexibility to work beyond traditional constraints, a diverse array of technological tools that enrich the creative process, and the ability to preserve and promote traditional Chinese culture. New media's dynamic and adaptable nature enables students to engage audiences more effectively and creatively while maintaining cultural relevance.

The synthesis of challenges and opportunities reveals a complex landscape where the benefits of new media are counterbalanced by significant obstacles. Addressing these challenges through improved educational strategies and support systems is crucial for maximizing the advantages of new media. By bridging technical skill gaps and fostering adaptability, students can better utilize new media to enhance visual communication and cultural representation, ultimately leading to more impactful and meaningful creative outputs.

**Keywords:** New Media, Visual Communication Design, Information Representation Skills

## Introduction

In the evolving landscape of visual communication design, integrating new media technologies is essential for enhancing curriculum and information representation skills. Visual communication fundamentally involves conveying ideas and information through a diverse range of visual forms, including signs, diagrams, graphic designs, illustrations, animations, and electronic resources (Kujur & Singh, 2020; Ji & Lin, 2022). This form of communication is increasingly recognized as a powerful tool for effective information dissemination, with mediums such as animated GIFs, screenshots, videos, pie charts, infographics, and slide presentations playing significant roles in the process (Ji & Lin, 2022; Xiangwei, 2022).

In educational settings, visual communication is vital for facilitating teaching and improving learning outcomes. Despite its effectiveness, the application of visual communication in Chinese educational

institutions is still underdeveloped, indicating a need for curriculum enhancement (Matusitz & Myers, 2019). Traditional communication design methods, while foundational, often lack the dynamic and interactive elements that new media technologies offer, potentially limiting their effectiveness.

Innovative applications of new media in visual communication design are crucial for addressing the limitations of traditional methods. New media technologies, known for their versatility and extensive reach, have the potential to revolutionize the communication landscape, creating more accurate and engaging environments for both teaching and learning (Goransson & Fagerholm, 2018; Liu, 2018). The integration of new and traditional media fosters a more robust communication framework, where new media technologies often surpass traditional methods in delivering content effectively (Yue, 2020).

At its core, visual communication design involves crafting information through visual symbols, a practice that has evolved significantly with technological advancements. These innovations span from traditional printing arts to graphics, electronics, and multimedia design. The success of visual communication depends on effectively transmitting information to the audience, ensuring both comprehension and engagement. The term "visual symbol" encompasses a broad range of media, including photographs, television, movies, video games, design artifacts, and scientific and literary works.

From a humanistic perspective, visual communication design addresses individuals' spiritual and material needs, emphasizing the importance of adhering to humanitarian principles in design endeavors. The evolution of visual communication design is marked by a growing preference for diverse creative approaches, supported by the integration of academic knowledge to enhance the overall integrity and layout of visual designs. Designers often leverage the power of color to capture attention, using vibrant elements such as colorful LED tubes to create immersive and impactful visual experiences.

As visual communication design continues to evolve, integrating new media technologies into educational curricula becomes increasingly important. This approach not only addresses the limitations of traditional methods but also empowers designers and educators to create more engaging, accurate, and effective communication tools. Ultimately, this enriches the educational experience and advances the field of visual communication.

This study aimed to explore the role of new media in visual communication design and information representation skills among art students at Guangdong Vocational College of Science and Technology, Guangdong Province, China. It investigated the challenges faced by participants in applying new media in visual communication design and the opportunities they encountered. The findings offer holistic and practical implications, guiding the enhancement of visual communication design for art students.

## Methods

This study employed a mixed-methods design, specifically a concurrent triangulation design, combining quantitative and qualitative approaches to gain a comprehensive understanding of the subject. The study involved an online survey of 50 students who had used Visual Communication Design (VCD) as part of their coursework, and interviews with 6 students to explore their experiences with new media art in VCD. The concurrent triangulation design aims to enhance the accuracy of relationships among variables of interest by integrating both qualitative and quantitative data. In this design, data are collected in a single phase, allowing for a richer and more nuanced understanding of the phenomenon under investigation. The same participants or similar target populations are often used to gather complementary data, which helps validate the overall results.

Participants in this study were 50 students from Guangdong Vocational College of Science and Technol-

ogy, all of whom had been enrolled at the college for at least two years. For the qualitative component, 6 students were selected, and their identities were anonymized using the initials of their first names.

Convenience sampling was employed, selecting participants based on their availability, typically related to their geographical proximity, such as being students at the researcher's college.

A researcher-developed questionnaire was utilized, consisting of two sections: the first focused on demographic characteristics, and the second explored the challenges and opportunities associated with the innovative use of new media in visual communication design. Quantitative data were analyzed using SPSS, while qualitative data were subjected to thematic analysis.

The questionnaire was distributed online, and respondents were provided with a link to access it. Frequency distribution and percentages of respondents' demographic profiles were calculated to determine response patterns. The weighted mean was computed to analyze individual and overall responses, taking into account the relative importance of various factors in the data set.

For the qualitative analysis, a thematic reflection was conducted to examine participants' experiences. Common themes were identified based on their narratives, focusing on challenges and opportunities. Colaizzi's method of data analysis was employed, involving the following steps: familiarization with the data, identification of significant statements, formulation of meanings, clustering of themes, development of exhaustive descriptions, production of a fundamental structure, and verification of the fundamental structure.

**Findings and Discussion**

Most participants were third-year students, while the smallest group was fourth-year students. A significant majority of the respondents were male. Regarding age demographics, 67% of the participants fell within the 25-27 age range, whereas the remaining 33% were between 22 and 24. The gender distribution in Art courses showed a similar trend, with males constituting 67% of the student population.

**Table 1: Significant statements and formulated meanings the challenges encountered by the participants**

<b>Significant statements from the narratives</b>	<b>Formulated Meanings</b>
Z: "There is always something new. As future artist, it is very important to be abreast with the current trend." C: "Since I want to be famous, I always have to look and be familiar with the latest updates"	<b>Constant change</b>
T: "I am so used to how things are done. That I find it difficult to shift practices." Z: "My friend will be showing off his gift, boasting the new and current strategies."	<b>Resistant to change</b>
W: "They say we create to be able to make a name for ourselves. I like how I am able to use different technology." D: "By making it current and of different variety, makes it more valuable."	<b>Modern technology</b>
T: "Be able to incorporate our Chinese culture in every	<b>Integrating</b>

<p>artwork that I do is very important.”  H: “I am very proud of my origin, that’s why I always include it in my artwork.”</p>	<p><b>symbols of culture</b></p>
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Participants’ statements provide valuable insights into their perceptions of visual communication design and the integration of new media. A recurring theme is the need to adapt to constant change, as emphasized by participants Z and C. Z underscores the importance of staying "abreast with the current trend," while C highlights the necessity of being familiar with "the latest updates" to achieve success. This reflects the rapidly evolving nature of visual communication, where staying current with emerging trends is essential. Lester (2018) notes that visual communication design involves effectively conveying content, and the dynamic nature of new media technologies necessitates adaptability among students.

Conversely, resistance to change is evident in the experiences of participant T, who struggles with shifting from established practices, and Z, who observes a friend's reluctance to embrace new methods. This resistance often stems from a comfort with traditional techniques or hesitation to adopt new technologies. Liu (2020) and Yan (2022) highlight that such resistance can impede the integration of innovative practices, showcasing a broader challenge in adapting to new media within educational settings.

The role of modern technology is prominently featured in the statements of participants W and D, who value the use of diverse technologies in their creative processes. W sees technology as essential for "making a name," while D believes that a varied and current approach adds significant value to artwork. This perspective aligns with the views of Zhang et al. (2022) and Liang (2021), who emphasize that modern tools are crucial for advancing visual communication practices and maintaining relevance in a rapidly changing media landscape.

Lastly, T and H emphasize the integration of cultural symbols in their work, with T stressing the importance of embedding Chinese cultural elements and H expressing pride in including cultural symbols in their creations. This commitment to cultural preservation reflects a trend in art where blending traditional symbols with modern techniques creates a unique and resonant impact. Widyokusumo et al. (2017) and Jing (2020) note that integrating cultural heritage into visual communication design fosters a deeper connection with diverse audiences and enriches the overall artistic experience.

The participants’ statements reveal a complex interplay between adapting to new trends, overcoming resistance to change, leveraging modern technology, and preserving cultural heritage in visual communication design. These insights offer a comprehensive understanding of the challenges and opportunities faced by future artists as they navigate the balance between innovation and tradition in their creative endeavors.

**Table 2- Challenges faced by the respondents in the application of new media in visual communication design**

Challenges	Mean Score	Verbal Interpretation
Suppression of creativity	4.34	Extremely challenging
Comprehension and interpretation of visual information	4.56	Extremely challenging
Creation of visual content using new media	4.62	Extremely challenging
Lack of individuality in visual creation	4.40	Extremely challenging
Visual creativity's connection to social activities	4.46	Extremely challenging

<b>Challenges</b>	<b>Mean Score</b>	<b>Verbal Interpretation</b>
Fast-paced use of technology	4.78	Extremely challenging
Lack of skills in using modern technology	4.74	Extremely challenging
Insufficient non-verbal communication skills	4.56	Extremely challenging
Application of traditional elements reflecting Chinese culture	4.84	Extremely challenging
Lack of ability to resonate messages with the community	4.56	Extremely challenging

The study highlights significant challenges students face in integrating new media into visual communication design, with participants indicating that these challenges are highly difficult. Students struggle with applying modern tools effectively, impacting their ability to use new media technologies consistently.

One major difficulty is incorporating traditional Chinese cultural elements into modern designs. This complex task requires both technical skill and a deep understanding of cultural nuances, making it a significant challenge for students (Jing, 2020).

Keeping up with rapidly evolving technology is another pressing issue. The fast pace of technological advancements can overwhelm students who are still mastering fundamental design principles (Kaur, 2020). This ongoing struggle reflects the steep learning curve associated with adopting new tools and techniques in visual communication.

Additionally, a gap in skills related to modern technology indicates that students face challenges in fully utilizing new media. This skills gap is often due to institutional resistance to change, underscoring the need for more targeted training and resources (Haotian, 2020).

Students also encounter difficulties in creating effective visual content with new media. While they recognize its importance, they struggle with its practical application. This challenge is linked to the broader issue of visual creativity, which is deeply connected to social activities and life experiences (Catterall & Pepler, 2017).

Inadequate non-verbal communication skills are another challenge, as conveying complex ideas through visual means alone can be particularly difficult. This aspect of visual communication requires skillful, wordless expression, which can be challenging to develop (Lester, 2018).

Finally, some students feel constrained by rigid educational structures, which may suppress their creativity. Flexibility in design education is crucial for fostering creativity, and current constraints may limit students' innovative potential (Liu, 2020).

These findings reveal significant obstacles students face in adapting to and utilizing new media in visual communication, highlighting areas where additional support and resources could enhance their skills and creativity.

**Table 3 – Significant statements and formulated meanings on the opportunities faced by the participants of the study**

<b>Significant Statements from the Narratives</b>	<b>Formulated Meanings</b>
T: “What I like most about the application of new media is being able to use it anytime, anywhere.”	<b>Flexibility</b>

<b>Significant Statements from the Narratives</b>	<b>Formulated Meanings</b>
W: “It is indeed a major breakthrough to have it with me anytime and be able to work on it as often as I want.”	
Z: “The wide array of technologies to be used is an advantage in doing visual communication in art.”	<b>Diversity</b>
C: “Visual communication is a budding art, so it is important to have skills in representing information.”	
D: “Visual communication cannot be done effectively if the information is not relayed properly.”	<b>Interactivity</b>
H: “The new media allowed me to have access to broader ways to do visual communication.”	<b>Promotion of Traditional Chinese Culture</b>
H: “As a teacher, it is important to teach students to preserve the national culture.”	
Z: “I make sure that my students are able to preserve traditional Chinese culture.”	

Participants provided valuable insights into the opportunities new media offers in visual communication design and the development of information representation skills. A prominent theme is flexibility, with participants T and W highlighting the advantage of using new media tools "anytime, anywhere," which allows for creative work without constraints. Another key opportunity is the diversity of technologies, as noted by participant Z, which broadens artistic options and fosters experimentation. Participants C and D emphasize the importance of interactivity in visual communication, underlining that effective information delivery enhances the impact of art. Additionally, the promotion of traditional Chinese culture through new media is seen as vital by participants H and Z, who stress the importance of representing and preserving national culture via modern platforms.

These insights align with existing literature, which underscores new media's role in enriching visual communication design and developing information representation skills. The flexibility and interactivity of new media enhance viewer engagement and deepen understanding (Goransson & Fagerholm, 2018; Liu, 2018). The diversity of technologies, including videos, images, and graphics, supports effective communication and emotional connection (Russmann, 2019; Yue, 2020), while integrating traditional cultural symbols into modern design helps preserve heritage and promote cultural pride (Jing, 2020; Guan-Chen & Ko, 2022). Overall, participants’ experiences reflect how new media enhances creative processes and skill development, consistent with scholarly perspectives on its impact in visual communication.

**Table 4-Opportunities faced by the participants using the new media in visual communication design**

<b>Opportunity</b>	<b>Mean Score</b>	<b>Verbal Interpretation</b>
User-friendly new media	4.60	Beneficial opportunities
Dynamic layout	4.66	Beneficial opportunities
Flexibility in layout is crucial	4.78	Beneficial opportunities

Opportunity	Mean Score	Verbal Interpretation
Limitations of traditional layouts	4.56	Beneficial opportunities
Diverse transmission modes	4.90	Beneficial opportunities
Simplicity of traditional modes	4.86	Beneficial opportunities
Preservation of Chinese culture	4.92	Beneficial opportunities
Showcasing traditional Chinese art	4.68	Beneficial opportunities
Advancing traditional Chinese culture	4.84	Beneficial opportunities
Innovative creations	4.46	Beneficial opportunities

New media applications offer substantial opportunities for enhancing visual communication design. User-friendly new media tools are highly valued for their ease of use and accessibility, which aligns with Goransson and Fagerholm's (2018) emphasis on the importance of intuitive interfaces for effective communication. Dynamic and flexible layouts are also favored for their ability to engage audiences with visually stimulating and adaptable presentations, supporting Yue's (2020) view that such designs offer greater flexibility and creativity compared to static options.

Flexible layouts are crucial for accommodating diverse user needs, as highlighted by Russmann (2019), who notes that adaptability is essential for effective communication. This flexibility is contrasted with traditional layouts, which are less versatile and interactive, as noted by Duan (2022). The diverse transmission modes of new media are particularly valued for enriching communication through multimedia and interactive content, overcoming the limitations of traditional media (Wang, 2021).

While traditional modes offer straightforward communication, they lack the dynamism of new media (Liang, 2021). New media excels in preserving and showcasing Chinese culture, with tools effectively promoting and highlighting traditional art forms, as noted by Jing (2020). This potential is further supported by the significant role new media plays in bridging traditional practices with modern audiences (Zhang & Wu, 2021).

Although innovative creations scored slightly lower, they still reflect the importance of creativity and technology in visual communication design (Arsyadi, 2019). Overall, new media provides valuable opportunities for enriching visual communication with user-friendly tools, dynamic and flexible layouts, and diverse transmission modes. These advancements address the limitations of traditional media and offer a platform for cultural continuity and creative expression, leading to more engaging and culturally resonant visual communication practices.

## Conclusion

The analysis of the challenges and opportunities associated with new media in visual communication design presents a multifaceted picture of how students engage with modern technologies and the impacts on their creative practices.

The study reveals several significant hurdles that students encounter when incorporating new media into their visual communication work. These challenges include difficulties in adapting to new technologies, maintaining creativity, and integrating traditional cultural elements within modern frameworks. Students face obstacles in effectively using new media tools and comprehending and interpreting visual information. Notably, the integration of traditional Chinese cultural symbols into new media remains a prominent challenge. These issues highlight the difficulty in balancing innovative practices with cultural

preservation and indicate a substantial gap in technical skills and adaptability. The resistance to change further complicates the adoption of new media, emphasizing the need for improved training and support to help students navigate these transitions more effectively.

Despite these challenges, new media offers valuable opportunities for enhancing visual communication design. The flexibility of new media tools allows students to work creatively beyond traditional constraints, enabling more dynamic and adaptable visual presentations. The diverse range of technologies available enriches the creative process, providing students with a variety of options to experiment with and engage their audiences. New media also plays a crucial role in preserving and promoting traditional Chinese culture by integrating cultural elements into modern designs. These opportunities align with the broader understanding that new media can significantly enhance content creation, engagement, and cultural representation.

The interaction between challenges and opportunities highlights a complex scenario where the benefits of new media are counterbalanced by significant obstacles. On one hand, new media provides flexibility, diverse tools, and interactive capabilities that can enhance visual communication and support cultural preservation. On the other hand, difficulties in adapting to new technologies and maintaining creative and cultural integration reflect a need for more robust educational strategies and support systems.

To maximize the benefits of new media while addressing the associated challenges, a balanced approach is essential. Educational programs should focus on closing the technical skills gap, fostering adaptability, and incorporating cultural elements within new media frameworks. By doing so, students can better leverage new media to create impactful and culturally meaningful visual communications, overcoming resistance to change and improving their overall design skills.

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