

**ASSESSING VISUAL LITERACY COMPETENCY
STANDARDS AMONG VISUAL
COMMUNICATION DESIGN STUDENTS: A
CASE STUDY OF HIGHER EDUCATION
INSTITUTIONS IN SHANGHAI, CHINA**

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UNIVERSITI SAINS MALAYSIA

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by

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LIST OF ABBREVIATIONS

AACU	Association of American Colleges and Universities
ACRL	Association of College and Research Libraries
ACRL-VLCS	Association of College and Research Libraries Visual Literacy Competency Standards for Higher Education
AECT	Association for Educational Communications and Technology
CEFVL	Common European Framework for Visual Literacy
CNKI	China Knowledge Infrastructure Project
CQR	Consensus Qualitative Research
DBA	Design Business Association
ESL	English as a Second Language
ICO-D	International Design Council
KMO	Kaiser-Meyer-Olkin
LIS	Library and Information Science
SD	Standard Deviation
STEM	Science, Technology, Engineering, and Mathematics
VCD	Visual Communication Design
VI	Visual Identity
VTs	Visual Thinking Strategies

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**PENILAIAN STANDARD KOMPETENSI LITERASI VISUAL DALAM
KALANGAN PELAJAR REKA BENTUK KOMUNIKASI VISUAL: KAJIAN
KES INSTITUSI PENGAJIAN TINGGI DI SHANGHAI, CHINA**

ABSTRAK

Pengaruh meluas media moden telah mengintegrasikan maklumat visual dan teknologi ke dalam kehidupan harian, menekankan kepentingan kemahiran literasi visual. Kecekapan literasi visual merangkumi kemahiran mencari, mentafsir, menilai, menggunakan, dan mencipta media visual, merupakan set kemahiran penting dalam persekitaran yang kaya dengan maklumat pada masa kini. Kajian semasa menunjukkan kekurangan ketara dalam kecekapan ini di kalangan graduan pendidikan tinggi yang memasuki alam pekerjaan profesional di seluruh dunia. Walaupun kesedaran mengenai isu ini semakin meningkat, masih terdapat jurang penyelidikan yang ketara berkaitan kecekapan literasi visual dalam konteks pendidikan di China, terutamanya bagi pelajar dalam bidang reka bentuk komunikasi visual. Kajian ini berpanduan Piawaian Kecekapan Literasi Visual oleh Association of College and Research Libraries (ACRL) untuk menilai kecekapan pelajar reka bentuk komunikasi visual di China. Kajian ini bertujuan untuk mengenal pasti kecekapan literasi visual pelajar reka bentuk komunikasi visual di China, memberi tumpuan kepada keupayaan mereka untuk menentukan, mencari, mentafsir, menilai, menggunakan, dan mencipta bahan visual, serta pemahaman mereka tentang isu perundangan berkaitan. Kajian ini menggunakan kaedah campuran, melibatkan 200 pelajar dari Universiti Jiao Tong Shanghai, Universiti Tongji, dan Universiti Shanghai. Dalam fasa kuantitatif, data dikumpul melalui soal selidik berasaskan web dan dianalisis menggunakan statistik deskriptif. Dalam fasa kualitatif, 10 pelajar, 7 pensyarah, dan 8 penyelia latihan industri

mengambil bahagian dalam temu bual separa berstruktur, dengan data dianalisis melalui analisis tematik. Dapatan kajian menunjukkan jurang kemahiran yang ketara dalam kalangan pelajar dalam menganalisis, menilai, menggunakan, dan mencipta bahan visual, serta dalam memahami aspek perundangan literasi visual. Implikasi praktikal meliputi pembangunan kurikulum, kaedah pengajaran, dan kerjasama industri-akademia untuk menangani jurang kecekapan yang dikenal pasti. Selain itu, kajian ini menyediakan asas empirikal untuk pembentukan dasar berasaskan bukti dan kerjasama pihak berkepentingan mengenai pendidikan literasi visual dalam sistem pengajian tinggi China.

ASSESSING VISUAL LITERACY COMPETENCY STANDARDS AMONG VISUAL COMMUNICATION DESIGN STUDENTS: A CASE STUDY OF HIGHER EDUCATION INSTITUTIONS IN SHANGHAI, CHINA

ABSTRACT

The widespread influence of modern media has integrated visual information and technology into daily life, emphasizing the significance of visual literacy proficiency. Visual literacy competency, which encompasses the skills of locating, interpreting, evaluating, using, and creating visual media, represents an essential skill set in today's information-rich environment. Contemporary research highlights significant deficiencies in these competencies among tertiary education graduates entering professional settings worldwide. Despite growing awareness of this issue, a notable research gap remains regarding visual literacy competencies within the Chinese educational context, particularly among students in visual communication design. This study is guided by the *Association of College and Research Libraries (ACRL) Visual Literacy Competency Standards* to assess the proficiency of visual communication design students in China. This study aims to identify the visual literacy competency of visual communication design students in China, focusing on their abilities to determine, find, interpret, evaluate, using, and create visual materials, as well as their understanding of related legal issues. The research employed mixed methods, involving 200 students from Shanghai Jiao Tong University, Tongji University, and Shanghai University. In the quantitative phase, data were collected through web-based questionnaires and analysed using descriptive statistics. In the qualitative phase, 10 students, 7 lecturers, and 8 internship supervisors participated in semi-structured interviews, with the data analysed through thematic analysis. The

findings reveal significant proficiency gaps among students in analysing, evaluating, utilizing, and creating visual materials, as well as in understanding the legal aspects of visual literacy. Practical implications extend to curriculum development, teaching methodologies, and industry-academia collaboration to address identified competency gaps. Additionally, this study provides an empirical foundation for evidence-based policymaking and stakeholder collaborations regarding visual literacy education in China's higher education system.

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The term “visual literacy” was first proposed in 1969 by Debes. It encompasses the development of vision-based skills that integrate sensory experiences, enabling individuals to interpret, communicate, and appreciate visual elements in their environment (Debes, 1969). Over the years, the concept of visual literacy has garnered significant attention. In today’s digital environment, people are constantly exposed to visually oriented platforms such as social media, digital markets, websites, and various visual materials. The prevalence of platforms like Instagram, TikTok, and YouTube has amplified the competency to interpret and critically evaluate the extensive array of images encountered daily. In contemporary society, proficiency in visual literacy competency is imperative for active engagement across past, present, and future contexts (Avgerinou, 2009; Blummer, 2015).

The pervasive dissemination of false information through visually appealing yet misleading imagery posts a significant challenge in our visually driven social landscape (Kasra et al., 2018; Newman & Schwarz, 2023; Wang et al., 2021). The development of visual literacy competency proficiency is pivotal in addressing this issue as it empowers individuals with the ability to discern misinformation and authenticate visual content. The competency of critical assessment of visual information contributes to the development of critical thinking abilities. Visual literacy competency encompasses not only comprehending visual content but also scrutinizing its context, intent, and potential biases (Locoro et al., 2021). This capacity for analysis assists individuals in determining the reliability of visual information, particularly in

an age characterized by digital media and the pervasive dissemination of misinformation.

Visual literacy plays a significant role in enabling individuals to express themselves creatively and effectively from a personal standpoint. By mastering visual communication tools and techniques, individuals can convey their ideas and emotions in ways that deeply resonate with their audience (Farwell, 2012). This form of self-expression is especially valuable for those who may encounter challenges in traditional verbal or written communication. Furthermore, visual literacy is integral to adapting to societal advancements. As digital technology continues to evolve, the ability to effectively use visual interfaces becomes increasingly crucial. Those proficient in visual literacy are more effectively equipped to engage with emerging technologies and to critically evaluate diverse visual information, including content disseminated through social media platforms as well as within virtual and augmented reality environments (Cordell, 2015).

The significance of visual literacy competency for visual communication design students is further heightened by Shanghai's ongoing digital transformation. As the city advances with smart technologies and digital interfaces, designers are required to interpret and create for increasingly complex visual environments (Bian & Ji, 2021). This demand extends beyond technical proficiency to encompass advanced cognitive and analytical skills which are core components of visual literacy. Students who cultivate strong visual literacy skills during their education will be better equipped to adapt to emerging technologies and evolving industry expectations throughout their careers. Understanding the current state of visual literacy competency among Shanghai's visual communication design students is therefore not merely an academic pursuit, but a critical step toward strengthening China's role in the global creative

economy. By identifying specific strengths and gaps in students' visual literacy across these leading institutions, this study aims to provide actionable insights for educational improvements that address both local industry demands and international design standards.

1.2 Visual Literacy Competency

According to the *Association of College and Research Libraries Visual Literacy Competency Standards for Higher Education* (henceforth ACRL-VLCS), visual literacy is “a set of abilities that enables an individual to effectively find, interpret, evaluate, use, and create images and visual media” (Association of College and Research Libraries [ACRL], 2011, p. 1). The concept of visual literacy competency has a rich historical background that is deeply entrenched in various fields. From its early theoretical underpinnings to contemporary pedagogical applications, the history of visual literacy competency spans disciplines such as art education, media studies, and cognitive psychology, reflecting an evolution rooted in interdisciplinary influences (Hug, 2012; Brumberger, 2019). Notable milestones include the formal conceptualization of visual literacy in the 1969, its integration into educational curricula, and the impact of digital media on the development of visual communication skills (Michelson, 2017; Peña & Dobson, 2021).

The origins of visual literacy competency can be traced back to the early 20th century when the distinguished philosopher and educator John Dewey emphasized the significance of sensory experiences in the learning process. His work laid the foundation for subsequent theories on visual literacy competency (Dewey, 1916; Peña & Dobson, 2021). In the 1969, John Debes formally introduced the term “visual literacy,” defining it as a collection of competencies cultivated through observation

and integrated with other sensory experiences (Debes, 1969). This definition marked a significant milestone, emphasizing the integration of visual skills with other sensory inputs and establishing visual literacy competency as essential in education.

During the mid-20th century, media studies played a pivotal role in advancing visual literacy competency. Marshall McLuhan's contributions in the 1960s highlighted the crucial role of understanding media's influence on perception and communication (Yadav & Yadav, 2022). The 1970s and 1980s witnessed a notable increase in the utilization of visual media in education, largely propelled by technological progress. The introduction of television, computers, and, subsequently, the internet expanded the domain of visual literacy competency (Ervine, 2016; Moore-Russo & Shanahan, 2014). The Association for Educational Communications and Technology (AECT) actively promoted the inclusion of visual literacy competency in educational curricula during this period (Definition and Terminology Committee of the Association for Educational Communications and Technology, 2013).

Studies from this era primarily focused on the cognitive aspects of visual literacy, exploring the processing and comprehension of visual information (Beatty, 2013). Rudolf Arnheim's research on visual thinking underscored the cognitive processes involved in interpreting visual stimuli and significantly contributed to the academic discipline of visual literacy competency (Arnheim, 2023; Ma, 2015; Brumberger, 2019). The drive to integrate visual literacy competency into educational curricula gained momentum in the 1980s and 1990s as visual literacy competency standards continued to evolve and blend into language arts and media education (Dikovitskaya, 2005).

The late 20th and early 21st centuries witnessed a profound revolution in visual literacy competency driven by digital media. The advent of digital technology and the internet presented both opportunities and challenges for visual communication. This shift underscored the significance of digital visual literacy competency, emphasizing the critical need for skills in evaluating digital images and media (Ervine, 2016; Strazdiņa, 2021). The digital age expanded the concept of visual literacy competency to encompass digital and multimedia literacy. The pervasive use of digital tools such as smartphones, tablets, and social media platforms reshaped how individuals engage with visual information, necessitating new competencies to interpret and create digital content.

In contemporary academia, visual literacy competency is recognized as an essential skill that transcends various fields of study. Incorporating visual literacy competency into science, technology, engineering, and mathematics (STEM) education underscores its interdisciplinary significance (Felten, 2008). The increasing prevalence of digital media and social platforms further amplifies the value of visual literacy competency. Individuals now require not only the capability to interpret images but also the acumen to identify and counteract misinformation and digital manipulation. Proficiency in visual literacy is not merely an addendum to conventional literacy; it is a crucial skill for navigating the demands of our information-rich society.

The historical evolution of visual literacy illustrates its transformation from a specialized concept to an essential competency across diverse disciplines. This progression underscores the relevance of the present study by emphasizing the growing need for comprehensive visual literacy assessment in specialized educational contexts. As Hidayah (2023) argues, in a world where images have become the dominant mode of communication, individuals who lack visual literacy will face

significant disadvantages in both personal and professional domains. The rapid proliferation of visual media in China has intensified the urgency for students in visual communication design to develop strong visual literacy competencies. These must extend beyond technical skills to encompass critical evaluation and the ethical use of visual content (Chen & Qian, 2021; Li, 2022). By investigating visual literacy competency standards among visual communication design students in Shanghai, this study addresses a critical gap in understanding how Chinese design education equips students to navigate increasingly complex visual environments. In doing so, it contributes to both theoretical discourse and practical advancements in visual literacy education.

1.3 Visual Literacy Competency and Visual Communication Design

Visual literacy competency and visual communication design are interconnected fields that significantly impact the conveyance and comprehension of information (Kazmierczak, 2000; Velders et al., 2007; Avgerinou & Pettersson, 2020). Visual literacy competency involves interpreting, comprehending, and extracting meaning from information presented in visual formats, such as images. Conversely, visual communication design encompasses the creation of visual content to communicate information effectively. This correlation underscores the crucial role of visual literacy competency in the efficacy of visual communication design (Kress & van Leeuwen, 2020). Visual communication design entails the strategic planning and projection of ideas and experiences through visual and textual content. It incorporates the use of typography, imagery, colour, and layout to generate visual representations of information. This discipline spans various applications, including advertising, branding, web design, and multimedia (Günay, 2021; Kelly, 2015). Its roots can be

traced back to ancient civilizations that utilized hieroglyphics and symbols for communication.

The invention of the printing press during the 15th century marked a momentous advancement, fundamentally transforming the dissemination of information and laying the foundation for contemporary graphic design (Bagchi, 2016). In the 20th century, the Bauhaus movement played a pivotal role in shaping the field of visual communication design. The Bauhaus school emphasized the fusion of art, craft, and technology, promoting principles of functional and aesthetic design (Lerner, 2005). Meggs and Purvis (2016) noted that the Bauhaus philosophy profoundly influenced the evolution of modern design by promoting simplicity, clarity, and the application of geometric forms. Visual communication design heavily relies on visual literacy competency for crafting impactful information (Moore & Dwyer, 1994; Avgerinou & Pettersson, 2020). Designers must possess advanced visual literacy skills to create visuals that not only capture attention but also effectively convey intended messages with precision and persuasion. According to Avgerinou and Pettersson (2011), visual literacy competency empowers designers to adeptly utilize color, typography, layout, and imagery to enhance comprehension and engagement.

Visual literacy provides the theoretical foundation for visual communication design practice in various areas, including typography, brand visual identity systems, user interfaces, and data visualization. A designer's visual literacy competency directly influences their ability to select, arrange, and manipulate typefaces to convey specific meanings and emotions (Lelis et al. 2022). Visual literacy enables designers to understand how typographic elements such as kerning, leading, and font weight affect readability and user experience. For example, research by Lai (2019) demonstrated that Chinese design students with higher visual literacy scores were more adept at

creating typographic hierarchies that effectively guided readers through complex information. In cross-cultural design contexts, particularly relevant to Shanghai's international positioning, visual literacy competency allows designers to navigate the complex relationship between Chinese character typography and Latin alphabets in bilingual design projects (Zhang, 2010).

In branding, visual literacy competency enables designers to develop coherent visual identity systems that effectively communicate brand values across diverse touchpoints (Vasconcelos et al., 2021). This requires advanced visual analytical skills to understand how elements such as colour psychology, symbolic representation, and visual metaphors influence brand perception. Visual literacy also supports the creation of culturally responsive brand identities, which is an essential consideration in Shanghai's international business environment. Li (2018) found that visual communication students require strong visual literacy skills to develop brand identities that maintain consistency while adapting to different cultural contexts, a competency particularly valuable given Shanghai's position as a gateway between Eastern and Western markets.

The rapid digital transformation occurring globally, and particularly in China's metropolitan centers like Shanghai, has further elevated the importance of user interface (UI) and user experience (UX) design. Visual literacy competency in this domain enables designers to create intuitive digital interfaces that enhance user engagement and comprehension (Lelis, 2021). Research by Li (2014) revealed that visual literacy skills significantly impact a designer's ability to create information hierarchies and navigation systems that align with users' mental models and expectations. In Shanghai's technology-driven economy, UI/UX designers must possess the visual literacy required to interpret user research data and translate it into

accessible digital experiences, while also integrating traditional Chinese visual aesthetics with global digital design standards.

With the rise of big data analytics, visual literacy competency has become essential for creating effective data visualizations that transform complex information into accessible visual formats (Locoro et al., 2021). Designers must understand principles of visual perception to select appropriate chart types, colour schemes, and visual encodings that accurately represent quantitative information. Zhang and He (2020) demonstrated that Shanghai-based design students with strong visual literacy were better equipped to create data visualizations that avoided common perceptual errors and misinterpretations. This skill is particularly valuable in Shanghai's finance and technology sectors, where data-driven decision-making is increasingly prevalent.

Visual communication design education has evolved differently across global regions, shaped by cultural traditions, levels of technological adoption, and economic priorities (Tsidylo, 2020). Western models of design education, particularly those originating in Europe and North America, have traditionally emphasized conceptual thinking, problem-solving strategies, and user-centred methodologies (Bravo et al., 2021). Influences such as the Swiss International Style and American modernism have profoundly shaped global design curricula, introducing foundational principles such as grid systems, typographic hierarchy, and minimalist aesthetics that continue to inform design education worldwide (Meggs & Purvis, 2016). The increasing pace of globalization has further transformed the field, making cross-cultural collaboration a standard practice in professional design. As a result, contemporary curricula place greater emphasis on cultural semiotics and the development of visual systems that operate effectively across linguistic and cultural boundaries (Thoring et al., 2020). However, this global convergence has also sparked concerns about the homogenization

of design education and the potential erosion of regional visual traditions and locally grounded approaches (Park & Lee, 2021).

Visual communication design education in China has undergone significant transformation over the past four decades, reflecting the country's broader economic and cultural shifts (Yu, 2016). Initially shaped by Soviet art education models that emphasized technical skill development, Chinese design education began to integrate Western design principles during the reform and opening-up period of the 1980s (Li, 2006). This led to the emergence of a hybrid educational approach that continues to evolve. Shanghai holds a unique position in China's visual communication design landscape, functioning as a bridge between Chinese visual traditions and international design influences. The city's colonial history and status as China's most international metropolis have fostered a distinctive visual environment that blends Eastern and Western aesthetic elements (Huang et al., 2021). This hybridity is reflected in the curricula of Shanghai's design education institutions, which frequently emphasize both local and global design perspectives.

According to surveys conducted by Zhao (2024), design educators in Shanghai report persistent challenges in balancing the theoretical understanding of visual literacy principles with practical design application. Students often prioritize technical skill development at the expense of cultivating deeper analytical and interpretive competencies. This imbalance can hinder their ability to engage with the contextual and cultural dimensions of visual communication. These challenges underscore the importance of assessing visual literacy competency among visual communication design students in Shanghai. By evaluating current competency levels across the visual literacy spectrum, educators can implement targeted interventions to address specific gaps and better prepare students for the multifaceted demands of the city's design

industry. This study seeks to provide such a foundational assessment, contributing to the continued evolution of visual communication design education in this dynamic urban center.

1.4 Visual Literacy Competency Research in Higher Education Institutions

The significance of visual literacy competency as an essential cross-disciplinary skill in higher education cannot be overstated. The founding of the German Bauhaus School in 1919 marked a pivotal moment in the integration of visual literacy competency into art and design education (Whitford, 1985). As visual communication plays an expanding role in both educational and professional domains, institutions of higher education increasingly emphasize research and cultivation of visual literacy competency. Recognizing this, the Association of College and Research Libraries has outlined visual literacy competency standards to guide educators in nurturing these crucial skills (ACRL, 2011).

Higher education institutions now integrate programs and initiatives designed to enhance visual literacy competency among students. These efforts include visual literacy training within curricula, workshops, seminars, and resources such as visual literacy libraries and digital tools (Kędra & Žakevičiūtė, 2019). Some universities offer specialized courses focusing on visual literacy competency and design thinking, mandatory for students majoring in visual communication (Hattwig et al., 2013). Furthermore, there is a growing implementation of innovative assessment tools and teaching strategies to evaluate and advance these proficiencies. For example, the incorporation of Visual Thinking Strategies (VTS) aims to stimulate students to observe, analyse, and engage in discussions on visual art, thereby refining their visual literacy competency (Yenawine, 2013). Additionally, digital storytelling projects are

utilized to empower students to both create and share visual narratives, offering practical experience in visual communication (Robin, 2008).

In 2002, research on visual literacy competency in China gained momentum with the publication of Zhang's article, "Visual Literacy Education: A Field Yet to Be Explored" in the journal *e-Education Research*. Within higher education, visual literacy competency is fostered through the continuous development of integrated curricula and the establishment of dedicated courses (Wang, 2007). Zhang's (2012) research has had widespread application, followed by Zong's (2012) "Standards for Visual Literacy Competency for Undergraduate Art and Design Students", which draws from a comprehensive literature review. Despite these developments, visual literacy education and research in China have faced several structural and historical challenges. These issues can be attributed to several factors unique to China's educational context.

China's educational tradition has historically emphasized text-based literacy and quantitative reasoning over visual interpretation and expression (Wu & Bai, 2015). The examination-oriented education system, which prioritizes standardized testing in core subjects such as mathematics, Chinese language, and sciences, has left limited space for developing visual literacy competency in general education (Chen, 2008). Consequently, students often enter higher education with underdeveloped visual literacy skills, regardless of their academic discipline. Furthermore, the concept of visual literacy was initially introduced to China primarily through the translation of Western theories and frameworks, often without sufficient localization to align with the country's distinct cultural and educational context (Zhang & Li, 2015). This has led to the adoption of theoretical models that do not always resonate with Chinese educational practices or adequately reflect China's rich visual cultural heritage. As Wu

(2020) points out, the longstanding tradition of Chinese visual arts and calligraphy represents a unique form of visual literacy that diverges from Western paradigms yet remains underrepresented in contemporary visual literacy frameworks.

While some universities have recently begun integrating elements of visual literacy into their curricula, standardized assessment methods and competency frameworks tailored to Chinese students remain largely underdeveloped. This issue is particularly pertinent in the visual communication design discipline, where the historical evolution of visual literacy and its relationship to design education have direct implications for curriculum development. In Shanghai's higher education institutions, this challenge is amplified by the city's distinctive positioning. As one of China's most international and economically advanced cities, Shanghai serves as a convergence point for traditional Chinese visual culture and contemporary global design influences. The city's rapid urbanization and economic transformation have established it as a hub for creative industries, including advertising, digital media, user experience design, and branding (Zhao et al., 2023). Consequently, visual communication design professionals must not only possess strong technical abilities but also demonstrate advanced visual literacy competencies to interpret, analyse, and create within an increasingly complex and multicultural visual environment.

Students in Shanghai's visual communication design programs face the unique challenge of synthesizing traditional Chinese aesthetic principles with global design practices. This demands not only visual creation skills but also a sophisticated capacity for visual interpretation and cross-cultural communication (Wang, 2022). The three universities selected for this study, namely Shanghai University, Tongji University, and Shanghai Jiao Tong University, are widely recognized as leading institutions in visual design education in China. Their programs have evolved in response to both

international design education benchmarks and the specific demands of local industries (Academic Degrees & Graduate Education Editorial Board, 2023). However, as Zhou and Ghazali (2023) observe, a gap persists between the visual literacy competencies required by Shanghai's creative industries and the actual skill sets possessed by graduating students. This disconnect highlights the critical need to assess current visual literacy competency levels, identify areas for targeted improvement, and inform curriculum development.

For students in Shanghai's visual communication design programs, visual literacy competency extends far beyond academic achievement; it represents a vital professional asset. Given the city's role as a commercial and cultural gateway, graduates are likely to engage in projects with international reach, necessitating strong cross-cultural visual communication skills (Yang & Yang, 2024). Moreover, the demands of Shanghai's dynamic design industry increasingly call for professionals capable of critically evaluating visual information from diverse sources and creating content that resonates across cultural boundaries.

1.5 Problem Statement

Visual literacy competency is essential for students majoring in visual communication design, as it forms the foundation for effectively conveying ideas and information through visual means (Brumberger, 2011; Avgerinou, 2009; Avgerinou & Pettersson, 2011). Despite its recognized importance in design education, research indicates widespread deficiencies in visual literacy skills among students in Chinese higher education (Chen, 2020; Huang & Liu, 2022; Sun, 2017). However, there is limited empirical data on the specific nature of these deficiencies among visual communication design students in Chinese universities. This critical gap in both

research and educational practice highlights the need for focused investigation, which this study aims to address.

This knowledge gap presents a fundamental challenge for design education. Without a clear understanding of the specific areas in which students struggle with visual literacy, educational interventions risk being misaligned with students' actual needs. As Keller et al. (2018) emphasize, a comprehensive assessment of individuals' capabilities must precede the implementation of improvement strategies to effectively address skill deficiencies. This gap is particularly concerning given that higher education represents a critical final stage before students transition into professional practice.

The core issue this research addresses is the lack of a comprehensive understanding of visual literacy competency levels among visual communication design students in higher education institutions in Shanghai. Without a clear assessment of current proficiency and the identification of specific areas of deficiency, educators cannot adequately prepare students for the increasingly complex visual demands of professional practice (Krejci et al., 2020). This study aims to fill this knowledge gap by evaluating students' visual literacy competencies across multiple dimensions and providing essential insights to inform curriculum development, teaching methodologies, and educational policy.

1.6 Research Objectives

The primary aim of this study is to investigate the visual literacy competency of students majoring in visual communication design at Shanghai University, Tongji University, and Shanghai Jiao Tong University. To achieve this objective, the research evaluates students' proficiency across various dimensions, guided by the seven visual

literacy competency standards established by the Association of College and Research Libraries (ACRL) for higher education. These standards encompass the ability to recognize, access, analyse, assess, and effectively utilize visual information. The study aims to achieve four specific objectives:

- i) To analyse the visual literacy competency standards for visual communication design students in determining, finding, and accessing needed visual materials.
- ii) To evaluate the visual literacy competency standards of visual communication design students for interpreting, analysing, and evaluating visual materials.
- iii) To investigate the visual literacy competency standards of visual communication design students in using, designing, and creating visual materials.
- iv) To determine visual communication design student's visual literacy competency standards in understanding the ethical, legal, social, and economic issues related to visual materials.

1.7 Research Questions

To accomplish the objectives, the study has formulated four research questions that align with the research goals. These questions will facilitate a comprehensive exploration of all critical components. The intention is to methodically direct the entire research process and offer a clear pathway toward the fulfilment of the research objectives.

- i) What are the visual literacy competency standards of visual communication design students in determining, finding, and accessing needed visual materials?
- ii) How do visual communication design students assess their visual literacy competency in interpreting, analysing, and evaluating visual materials?
- iii) What are the visual literacy competency standards of visual communication design students in using, designing, and creating visual materials?
- iv) To what extent are visual communication design students competent in understanding the ethical, legal, social, and economic issues related to visual materials?

1.8 Significance of the Study

This study makes several significant contributions to the field of visual literacy education in Chinese higher education by addressing critical research gaps through an empirical investigation of visual communication design students. While previous research has often overlooked the unique challenges and specific requirements Chinese students face in developing visual literacy (Cun & Huang, 2023; Zhao & Mawhinney, 2014; Fan & Xia, 2023), this study offers contextually relevant data by focusing on students from three leading universities in Shanghai. It provides the first comprehensive empirical assessment of visual literacy competency levels among this population, establishing a baseline understanding of students' strengths and deficiencies across multiple dimensions of visual literacy.

Methodologically, the study contributes by adapting a comprehensive assessment framework based on the Association of College and Research Libraries (ACRL) standards to the Chinese educational context. This framework offers a validated approach that lays the groundwork for future visual literacy research in similar Chinese institutional contexts. Specifically, the assessment methodology demonstrated in this study provides empirical evidence of how international visual literacy standards can be effectively adapted for Chinese higher education environments.

The study's findings present the first comprehensive empirical data on visual literacy competency levels among visual communication design students in Shanghai universities. These findings establish a baseline understanding of current proficiency levels across multiple dimensions of visual literacy, revealing specific patterns of strengths and deficiencies within this student population. The empirical evidence generated contributes essential knowledge regarding the effectiveness of visual literacy education in Chinese design programs.

The significance of this research lies in its advancement of culturally appropriate approaches to visual literacy education that honour both international standards and the Chinese educational context. It offers insights that can inform the development of future educational policies, curriculum planning, and improvements in teaching methodologies for visual communication design education in Chinese universities.

1.9 Limitations of the Study

It is essential to acknowledge and address the limitations inherent in this research while recognizing how the study's design mitigates some of these challenges.

This approach allows for a more accurate understanding of the findings and informs future research efforts. One notable constraint pertains to the sample size and diversity; the study may have been limited to a specific set of higher education institutions in Shanghai, potentially affecting the generalizability of the results to other regions in China with different educational resources and approaches.

The quantitative phase relied on self-reported survey data, which may reflect subjective perceptions rather than actual competency levels. However, this limitation is substantially mitigated by the study's mixed-methods design. The qualitative phase, which involved in-depth interviews with students, lecturers, and internship supervisors, provided triangulation and deeper insights that helped validate and contextualize the self-reported data.

Variations in teaching methodologies, resource availability, and diverse student backgrounds across institutions may have influenced how visual literacy competencies developed among participants. Students' exposure to a range of educational resources, including specialized software and practical experiences, has likely influenced the development of their visual literacy in ways that add complexity to the interpretation of the findings. Nevertheless, these variations also enriched the study by capturing the realistic diversity of educational experiences.

While the focus was on visual communication design, it is worth noting that the implications of visual literacy competency extend beyond this field, offering valuable insights across various disciplines. Future research could further build on this study's mixed-methods foundation by incorporating additional objective assessment techniques and expanding the geographical scope to enhance generalizability. Despite these limitations, the combination of quantitative breadth and qualitative depth in this

research establishes a clear context for its findings and contributes meaningfully to the ongoing discussion on visual literacy competency education in China's higher education system.

1.10 Summary

This chapter has established the background for investigating visual literacy competency among visual communication design students in Chinese higher education institutions. Visual literacy competency has become a critical skill in today's increasingly visual and digitally driven landscape, especially for design professionals. The research aims to address a significant gap in understanding the current state of visual literacy competency among Chinese visual communication design students at three major universities in Shanghai.

To achieve the research objectives, the thesis is organized as follows:

Chapter One introduces the background of the study, defines key terms, and explains their interrelationships.

Chapter Two explores the theoretical foundations of visual literacy competency, examining key frameworks that inform its assessment. It also reviews existing literature on visual literacy education in higher education, both globally and within China, with a specific focus on visual communication design programs.

Chapter Three outlines the research design, including sampling techniques, data collection instruments, and analytical approaches.

Chapter Four presents statistical analyses of the quantitative data and thematic analyses of qualitative responses, highlighting patterns and significant findings.

Chapter Five discusses these findings in relation to the research questions and the existing body of literature.

Chapter Six concludes the study by summarizing key findings, discussing their theoretical and practical implications, acknowledging limitations, and offering recommendations for improving visual literacy education in Chinese higher education institutions. It also proposes directions for future research in this area.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the literature about visual literacy and visual communication design. It also examines the previous research literature related to visual literacy and students, analysing and discussing the strengths, weaknesses, research methodologies, and future research directions of this literature. Furthermore, the theoretical framework employed in this study and the reasoning behind its use will also be presented. This chapter aims to provide a comprehensive review of the literature, highlighting the main findings and identifying the gaps in the research. The review is conducted systematically and rigorously, using a range of databases and search terms to ensure that all relevant studies are included. The strengths and limitations of the studies are evaluated, and the implications for practice and future research are also discussed.

2.2 Visual Literacy

In the current era of rapid digital advancements, visual content has become ubiquitous in our daily lives and academic and professional domains. Individuals must possess a strong visual literacy competency set to effectively communicate with visual information (Nalinci & Yapıcı, 2015). The development of visual literacy competencies has emerged as a crucial facet of 21st-century competencies. Visual literacy emphasizes the ability to effectively comprehend and communicate visual information in the information age, encompassing both the capacity to interpret and produce visual information (Hidayah, 2023; Wieczorek-Tomaszewska, 2021). The

realm of visual literacy has expanded beyond its traditional confines in the arts to encompass advertising, media, the Internet, and everyday visual expression. A visually literate individual can identify and analyse the meanings conveyed by visual elements, such as colour, composition, symbols, and cultural context, and thus critically evaluate the reliability and intent of these messages (Zurita et al., 2023). Moreover, visual literacy entails creatively using visual tools to express ideas and emotions, enhancing individual and group communication. Considering the ongoing evolution of digital technology, mastering visual literacy skills has become increasingly important for comprehending and participating in contemporary society.

Since its inception, visual literacy has been a multidisciplinary field that has been extensively debated among researchers. It has been nurtured across various disciplines, including linguistics, psychology, philosophy, art studies, and communication studies, leading to diverse definitions with varying degrees of emphasis. Despite its long-standing history, academia has yet to reach a consensus on a universally accepted definition of visual literacy. The term “visual literacy” first appeared on a global scale in 1969. Debes (1969) pointed out that proficiency in visual literacy competency enables individuals to effectively convey their ideas to others and appreciate masterworks of visual art. By creatively applying these competencies, individuals can easily communicate their thoughts and ideas while also appreciating the visual beauty of artwork (Debes, 1969, p. 27). Since then, numerous scholars have persistently refined and modernized the concept of visual literacy.

Visual literacy enables individuals, when viewing visual stimuli such as films, to resist the urge to seek out hidden information, such as what lies beyond the screen (Hammet & Illick, 1971, p. 262). This underscores how visual literacy is primarily concerned with the perception of meaning and action. Curtiss (1987, p. 3) defines

visual literacy as the ability to comprehend and express oneself using visual statements in any medium. This involves understanding a visual work's subject matter and cultural context, analysing its compositional and stylistic elements, evaluating its merits, and intuitively grasping its Gestalt. Furthermore, ACRL (2011, p. 1) defines visual literacy as a set of abilities that enable individuals to effectively find, interpret, evaluate, use, and create images and visual media. Beier (2013, p. 37) establishes visual literacy as a strategy for decoding, interpreting, and understanding the visual world, analogous to reading or listening to a text.

In brief, visual literacy is a multifaceted concept that encompasses the ability to interpret, comprehend, and communicate through visual media such as images, films, and other visual works. It involves the capacity to grasp the meaning, context, and composition of visual works, as well as to evaluate their quality and produce visual content. A critical omission in many Western definitions of visual literacy is the lack of acknowledgment of cultural variability in visual meaning-making. Scholars like Kędra (2018) note that "visual literacy is always culturally specific" (p. 73), yet most definitions portray it as culturally neutral. This universalizing tendency overlooks the ways in which cultural contexts influence visual interpretation and production. The resulting contradictions and tensions in visual literacy terminology have significant implications for both research and practice. In the absence of a consistent conceptual foundation, assessment methods vary widely, making it difficult to compare findings across studies. The adoption of a particular definition inevitably privileges certain aspects of visual literacy while potentially marginalizing others. As Avgerinou and Pettersson (2011) argue, "The lack of consensus about the definition of visual literacy in the profession means that researchers frequently propose unique visual literacy definitions to match their research purposes" (p. 5).