

## ARTICLE

## Enhancing cultural cognition in handicrafts through short video strategies

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## Abstract

Digital technology is revolutionizing human relationships and lifestyles. Short video platforms are becoming essential channels for the dissemination of intangible cultural heritage (ICH). Traditional handicrafts represent a crucial element of ICH and are extremely culturally significant. However, short video contents generally focus on superficial production processes and neglects deeper cultural contexts. The cognitive schema theory can be leveraged to enhance the creation of short videos about traditional handicrafts and improve their practical value by aiming to intensify user understanding. The study methodology entailed a literature review, comparative analysis, participatory observation, and case analysis. A cognitive schema-based model was developed for video creation and validated through a case study on Guangcai porcelain. This model effectively organizes traditional handicraft knowledge and enhances cultural cognition through narrative and sensory design. The study findings deliver new theoretical and practical insights for the creation of short videos on traditional handicrafts and offer a reference for other cultural dissemination methods. Future research should explore the application of the cognitive schema theory across discrete cultural media channels to encourage innovation and expand the transmission of cultural heritage.

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**Keywords:** Cognitive schema theory; Traditional handicrafts; Short videos

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## 1. Introduction

Technological advancements are reshaping societal relationships and lifestyles in the current digital age, and short video platforms have become the primary means through which the public explores and appreciates intangible cultural heritage (ICH). China featured 1,557 national ICH projects by June 2022 with an impressive 99.74% representation on the Douyin platform. Videos showcasing these ICH projects have accumulated a staggering 372.6 billion views and garnered 9.4 billion likes.<sup>1</sup> China's diverse ICH categories range from folk literature, traditional music, and dance to traditional drama, storytelling, acrobatics, folk art, traditional crafts, traditional medicine, and folklore. Traditional handicrafts are notable as the most abundant among these classifications with 241 national-level projects. These traditional crafts embody the rich cultural elements of different eras, ethnicities, and regions and serve as vital carriers of ICH. Short videos represent popular tools for mobile information consumption. They offer users an active means of acquiring knowledge and introduce innovative channels for the transmission and preservation of traditional crafts

in modern societies.<sup>2</sup> However, the contents of short videos on traditional crafts currently tend to focus on the delivery of surface-level information. Often, they entail simplistic demonstrations of craft-making processes and lack any in-depth explorations of their cultural significance.<sup>3</sup> Recent studies have highlighted the potential of short videos to engage audiences and enhance cultural understanding. However, the extant studies also reveal a notable gap: most short videos on traditional handicrafts emphasize visual appeal and entertainment over educational content; thus, they do not convey the intricate cultural narratives and skills inherent in these crafts.<sup>4</sup> This gap underscores the need for innovative approaches that enrich cultural content and engagement by integrating educational frameworks into short video production.

This study addresses this gap by leveraging the cognitive schema theory, which posits that individuals organize and interpret information based on pre-existing cognitive structures. According to cognitive psychology, the application of cognitive models can assist users in constructing knowledge networks. In particular, cognitive schemas can significantly enhance cognitive efficiency in the digital age.<sup>5</sup> This study applies the cognitive schema theory to the creation of short videos about traditional handicrafts. In so doing, it aims to deepen user understanding and enhance the practical value of such videos in preserving and promoting traditional crafts.

The diagram in Figure 1 overviews the principal segments of the study, displays the interrelationships between them, and elucidates the research rationale, intending to enhance the coherence and overall structure of the study. The concept definition section establishes the key terms used throughout the paper. Next, the data acquisition subdivision details the foundational data sources and outlines the methods of collecting them. The core issues addressed by the study are identified in the problem statement column, and the creation strategy section presents the proposed solutions. Subsequently, the design practice portion validates these strategies using practical examples. Finally, the discussion and conclusions

section summarizes the key findings and explores future research directions and potential applications. The study methodology entails a comprehensive literature review, comparative analysis, participant observation, and case analysis. A cognitive schema-based model is constructed for the creation of short videos and is validated through a case study on Guangcai porcelain, a historically significant traditional Chinese craft renowned for its intricate designs.<sup>6</sup>

This study contributes to the literature on the preservation of cultural heritage by providing a structured approach to the enhancement of the contents of short videos on traditional handicrafts. The proposed model integrates the cognitive schema theory into video production and offers theoretical and practical insights that can be applied to varied cultural dissemination methods. The findings of this study produce significant implications for content creators, educators, and cultural heritage professionals seeking to leverage digital media to impart education and facilitate the preservation of cultural inheritances.

## 2. Data and methods

### 2.1. Definition of short videos on traditional handicrafts

According to the *China Short Video Market Research Report*,<sup>7</sup> the industry defines a short video as a new video format that does not exceed 20 min in length. This format relies on mobile smart devices for filming, editing, uploading, and playback. It also features instant sharing and interaction functionalities on social media platforms. Based on this definition, short videos on traditional handicrafts can generally be described as video content related to the culture of traditional handicrafts and disseminated to the public through short video platforms by a diverse array of communicators including government agencies, relevant organizations, artisans, and the general public.

### 2.2. Data collection and participants

This study employed participatory observation and content analysis to analyze the content characteristics

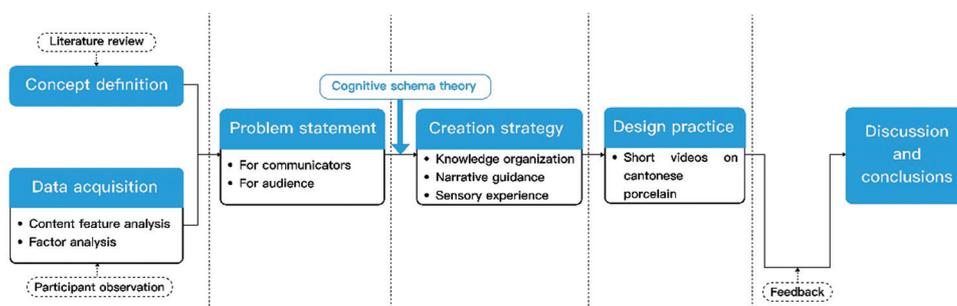


Figure 1. Research Framework. Image created by the authors.

and presentation methods of existing short videos on traditional handicrafts. The principal researcher spent 1 – 2 h daily viewing short videos related to traditional handicrafts on the Douyin platform. Douyin was selected as the primary source of the study samples because it has become the predominant hub for traditional handicraft short videos.<sup>8</sup> The platform hosts specialized accounts focusing on specific traditional crafts and includes comprehensive accounts introducing discrete traditional crafts. In addition, Douyin features a diverse array of content creators, both professional and amateur.

**2.2.1. Sample selection**

The “Revitalization Plan for Traditional Crafts of China” defines traditional handicrafts as crafts and products that possess historical heritage, reflect ethnic or local characteristics, are closely related to daily life, and rely primarily on manual techniques for their production. These crafts exhibit unique creativity and personalized production and cannot be replaced by industrial manufacturing. Thirty keywords were selected based on this definition and on popular traditional handicraft categories listed in the “Douyin ICH Data Report” (2022).<sup>1</sup> Table 1 presents the selected categories, which included clay figurines, sugar figurines, dough figurines, and bamboo weaving.

The Douyin platform restricted the viewing of 277 videos. Therefore, the Newrank data platform was utilized for the sample selection to overcome the search limitations of Douyin. Newrank lists the top 500 videos for each keyword in descending order of likes, and the search conducted for this study resulted in a total of 15,000 video samples. A systematic sampling method was applied to ensure a scientifically objective sample selection and every fifth video was selected to obtain 100 videos per keyword. This process produced 3,000 valid video samples.

**2.2.2. Category construction**

The academic community has adopted varied perspectives on the classification of short videos featuring traditional handicrafts. Scholars such as Sun Ziping and Fan Chuanguo<sup>3</sup> have conducted intensive observations and analyses of short videos on platforms such as Douyin, Kuaishou, and Weishi and have classified such videos based on their thematic content into daily records, craft documentaries, and narrative exhibitions. Another group of scholars has followed Wang Jushan’s<sup>9</sup> classification method for visual ICH artifacts and has followed the creative approach perspective to categorize ICH-related short videos into primary, secondary, and embedded types.

This study conducted participatory observations of traditional handicraft short videos on the Douyin platform and integrated the stated classification methods to posit the three major content-based categories shown in Table 2. It thus grouped short videos on traditional handicrafts as emotion-triggering, purpose-oriented, and innovation-presenting.

**2.2.3. Data analysis and results**

The corresponding author and two graduate students accomplished the coding process, before which the corresponding author trained the coders and clarified the tasks and other details apropos the coding process. The coding was conducted intensively from March to May 2023 to ensure consistency and quality and enable the coders to adhere to identical standards and methodologies. The three coders collaboratively reviewed any disputed coding results to achieve consensus. Table 3 shows the unique characteristics of the three categories of short videos on traditional handicrafts as highlighted by the results obtained from the study’s video coding analysis.

**Table 1. Keywords for observational sample collection**

No.	Keyword	No.	Keyword	No.	Keyword
01	Clay figurines	11	Kesi weaving	21	Fan-making craft
02	Sugar figurines	12	Guangcai porcelain	22	Traditional papermaking
03	Dough figurines	13	Blue-and-white porcelain	23	Papercutting
04	Bamboo weaving	14	Jian ware	24	Thangka
05	Wood carving	15	Cloisonné	25	Iron painting forging
06	Stone carving	16	Miao silver forging	26	Sugar painting
07	Leather carving	17	Filigree and inlay	27	Cork painting
08	Nut carving	18	Batik	28	Mortise and tenon joint
09	Suzhou embroidery	19	Oil-paper umbrella	29	Traditional furniture making
10	Brewing techniques	20	Velvet flowers	30	Traditional incense making

**Table 2. Coding and definitions of short video samples on traditional handicrafts**

Category	Subcategory	Definition
A. Emotion- triggering	A1. Celebrity-related	Video content combined with pop culture or socially trending topics to evoke certain emotions in viewers and thus create a closer connection with them
	A2. Film and television-related	
	A3. Hot news-related	
	A4. Motivating words-related	
B. Purpose-oriented	B1. Outcome-focused	Video content showcasing craft items and their derivatives
	B2. Process-focused	Video content elucidating the processes of making craft items
	B3. Economics-focused	Video content aimed at selling traditional handicrafts and their derivatives
	B4. Tutorial-focused	Video content offering targeted step-by-step explanations of the craft
	B5. Narrative-focused	Video content providing a comprehensive introduction to traditional handicrafts
C. Innovation-presenting	C1. Innovation-focused	Video content displayed using creative techniques
	C2. Plot performance-focused	Video content featuring simple plot performances intended to garner audience sympathy for traditional handicrafts or craftsmen

**Table 3. Content-based classifications of short videos on traditional handicrafts and their respective proportions**

Category	Number and subcategory	Sample size	Proportion (%)
A. Emotion-triggering	A1. Celebrity-related	120	4.0
	A2. Film and television-related	111	3.7
	A3. Hot news-related	113	3.7
	A4. Motivating words-related	317	10.5
B. Purpose-oriented	B1. Outcome-focused	1,317	43.9
	B2. Process-focused	1,654	55.1
	B3. Economics-focused	399	13.3
	B4. Tutorial-focused	168	5.6
	B5. Narrative-focused	756	25.2
C. Innovation-presenting	C1. Innovation-focused	827	27.6
	C2. Plot-performances-focused	133	4.4

Note: Generally, individual short videos on traditional handicrafts tended to incorporate rich content; thus, overlaps or repetitions were common in the classification of the study samples.

**2.3. Content-based classifications of short videos on traditional handicrafts**

**2.3.1. Emotion-triggering**

Creators of this type of video aim to evoke specific emotions in the audience, fostering a closer connection with viewers and quickly garnering significant attention. For example, the wood carving artist Lu Zhengyi transforms blocks of wood into iconic anime characters on Douyin with anime music playing in the background. Thus, traditional handcrafted items become carriers of anime imagery, which establishes an emotional bond with the audience and results in widespread attention for the ICH practitioner. From a communication studies perspective,

audience engagement is central to media competition. Social hotspots and entertaining content can pivotally attract traffic in the current fast-paced media environment due to their high entertainment value and sensory appeal. Emotion-triggering videos accounted for around one-fifth of the study sample and were significantly more popular than other categories, indicating that traditional artisans tend to enhance the visual appeal and entertainment value of their videos. However, the pursuit of highly stimulating content for such videos can sometimes cause their cultural depth and artistic value to diminish. Thus, this trend toward entertainment could undermine the original objective of cultural preservation and could lead to public misunderstanding of the cultural inheritance.<sup>10</sup>

**2.3.2. Purpose-oriented**

Purpose-oriented videos are created to achieve specific goals, including showcasing (B1, B2), commercial monetization (B3), and education (B4, B5). The first subcategory of showcasing videos is closely connected to the production of traditional handicrafts. These videos typically document crafting processes or depict finished products using the documentary style.

The second subcategory of commercial videos primarily exhibits traditional handicrafts and their derivatives to attain economic value. Such videos often include links to products or announce live stream schedules. This subcategory accounts for 13.3% of the total video samples and reflects the trend toward the marketization and popularization of traditional handicrafts.

Educational videos comprise the third subcategory. These videos simplify the crafting process or provide a detailed breakdown of the steps entailed in the creation of the concerned craft. Thus, they make it easier for

viewers to understand and participate in the creation of traditional handicrafts. For instance, Wang Lanying is a representative inheritor of the ICH of Chiping papercutting from Shandong province. She selects relatively simple papercutting designs and films methods and processes step-by-step, clearly detailing aspects such as paper preparation, sketching, folding, and cutting (Figure 2). This approach encourages viewers to actively engage in the papercutting art experience.

In addition, videos focusing on disseminating knowledge about traditional handicraft culture are predominantly produced by local governments, ICH transmission centers, and professional multichannel networks. This study’s analysis of the collected sample data indicates that such videos constitute more than a quarter of all purpose-oriented videos and concentrate principally on comprehensively introducing traditional handicraft culture and presenting accounts of their transmission. Such short videos are extremely high quality and exhibit high production standards. They resemble mini-documentaries and utilize professional-level filming techniques and camera work to deliver visual experiences.

Overall, the core contents of short videos on traditional handicrafts primarily entail craft demonstrations and the dissemination of cultural knowledge. Videos produced by artisans tend to focus on the authenticity of traditional crafts and aim to convey the intrinsic value of the handicrafts. In contrast, official production agencies emphasize the atmosphere, refine narratives to achieve artistic effects, and present traditional handicraft culture from wider perspectives. Both approaches share the goal of directly showcasing the essence of traditional handicrafts in limited

time frames. However, traditional handicraft culture must be deconstructed and fragmented to align with the fast-paced nature of short videos. Such disintegrated depictions can result in superficial and disjointed representations of cultural content.

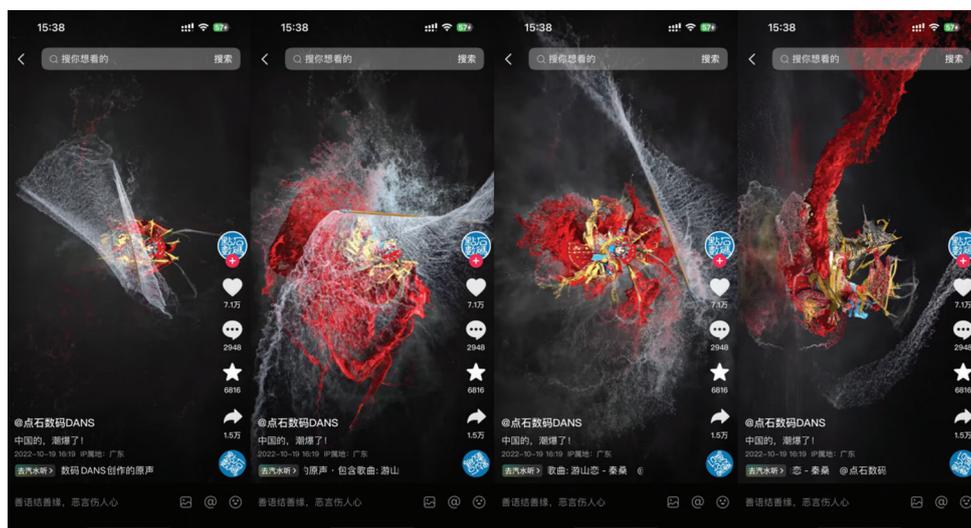
2.3.3. Innovation-presenting

Videos designated to this category are extremely inventive and feature novel expositions. Technology-enhanced presentation methods reflect a pioneering aspect of such videos. The rapid proliferation and ongoing evolution of 5G technology have fostered the emergence of “panvideo” and “supervideo” short video dissemination models that incorporate diverse and layered interactive design elements. These components include animation effects, prop stickers, background music, and community topics and inspire unique online audiovisual formats. For instance, Dian Shi Digital’s 2022 animation video “Prosperity Returns, See Chang’an Again” utilized motion capture and special effects computing to disperse the colors of the Peking Opera costumes through the movements of the actors, merging them with liquid paint flows (Figure 3). This esthetically pleasing short video became quite popular on Douyin’s trending list.

The innovation-presenting category of short videos also explores novel narrative methods to resonate emotionally with viewers: for instance, they employ plot performances to depict the creation processes of handicrafts and highlight their problem-solving abilities. These videos often adopt the conflict–resolution–happy ending narrative structure and augment their visual appeal through ensemble performances. However, the strategy of intensifying



Figure 2. Short video tutorial on papercutting by Wang Lanying. Reprinted with permission of Wang Lanying. <https://v.douyin.com/iATc7FMB/xFU/06/28h@B.GI>



**Figure 3.** Screenshot from the short video “Prosperity Returns, See Chang’an Again”. Reprinted with permission of Shenzhen Dianshi Digital Technology Co., Ltd. <https://v.douyin.com/iATTUK8t/05/27> can:/O@X.Mw

emotional appeal by means such as portraying suffering to elicit sympathy can cause polarized interpretations by the audience. For instance, the Douyin account Deshan Handicraft Shop (Douyin ID: V\_31701414) features videos that often depict elderly individuals in worn clothing making handicrafts with voiceovers such as “Old man, stop doing this; no one will care about you.” Such videos are meant to attract audience attention but can provoke adverse reactions. Audience comments on such videos reveal their displeasure: some viewers of one such video have suggested that it would collect likes in larger numbers if the voice-over was removed; others have claimed that the more the voice-over discourages, the less they want to engage. Such excessive manipulation to grab viewer attention through emotional exploitation undermines the content quality; it also risks fostering negative perceptions of traditional handicraft.

## 2.4. Composition and design elements of short videos on traditional handicrafts

### 2.4.1. Thematic elements

Thematic elements encompass the titles and central messages of short videos; they establish the direction and focal point of content dissemination. From the perspective of communication studies, the titles of videos are crafted with precision and care. They serve as a primary tool for attracting audience attention and significantly shape the initial perceptions of the video content. In addition, the titles act as vital channels of knowledge dissemination. Moreover, they function as cultural tags in the domain of self-media and help users navigate and identify specific content from the vast flow of video information. Thus,

titles are pivotal to the ways in which users discover and engage with short videos.

### 2.4.2. Structural elements

The structural elements of short videos on traditional handicrafts encompass their systematic arrangement and presentation of contents related to the knowledge of traditional handicrafts knowledge. Logical and coherent connections must exist between information presented in discrete videos. Essentially, the designing of structural elements entails presenting the complex knowledge systems of traditional handicrafts to viewers in clear and easily understandable forms. Given the characteristics of short videos, the structural elements include the selection and arrangement of traditional handicraft knowledge points as well as the cognition of how this knowledge can be effectively conveyed in a limited time.

### 2.4.3. Narrative elements

Narrative elements function crucially to organize and present video content in a manner that enhances the effectiveness of information transmission. Thus, they incorporate aspects such as narrative structures and perspectives. Narrative structures dictate how handicraft-related knowledge is organized in a video. For example, a linear narrative structure would unfold chronologically and thus help viewers better and more logically grasp the evolution of handicraft culture. More complex narrative structures such as accounts that are multiline or include flashbacks can reveal the multidimensionality and nuances of handicraft-related knowledge and can thus enrich the experiential understanding of viewers.

Narrative perspectives influence how viewers subjectively experience and perceive video content. A first-person anthropomorphic perspective can provide an immersive experience, foster emotional engagement, and inculcate a sense of identification. In contrast, a third-person perspective can yield a broader view and allow viewers to understand the cultural and technical backgrounds of crafts from an objective standpoint, enhancing the authority and persuasiveness of the content.

#### **2.4.4. Representational elements**

The representational elements of the short videos primarily include visual and auditory components. Visual elements include video thumbnail designs, color usage, and the layout of images and text labels (subtitles). These elements collectively enhance the visual perceptions of viewers, guide their attention, and increase the legibility and appeal of the presented information. Auditory elements such as voiceovers, background music, and environmental sounds create the atmosphere of the video. They engage viewers emotionally through their sound-related nuances and variations and add narrative unity and depth.

### **3. Problem statement**

Representing traditional handicraft culture through the medium of short videos has evolved into a novel artistic form. This transformation reflects the efforts of the creators of such videos to align their content with the unique characteristics of the dissemination channels and audience preferences related to short videos.<sup>11</sup> This study's participatory observation identified significant variability in the quality of current traditional handicraft videos. Commonly detected issues included excessive focus on entertainment-driven narrative styles, fragmented content, and homogenized video formats.

Information dissemination and cultural sharing represent the core attributes of short videos on traditional handicrafts. The current state of such videos remains suboptimal despite technological advancements facilitating content creation. This situation highlights a critical issue for in-depth analysis: how can technological innovation be sustained while ensuring that videos effectively transmit the cultural values of traditional handicrafts without sacrificing their cultural depth? The sections that follow will exhaustively explore such challenges and propose potential strategies to address them.

#### **3.1. Communicators: A lack of effective cultural expression**

Short video narratives on traditional handicrafts function as key communicators in the process of preserving and conveying the value of ICH artifacts.<sup>10</sup> At present,

the generated content significantly lacks the effective articulation of cultural value. In terms of Wang Jushan's classification<sup>11</sup> of ICH imagery, the currently disseminated traditional handicraft short videos can be categorized as original, derivative, and integrated.

Original creations strive to authentically represent traditional crafts. They focus on skill demonstrations and exploit behind-the-scenes narrative strategies to succinctly showcase the essence of traditional crafts in limited timeframes. However, traditional craft culture must be dissected and distilled to adapt to the concise rhythm typical of short videos. Thus, the cultural content depicted in the imagery of such videos often appears shallow and fragmented.

Derivative creations often blend storytelling with elements of popular culture or topical social issues to better connect with audiences. For instance, creators such as the woodcarving artisan Lu Zhengyi on platforms like Douyin sculpt iconic anime characters from wood to anime soundtracks to establish emotional ties with viewers and attract their interest. The broad entertainment appeal of this approach can divert from the fundamental goal of safeguarding ICH and risks the audience misinterpreting the cultural value of the showcased artifacts.<sup>12</sup>

Integrated creations are designed to elicit viral dissemination through the use of inventive strategies exemplified by videos such as Li Ziqi's "Brush, Ink, Paper, and Inkstone" series. These videos leverage traditional crafts such as papermaking and ink production to craft spaces filled with poetic serenity and evoke images of an idealistic haven. This subtle yet profound technique helps audiences engage deeply with the intended cultural narratives. Nonetheless, the popularity of such videos can result in their adoption as standard models for audiovisual creation and can spawn waves of very similar and standardized short videos on traditional handicrafts. Such uniformity threatens the diversity of creative expression and innovation and undermines the positive and sustainable evolution of cultural legacies.<sup>13</sup>

#### **3.2. Audiences: The impediment in the cognitive process of information**

From the cognitive psychology perspective, the act of viewing videos by audiences entails interactive engagement with the contents of short videos on traditional handicrafts so viewers can build suitable cognitive frameworks. Such interactions encompass psychological phenomena such as sensation, attention, memory, and reasoning. Accurate cognition is unattainable if any of these elements are compromised.<sup>14</sup> Attentional barriers predominate: consuming information demands viewer attention, and

information accumulation naturally results in attention deficits. Viewers must navigate a range of information as they immerse themselves in short videos on traditional handicrafts. Thus, their attention is often divided, and their focus shifts between the myriad snippets of knowledge. Many viewers are reluctant to engage in comprehensive and intensive analyses and resort to passive “scrolling activities,” which cause the cultivation of superficial, stackable consumption patterns in reading, learning, and thinking and obstruct the acquisition of meaningful knowledge.<sup>15</sup>

Memory constraints represent the second major hurdle. The varied presentation styles of short videos offer viewers a wealth of sensory stimuli but also challenge the finite capacities of the short-term memories of audiences. The fragmented structure and absence of logical flow of short videos on traditional handicrafts significantly complicate the processes of integrating new information with the pre-existing knowledge bases of viewers. Such situations can cause misinterpretations because non-linear information structures can induce confusion and lead viewers to derive inaccurate conclusions or construct fabrications during the knowledge assimilation process.<sup>14</sup> Such obstacles can also provoke misunderstandings as audiences fail to comprehensively comprehend contexts, erroneously equate pieces of cultural information with the whole, or accept incomplete knowledge as absolute truth. This segmented approach to information processing relies on short-term memory and thus obstructs the cognitive processing of information. It erodes thorough cultural understanding and weakens the systematic structures of cultural knowledge, adversely affecting the evolution of traditional handicraft.

#### 4. Integration of cognitive schema theory and short video creation

German philosopher Immanuel Kant posited the concept of schema,<sup>16</sup> emphasizing that schemas act as connectors between concepts and sensory objects. He postulated that concepts were themselves meaningless unless they were linked to familiar knowledge. British psychologist Frederic Bartlett further developed the notion of cognitive schemas in the 1930s in his book *Remembering*,<sup>17</sup> describing them as the brain’s active reconstructions of past reactions or experiences. This framework elucidates how information functions in knowledge bases and outlines how individuals integrate new information. Swiss psychologist Jean Piaget later underscored the importance of cognitive schemas in his cognitive development theory.<sup>18</sup> He presented the cognitive process as a pattern-matching exercise rooted in prior experiences rather than mere acts of inputting, storing, and retrieving data. The development of cognitive schemas

streamlines the acquisition of new knowledge. This theory has recently been applied in diverse fields. For example, Tingting Cui *et al.* used the schema theory to devise a three-phase microlecture teaching model to address language erosion in contemporary microlecture formats.<sup>19</sup> Yue Xin and Yijiao Wang<sup>20,21</sup> demonstrated the positive impact of the cognitive schema theory on improving book forms and enhancing the reading efficiency of readers. Such findings have affirmed the efficacy of the schema theory in enhancing learning efficiencies, enriching knowledge bases, and optimizing learning.

The ongoing advancement of the cognitive schema theory opens innovative avenues for its application to the learning of traditional crafts and the designing of short videos on traditional handicrafts.

#### 4.1. Analysis of the theoretical principles

Cognitive psychology suggests that individuals undergo a specific “processing” stage when they grasp new information or concepts.<sup>22</sup> The schema theory includes both bottom-up and top-down processing modes and effectively elucidates this processing path (Figure 4).<sup>23</sup> The aim of crafting content for short videos on traditional handicrafts is to visually convey and share cultural content with audiences by focusing primarily on the efficient distribution of extensive data systems that underpin traditional handicraft. The utilization of cognitive schema processing techniques can facilitate the unraveling of the cognitive mechanisms that inform traditional handicraft culture, provide essential insights, and offer theoretical support for the exploration and evaluation of creative approaches to the production of short videos on traditional handicrafts. Investigating the functioning of the cognitive schema theory in the development of such videos can enhance scholarly

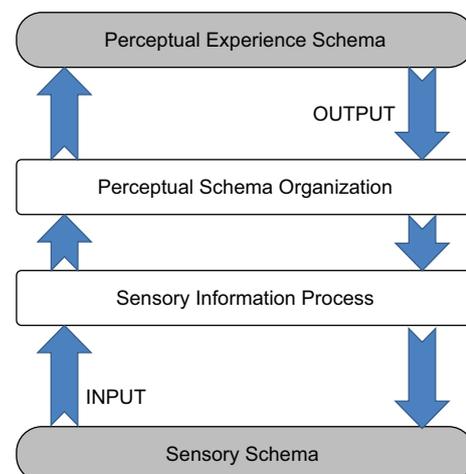


Figure 4. Top-down and bottom-up cognitive schema processing. Image created by the authors.

comprehension of how audiences interpret and assimilate cultural content. This approach would enable creators to formulate more impactful communication strategies and deepen audience engagement with and appreciation for the intricate meanings embedded in traditional handicraft culture, and thus advance the objectives of cultural preservation and widespread understanding.

#### 4.1.1. Top-down cognitive schema of traditional handicrafts

The top-down processing model crucially shapes the cognitive schema for traditional crafts, leveraging the existing knowledge and experiences of individuals to help them assimilate and interpret new external information or stimuli into their cognitive frameworks.<sup>24</sup> For instance, viewers automatically tap into their knowledge and prior experiences with the ceramic arts when they first view a video on blue-and-white porcelain craftsmanship. Viewers can assimilate and accommodate the contents of the video based on their current experiential schemas even if they lack substantive familiarity with blue-and-white porcelain and can thus form a new understanding and appreciation for the craft. This model allows viewers to progressively refine and enhance their cognitive schemas as they delve deeper into related content. Therefore, content creators should align their presentations and integrate material with the cognitive patterns of their audiences to ensure effective knowledge uptake and conceptual transformations. For example, grouping similar concepts in demonstrating the processes involved in creating blue-and-white porcelain can help video creators establish a knowledge hierarchy ranging from fundamental to more sophisticated schemas. This strategy would facilitate a more profound audience grasp and assimilation of the craft's intricacies and foster the development of a comprehensive and organized knowledge framework in the minds of viewers.

#### 4.1.2. Bottom-up cognitive schema of traditional handicrafts

The bottom-up processing model entails the extraction of nuanced information elements from the data realm by cognitive agents. These elements must be amalgamated into diverse forms to develop perceptual schemas. For instance, viewers integrate data related to the nuances associated with blue-and-white porcelain to deduce knowledge about it: for instance, its shapes, colors, materials, tools, and distinctive crafting techniques (Figure 5). Traditional handicrafts often employ bottom-up cognitive schemas to facilitate feedback and assessment. For example, the appreciation of blue-and-white porcelain requires individuals to align incoming data with pre-existing mental knowledge structures for the interpretation and comprehension of their perceptions.

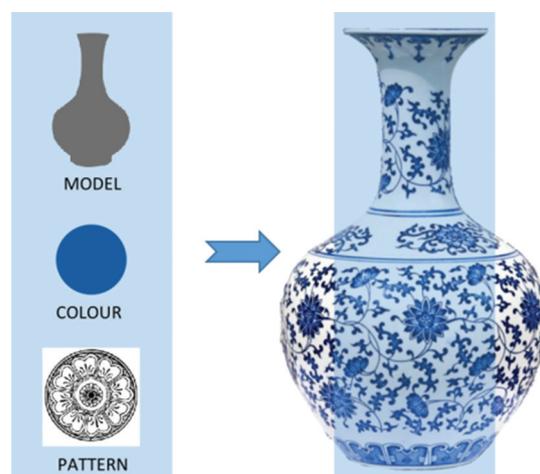


Figure 5. Bottom-up cognitive schema of blue-and-white porcelain. Image created by the authors.

Moreover, bottom-up cognitive schemas enable audiences to expand their knowledge. For example, creators of certain integrated short videos on traditional handicrafts blend the general schema of legacy crafts with personal experiential schemas to forge new design languages. Such efforts augment the schema repertoires of creators and enhance their grasp of traditional schemas. Consequently, creators should heed the perceptual feedback obtained from their viewers in making short videos on traditional handicrafts and steer viewers toward engaging in post-distribution activities such as critiquing and appreciating the creative designs of artifacts. Such practices help viewers formulate thorough, precise, and affirmative cognitive schemas and encourage a more profound recognition and valuation of traditional handicrafts. This strategy significantly boosts the dissemination efficacy and cultural resonance of traditional handicrafts in contemporary societies.

#### 4.2. Creation strategy for short videos on traditional handicrafts

Principally, the rationale for using the cognitive schema theory to guide the design of short videos vests in the ability of this framework to understand and target processes through which human beings process information, construct knowledge, and recall memories. The theory can thus be applied to design short video content that can enhance learning outcomes and viewer experiences by optimizing the organization, presentation, and audience interactions. Thematic, structural, narrative, and representational elements are crucial for short video design. These essential components are intricately linked to interventions based on cognitive schema theory and can be graded into three levels: knowledge organization, narrative guidance, and sensory experience.

Complex knowledge systems are simplified into units at the knowledge organization level to help audiences understand them easily. The logical and structured arrangement of knowledge enables viewers to build complete and consistent knowledge systems. Engaging descriptive content is used at the narrative guidance level to activate and adjust cognitive schemas. Specific scenarios and emotional elements are employed to reinforce the emotional resonance and memories of handicraft culture in viewers. The sensory experience level focuses on optimizing the material presentation of information through visual and auditory design aspects. This level stimulates specific cognitive schemas by deploying diverse audiovisual stimuli to augment the perception of the information by viewers.

#### **4.2.1. Knowledge organization: Designing a hierarchical knowledge structure to enhance the coherence of knowledge**

Traditional handicrafts are alluring due to their abundant diversity and intricate complexity. It is crucial to strategically categorize source materials when such crafts are adapted to digital video formats. Creative resources can be more efficiently pooled and integrated by classifying cultural contents into distinct groups based on their unique features<sup>25</sup> to enrich and structure the contents of short videos. Therefore, the cultural content of traditional handicrafts must be subjected to a structured analysis informed by memetics.<sup>26</sup> The term memetic theory<sup>9</sup> is derived from the biological concept of gene replication and this concept postulates that cultural systems and processes are akin to genetic evolution in terms of their continuity and iterations. This biological analogy can be utilized for the hierarchically segmenting cultural memes of traditional crafts into three tiers: external, intermediate, and internal. The external layer denotes the outer shell and showcases tangible aspects of the material culture: for instance, the colors, shapes, patterns, and histories of handicrafts. The intermediate layer acts as a conduit and represents practices and behaviors associated with traditional crafts: for example, their tools, materials, processes, and techniques. The internal layer forms the essence and encapsulates spiritual and value-based memes of the handicrafts.

These strata are hierarchically linked and the meme complexity escalates at each level. This methodical division and arrangement enable audiences to grasp the interconnectedness of piecemeal information. It increases the comprehension of viewers and facilitates the construction of an expansive knowledge framework related to traditional handicrafts.

In practical terms, serialized short videos can allow creators to develop a more systematic collection of traditional handicraft cultural knowledge. This approach

entails the strategic organization of content based on the conception of discrete categories of traditional handicrafts and their relevance over time.

#### **4.2.2. Narrative guidance: Multilinear narratives aligned with audience cognition**

The narrative structure of short videos on traditional handicrafts concerns how content is organized and categorized; it transcends simple content display and mirrors cognitive and decision-making processes. The contents of every video follow distinct narrative paths. The essential contents of short videos often blend elements such as video clips, images, and animations.<sup>27</sup> The order of presentation of such elements should be logical and should align with the traditional handicraft culture they represent. A coherent sequence aids audience immersion into the world of traditional crafts and precludes difficulties related to pacing, comprehension, or interest retention.<sup>28</sup> Thus, creators crafting short videos on traditional handicrafts are tasked with carefully designing narrative structures to ensure that their contents are captivating and comprehensible, and effectively communicate the profound value of the showcased handicraft culture.

#### **4.2.3. Sensory experience: Integrating presentation forms to enhance user experience**

First, the creation of video content in the present era of converged media mandates more than the mere transfer of videos across platforms<sup>29</sup> and requires an intensive grasp of interactive technologies. These technologies are advanced but creators must skillfully utilize them to enhance the format of short videos. They must integrate programming, interface design, and content strategy to comprehensively exploit the versatile and varied presentation benefits of short videos.<sup>30</sup>

Second, presentation styles significantly influence how audiences build cognitive schemas. Creators must carefully choose their presentation styles and align the distinct features of each style to the psychological schemas of their audiences. Different knowledge categories demand tailored presentation mediums due to the specificity of traditional handicraft knowledge. For instance, static displays are ideal for schemas related to patterns, dynamic formats are apt for schemas concerning historical knowledge, and active experiential approaches are apposite for schemas related to craft techniques.

## **5. Designing short videos on Cantonese porcelain**

This study focused on Guangcai porcelain<sup>31</sup> and developed a comprehensive series of short videos to validate the effectiveness of the previously described cognitive schema theory. The designing of the short videos on

Guangcai porcelain encompassed two facets: content and presentation.

### **5.1. Content design of the short videos on Guangcai porcelain**

#### **5.1.1. Collection of Guangcai porcelain cultural materials**

The systematic process of designing the contents of the short videos on Guangcai porcelain involved clustering cultural resources and organizing knowledge related to Guangcai porcelain. Initially, wide-ranging data including historical documents, artworks, production techniques, and cultural stories were collected on Guangcai porcelain. These collected cultural resources were then systematically organized and categorized, and disorganized data were transfigured into an orderly, easily comprehensible, and communicable knowledge system. Finally, the knowledge system of Guangcai porcelain traditional craftsmanship was defined to include aspects such as historical development, types of vessels, patterns and decorations, colors, practical tools, production processes, and the symbolic meanings of the elements of Guangcai porcelain.<sup>32</sup>

#### **5.1.2. Knowledge organization of the short videos on Guangcai porcelain**

The knowledge organization of the Guangcai porcelain short videos can be divided into three parts in accordance with the cognitive schema theory. The first section comprises explicit knowledge such as the history, patterns, colors, and forms of Guangcai porcelain. These aspects were categorized as the perceptual level of audience cognition. This segment aimed to schematically introduce a large amount of sensory-level traditional craft content to enable viewers to formulate initial impressions. Therefore, this stage focused on visual language, and information was presented through graphics, colors, symbols, and simplified visual elements to make it easily receivable and memorable.

The second segment attended to the techniques of crafting Guangcai porcelain to interactively reinforce understanding of traditional craftsmanship tools and techniques and engage viewers. This segment incorporated collaborative video formats to enable representational cognition in viewers. Viewers could click on discrete options and follow branching narratives to explore varied details of the porcelain-making process. Such simulated operations allowed viewers to experience the production process in a virtual context and aided their comprehension of complex technical features.

The third division entailed the final stage of the cognitive process and intended to enable viewers to utilize the knowledge they had acquired from the initial stages of

sensory introduction and behavioral simulation. Viewers could then transform the accumulated information into personal and applicable understanding and creativity. In this segment, viewers grasped the deeper cultural meanings and spiritual connotations of Guangcai porcelain through appreciation and were guided to engage in personalized creations across platforms after the video ended. This approach enhanced viewer comprehension of the Guangcai porcelain culture and helped them shape personal cognitive impressions of this craft form.

### **5.2. Design and production of the short videos on Guangcai porcelain**

#### **5.2.1. Script creation**

The previously outlined knowledge organization pertaining to Guangcai porcelain was utilized to design and create a series of short videos that collectively constructed a comprehensive framework for the comprehension of the Guangcai porcelain culture. The initial phase focused on using highly visual language to present perceptual content including the historical development, vibrant colors, intricate patterns, and discrete forms of Guangcai porcelain. The intermediate phase employed an intellectual property (IP) storytelling<sup>33</sup> approach combined with interactive video formats to direct the audience to grasp the craftsmanship techniques of Guangcai porcelain and foster learning through emotional resonance. The advanced phase centered on the appreciation of classic works and the interpretation of the symbolic significations of Guangcai porcelain. Links to custom mini programs were also embedded at the end of the videos in this phase, offering viewers an entry point for personalized customization and thus enhancing their overall apprehension of the Guangcai porcelain culture.

#### **5.2.2. Filming and design of visual elements**

The main visual content of the videos featured Guangdong Provincial Ceramic Art Master Ms. He Lifen, a Guangdong Provincial representative inheritor of the national ICH project of Guangcai porcelain firing techniques. Ms. He has accumulated profound expertise and extensive experience in the field of Guangcai porcelain and personally demonstrated the entire process of Guangcai porcelain firing techniques.

The application of this design incorporated virtual schematic techniques in addition to live-action shooting. Shades of gold and flax were selected as the primary colors for the short videos on Guangcai porcelain (Figure 6), reflecting the traditional esthetics of Guangcai porcelain and creating a warm yet solemn visual atmosphere. This approach enhanced the emotional resonance and cultural

identification of viewers.<sup>34</sup> These colors were consistently applied throughout the schematic visual elements of the videos, ensuring overall visual unity and harmony. A flat style was utilized for the design of visual elements: elements were extracted from Guangcai porcelain patterns and the author’s subjective understanding and perception of the Guangcai porcelain culture was incorporated to create a series of stylized visual patterns and elements.

In addition, a mind map-like visual language was employed for content previews to enable viewers to quickly grasp the overall structure and core information presented in the videos. Pause screens were inserted at key turning points to signal upcoming content changes and give viewers some time to reflect and process information. These transition pages optimized the narrative flow and strengthened cognitive scaffolding. Thus, they aided viewers in understanding and absorbing the complex techniques or important cultural information presented in the videos (Figure 7).

A knowledge summary was provided in question format at the end of every video, to allow viewers to review the content and to reinforce the cognitive effects of the

video by stimulating recall and reflection. The summary also encompassed a preview of the next video in the series to spark curiosity and anticipation in viewers. The previews were designed to resemble trailers of television series. This approach effectively encouraged continued engagement, enhanced the coherence of the video series, and increased viewer participation.

The refined construction of visual language was based on the strategy of enhancing the cultural expressiveness of visual elements at the sensory experience level. This strategy facilitated the effective transmission of the cultural connotations of Guangcai porcelain and attracted the attention of the younger generation.<sup>34</sup> The cover design integrated the imagery of Guangcai porcelain with handwritten calligraphy to convey the unique cultural charm and artistic value of this craft form (Figure 8). Backgrounds and texts were integrated to introduce scrolls, brushes, and porcelain shapes for subtitle designs. Thus, clear visual symbols were established for different content segments to achieve precise information transmission and increase visual appeal. Moreover, lightweight design elements such as frosted glass effects were cleverly incorporated to endow the subtitles with an elegant and



Figure 6. Colors and graphic designs utilized for the short videos. Image created by the authors.

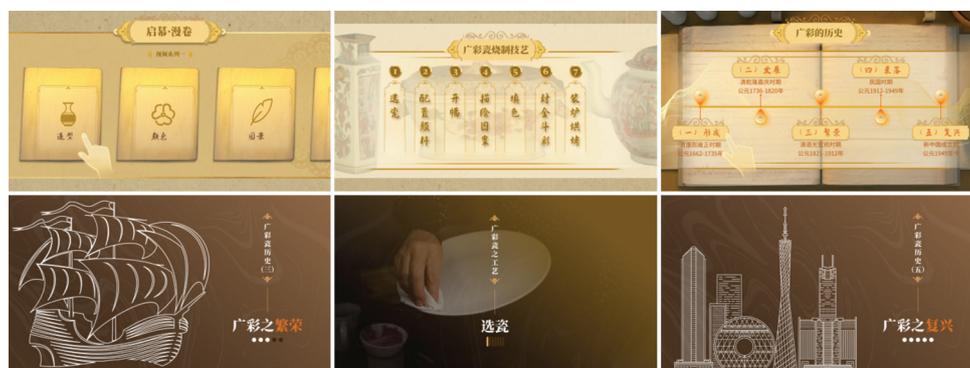


Figure 7. Visual designs employed in the short videos. Image created by the authors.



Figure 8. Design of the cover and subtitles for the short videos on Guangcai porcelain. Image created by the authors.

translucent esthetic. This design strategy resonated with the esthetic preferences of younger viewers while reflecting a profound grasp of modern esthetic demands vis-à-vis the dissemination of traditional culture.

### 5.2.3. Video editing

The post-production phase emphasized the voice-over narration, sound effects, and color grading. The soundtracks of the videos featured Chinese classical instrumental performances to enhance the historical and artistic milieu of Guangcai porcelain culture. Upbeat background music was used to evoke emotional responses from the audience. Cantonese was used for the voice-over narration because it signified the language of the birthplace of Guangcai porcelain, aligned with the regional cultural characteristics of this craft form, and established an authentic cultural atmosphere in the videos.<sup>35</sup>

The sound effects were meticulously categorized as authentic scene sounds and emotional sound patterns. Authentic scene sounds included auditory elements such as a brush dipping in water, porcelain clinking, and fire burning to realistically resemble the process of Guangcai porcelain-making. Such sounds allowed audiences to experience auditory details in sync with visual content. Emotional sound patterns were intended to arouse feelings and were particularly employed in interactive video segments. Positive or negative feedback sounds were introduced in such sections to reinforce the emotional engagement and enhance the interactive experience of viewers.

Visual adjustments aimed primarily to ensure that all video materials were visually congruent with the overall styles and tones of the short videos on Guangcai porcelain and could thus ameliorate the viewing experience. For instance, color correction was necessary to adjust cool-toned footage to match the overall style if the raw footage displayed cooler color tones while the overall video style tended toward warmer hues. This approach prevented inconsistencies in color styles that could disrupt the viewing experience. Any unnecessary or distracting elements in the footage were also addressed by using the repair or cover-up

features of the editing software to ensure visual clarity and focus on the thematic content.

Motion effects were employed to add a new dimension to the videos. Thus, static images or elements were imbued with dynamic effects to augment the visual impact and amplify expressiveness. The application of dynamic effects such as animated subtitles, transition effects, and graphic animations made the visuals more engaging and provided additional creative space for storytelling. For example, motion effects were utilized in illustrating the Guangcai porcelain crafting process to simulate brush movements on porcelain or animate firing changes. This technique increased information delivery efficiency and significantly ameliorated the appeal and educational value of the contents of the videos.

## 5.3. Short video presentations and feedback

### 5.3.1. Video series 1

This section of videos (Figure 9) attended to the core concepts of the Guangcai porcelain knowledge base. It aimed to create experiences that could guide users through the vast knowledge structures of Guangcai porcelain while coherently connecting sensory knowledge content in a manner that aligned with the pre-existing schemas of viewers to facilitate their speedy apprehension of the video themes.

An overview of the video was provided before the actual content was presented so that viewers could grasp the general theme and structure of the video. This method effectively activated their cognitive schemas and helped them rapidly comprehend and retain the showcased craftsmanship process. A combination of 3D animation and text-graphic presentation was used to introduce historical contexts and technical terms to simplify information delivery and reduce cognitive load.

Moreover, IP characters and expert narrative perspectives were integrated at the beginning of the video to attract viewer attention and ensure engagement through lively imagery. Thus, viewers were guided into the narrative content to intensify their understanding of cultural



Figure 9. Selected frames from series 1 of the short videos on Guangcai porcelain. Image created by the authors.

connotations. Expert perspectives included firsthand accounts from traditional craftsmen and were interspersed throughout the videos to enhance the authority and authenticity of the contents.

Finally, knowledge summaries and review questions encouraged viewers to recall the contents of the videos, ensuring that viewers could update and expand their knowledge structures based on their new experiences.

5.3.2. Video series 2

The contents (Figure 10) of this section of short videos followed the “general-specific-general” structure, combining theoretical knowledge with practical skills and transforming the craftsmanship process into a narrative. In this story, a Guangcai porcelain spirit named Caicai appeared as a friend of the craftsman and showcased the daily life of the artisan. Caicai guided viewers through the transformation of a white porcelain base to a vibrant Guangcai porcelain piece.

Users could follow Caicai to learn each step of the porcelain-making process, making choices based on their own judgments. Caicai’s knowledge and magic revealed the secrets of each step. Real footage of the techniques used by artisans was interspersed with interactive video scenes to ensure precision and authenticity in demonstrating the requisite craftsmanship.

The interactive plot integrated the IP character with storytelling to encourage users to continually challenge and expand their existing cognitive schemas and foster their desire for deeper exploration of the contents of this series of videos. Users confronted with diverse decisions tend to rely on their experiential schemas to quickly identify the core elements of the interactive information. Misjudgments resulting from choices conflicting with their existing schema compel viewers to adjust their current schema or construct new schemas to accommodate the fresh information, particularly apropos their understanding of the techniques of creating Guangcai porcelain.

The videos in this series offered viewers positive feedback for their correct choices through auditory applause and visual confetti effects. This strategy enhanced user satisfaction and further motivated continuous exploration and learning.

5.3.3. Video series 3

This series of videos aimed to hone the understanding and appreciation of viewers vis-à-vis Guangcai porcelain culture. The videos focused on the appreciation of classic Guangcai porcelain works and in-depth interpretations of their symbolic meanings to direct audiences from the internalization to the externalization of their accumulated knowledge on the subject while also enhancing their engagement and practical skills. The contents of this



Figure 10. Selected frames from series 2 of the short videos on Guangcai porcelain. Image created by the authors.

video series revolved primarily around the appreciation of modern Guangcai porcelain pieces (Figure 11). Visuals and narratives were carefully arranged in this video series to help the audience build complete cognitive schemas of sensory experiences and knowledge representations. Thus, this series strengthened the understanding and appreciation of viewers about the layered connotations of Guangcai porcelain culture.

A link to a mini program on Guangcai porcelain customization was embedded at the end of the videos in this series to offer viewers a platform through which they could engage in personalized customization and augment their overall understanding of Guangcai porcelain culture. This mini program (Figure 12) enabled users to customize their creations, facilitating active participation and creativity during the learning process. Users could create unique original works by freely selecting visual elements and personalizing texture designs on 3D models. The system constructed an interactive learning environment through natural human-computer interaction by offering positive feedback and interactive offline content during the

learning process. Users could express their understanding and interpretations of Guangcai porcelain culture through their personalized creations. Thus, this video series achieved the goals of education related to traditional handicrafts while stimulating viewer creativity and honing the practical abilities of audiences.

### 5.3.4. User feedback

The feedback on the Guangcai porcelain short video series was overwhelmingly positive. A group was selected from viewers of short videos to collect user feedback. This group of viewers was invited to view the three Guangcai porcelain video series and interviews were subsequently conducted with them.

The selected viewers praised the engaging and informative content, highlighting the clarity of the visual and narrative elements. Many users noted that the incorporation of interactive features significantly enhanced the learning experience, making the complex craftsmanship techniques more accessible and understandable.

The character of the Guangcai porcelain spirit Caicai was especially well-received. Users felt that this character



Figure 11. Selected frames from series 3 of the short videos on Guangcai porcelain. Image created by the authors.



Figure 12. Interface design of the Guangcai porcelain customization module. Image created by the authors.

added a relatable and entertaining aspect to the videos and fostered a deeper emotional connection to the material. Users commended the amalgamation of real footage with interactive elements for its authenticity, its immersive qualities, and its effective transmission of the intricate details of the porcelain-making process.

The customization mini program also received affirmative feedback. Users appreciated the practical and creative outlet it offered them by allowing them to apply their newly acquired knowledge. They enjoyed the process of personalizing designs, which reinforced their understanding of the Guangcai porcelain culture and enabled them to express their creativity.

Overall, the user feedback indicated that the three video series successfully achieved their educational objectives, enhancing the cognitive understanding of Guangcai porcelain as well as the practical skills associated with this craft form. Users reported a greater appreciation for the cultural and artistic value of Guangcai porcelain and expressed heightened interest in further exploring traditional handicrafts.

### 6. Discussion

The integration of content on traditional handicrafts with short video narratives must balance the complexity of the showcased crafts against the preferences of modern

audiences. This study's innovative approach employed a virtual character who guided viewers through the production process of Guangcai porcelain. This method effectively blended traditional and modern elements to make the contents of the video series more accessible and engaging. The high-quality expression of content is crucial because audience sensitivity to visual and auditory quality significantly impacts learning and appreciation. The viewing experience is enhanced when visual effects and audio quality are ameliorated and the video length and pacing are adjusted. In addition, the selection of long or short video presentations and horizontal or vertical formats should align with the contents, audiences, and dissemination platforms of the videos. Long videos allow more comprehensive explorations, while short videos cater to quick consumption habits. Horizontal formats allow wider perspectives, whereas vertical formats are more apt for mobile viewing. Reach and engagement can be maximized by contemplating dissemination objectives in combining varied styles to ensure the effective transmission of ICH craft forms such as Guangcai porcelain.

## 7. Conclusions

Communication intended to disseminate traditional handicraft culture must transcend mere replication, modification, and widespread distribution of information. Essentially, such communication entails the adoption of transmissive strategies that align with contemporary societal needs to redefine public perceptions of traditional handicraft. Such communication must also drive shifts in public behaviors related to the cognition, consumption, and cultural application of traditional handicrafts. This study employed the cognitive schema theory to delve into innovative strategies that could facilitate the creation of short videos on traditional handicrafts that can profoundly impact both creators and audiences.

Creators embracing this creative approach to the production of short videos on traditional handicrafts could transcend the unpredictability of conventional methods, ignite genuine creative zeal in artisans, and diversify their thematic content and artistic techniques. Viewers of such short videos could experience the detailed cognitive process of perception, attention, memory, and reflection. The proposed method could replace the previously utilized disorganized and fragmented information-gathering approaches, facilitate the development of a foundational understanding in viewers, and inculcate comprehensive knowledge of traditional handicraft.

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## Conflict of interest

The authors declare that they have no competing interests.

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## Ethics approval and consent to participate

This study involves the collection and analysis of publicly available short video content related to traditional handicrafts on the Douyin platform. It does not involve human subjects directly, interviews, surveys, or any form of personal identifiable information collection. Therefore, ethics approval and consent to participate are not required for this research.

## Consent for publication

All images included in this paper are either original works created by the authors or screenshots from short videos published on the Douyin platform. For original images, the authors hold full copyright. Screenshots from short videos have either been used with formal permission from the Douyin creators or under fair use for research and educational purposes. The source of each image is indicated in the corresponding figure captions. In addition, all data and information used in this study are derived from publicly available content on the Douyin platform. No direct involvement of human subjects was included, and no personal data or references that require individual consent for publication were used. Therefore, the content utilized in the study adheres to the platform's public information usage regulations, ensuring that privacy rights are not violated and copyright laws are respected.

## Availability of data

The data analyzed in this study consists of publicly available short videos related to traditional handicrafts on the Douyin platform. These videos were selected based on specific criteria related to the study's focus on traditional handicrafts

and their representation in digital media. Due to the dynamic nature of content on Douyin and copyright considerations, direct links to specific videos cannot be provided. However, interested researchers can access these videos by searching for relevant keywords related to traditional handicrafts on the Douyin platform. This approach allows for the replication of the study's methodology within the bounds of the platform's content availability at any given time.

### Further disclosure

Data in this paper comes from the ten accounts. We have collected the copyright permissions from all the creators (10) mentioned in the article. We contacted them by direct message in Douyin and everyone gave us a positive reply.

### References

- Guo YW. *Douyin 2022 Non-legacy Data Report: The Number of Endangered non-Legacy Videos Increased by 60% Year-on-year* [n/ol]. *Central Radio and Television General Station Yangguang.com*; 2022. Available from: [https://news.cnr.cn/local/dfrd/jj/20220612/t20220612\\_525861440.shtml](https://news.cnr.cn/local/dfrd/jj/20220612/t20220612_525861440.shtml) [Last accessed on 2024 Nov 19].
- Liu GY, Wang CL. Study on the creation and dissemination of intangible cultural heritage videos in the context of short videos: Examples from Douyin and Kuaishou. *Contemp TV*. 2021;(2):95-98.  
doi: 10.16531/j.cnki.1000-8977.2021.02.025
- Sun ZP, Fan CG. Research on the content creation of short videos for traditional handicraft intangible cultural heritage. *Southeast Commun*. 2022;(3):26-28.  
doi: 10.13556/j.cnki.dncb.cn35-1274/j.2022.03.005
- Ran HY, Chen S. The production and dissemination of short videos of intangible cultural heritage in the context of all media. *China Public*. 2021;(19):55-57.
- Chen GY, Ji Y, Tan P. Interaction design of traditional handicraft type APP based on cognitive schema. *Packaging Eng*. 2019;40(12):249-253.  
doi: 10.19554/j.cnki.1001-3563.2019.12.043
- Jiang T. The characteristics of custom-made Guangcai porcelain under the European Chinese style background. *Decor*. 2014;(5):102-103.  
doi: 10.16272/j.cnki.cn11-1392/j.2014.05.038
- Ma SC. *Special Report on China's Short Video Market 2016*; 2016. Available from: <https://www.analysis.cn/article/detail/1000134> [Last accessed on 2023 Oct 15].
- Zhang JL. *Research on the Dissemination of Traditional Craft Short Videos Based on the Douyin Platform*. [Dissertation]. Beijing: Central University for Nationalities; 2021.
- Wang JS. Visual memory and cultural expression: Interpretation of intangible cultural heritage-themed films from the perspective of communication studies. *Mod Commun (Chin Univ Commun)*. 2014;36(6):63-65, 70.
- Gong SJ. From re-embedding to value leadership: A study on the creation of intangible cultural heritage short videos. *Southeast Commun*. 2023;(10):87-90.  
doi: 10.13556/j.cnki.dncb.cn35-1274/j.2023.10.025
- Wu JN, He HZ. The visual inheritance of traditional folk handicrafts in the context of new media. *Contemp TV*. 2018;(10):39, 40.  
doi: 10.16531/j.cnki.1000-8977.2018.10.021
- Zhang SX. Localization of short video dissemination: Practices and innovative perspectives. *China Edit*. 2020;(5):80-85.
- Li F, Zhou D. The communication dilemmas and innovation of intangible cultural heritage short videos. *Media*. 2023;(22):69-70, 72.
- Zhang KY, Li YJ, Yang X. Research on cognitive barriers in fragmented online learning. *Mod Educ Technol*. 2015;25(2):88-94.
- Shi PY. Thoughts on the issue of college students' attention loss under the impact of information overload. *West Qual Educ J*. 2019;(20):165-166.  
doi: 10.16681/j.cnki.wcqe.201920091
- Kant I. *Critique of Pure Reason*. Deng XM, Translator. Beijing: People's Publishing House; 2005.
- Bartlett FC. *Remembering: An Experimental and Social Study*. Cambridge: Cambridge University Press; 1932.
- Woolfolk A. *Cognitive Psychology*. Beijing: Mechanical Industry Press; 2017.
- Cui TT, Wang H. Research on the teaching model of English micro-lectures against language erosion from the perspective of schema theory. *Chin J Electron Educ*. 2017;(10):130-135.
- Xin Y, Sun Q. A study of Ye Lingfeng's book design from the perspective of schema theory. *Art Garden*. 2018;(1):81-83.
- Wang YJ. *Research on the Form Design of Printed Books Based on Schema Theory*. [Dissertation]. Heilongjiang: Harbin Normal University; 2022.
- Yuan H. On Piaget and Kant's conception of schemata. *J Shandong Univ (Philos Soc Sci)*. 1987;(2):81-88.
- Wei H, Zhang BC. Schema theory and the retrospective and prospect of research on foreign language teaching in China. *J Xi'an Int Stud Univ*. 2004;(3):63-66.  
doi: 10.16362/j.cnki.cn61-1457/h.2004.03.020
- Shi XS. On Piaget's schema theory. *Inner Mongolia Soc Sci (Lit Hist Philos)*. 1994;(3):11-16.
- Song JH. A few thoughts on the digital protection of intangible cultural heritage. *Cult Herit*. 2015;(2):1-8, 15-17.
- Luo F, Zhang YJ. Research on the mechanism of "non-

- foreign heritage” video communication from the perspective of living heritage. *Sight Sound*. 2021;(10):9-11.  
doi: 10.19395/j.cnki.1674-246x.2021.10.003
27. Luo Y. Exploration of short video creation in the all-media era. *Telev Technol*. 2023;(12):47.  
doi: 10.16280/j.videoe.2023.12.026
28. Lee RB, Wu H, Translators. *The Elements of the Film*. Beijing: China Film Publishing House; 1986. p. 116.
29. Wang JL, Feng K. From compensation to ubiquitous: Media evolution and value shift of short video. *Chin Edit*. 2023;(1):100-104.
30. Li J. Making short videos interactive by using converged media technology. *Mod TV Technol*. 2020;(11):99-102, 135.
31. Zhao GY. *Guangcai Shihua*. Guangzhou: Lingnan Fine Arts Publishing House; 2008.
32. Sun XH. *Research on Personalized Learning Mode of Traditional Handicrafts Based on Semantic Ontology Theory*. [Dissertation]. Guangdong: Guangdong University of Technology; 2022.
33. Wang LJ. Research on the IP image design of Lingnan intangible cultural heritage gray clay sculpture cultural symbols. *Pack Eng*. 2023;44(18):250-257, 275.  
doi: 10.19554/j.cnki.1001-3563.2023.18.028
34. Liu X. Design of traditional culture APP based on the concept of cultural translatability. *Pack Eng*. 2020;41(2):237-242.  
doi: 10.19554/j.cnki.1001-3563.2020.02.036
35. Tan ZY, Yang WL. Research on the design of sound synaesthesia for natural interaction. *Pack Eng*. 2018;39(8):68-73.  
doi: 10.19554/j.cnki.1001-3563.2018.08.015