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Intelligent Technology Empowering Content Marketing: Construction Logic and Empirical Study of AI-driven Private Traffic Matrix

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Abstract: This paper focuses on intelligent technology, especially the automatic content distribution driven by artificial intelligence (AI), which empowers the construction and optimization of the private traffic matrix in the career-planning knowledge payment industry. In the digital era, private traffic management has become a core strategy for knowledge payment platforms to enhance user engagement and conversion rates. AI builds a comprehensive private traffic system through precise personalized recommendations, user profiling analysis, and automated content production, thereby improving operational efficiency and profitability of platforms. Through empirical data analysis, this study reveals the specific applications of AI in content marketing and explores future development trends as well as potential technological challenges.

Keywords: Digital transformation; Artificial intelligence; Automatic content distribution; Private traffic, Knowledge payment industry; Career planning

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1.Introduction

With the rapid development of Internet technologies, digital transformation has become an inevitable trend across various industries ^[1]. Particularly in the knowledge payment industry, efficiently reaching users and providing personalized services has become a critical source of platform competitiveness ^[2]. Specifically, in the field of career planning, precise content recommendation and traffic management can significantly enhance user experience and platform revenue ^[3].The introduction of AI technologies, especially Automatic Content Distribution (ACD), has provided an innovative solution to this challenge^[4].

Automatic content distribution is a technical method based on artificial intelligence and machine learning algorithms, which achieves precise content delivery by analyzing user data ^[5]. Previous research has indicated that AI-driven content distribution can effectively improve user engagement and conversion rates while significantly reducing operational costs associated with content management ^[6]. In the knowledge payment

field, private traffic matrices constructed by AI technology are gradually becoming an essential mode of content marketing^[7]. Private traffic typically refers to traffic groups owned by brands or platforms, characterized by high user loyalty and the propensity for repeat purchases and word-of-mouth promotion^[8]. Through AI technologies, platforms build precise user profiles and deliver automatic content recommendations and operations based on user preferences, significantly improving the quality and value of traffic^[9].

This paper explores how AI-driven automatic content distribution promotes the construction of private traffic matrices, focusing specifically on career and education planning contexts. It combines practical case analyses to examine the application effects and future development trends, clearly defining its value positioning and implementation pathways within enterprise digital transformation strategies^[10].

2. AI-driven automatic content distribution and the construction logic of private traffic matrix

2.1. Technical logic of AI-driven automatic content distribution

Automatic content distribution technology represents a deep integration of artificial intelligence with content marketing, typically leveraging user profiling, big data analytics, and deep learning technologies to precisely identify and predict users' interests, needs, and behavior characteristics, thus achieving personalized and precise content delivery^[11].

Particularly within the knowledge payment industry, such as career-planning platforms, user needs show significant variability and rapid change, making traditional manual distribution methods inadequate in managing rapidly growing user numbers and personalized demands.

Through AI-driven automatic content distribution technology, platforms can instantly capture users' interests and changing needs, dynamically adjust content recommendation strategies, and effectively enhance user experiences and content marketing outcomes^[12].

An automatic content distribution system typically includes three critical technical stages: First, data collection and user behavior analysis, establishing multi-dimensional user profiles based on browsing history, click data, search records, purchasing habits, etc.; second, precise content matching, achieving highly accurate matching of user interests with content through collaborative filtering and deep neural network algorithms; and third, real-time optimization and adjustment, employing reinforcement learning algorithms to continuously optimize distribution strategies based on real-time user feedback, thereby improving the effectiveness and interactivity of recommended content^[13].

In addition, automatic content distribution also realizes a high degree of automation in content operations, reducing subjective errors caused by human intervention, thus enabling platforms to focus more on creating high-quality content and deeply exploring user needs, further enhancing the competitive advantage of content marketing.

2.2. Construction process of private traffic matrix driven by AI

Constructing a private traffic matrix is a complex and systematic process, typically encompassing four critical phases: traffic acquisition, user retention, conversion, and viral growth. AI technology provides refined and intelligent solutions for each phase, significantly improving traffic operation effectiveness and creating an efficient user management loop.

Firstly, during the traffic acquisition phase, AI technology automatically identifies potential target users

through cross-platform data analysis and user behavior tracking. For instance, by analyzing users' interaction patterns, interest tags, and activity levels on social media platforms (e.g., WeChat public accounts, Douyin, Weibo, etc.), AI precisely targets potential user groups, actively pushes personalized content or interaction invitations, and guides users to private platforms, achieving accurate and efficient initial traffic acquisition.

Secondly, in the user retention phase, AI-driven automatic content distribution technology is particularly crucial. AI technology dynamically adjusts content delivery frequency, content type, and format according to users' real-time behavior data and feedback, automatically activating and awakening user needs and enhancing user activity and loyalty. For example, platforms can immediately adapt recommended content based on users' recent searches regarding career directions, related articles read, or video content browsed, forming a highly personalized content supply chain and effectively increasing user retention rates.

Thirdly, in the user conversion phase, AI technology plays a pivotal role. By analyzing users' historical behaviors and purchase intentions in real-time, AI dynamically optimizes marketing strategies, such as automatically generating precise promotional activities and personalized incentives, including customized coupons or targeted promotional information, to facilitate user conversion. Meanwhile, platforms can quickly adjust recommendation strategies based on user interaction feedback, continuously optimizing conversion pathways and significantly enhancing users' willingness and actions toward payments.

Finally, success in the viral growth phase directly influences the sustainability of long-term platform traffic growth. AI technology can intelligently identify key users with strong social influence and high loyalty, promoting user-initiated sharing and dissemination through precise viral incentive mechanisms, such as points systems, coupons, membership rights, etc. For instance, AI systems automatically evaluate users' social interaction frequency and dissemination effectiveness, precisely pushing viral incentives, encouraging these key users to become core promoters of the platform's reputation, thus continuously expanding and optimizing the private traffic matrix.

Existing practices demonstrate that private traffic matrices constructed via AI-driven automatic content distribution systems not only markedly enhance user loyalty but also significantly boost users' lifetime value, aiding enterprises in achieving sustained growth amid digital transformation and market competition.

3. Application case analysis of AI-driven private traffic matrix

Taking the domestic career planning and education guidance knowledge payment industry as an example, enterprises in this sector widely adopt AI-driven automatic content distribution technology to construct mature private traffic matrices centered on the WeChat ecosystem. Specific implementation approaches include:

3.1. Personalized precision recommendation

Platforms utilize deep learning models to analyze user behavior data within the platform, including content browsing history, frequency of interactions, and purchase records, to precisely recommend career development courses and education planning services, creating individualized content distribution pathways.

This practice has increased the monthly active users by 33% year-over-year, with user satisfaction reaching over 92%^[14].

3.2. Automatic content generation and distribution

Platforms employ natural language generation (NLG) and generative AI (AIGC) technologies to automatically

produce user-preferred content daily, including predictions on career trends and educational strategies, and distribute it automatically to users, significantly reducing content production costs while increasing the frequency of content updates^[15].

3.3 Cross-platform automatic distribution synergy

Platforms integrate multiple content distribution channels such as WeChat official accounts, video accounts, and mini-programs, utilizing AI technology to achieve cross-platform data synchronization and automatic content distribution.

Users thus experience closed-loop content engagement across different platforms, leading to an overall private traffic increase of 25%.

The above cases indicate that AI-driven automatic content distribution has effectively been applied to private traffic construction in the knowledge payment industry, significantly enhancing operational efficiency and outcomes.

4.Challenges and responses in AI-driven private traffic matrix construction

Although AI technology has demonstrated notable advantages in driving private traffic matrix construction, numerous technical and managerial challenges still exist in practice, requiring enterprises to actively explore solutions.

4.1. Organizational coordination and transformation challenges

The successful application of AI technology in constructing a private traffic matrix depends not only on the technology itself but also significantly on the coordination between internal organizational structures and corporate culture.

Implementing AI technology typically requires cross-departmental collaboration involving technical teams, data analytics departments, operational units, and marketing departments.

Traditional enterprises may encounter several problems in the process of digital transformation, including organizational rigidity, departmental barriers, and inefficient resource allocation.

Thus, enterprises should promote agile organizational transformation, establish cross-departmental digital innovation teams, and break down informational barriers between departments to ensure efficient sharing of data and resources.

Simultaneously, enterprises should actively cultivate an organizational culture conducive to digital transformation, encouraging employees to rapidly learn and adapt to AI technologies, thereby fostering proactive acceptance and efficient utilization of new technologies and tools.

Additionally, establishing a comprehensive employee training system and regularly conducting AI-related skills training and seminars can enhance overall digital literacy among staff, thus ensuring the smooth implementation of AI-driven content marketing strategies.

Furthermore, enterprises should develop multi-level data protection mechanisms, including data encryption, user authorization, anonymization processing, and regular security audits.

Platforms should also formulate comprehensive privacy policies and data governance frameworks, clearly informing users about the purposes, scope, and methods of data usage, thus safeguarding users' rights to information and control, balancing technology application and compliance.

4.2. Technological dependence and algorithmic “black box” issues

AI-driven automatic content distribution usually relies on complex algorithmic models, such as deep neural networks, collaborative filtering, and reinforcement learning technologies.

However, the decision-making processes of these algorithms often exhibit a “black box” characteristic, making it difficult for internal personnel and users to understand or interpret specific recommendation logic and decision criteria, potentially leading to user mistrust or resistance.

When users are unclear about why AI recommends certain content, user satisfaction may decrease, potentially resulting in user attrition.

4.3. Data privacy and compliance risks

User data privacy protection represents a critical challenge in AI-driven private traffic management.

Platforms should strictly comply with data protection laws and regulations such as China’s “Personal Information Protection Law” and the European Union’s General Data Protection Regulation (GDPR), and establish robust data security mechanisms to ensure compliance in data collection and usage.

5. Conclusions and future prospects

This paper focuses on intelligent technologies and deeply explores the application logic and practical pathways of AI-driven automatic content distribution technology in constructing private traffic matrices within the career planning knowledge payment industry.

The study shows that the introduction of AI technology has effectively enhanced the precision, timeliness, and interactivity of content marketing.

Moreover, it has significantly strengthened user engagement, conversion efficiency, and lifetime value, helping knowledge payment enterprises achieve cost reduction and efficiency enhancement objectives under the backdrop of digital transformation.

However, issues such as data privacy protection, algorithmic decision-making transparency, and organizational transformation remain prominent in practical applications, requiring enterprises’ continuous attention and solutions in future practices.

Looking ahead, with the further development of generative AI (AIGC) and cross-platform automatic content distribution technologies, the content production, marketing communication, and traffic operation models within the knowledge payment industry will undergo more extensive intelligent transformations.

In particular, AIGC technology will drive content production to shift comprehensively from human-led to intelligent automation, substantially reducing content creation costs and production cycles, while enabling precise and real-time responsiveness to user needs.

In the future, knowledge payment platforms will be able to more efficiently deliver highly personalized and dynamic content products, satisfying continuously evolving user demands for consumption experiences.

In the face of rapidly evolving technological environments, enterprises in the knowledge payment and career planning industries should closely monitor the development trends of AI and related cutting-edge technologies.

They should actively explore cross-domain and cross-technology innovations, continuously enhancing enterprises’ digital strategic capabilities.

Only through these efforts can enterprises truly establish long-term competitive advantages in content marketing and traffic operations, thereby maintaining a proactive position within a rapidly changing market

environment.

Disclosure statement

The author declares no conflict of interest.

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Dynamic Combination of Paper-cut Elements in Paper Packaging

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Abstract: According to the characteristics of paper-cut art and its cultural connotation, this paper analyzes the characteristics and interactive function requirements of paper packaging form, deeply creates paper-cut elements, and integrates them into the visual design of paper packaging. The innovation point is to explore various forms of expression and dynamic combination of paper-cut elements through the shape of paper packaging, and create a dynamic visual language at the level of space, time, vision and user interaction. This dynamic combination of paper-cut is of great significance to enhance the cultural value, aesthetic value and commercial value of paper packaging.

Keywords: Paper packaging; Paper-cut elements; Dynamic; Interactive

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1. Paper-cut art overview

1.1. The historical development of Paper-cut art

The art of Paper-cut has a long history in China, dating back to before the invention of paper. The early Paper-cut prototype is the use of thin materials, such as leaves, leather, gold leaf, etc., engraving, hollowing and other processes. With the invention and wide application of paper, the art of Paper-cut has gradually developed and matured. From ancient folk sacrificial articles, decorative window flowers to modern art creation, Paper-cut art runs through various historical periods of Chinese society, reflecting the cultural features and social life of different times.

1.2. The characteristics of Paper-cut art

The Paper-cut art mainly takes the line as the main modeling means, the line is simple and smooth, and has a strong expression. Whether it is the performance of characters, animals or flowers and other images, they are shaped by changes in the thickness, length and curvature of the lines. For example, in the performance of the character's clothing, the smooth long line is used to reflect the feeling of flowing sleeves, and the short and dense

line is used to show the hair and other details. Paper-cut modeling has a high degree of generality. It eliminates many unnecessary details and refines and exaggerates the main features of the object. For example, the flower patterns in paper cuts often exaggerate the shape of flowers, simplify the vein of leaves, and make the overall image of flowers more prominent. Paper-cut shape also has symmetry. Symmetry is a common form in paper-cut art, which conforms to aesthetic principles and is easy to make. By cutting the folded paper, the left and right symmetrical pattern or the upper and lower symmetrical pattern can be obtained, and this symmetrical shape gives people a balanced and stable aesthetic feeling^[1].

The color of traditional Paper-cut art is relatively simple. In Chinese folk Paper-cut, red is the most common color, which symbolizes auspiciousness and happiness. Of course, there are also other colors of paper-cuts, such as green symbolizes life, black symbolizes gravitas and so on. Modern paper-cut art is more diversified in the use of color, can be based on different creative themes and needs for color matching, both can retain the traditional monochrome paper-cut, can also use multi-color scissors and other ways to enrich the color performance. Paper-cut art contains rich cultural connotation. It is an important carrier of folk culture and has specific symbolic significance in different festivals and folk activities^[2]. For example, the paper-cut paper-cuts posted during the Spring Festival, meaning to bid farewell to the old year and welcome the new, pray for good luck; The paper-cut used in the wedding symbolizes happiness and a hundred years of good union. At the same time, the art of Paper-cut also reflects the folk beliefs, values and aesthetic concepts, and is the crystallization of folk wisdom.

2. The characteristics and functional requirements of paper packaging

2.1. Material characteristics of paper packaging

Paper packaging materials are mainly derived from renewable resources such as wood, and have better environmental performance compared with plastic, metal and other packaging materials. Paper can be recycled after use, reducing environmental pollution. Moreover, with the continuous development of modern papermaking technology, the production process of paper is also paying more and more attention to energy saving and emission reduction, further improving its environmental protection advantages. Paper has good plasticity and can be made into packaging of various shapes and structures by folding, cutting, pasting and other processes^[3]. For example, a flat sheet of paper can be turned into a three-dimensional carton through clever folding, and it can be customized according to the shape and size of the product. At the same time, the paper can also be printed, embossed and other decorative processing to meet different packaging design needs. Paper packaging is relatively light and easy to transport and carry. This is important for products that require consumers to carry around with them or that require a lot of transportation. For example, paper packaging of food, daily necessities and other products will not increase too much burden on consumers, but also ensure the safety of products during transportation.

2.2. Functional requirements of paper packaging

The primary function of paper packaging is to protect the product. It can prevent physical damage to the product during transportation, storage and sales, such as collision, extrusion, friction, etc. By reasonably designing the structure of paper packaging, such as increasing the buffer layer and strengthening the corners of the carton, the protection ability of the product can be improved. For example, for fragile glass products, paper partitions can be set up in the carton to separate the glass products and avoid colliding with each other.

Paper packaging is an important carrier of product information, which can convey the name, brand, function, use method, composition and other information of the product. Through the design of text, image, logo and

other elements, consumers can quickly understand the basic situation of the product ^[4]. At the same time, paper packaging can also convey brand image and brand culture through a unique design style, and improve brand recognition and reputation. Paper packaging has a promotional effect in the sales process. An attractive paper packaging design can attract consumers' attention and stimulate their desire to buy. For example, paper packaging with unique styling, exquisite printing or interesting interactive design can stand out from many similar products and encourage consumers to choose the product.

3. Paper-cut elements into paper packaging design

3.1. The selection basis of paper-cut elements

When incorporating paper-cut elements into paper packaging design, we must first consider the relevance of paper-cut elements and product themes. If it is a traditional Chinese characteristic product, such as tea, pastries, etc., you can choose paper-cut elements with traditional Chinese cultural connotations, such as flowers, auspicious animals and other patterns. For example, for tea packaging, you can choose the plum blossom pattern in the paper cut, which symbolizes purity and toughness in Chinese culture and echoes the quality of tea.

Paper-cut elements should be selected according to the preferences and cultural background of the target audience. If the target audience is young people, some paper-cut deformation patterns with modern and fashionable elements can be selected, or traditional paper-cut elements can be combined with pop culture elements ^[5]. For example, the characters in the paper cut are combined with animation elements to produce novel paper cut patterns for the packaging of fashion products to attract the attention of young consumers. The choice of paper-cut elements should also conform to the brand image. If the brand positioning is high-end, exquisite image, then in the selection of paper-cut elements should pay attention to the process precision and artistic quality of paper-cut, choose some delicate lines, complex modeling paper-cut patterns; If the brand image is simple and environmentally friendly, you can choose some simple and simple paper-cut elements.

3.2. The presentation form of paper-cut elements on paper packaging

Flat printing is the most common form of paper-cut elements on paper packaging. The Paper-cut pattern is copied to the paper surface through printing technology, and the color and line of Paper-cut can be accurately restored. In the printing process, the size, position and color contrast of the paper-cut pattern can be adjusted according to the need. For example, in the mooncake packaging, the exquisite paper-cut flower pattern is printed on the surface of the carton, which not only increases the beauty of the packaging, but also reflects the traditional festival atmosphere.

Using the plasticity of paper, paper-cut elements can be three-dimensional shaped, and paper-cut patterns can be transformed from plane to three-dimensional through cutting, folding, pasting and other processes ^[6]. For example, make a paper packaging box, in the box cover by folding and pasting the paper-cut animal image into a three-dimensional shape, when the consumer opens the box, the three-dimensional paper-cut animal will jump in front of the eyes, increasing the interest and uniqueness of the packaging. Use paper-cut elements as a partial decoration on paper packaging, which can be used on the edge of the carton, the seal or the label. For example, pasting a small paper-cut pattern on the seal of the gift box as a decoration will not be too publicizing, but also can play the role of a finishing touch.

4. The dynamic combination of paper-cut elements in paper packaging

4.1. Dynamic combination at the spatial level

In the spatial layout of paper packaging, multi-level combination of paper-cut elements can be used. The paper-cut elements of different sizes, shapes and contents are arranged in layers to create a sense of hierarchy and dynamics in space. For example, in a paper packaging box with a certain depth, a larger paper-cut pattern is placed at the bottom, such as mountain landscape paper-cut, and then some smaller figures or animal paper-cut patterns are placed in the middle layer, as if these figures and animals are active between the mountains and waters, and the top layer can be some flower paper-cut patterns, forming a dynamic spatial layout from far to near and from large to small. It can also use the folding characteristics of paper to make the paper-cut elements dynamically change in space. When the paper package is folded, the paper-cut elements may be partially hidden or compressed, and when the package is unfolded, the paper-cut elements will gradually show a complete form as the paper is unfolded ^[7]. For example, make a folding fan type paper packaging, draw paper-cut patterns on the fan, when the fan folds, the paper-cut pattern is divided into several parts, when the fan unfolds, the paper-cut pattern is fully presented, giving people a dynamic visual effect.

4.2. Dynamic combination at the time level

In the series paper packaging, the dynamic combination of paper-cut elements can be designed through the chronological order. For example, for a set of four seasons theme product packaging, you can use spring paper-cut elements, such as peach blossoms, swallows, etc., on the spring packaging; Use lotus, dragonfly and other paper-cut elements on summer packaging; Use chrysanthemum, wild goose and other paper-cut elements on autumn packaging; Use plum blossom, magpie and other paper-cut elements on winter packaging. Over time, when consumers buy products in different seasons, they can feel the dynamic evolution of paper-cut elements in time. In the opening process of paper packaging, dynamic changes of paper-cut elements can be designed ^[8]. For example, when opening a carton package, the paper-cut pattern on the lid can gradually split or deform with the opening action, from a complete pattern to several parts, or from one pattern to another pattern, just like a story gradually unfolds in the process of opening the package, giving consumers a novel experience.

4.3. Dynamic combination at the visual level

The dynamic vision of paper-cut elements on paper packaging can be created by using light and shadow effects, and special light and shadow structures can be set on paper packaging ^[9]. For example, punch holes on the carton or use a combination of transparent and opaque materials to make the paper-cut elements produce different shadows and highlights under different lighting conditions. For example, when a paper package with holes is pasted with a paper-cut pattern, when the light is illuminated from different angles, the shadow of the paper-cut pattern will produce dynamic changes inside the package, as if the paper-cut pattern is dancing. The visual dynamic combination of paper-cut elements is realized through color contrast and conversion. In the paper packaging design, two-color or multi-color paper-cut elements can be used, and the paper-cut elements can be visually dynamic through the gradual change of color and alternation. For example, using red and green paper-cut patterns on a paper package, and gradually transitioning red to green, or making red and green alternately flash (through special printing techniques or materials), to attract the eyes of consumers and produce a visual dynamic effect.

4.4. Dynamic combination of user interaction level

Touchable paper-cut elements are set on paper packaging to increase the interaction between users and packaging. For example, some raised paper-cut patterns are made on the surface of paper packaging, and consumers can touch these patterns with their hands to feel the lines and shapes of paper-cut elements. This touchable paper-cut elements can be simple geometric shapes, can also be complex characters or animal images, through touch, consumers can more deeply experience the charm of paper-cut art, but also increase the interest of packaging. There is also the design of detachable and reconstituted paper-cut elements on paper packaging, for example, on a paper packaging box, the paper-cut pattern is made into several detachable parts, and consumers can recombine these parts into new paper-cut patterns according to their preferences. This interactive way can not only allow consumers to participate in the re-creation of packaging, but also extend consumers' attention to product packaging and improve product memory.

5. The dynamic combination of paper-cut elements to enhance the value of paper packaging

5.1. Enhancement of cultural values

The application of dynamic combination of paper-cut elements in paper packaging is conducive to the inheritance and promotion of paper-cut culture. By integrating paper-cut elements into modern paper packaging design, more people are exposed to paper-cut art in their daily lives. Especially in the international market, paper packaging with dynamic combination of paper-cut elements can be used as an envoy of Chinese culture, spreading Chinese paper-cut culture to all over the world, so that more people understand and love Chinese traditional culture. The dynamic combination of paper-cut elements adds rich cultural connotations to paper packaging. It is no longer just a simple product container, but a carrier of multiple cultural elements such as folk culture and art culture. For example, a paper packaging of traditional handicrafts with a dynamic combination of paper-cut elements can not only protect the handicrafts, but also tell the cultural story behind the handicrafts through paper-cut elements, and enhance the cultural taste of the entire packaging.

5.2. The enhancement of aesthetic value

Dynamic combinations of paper-cut elements are visually more attractive than static paper-cut elements. Through dynamic changes in space, time, vision and user interaction, it can seize the eye of consumers and make paper packaging stand out among many similar products. For example, a paper packaging that uses light and shadow effects to make paper-cut elements produce dynamic vision will attract consumers' attention more than ordinary packaging on the store shelves and stimulate their interest in further understanding the product. This dynamic combination creates a unique aesthetic experience for consumers. In the process of appreciating the dynamic combination of paper-cut elements, consumers not only see a beautiful pattern, but can feel the surprise and beauty brought by the dynamic changes of paper-cut elements at different levels. For example, feeling the evolution of paper-cut elements over time in the series of packaging, or experiencing the change of paper-cut elements in the process of opening the packaging, this unique aesthetic experience will make consumers have a deeper impression on the product and brand.

5.3. The enhancement of commercial value

Paper packaging with a dynamic combination of paper-cut elements can improve the competitiveness of products. In today's increasingly fierce market competition, product packaging design often becomes one of the

important factors affecting consumers' purchase decisions. Paper packaging with a unique dynamic combination of paper-cut elements can attract more consumers, so that the product has a greater competitive advantage in the market. Paper packaging with dynamic combination of paper-cut elements helps to increase the added value of the brand. A brand that pays attention to cultural inheritance and innovative design can enhance the image and visibility of the brand through the dynamic combination of paper-cut elements on the paper packaging, so that consumers are willing to pay a higher price for products with cultural connotations and unique designs, thereby increasing the added value of the brand.

To sum up, the dynamic combination of paper-cut elements in paper packaging has rich connotations and diverse forms of expression. It not only enhances the cultural value, aesthetic value and commercial value of paper packaging, but also has great potential and broad development trend in the future development. Through continuous exploration and innovation, the dynamic combination of paper-cut elements will play a more important role in the field of paper packaging.

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Before the First Step: Embodied Knowledge and Somatic Transmission in Kunqu Yunbu and East Asian Performance

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Abstract: This study investigates how embodied knowledge is generated during the training of Yunbu—the foundational gliding step in Kunqu Opera. Departing from conventional emphases on movement execution, the study examines the micro-phase before visible action, where breath, gravity, and perception converge. This pre-movement threshold is analyzed as a critical site of somatic cognition and nonverbal transmission. Drawing from ethnographic observation, high-resolution video analysis, and reflective somatic engagement, the research isolates the first step as a dynamic event of internal alignment and cultural encoding. To describe this somatic learning process, the paper introduces working concepts such as the “Micro-Embodied Epistemic Unit” (MEEU) and “Recursive Embodied Pedagogy” (REP), used heuristically to articulate how knowledge arises through recursive bodily calibration rather than through verbal instruction or pre-established forms. The paper further explores how Kunqu footwork embodies symbolic logic, aesthetic principles, and philosophical values, offering a model for understanding the body as both performer and producer of tradition. A preliminary comparison with suriashi in Noh Theatre highlights converging and diverging somatic epistemologies across East Asian performance cultures. Ultimately, this study reframes the act of stepping not as a technical beginning, however as an epistemological emergence rooted in embodied experience.

Keywords: Embodied knowledge; Somatic cognition; Nonverbal transmission; Kunqu yunbu; Dance-based pedagogy; Noh theatre

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1. Introduction

1.1. Problem setting and research focus

In the transmission of traditional Chinese stage arts, movement is often viewed as a codified carrier of technical and cultural knowledge. In Kunqu Opera, particularly in the foundational Yunbu step, physical form is highly stylized, and training emphasizes precise replication. However, this perspective overlooks how knowledge also begins to take shape just before movement—during a fleeting moment when breath, gravity, and intention

converge before the first step unfolds.

This study examines that initiating moment of Yunbu, examining how embodied knowledge is generated not through performance however through perceptual readiness. Rather than treating training as execution-based, it frames Yunbu as a site of kinaesthetic attunement, where knowledge is formed through bodily sensing, energetic preparation, and nonverbal pedagogical exchange.

1.2. Theoretical and disciplinary orientation

This study draws upon Shimizu's (2022) application of the concept of the "daily experiment," originally proposed by Fukushima (2010), to rethink the process of embodied learning in traditional performing arts. Rather than viewing apprenticeship solely as a mimetic transmission model, Shimizu emphasizes the learner's exploratory and introspective engagement as a crucial component of training. Even within institutionalized training contexts such as drama schools, he argues, skill acquisition involves more than repetition—it requires ongoing negotiation, bodily recalibration, and subjective experimentation. This framework supports an understanding of embodied knowledge as dynamic, situational, and co-constructed, aligning with the learner's active role in shaping meaning through perceptual interaction^[1].

The term somatic readiness is used here as a working description of this internal state—neither visible nor static, yet rich in perceptual density and affective nuance. It reflects a form of dance-based embodied knowledge that bridges sensory preparation with cultural meaning-making. This approach situates Kunqu training within global conversations on nonverbal transmission and embodied epistemology, while remaining grounded in the historical and philosophical logics of East Asian performer pedagogy. This spatial logic further reflects Katan's notion of the "cultural kinesphere," where movement acquires meaning through culturally shaped intention^[2].

1.3. Research scope and methodology

This micro-ethnographic study investigates training in the Southern Kunqu Opera Troupe through field observation, video analysis, and somatic reflection. It focuses on a specific movement unit—the first step—examined across multiple sessions to analyze elements such as breath, weight shift, and gaze. These are interpreted through both external observation and internal sensing.

The methodology integrates three approaches:

- (1) A fieldwork perspective emphasizing iterative learning and subjective reflection, drawing on Shimizu's (2022) application of Fukushima's (2010) "daily experiment," which foregrounds exploratory and introspective engagement in school-based arts training;
- (2) High-resolution video analysis;
- (3) Embodied recall based on the researcher's sensory experience during fieldwork.

This triangulated design ensures empirical depth and helps clarify how embodied knowledge is transmitted through subtle, nonverbal cues in real-time practice.

1.4. Academic contribution and research structure

This study contributes to the study of intangible cultural heritage, somatic pedagogy, and East Asian performer training by redefining where and how knowledge arises in body-centered practices. It argues that the first act of transmission does not begin with visible movement, but with a shift in perceptual readiness—an internal state in which the performer begins to align bodily with the principles and expectations of tradition.

The chapters that follow construct this argument progressively: Chapter 2 examines the embodied

mechanism of Yunbu’s first step; Chapter 3 analyzes the master-apprentice interaction; Chapter 4 explores the aesthetic and symbolic logic of body preparation; Chapter 5 offers a comparative lens via suriashi in Noh; and Chapter 6 concludes with theoretical implications and future research directions.

2. The embodied mechanism of the first step in Kunqu Yunbu

2.1. The first step as an initiatory movement: shifts in center of gravity, leg placement, and spatial configuration

The initiation of Yunbu is not merely a biomechanical gesture, but a culturally encoded somatic practice. At its core lies a refined modulation of the performer’s center of gravity, activated through breath control, spinal alignment, and muscular elasticity. This subtle shift forms the internal engine of movement and presence.

Unlike ordinary walking, Yunbu begins with a gliding trajectory: the heel lightly brushes the floor, the toes extend outward, and the leg hovers in suspended motion. This “weighted lightness” reflects the Kunqu aesthetic of xu (emptiness), where space is shaped not by mass but by directional intent.

The movement unfolds across several intersecting spatial planes—vertically through qi (energy flow), horizontally via yi (projected intent), and diagonally through zhuan (spiral redirection). These directional forces not only define movement but also embed it within a culturally meaningful spatial logic. This organization aligns with Katan’s (2009) notion of the “cultural kinesphere,” in which motion becomes intelligible through culturally shaped bodily intention^[2].

Thus, the first step functions as more than a transition—it is a concentrated act of movement that integrates breath, weight transfer, and spatial expansion. It marks the performer’s engagement with a codified system of aesthetic and physical logic, linking internal readiness with external expression.

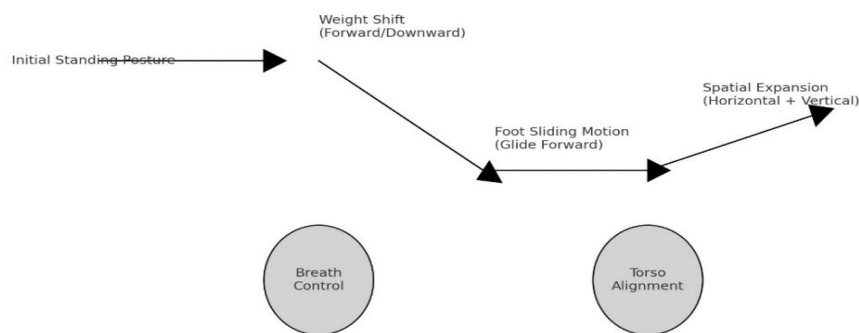


Figure 1. Somatic structure and spatial dynamics of the first step in Kunqu Yunbu

As illustrated in **Figure 1**, this process unfolds through a sequence of embodied adjustments: forward–downward weight shift, gliding foot extension, and multidirectional spatial alignment—supported by controlled breathing and vertical torso organization. Together, these elements form the biomechanical and aesthetic foundation of Kunqu movement expression.

2.2. Training the step: nonverbal transmission and kinaesthetic learning

The training of Yunbu’s first step exemplifies a nonverbal pedagogical structure grounded in embodied demonstration, imitation, and sensorimotor adjustment. Within Kunqu’s master–disciple relationship, instruction emerges through iterative modeling and kinaesthetic feedback, where understanding develops through practice

rather than verbal explanation. This aligns with Chinese opera pedagogy, which emphasizes bodily cultivation as both aesthetic practice and ethical formation.

Rather than explicitly outlining anatomical mechanics or verbalizing technical rules, the master repeatedly performs the step—infused with breath rhythm, spatial directionality, and internal dynamics. The learner, through attentive observation and mimetic engagement, gradually synchronizes with the timing and energy of the movement.

Corrections occur via eye contact, hand gestures, or gentle physical cues. A shift in hip direction, a redirected gaze, or a shared breath often becomes the medium of adjustment. These subtle exchanges exemplify what Sklar calls kinaesthetic communication within co-regulated interaction^[3], allowing learners to attune through shared bodily presence.

This process resonates with Hutchins' concept of distributed cognition^[4]: the idea that knowledge is co-constructed through coordinated social and bodily interaction. In this way, “learning the step” is not merely acquiring a technique—it is an embodied perceptual process shaped through proximity, repetition, and affective responsiveness.

Within this interactive context, the first step is not a fixed form, but a continuously negotiated movement shaped by the dynamics of bodily alignment and interpersonal resonance.

2.3. Reorganization of sensory awareness: from visual form to somatic cognition

Mastery of Yunbu is not achieved through surface-level imitation, but through an internal reorganization of sensory attention. As training deepens, focus shifts from visual appearance to kinaesthetic perception—from external copying to proprioceptive awareness grounded in bodily sensation.

Rather than merely replicating the form, the performer progressively inhabits it as a coordinated sensorimotor pattern, integrating breath control, rhythmic timing, and spatial direction. Subtle refinements—such as releasing shoulder tension or adjusting pelvic positioning—signal the development of internalized motor patterns. These changes are often prompted by nonverbal cues: synchronized breath, mirrored gaze, or gentle physical adjustment.

This learning process is iterative and evolving. Each repetition fosters new perceptual clarity—not through duplication, but through nuanced somatic recalibration within a responsive training environment. Such pedagogy resonates with Shimizu's (2022) interpretation of training as a “daily experiment,” where learning involves not just repetition but active perceptual recalibration and introspective bodily engagement.

2.4. Theoretical and practical implications of embodied training structures

The analysis of Yunbu's initiating movement suggests that Kunqu training is not only about skill acquisition, but also a site of embodied meaning formation. Structured around breath-anchored motion, iterative guidance, and bodily responsiveness, it exemplifies a mode of somatic learning in which skill emerges through culturally informed perception. This supports Parviainen's view that embodied knowledge involves the cultivation of attention, where perception is not innate but shaped by cultural and practical engagement^[5].

This framework challenges binary models of mind/body and theory/practice. In Kunqu, technique is not an externalized pattern to be memorized, but an embodied principle that emerges through repeated sensorial engagement. The first step thus becomes an act of kinaesthetic sense-making, where movement, intention, and cultural knowledge intersect.

From a pedagogical perspective, this insight prompts a reconsideration of how traditional skills are

transmitted. Verbal instruction alone is insufficient to convey expressive nuance. Effective training must prioritize sensory feedback, spatial orientation, and affective synchrony as core components of transmission.

These perspectives are essential for both heritage preservation and contemporary performer education. By focusing on micro-level learning moments such as Yunbu's first step, it is possible to preserve the epistemic richness of traditional knowledge while adapting to evolving contexts—for example, through digital tools that supplement rather than replace embodied transmission.

In this sense, Yunbu's first step is not a prelude to movement, but a moment in which cognition, intention, and tradition are enacted through somatic engagement.

4. Embodied interaction and the recursive structure of training in the master–disciple relationship

4.1. Structuring embodied feedback in the rehearsal environment

The Kunqu rehearsal space exemplifies what Taylor describes as a “repertoire” of embodied transmission: a performative ecology shaped by repetition, revision, and ritualized presence^[6]. Within this setting, pedagogy unfolds not through detailed verbal instruction, but through embodied demonstration. The master serves simultaneously as archive, model, and transmitter—offering the step not as abstract knowledge, but as an enacted bodily expression^[7].

In Yunbu training, each demonstration integrates breath control, energetic focus, and refined timing. Feedback emerges through gaze, gesture, and physical prompting—subtle modalities that guide spatial orientation and bodily alignment. These nonverbal adjustments operate as forms of tacit knowledge transmission, in which mutual understanding is sustained not by explicit discourse, but by co-regulated bodily engagement^[8].

Rather than a linear delivery of information, this mode of transmission functions as a kinaesthetic interaction. Knowledge emerges through what Hutchins conceptualizes as “distributed cognition,” shared across bodily rhythms, spatial positioning, and temporally responsive feedback. The learner engages not passively, but as a perceptual participant—sensing the master's timing, intensity, and intentional movement cues.

As illustrated in **Figure 2**, this recursive process comprises demonstration, observation, imitation, and real-time adjustment. Through this feedback loop, embodied knowledge is not received as static content but progressively constructed through co-regulated physical engagement.

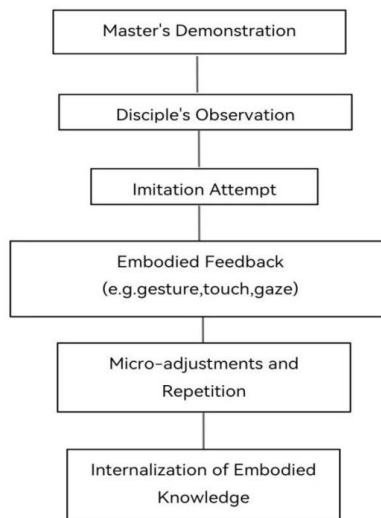


Figure 2. Recursive embodied feedback in Kunqu master–disciple training

This diagram outlines how knowledge transmission unfolds iteratively: from the master’s embodied demonstration to the disciple’s responsive imitation and sensorimotor correction. Over time, the learner internalizes both movement and expressive intent through sustained repetition and feedback.

3.2. Negotiating transmission between the teaching body and the receiving body

Kunqu pedagogy functions less as one-directional instruction and more as a dialogical exchange between two embodied agents: the teaching body and the receiving body. Drawing on Mauss’s notion of “techniques of the body”^[9], this interaction is understood as a culturally conditioned practice transmitted through shared corporeal action rather than abstract explanation.

The master’s body communicates not only external form but also rhythm, breath modulation, and directional energy (qi, yi, yunlü). These performative cues carry pedagogical intention and encode cultural memory through bodily motion.

The learner, in turn, responds through active recalibration—adapting posture, breath, and spatial awareness. This dynamic process aligns with Csordas’s notion of “somatic modes of attention”^[10], in which the body fine-tunes movement through perceptual sensitivity and embodied attunement.

Through such embodied exchanges, tradition is not simply replicated, but reconstituted. Transmission occurs not through literal imitation, but through relational attunement and iterative refinement. This framework reflects contemporary perspectives on embodied transmission, emphasizing that technique is not fixed knowledge held by the master, but an evolving capacity co-developed through bodily interaction and shared perception within the training dyad.

3.3. Reconstructing training through the Shimizu framework

Drawing on Shimizu’s (2022) school-based analysis of Qinqiang training as a “daily experiment”—an analytical perspective that foregrounds exploratory and introspective learning in formal arts education—this study proposes a three-part framework to analyze Yunbu instruction:

- (1) Body as medium: a site of perceptual and expressive modulation;
- (2) Technique in process: an evolving form shaped through shared rehearsal;
- (3) Training as recursive interaction: a co-regulated process where movement is not merely copied but continually negotiated and refined.

This view resonates with Gallagher’s account of how perception, memory, and motion are integrated in real-time embodied problem-solving^[11]. It also aligns with Shimizu’s (2022) emphasis on exploratory and introspective engagement in formal arts education, where learning is not limited to imitation but involves active interpretation and situated negotiation. While Shimizu’s work focuses on Qinqiang training in school settings, its perspective supports a broader understanding of rehearsal as a site where performers refine technique through perception-driven interaction and shared attention.

3.4. Visualizing the sensory–cognitive spiral of transformation

One of the most significant outcomes of Yunbu training is the shift from external imitation to embodied perception. This transformation unfolds not through mechanical repetition, but through experiential engagement rooted in sensory responsiveness.

This trajectory aligns with Crossley’s interpretation of the lived body^[12], where movement emerges from pre-reflective corporeal awareness rather than abstract representation. In this process, the body acts simultaneously

as a perceiver and integrator of meaning. Early stages of training prioritize external elements—form, timing, and spatial direction. As practice deepens, attention shifts inward toward breath, muscle tension, and energy flow. Repetition becomes a recursive medium for perceptual recalibration rather than mere reproduction.

This pedagogical arc also reflects Sklar’s articulation of “kinaesthetic intelligence”, describing how movement generates knowing through sensation and reflexive adjustment. Similarly, Ingold’s concept of “wayfaring” frames learning as a lived path: shaped through moving, sensing, and attending to one’s environment.

As illustrated in **Figure 3**, this progression can be conceptualized as a spiral: beginning with imitation, deepening through iterative somatic correction, and culminating in embodied insight and cultural resonance.

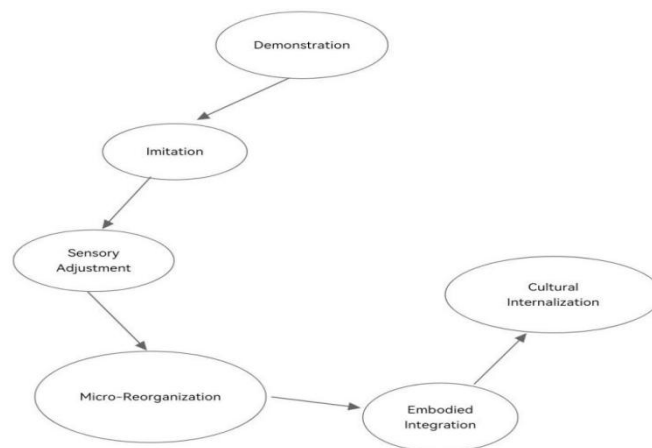


Figure 3. Spiral model of embodied knowledge formation in Yunbu training

This diagram visualizes how knowledge emerges through recursive bodily engagement—from observation and imitation to kinaesthetic refinement and embodied internalization, culminating in expressive performance that carries cultural significance.

4. The cultural body and symbolic logic of the first step in Kunqu Yunbu

4.1. Enacting the cultural body: ritualized presence in the first step

The Kunqu performer’s body is not a neutral instrument, but a culturally cultivated medium—shaped by disciplined training and embedded with aesthetic, ethical, and philosophical values. This view echoes Chen’s argument that the Confucian body in Chinese performing arts is not merely expressive, but ethically inscribed through ritual practice and relational aesthetics^[13]. It also aligns with Csordas’s concept of the “cultural body,” where embodied practice and social meaning emerge simultaneously.

In Yunbu, the first step is not simply an initiation of movement, but an enactment of lineage. Breath modulation, directional flow, and kinetic inflection carry inherited principles, forming a nexus of somatic memory. Micro-gestures encode tacit knowledge, functioning as embodied signs of continuity and tradition.

Such performance logic reflects how ritualized action operates as a medium for transmitting shared identity. The first step thus marks a somatic transition—from the ordinary body to a ritualized one—signaling entry into a symbolically structured aesthetic world.

4.2. Embodying emptiness and softness: a somatic aesthetic logic

Yunbu’s movement style is governed by embodied philosophical concepts such as xu (emptiness), rou (softness),

and yun (flow/continuity). These principles guide not only the formal structure of movement but also the performer's internal state of perception and initiation. Zhuo's reading of Chinese philosophical embodiment clarifies how xu and rou manifest within Kunqu aesthetics^[14].

Xu denotes active spaciousness—manifested through delayed weight transfer, suspended momentum, and breath-based coordination that enables the circulation of qi. The foot does not push outward by force but extends through a yielding attentiveness, echoing Sheets-Johnstone's view of movement as a site of kinetic awareness^[15].

Rou represents elasticity and responsiveness, rather than passivity. Movement unfolds through breath-led continuity rather than muscular assertion, resonating with the Daoist principle of wuwei (non-coercive action). Space is not traversed forcefully but emerges through attuned presence^[16].

Together, xu and rou establish an aesthetic system in which stillness can generate momentum, and form arises from internal flow. This constitutes a distinctive mode of embodied awareness rooted in Chinese performance thought—where movement is not only executed but perceived as a cultural act of intention.

4.3. The first step as symbolic threshold and cultural reenactment

Beyond its technical structure, Yunbu's first step carries symbolic and ritual significance. It marks the transition from everyday movement into the symbolic framework of Kunqu—a liminal threshold initiating performative transformation.

Rather than simply being executed, the step is situationally embodied—reconnecting the performer to inherited forms and collective memory. It aligns the body with cultural archetypes and historical lineage, activating a space of embodied continuity.

In Kunqu, minimalist form enhances symbolic density. As Rancière suggests, aesthetic meaning emerges through the distribution of presence and absence^[17]. The first step thus functions as a deliberate condensation of breath, energy, and intention—where silence and restraint amplify cultural resonance.

4.4. From embodied tradition to somatic epistemology

The first step reveals that embodied knowledge exceeds execution. It is a site of aesthetic cognition, where values are not told but sensed. Through refinement of breath, weight, and timing, the dancer internalizes balance, humility, and responsiveness—not as doctrine, but as aesthetic-ethical being.

Such aesthetic encoding reflects Rancière's concept of the "distribution of the sensible," in which embodied forms regulate perceptual and epistemic access.

Ultimately, the first step becomes a mode of embodied thought—where somatic epistemology resides in weight shifts, breath cycles, and affective resonance. Through this micro-movement, tradition breathes, evolves, and lives.

5. Preliminary comparative perspectives—embodied knowledge generation in Kunqu Yunbu and Noh Suriashi

5.1. The performer's body as a site of cultural transmission

In both Kunqu and Noh, the performer's body is not merely a neutral executor of movement, but a vessel that carries cultural meaning and a sense of historical continuity emergent through iterative practice. As a "cultural body," the performer internalizes codified techniques and rhythmical logics passed down across generations, while simultaneously regenerating modes of knowing and valuing through each rehearsal and performance.

The foundational step-based movements—Yunbu in Kunqu and suriashi in Noh—are not only exercises in bodily control, spatial rhythm, and breath dynamics, but also embodiments of specific cultural aesthetics and bodily norms. Their modes of transmission are rarely dependent on verbal articulation or abstract instruction. Instead, knowledge is conveyed through co-presence, mimicry, sensorial attunement, and intercorporeal experience between teacher and student.

5.2. Embodied knowledge and generative mechanisms in Kunqu Yunbu

Yunbu is widely regarded as the basic gliding step in Kunqu performance. Although outwardly simple in appearance, it encodes intricate mechanisms of bodily coordination, breath guidance, and rhythmic modulation. Based on the author's fieldwork and high-resolution video analysis, it is observed that prior to the initiation of the first step, the performer undergoes a phase of somatic adjustment involving breath regulation, weight shifting, and focused perception. This is not a process of mechanical imitation, but an instance of somatic cognition—where real-time bodily awareness leads to active recalibration^[18].

Two conceptual tools are proposed in this study: MEEU and REP. These terms describe how embodied knowledge arises not from fixed forms or explicit corrections, but through recursive cycles of trial, attunement, and self-regulation. While Kunqu pedagogy does allow for verbal cues and explicit correction, the acquisition of pre-movement somatic precision—especially in the initiation of Yunbu—depends more on the dancer's own negotiation within “ambiguous experiential states.”

Zhu, in *A Survey of Kunqu Body Techniques in the Twentieth Century*, notes that Kunqu body training has increasingly undergone processes of codification, terminology standardization, and template-based instruction. While these shifts have aided preservation, they also risk diminishing the fluidity and somatic richness of traditional training. By juxtaposing Zhu's macro-level historical insights with the author's micro-analytical findings, it becomes evident that within Yunbu, there remains a tension between institutional standardization and emergent somatic knowledge^[19].

5.3. Nonverbal practice and embodied co-presence in Noh's Suriashi

In contrast, suriashi in Noh—one of the first techniques introduced to beginners—reflects an alternative pedagogical logic: one of restraint, inward purification, and perceptual sensitivity. While Yokoyama does not name specific techniques, his analysis reveals that fundamental Noh training is conducted through nonverbal co-presence and shared bodily experience, rather than explicit explanation. Rather, it is transmitted through bodily proximity, synchronized breathing, and shared rhythm. In such moments, the student attunes to movement through silence and observation.

Yokoyama introduces the term “latent technique” to describe how knowledge is not imposed from above, but emerges from within a context of shared bodily experience. Through watching, waiting, and being-with, the novice gradually acquires a sensibility to timing, spacing (*ma*), and breath, rather than reproducing codified forms. This nonverbal mode of instruction constitutes a fully embodied learning environment, where silence, presence, and micro-rhythms mediate the transfer of knowledge^[20].

Suriashi is not merely a locomotor method—it also reflects a somatic focus on alignment, restraint in spatial use, and heightened perceptual stillness. Its repetitive practice is less about replicating fixed aesthetics than about cultivating bodily sensitivity to subtle shifts in breath, timing, and space. Nomura also emphasizes that foundational movement training in Noh involves bodily acquisition through direct physical guidance or mimetic demonstration. He draws on Zeami's writings to stress the importance of internal contrasts—such as stillness

within movement—as essential to achieving refined expression and balanced presence^[21, 22].

5.4. Comparative analysis: two pathways of embodied pedagogy

The following table outlines key distinctions and convergences between Kunqu Yunbu and Noh Suriashi:

Dimension	Yunbu (Kunqu)	Suriashi (Noh)
Teaching Approach	Somatic correction with verbal cues	Immersive, nonverbal co-presence
Bodily Orientation	Outward expression, breath-driven flow	Inward purification, perceptual stillness
Cognitive Mechanism	Recursive loops of sensing and adjustment (REP)	Emergent sensitivity from bodily alignment
Knowledge Formation	Discrete somatic units (MEEU)	Latent techniques activated through shared practice

Despite their differences, both systems elevate the primacy of bodily experience in transmission. Yunbu privileges the movement from form to affective resonance; suriashi emphasizes the progression from stillness to perception. Each reflects a 5.5 Conclusion: Toward a Cross-Cultural Somatic Epistemology.

This preliminary comparison of Kunqu Yunbu and Noh Suriashi reveals that while stylistically distinct, both traditions rely on embodied transmission, nonverbal pedagogy, and somatic cognition to activate tradition. Their shared reliance on the “first step” as a threshold of transformation underscores the centrality of the body as both the medium and archive of cultural knowledge.

By foregrounding the micro-phase before visible movement, this study proposes an alternative framework for understanding traditional arts—not as static repositories of form, but as dynamic, somatically-encoded practices. Future research will extend this comparative framework to include additional East Asian performance systems, with the aim of refining the MEEU–REP model and contributing to broader theories of embodied cognition, pedagogical transmission, and cultural continuity in dance-based traditions, culturally situated epistemology of learning and knowing through the body.

6. Embodied knowing, cultural continuity, and the future of somatic pedagogy

6.1. The first step as a somatic epistemic unit

This study began with a simple yet profound question: what occurs before a performer’s first step? In Kunqu Yunbu training, this moment is not a passive pause, but a threshold of cognitive emergence—where breath, gravity, and perception converge. This pre-movement phase is conceptualized as a Micro-Embodied Epistemic Unit (MEEU): a condensed somatic site where cultural memory, performative intention, and sensory readiness intersect.

Drawing on Csordas’s concept of somatic modes of attention and Sklar’s notion of kinaesthetic intelligence, this study emphasizes micro-temporality—the way embodied knowledge arises through subtle, fine-grained somatic adjustments. Here, embodiment is not merely a conduit for cognition, but the very ground from which cognition emerges. Kunqu thus becomes a site of culturally situated epistemology rooted in movement itself.

6.2. Recursive Embodied Pedagogy (REP)

Kunqu training operates through a recursive rather than linear pedagogy. Through cycles of observation, imitation, correction, and bodily recalibration, dancers co-construct embodied knowledge. This dynamic is formalized as Recursive Embodied Pedagogy (REP): a non-linear learning process comprising five interrelated phases—Intention, Sensation, Feedback, Symbolization, and Internalization.

REP resists rigid standardization and instead cultivates depth through heightened somatic awareness. It offers a flexible model for intercultural somatic education, especially in nonverbal traditions across East Asia, where teacher and student “remember” tradition together through embodied co-presence and mutual attunement^[23].

6.3. Reframing intangible knowledge

The initiating moment of Yunbu resists codification. Situated not in visual form but in kinaesthetic calibration and perceptual resonance, it exposes the limits of archival models of preservation. In response, this study proposes a non-archivable knowledge framework, aligned with Diana Taylor’s concept of the repertoire and Rancière’s idea of the distribution of the sensible.

Within this framework, tradition is not merely retrieved from the past, but continuously regenerated through embodied action. The dancer’s body functions not as a passive site of reproduction, but as an active locus of reactivation^[24]. This approach affirms UNESCO’s emphasis on community-centered, lived transmission of intangible cultural heritage, where preservation is enacted rather than stored^[25].

6.4. Somatic philosophy and ontological becoming

Yunbu’s first step enacts more than stylized technique—it initiates a shift in being. The performer transitions from stillness into embodied presence, enacting the body as an ontological agent—a generative site of meaning through movement.

While Merleau-Ponty interprets movement as the body’s way of inhabiting the world, Kunqu extends this by suggesting that movement also establishes ethical and cosmological relations. In Chinese somatic thought, knowing and moving are inseparable—“to walk is to know.” The first step does not merely represent knowledge; it reveals it^[26]. In contrast to digital abstraction, this view restores the body as an irreducible source of meaning, where tradition persists as rhythm in motion^[27].

6.5. Toward a somatic future

If movement generates cognition, the future of performance research must begin with the intelligence of the body. This study outlines three interrelated directions:

(1) Intercultural Somatic Education

The REP model provides a cross-cultural structure for nonverbal, co-sensing instruction grounded in shared bodily experience^[28].

(2) Sensorial Technologies

Rather than supplanting embodied practice, digital tools can enhance somatic awareness—through simulation, motion capture, or haptic feedback—to refine perceptual acuity^[29].

(3) Embodied Ethics in Curriculum

Reconceptualizing dance training as philosophical inquiry cultivates attentional discipline, humility, and relational sensitivity, fostering a pedagogy of care^[30].

In sum, this study reframes the “first step” as a somatic event of knowing—a micro-temporal convergence of intention, breath, and gravity. Cultural continuity is not preserved through data, but through attuned presence^[31].

To move with care is to resist forgetting. To step with breath and attention is to begin knowing again. Future research may extend this inquiry through comparative analysis with Noh’s *suriashi*, illuminating both distinct and convergent logics of embodied knowledge across East Asian performance traditions.

7. Glossary of technical terms

Term	Definition
Yunbu (CHN)	A foundational gliding step in traditional Chinese Kunqu Opera, which initiates movement through the coordination of breath, weight, and directional intention.
Xu (CHN)	A spatial and energetic openness that enables suspended weight and fluid motion, emphasizing receptivity and non-resistance.
Rou (CHN)	Elasticity in motion characterized by yielding adaptability and soft responsiveness; a key somatic aesthetic in Chinese performance.
Qi (CHN)	A vital internal force that organizes and animates movement in traditional Chinese performance, enabling breath-led continuity and internal focus.
Suriashi (JPN)	A fundamental sliding step in Japanese Noh (能) theatre, marked by slow, grounded motion that sustains rhythmic presence and internal perceptual flow.
Kinesthetic Empathy	Affective resonance and sensorimotor attunement between bodies, facilitated through embodied mimicry and shared perception.
Comparative Somatic Epistemology	An interdisciplinary framework for analyzing culturally situated systems of embodied knowledge, focusing on differences in bodily perception, learning, and transmission.
Recursive Embodied Pedagogy (REP)	A cyclical and non-linear pedagogy of embodied learning, in which knowledge develops through loops of sensation, feedback, co-regulation, and shared bodily awareness.
Micro-Embodied Epistemic Unit (MEEU)	A minimal somatic unit occurring before visible movement, where perception and intention converge to generate embodied knowledge.
Embodied Epistemology	A mode of knowing grounded in bodily sensation, perception, and movement, as opposed to discursive or symbolic knowledge.
Somatic Readiness	A pre-action bodily state marked by breath regulation, weight sensitivity, and perceptual alignment before movement begins.
Repertoire	A live, embodied mode of cultural transmission rooted in performance and physical memory, contrasted with archival forms of knowledge (Taylor, 2003).

Disclosure statement

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Investigation and Research on the Development and Implementation of Aesthetic Education Curriculum in Higher Vocational Colleges under the Core Competency Framework

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Abstract: The role of aesthetic education in higher vocational colleges has garnered increasing attention, as it not only enriches students' campus cultural life but also enhances their innovative and practical capabilities. Higher vocational colleges should provide diversified aesthetic education platforms and encourage students to participate in artistic activities and social practices, thereby achieving the organic integration of knowledge, skills, emotions, and values. This study investigates and analyzes the current status of aesthetic education curriculum implementation in Chinese higher vocational colleges, examines students' perceptions, interests, and demands for such courses, identifies existing challenges, and proposes targeted solutions. The findings reveal that most students perceive aesthetic education as crucial for personal growth. However, issues such as homogeneous course formats and tedious teaching content persist. This research aims to provide insights for improving the quality of aesthetic education curricula in higher vocational institutions.

Keywords: Higher vocational colleges; Aesthetic education curriculum; Current status investigation; Countermeasure suggestions

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1. Introduction

(1) Definition and significance of aesthetic education

Aesthetic education, or artistic cultivation, refers to educational activities that foster students' aesthetic sensibilities, capabilities, and values through exposure to art, culture, and nature. Its core lies in enhancing students' aesthetic literacy and nurturing innovative thinking and practical skills through

artistic and cultural immersion. In Western vocational education systems, such as Germany's dual-system model, aesthetic elements are integrated into vocational training through industry-academia collaborations, such as craft design workshops and music programs. In China, aesthetic education has become a cornerstone of the "Five Domains of Education" framework in higher vocational institutions, elevating students' artistic cultivation and comprehensive development. The *Outline for Building a Leading Educational Nation (2024-2035)* issued by the Central Committee of the Communist Party of China and the State Council on January 19, 2025, explicitly states:

"Deepen quality-oriented education, refine the comprehensive cultivation system integrating moral, intellectual, physical, aesthetic, and labor education, and advance the immersive integration of aesthetic education in schools"^[1].

This policy underscores the strategic importance of aesthetic education in vocational education.

(2) Distinctiveness of aesthetic education in higher vocational colleges

Higher vocational colleges, as hubs for cultivating technical and skilled professionals, require unique approaches to aesthetic education^[2]. Compared to general universities, these institutions prioritize practical skill development. Thus, their aesthetic curricula must balance theoretical knowledge with hands-on practice, enabling students to appreciate beauty, embrace multiculturalism, and refine professional competencies. Through aesthetic education, students not only acquire technical expertise but also cultivate sensitivity to aesthetics and intercultural understanding.

(3) Research objectives and significance

This study investigates the current implementation of aesthetic education in higher vocational colleges, identifies systemic challenges, and proposes actionable strategies. By analyzing students' perceptions, demands, and feedback on existing curricula, the research aims to provide theoretical and practical guidance for optimizing aesthetic education programs. Its significance lies in advancing the role of aesthetic education in nurturing a new generation of high-caliber professionals who possess both technical proficiency and refined aesthetic sensibilities, thereby aligning with national educational reforms and societal development goals^[3].

2. Investigation results and problem analysis of aesthetic education curriculum implementation in higher vocational colleges

This study employed a questionnaire-based survey to examine the current status of aesthetic education curriculum development and implementation in higher vocational colleges. The survey addressed key aspects including students' awareness, interest, teaching content, and evaluation methods. The research team selected five higher vocational institutions, comprising vocational undergraduate colleges and "Double High Plan" institutions. A total of 1,522 valid questionnaires were collected via Wenjuanxing, achieving a 100% response rate. The 22-item questionnaire focused on curriculum development, implementation, and synergies between aesthetic education and ideological-political education.

2.1. Students' awareness and interest in aesthetic education

The findings reveal that approximately 58% of respondents consider aesthetic education "crucially important" for personal growth, 35% deem it "moderately important," and only 2% perceive it as "unimportant." This indicates strong student recognition of aesthetic education's significance. Additionally, 65% express active interest in

aesthetic education, 25% adopt a neutral stance (“depends on circumstances”), and 9% show disinterest. While enthusiasm for aesthetic education is generally high, a subset of students remains ambivalent.

2.2. Current status of aesthetic course offerings

Music, art, and drama appreciation dominate existing curricula, whereas practical courses (e.g., choir, instrumental performance) account for only 47.77%. This highlights an over reliance on theoretical instruction and insufficient emphasis on hands-on artistic engagement.

2.3. Curriculum formats and teaching methods

Approximately 55% of students access aesthetic courses through online platforms, 33% via blended learning (online and offline), and 13% attend in-person lectures. Regarding teaching preferences, 63% favor experiential learning, 61% prefer teacher-led instruction, and 41% advocate for group collaboration. These results underscore students’ inclination toward interactive and participatory pedagogical approaches.

2.4. Student feedback on curriculum challenges

Key issues identified include underdeveloped curricula (24%), outdated pedagogical concepts (26%), faculty shortages, and insufficient institutional investment. Notably, 26% criticize the disconnect between theory and practice, while 24% describe course content as monotonous. These findings reflect systemic deficiencies in practical course offerings and curricular innovation.

2.5. Integration of aesthetic and ideological-political education

While 87.45% of students report exposure to integrated aesthetic-ideological courses, 57.16% acknowledge their developmental value. However, 26% lack awareness of such initiatives, and 8% dismiss their relevance. This signals the need for enhanced promotion and strategic refinement of interdisciplinary synergies^[4].

3. Implementation strategies for improving the construction quality of aesthetic education courses in higher vocational colleges

Through data analysis, we have comprehensively understood the current situation of aesthetic education courses in higher vocational colleges and put forward targeted improvement suggestions on this basis. Mainly, in combination with the characteristics of higher vocational college education and the actual needs of students, excellent traditional Chinese culture should be incorporated into the teaching content of aesthetic education courses to enhance students’ understanding of excellent Chinese culture. For example, teaching contents such as calligraphy, Chinese painting, ocarina, and Jiangnan silk and bamboo music can be added. It is also necessary to keep up with the development trends of modern aesthetics, update the course content in a timely manner, and add teaching contents in emerging fields such as contemporary art and digital art. A hierarchical teaching system should be established. According to students’ interests and cognitive development, beginner, intermediate, and advanced courses should be set up to meet the needs of students at different levels, enrich the course system, and improve the participation and practicality of the courses. The specific measures are as follows:

3.1. Strengthen the practicality of aesthetic education courses

Surveys show that current aesthetic education courses are mainly theory - based, and practical courses are

relatively weak. Higher vocational colleges should increase the proportion of art practice courses, such as chorus, instrumental performance, and dance, promote the aesthetic education infiltration action, and strengthen the practical links of aesthetic education to enhance students' practical ability and sense of participation. At the same time, an aesthetic education venue that combines education and training should be constructed, promoting school - enterprise cooperation to integrate multi - party resources and break through the dilemma of weak practical links in aesthetic education in higher vocational colleges. In addition, aesthetic education courses with industry - specific characteristics should be offered, combining industry development trends and enterprise needs, such as highly targeted aesthetic education courses in art appreciation, design aesthetics, and cultural creativity.

3.2. Enrich the teaching forms of aesthetic education courses

Students in the new era prefer teaching methods with strong interactivity and high participation. Teachers should reduce single - style lecture teaching and increase diversified teaching methods such as group cooperation and experiential learning to improve students' enthusiasm for learning. Modern educational technologies, such as multimedia teaching, virtual reality, and aesthetic education platforms, should be actively introduced to enhance the interactivity and practicality of teaching, and enrich teaching resources and learning methods. A strong artistic atmosphere can also be created on campus, art practice activities can be carried out, and a variety of second - classroom teaching forms can be offered, such as setting up art exhibitions, holding art competitions, establishing art clubs, and organizing art lectures and salons, to improve students' practical ability and aesthetic experience, so that students can be subtly influenced by beauty^[5].

3.3. Strengthen the teaching staff of aesthetic education courses

Surveys show that the shortage of teaching staff for aesthetic education courses is one of the main problems faced by most schools. Higher vocational colleges should strengthen the training of aesthetic education teachers, establish and improve a training mechanism for aesthetic education teachers, and regularly carry out professional training and exchange activities to improve the professional qualities and teaching abilities of aesthetic education teachers^[6]. In addition, off-campus experts and artists should be invited to participate in the teaching and guidance of aesthetic education courses to enrich the course content. High-level aesthetic education talents should be introduced, and school-enterprise cooperation should be carried out to strengthen the teaching staff and improve the quality of aesthetic education teaching. Schools should set up an incentive mechanism for aesthetic education teachers, incorporate the teaching achievements of aesthetic education into the teacher title evaluation system, stimulate the enthusiasm for teaching innovation, and improve the professional level of the teaching staff.

3.4. Promote the collaborative education mechanism of “aesthetic education plus ideological and political education”

The combination of “aesthetic education plus ideological and political education” is an inevitable trend in implementing the project of cultivating people with moral integrity in the new era. Higher vocational colleges need to further promote courses that combine aesthetic education and ideological and political education to enhance students' ideological and political qualities and aesthetic abilities. At the same time, activities such as special lectures and art exhibitions can be held to improve students' awareness and interest in the combination of aesthetic education and ideological and political education^[7]. A perfect aesthetic education course system that promotes the coordinated progress of aesthetic education and ideological and political education should be constructed, following the characteristics of aesthetic education, highlighting value shaping, and giving full play

to the main-channel role of aesthetic education courses in the school's ideological and political education. The aesthetic education value and functions contained in each discipline should be deeply explored, and the organic unity of teaching and practice should be strengthened^[8].

3.5. Improve the evaluation system of aesthetic education courses

Surveys show that 58.08% of students hope to use a multi-aspect evaluation method (intra-group, teacher, and self-evaluation) to evaluate their performance in aesthetic education courses. It can be seen that the establishment of a diversified evaluation system is in line with students' psychology and can avoid a single exam-based evaluation method. The existing evaluation focuses on knowledge memory and skill mastery, with a relatively single evaluation dimension. The evaluation indicators for assessing students' internalization of values, music review writing ability, and creative adaptation and display ability are not perfect. It is necessary to break through the traditional assessment and evaluation model and establish a diversified and multi-dimensional evaluation system. An evaluation mechanism mainly based on student evaluation can be added, highlighting the teaching concept of "student-centered". Through evaluation, students' learning interest can be stimulated, their aesthetic ability and comprehensive quality can be promoted, and the teaching quality can be guaranteed^[9].

4. Case studies of aesthetic education curriculum in higher vocational colleges and international experience reference

4.1. Aesthetic education practices at Shanghai Science and Technology Innovation Vocational College

During the first semester of the 2024–2025 academic year, Shanghai Science and Technology Innovation Vocational College prioritized integrating theory with practice in its aesthetic education curriculum. By offering diverse art practice courses and establishing robust artistic exchange platforms, the college achieved notable outcomes. A detailed analysis of this case is provided below:

4.1.1. Distinctive curriculum design with emphasis on practice and experience

As a high-quality vocational institution co-established by municipal and district authorities, Shanghai Science and Technology Innovation Vocational College balances specialized skill training with general education anchored in aesthetic development. Leveraging both internal and external resources, including the National Academy of Education Administration's China Education Cadre Online College platform, the college has pioneered blended online-offline teaching models. These efforts align with the practical needs of higher vocational students while delivering high-caliber, multidimensional aesthetic courses. Key initiatives include:

Integration of first and second classroom activities: The college offers art practice courses such as choir, dance teams, ceramic flute clubs, creative rope skipping, and rhythmic gymnastics. These cater to diverse student interests, stimulate artistic potential, and emphasize hands-on engagement over mere theoretical instruction.

Innovation-driven learning: Students are encouraged to incorporate creative elements into artistic practices, such as composing original music, choreographing dance dramas, editing musical accompaniments, and synchronizing music with visual media. These activities cultivate innovative thinking and practical skills.

4.1.2. Expansion of artistic exchange platforms to broaden horizons

The college regularly hosts art exhibitions and performances, providing students with platforms to showcase

their talents, build confidence, and enrich campus cultural life. Additionally, it organizes lectures and salons featuring renowned artists and scholars, enabling students to engage with masters and explore cutting-edge artistic trends^[10]. Partnerships with external art organizations further expand off-campus practice opportunities, enhancing students' social adaptability^[11].

4.1.3. Significant outcomes in curriculum development and holistic student growth

Participation in foundational and practical aesthetic courses has markedly improved students' artistic literacy and aesthetic competence, enabling deeper appreciation of artworks and spiritual enrichment. Collaborative art projects foster teamwork, communication, and leadership skills, while creative endeavors enhance imagination and problem-solving capabilities. These initiatives not only cultivate a vibrant campus artistic atmosphere but also promote the comprehensive development of students' moral, intellectual, physical, aesthetic, and labor-related qualities.

In conclusion, Shanghai Science and Technology Innovation Vocational College has conducted pioneering explorations in aesthetic education, yielding substantial results. Moving forward, the institution is poised to deepen curricular reforms, innovate teaching models, and contribute to nurturing high-caliber technical professionals with ethical values, creativity, and practical expertise.

4.2. Cases of combining aesthetic education and ideological and political education in “Double-High” vocational colleges

Some “Double-High” vocational colleges have actively explored the combination of aesthetic education and ideological and political education^[12]. Against the backdrop of the “Double-High Plan”, Jiangsu Maritime Institute has based itself on the cultural genes and educational functions of traditional Chinese opera. By offering the “Opera plus Ideological and Political Education” course, it combines opera appreciation with ideological and political education, and constructs a trinity ideological and political education model for the opera appreciation course, namely “cultural inheritance-value guidance-practical empowerment”. It has formed a replicable typical case, helping students understand the ideological values and cultural connotations contained in opera works while appreciating them. This teaching method not only improves students' aesthetic ability but also enhances their ideological and political qualities. The following is an in-depth analysis of the case:

4.2.1. Curriculum reconstruction and implementation path

In terms of curriculum content, classic opera works containing traditional Chinese virtues, patriotism, and craftsmanship spirit are carefully selected. For example, the Peking Opera “Mu Guiying Takes Command” interprets female responsibility and patriotism; the Kunqu Opera “The Peony Pavilion” explores the beauty of human nature and the philosophy of life; the local opera “Jiao Yulu” links the red spirit with the values of the era. A content matrix of “historical classics plus red themes plus modern innovations” is formed. Through the interpretation of the background of the opera, the analysis of roles and types, and the decoding of singing and music, the essence of traditional Chinese culture such as “benevolence, righteousness, propriety, wisdom, and faith” and the core socialist values such as “hard work” and “dedication” are naturally integrated into the opera appreciation. In terms of teaching mode, the innovative “New Opera Creation and Performance” project is carried out. Students are guided to adapt traditional operas. For example, “The Orphan of Zhao” is adapted into a short play with the theme of integrity, or modern opera sketches with the themes of “rural revitalization” and “craftsmanship spirit” are created to promote the creative transformation of values. Topics such as “Dialogue

between Opera and Contemporary Youth” are set, such as “The Commonality between Traditional Concepts of Loyalty and Filial Piety and Modern Civic Responsibilities”. Gender equality issues are explored in combination with the Huangmei Opera “A Woman from Huizhou” to stimulate students’ critical thinking. In terms of industry - education integration, a “Intangible Cultural Heritage Inheritance Workshop” is jointly established with local opera troupes. Intangible cultural heritage inheritors are invited to tell the craftsmanship spirit of “one minute on the stage, ten years of hard work off the stage”. “Opera plus Cultural and Tourism” practical projects are developed. For example, opera-themed study tour routes are designed for rural scenic spots, allowing students to practice cultural confidence in cultural services.

4.2.2. Educational achievements and characteristic innovations

Remarkable achievements have been made in value guidance. Through the chain of “role substitution-emotional resonance-behavior imitation”, abstract ideological and political theories are transformed into perceptible artistic images. For example, by experiencing the singing and movements in the Henan Opera “Hua Mulan”, students deeply understand the contemporary value of “women can hold up half the sky” and spontaneously organize a campus forum on “Female Career Development”. The evaluation system is multi-dimensional. A “Four-Dimensional Evaluation Model” is constructed: artistic aesthetic ability (singing analysis reports), cultural understanding ability (interpretation of opera symbols), value judgment ability (analysis of the ideological and political implications of opera works), and practical innovation ability (scoring of original scripts). Rich achievements have been made in resource construction. An “Opera plus Ideological and Political Education Case Database” has been established, which includes the analysis of the ideological and political implications of more than 50 opera works. For example, the enlightenment of the awareness of the rule of law in the Pingju Opera “Yang Sanjie Brings a Lawsuit”. A series of micro-courses on “The History of the Communist Party in Opera” has been developed. Taking the Peking Opera “The Eve of the Expedition” as the carrier, the micro-course “Learn the Roles in Peking Opera and Pass on the Spirit of Heroes in the Anti-epidemic” is produced, which tells the dedication, responsibility, and strong sense of social responsibility of medical workers who sacrifice their small families for the big one, and has won awards in the provincial micro - course teaching competition for vocational colleges.

4.2.3. Promotion value and enlightenment

On the basis of the reform of aesthetic education courses, Jiangsu Maritime Institute has broken through the bottlenecks of traditional aesthetic education. Through the specific learning mode of “singing, reciting, acting, and fighting” in opera, it has solved the contradiction between “theoretical indoctrination” and “emotional alienation” in traditional ideological and political courses, providing a new paradigm of “dynamic inheritance with ideological and political empowerment” for courses on intangible cultural heritage inheritance. In highlighting the characteristics of vocational education, the training of opera skills is combined with the cultivation of professional qualities. Through the training of “hand, eye, body, method, and step” in Peking Opera, students’ concentration and teamwork ability are cultivated, reflecting the educational orientation of “simultaneous cultivation of morality and skills”. In terms of radiating social service effectiveness, the student team goes to the community to carry out the tour performance of “Chinese Spirit in Opera”, combining the classic segment of “Taking Tiger Mountain by Strategy” with anti-fraud publicity, realizing a chain reaction of “art dissemination-value transmission-social governance”. This case uses the unique advantages of opera art of “conveying the spirit through form and influencing people through emotion” to construct an educational closed-loop of “from artistic infiltration to value internalization to behavior externalization”. It not only provides methodological reference for

the ideological and political construction of traditional cultural courses but also explores a characteristic practical path for vocational colleges to implement the “Strategy of Building a Strong Cultural Country”. The core inspiration is that ideological and political education in courses should be rooted in professional genes. Through “creative transformation”, ideological and political education should move from “abstract preaching” to “concrete infection”, and finally achieve the educational effect of “seeing, hearing, understanding and acting”.

4.3. Integration of aesthetic education in German vocational education

Germany’s dual-system vocational education is an educational model that jointly cultivates talents through enterprises and schools, emphasizing the combination of theory and practice^[13]. In recent years, Germany has gradually integrated aesthetic education elements into vocational education, forming a unique aesthetic education integration model. This integration not only improves the quality of vocational education but also provides broader space for students’ career development and the cultivation of comprehensive qualities. The following is an analysis of the integration of aesthetic education in Germany’s dual-system vocational education:

4.3.1. Background and motivation of aesthetic education integration

Economic and Social Demands: With the adjustment of Germany’s economic structure and the rise of emerging industries, the market’s demand for technical talents with innovation ability and aesthetic qualities has increased. The integration of aesthetic education is a catalyst for cultivating students’ creativity and aesthetic ability, enabling them to better meet the needs of modern industries.

Educational policy support: Policies issued by the German Federal Ministry of Education and Research emphasize the integration of vocational education and higher education, focusing on the improvement of students’ comprehensive qualities. This policy orientation provides institutional guarantee for the integration of aesthetic education into vocational education.

Influence of cultural tradition: Germany’s speculative tradition and emphasis on art and culture make its vocational education focus on students’ all-around development while paying attention to skill training.

4.3.2. Specific practices of aesthetic education integration

Curriculum design and teaching content: In the dual-system vocational education, aesthetic education courses are incorporated into the curriculum system of vocational schools. For example, vocational schools offer courses such as art design and basic aesthetics, and integrate aesthetic education elements according to the characteristics of different majors. The architectural design major may add aesthetic design courses, and the horticulture major may integrate landscape aesthetics content.

School-enterprise cooperation and practical teaching: As an important part of the dual-system vocational education, enterprises actively participate in the integration of aesthetic education. Enterprises provide students with practical opportunities, allowing them to feel the value of beauty in actual work. For instance, in manufacturing enterprises, students not only learn technical operations but also participate in the appearance design and process beautification of products. Germany’s “learning factory” is an upgraded version of the dual-system vocational education, integrating the learning place and the workplace. In this model, students can learn aesthetic knowledge in a real production environment and apply it to product design and the production process.

4.3.3. Significance and value of aesthetic education integration

Cultivation of Comprehensive Talents: The integration of aesthetic education enables students to improve their

aesthetic ability and innovative thinking while mastering vocational skills, which helps to cultivate compound-type talents and enhance students' comprehensive qualities^[14].

Enhancing the Attractiveness of Vocational Education: The addition of aesthetic education makes vocational education more attractive, changes the traditional social perception of vocational education, and attracts more students to choose the dual-system vocational education.

Promoting Industrial Upgrading: Technical talents with aesthetic qualities can better meet the requirements of modern industries for product design and process aesthetics, promoting the upgrading of Germany's manufacturing and service industries.

Although Germany's dual-system vocational education has achieved remarkable results in the integration of aesthetic education, it still faces some challenges. The integration of aesthetic education courses and traditional vocational education courses needs to overcome disciplinary barriers to ensure their organic combination. Some small and medium-sized enterprises have insufficient understanding of aesthetic education integration and low participation, which affects the comprehensive promotion of aesthetic education integration. There is a shortage of "dual-qualified" teachers who are proficient in both vocational education and aesthetic education. Globally, similar problems are faced. The specialization of professional teachers in aesthetic education or the vocationalization of aesthetic education teachers may be a major trend for future vocational colleges to improve their educational concepts. Further improvement of the aesthetic education integration model in vocational colleges can provide useful references for global vocational education reform.

5. Conclusion

This paper reveals the main problems in the current aesthetic education in vocational colleges through an investigation of the current situation of the establishment and implementation of aesthetic education courses in vocational colleges and proposes corresponding countermeasures. The research shows that the construction and implementation of aesthetic education courses in vocational colleges still face many challenges and need to be further optimized and improved in terms of the curriculum system, teaching content, teaching staff, and teaching resources. Special attention should be paid to strengthening the practicality of aesthetic education courses, enriching teaching forms, enhancing the teaching staff, strengthening the combination of aesthetic education and ideological and political education, and improving the evaluation system to promote the optimization and development of aesthetic education course construction. Only by continuously deepening the reform of aesthetic education and innovating the aesthetic education teaching model can aesthetic education truly play an important role in cultivating high - quality technical and skilled talents with both professional skills and aesthetic interests in the new era, laying a solid foundation for students' all - around development and lifelong learning and contributing to the sustainable development of society^[15].

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A Development of Design Education Program Based on Local Cultural Contents to Promote Creativity of Chinese Children

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Abstract: Various studies have been conducted to identify the concept of creativity and enhance it effectively. Many advanced countries in the field of design have already expanded the scope of design education from specialized education to universal education and utilized such design education as a curriculum for promoting the creativity. Although education industry in China has been growing rapidly with the increase in the national income, the current educational contents have been mostly focused on the subjects/contents for an entrance examination, with little consideration of creativity promotion for children. Therefore, as an effort to promote creativity of Chinese children, the current study developed a design education program utilizing Chinese cultural contents and verified its educational effectiveness in terms of creativity promotion. The program was developed in the following process: 1) exploring the program development direction through an in-depth interview with parents; 2) deriving three lesson plans through an ideation session with some experts in art education for children; and 3) selecting a final lesson plan through experts/parents evaluation and developing a final textbook. A total of 10 children were educated with the developed textbook, and their levels of creativity before and after the education were comparatively evaluated using Torrance Tests of Creative Thinking (TTCT). The study results showed that the education program developed in the current study significantly affected the children's creativity, which would contribute to promoting the children's creativity, and also, developing a new creativity education program in the future. Additionally, it is expected that the research methods employed in this study, that is, developing a creativity promotion program using some cultural/local contents, could be usefully/widely applied in various fields of education.

Keyword : Children's Creativity; Design Education; Cultural Contents|

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1. Introduction

1.1. Background and purpose of the study

In the modern industrial society, due to the upward levelling of production technology, additional values such as

design and brand, which belong to the cultural and emotional domain, rather than the value of the product itself, are taking on a greater proportion in securing market competitiveness. As the industrial structure has become more sophisticated, creative consumer groups (Cresumer) have begun to emerge who take the initiative to propose and plan new product concepts, thus increasing the role of individuals with creativity^[1]. Against this backdrop, creativity is emerging as a very important factor for both producers and consumers, and as a skill that individuals must possess in the future society. Therefore, it is believed that educational methodologies to promote creativity will become increasingly important in order to improve national competitiveness in the long term.

V. Papanek, a leading design educator, has argued that design education is effective in developing creative thinking skills if it is implemented from childhood, when both brains are growing^[2]. In addition, E.P. Torrance's (1995) study on the tendency of creativity development shows that creativity continues to grow throughout childhood^[3,4]. A number of Korean and international studies, including Oh Yoo-young (2017), have also shown that education methods that foster creativity and integrative thinking for children in early childhood are highly effective^[5]. Design-advanced countries have recognised the educational value of design education as a way to promote creativity, intellectual ability, and integrated thinking skills such as problem-solving ability at an early age, and have made continuous efforts to apply it systematically from the early childhood general education stage.

China has achieved rapid economic growth since opening up to the outside world in 1978. With the increase in national income and the improvement of living standards, the demand for advanced education has increased significantly. However, the current education industry in China is mainly composed of entrance examination-oriented subjects, and the scale of education related to creativity is very small^[6]. This is mostly due to the fact that some private education providers have obtained licences from overseas education programmes and provide services in a few large cities. The awareness of design education in China is limited to the field of professional education and has not been extended to the field of universal education, which aims to develop children's creativity. The design education system is outdated and fraught with problems such as unclear educational goals, lack of systematicity and content^[7], and there is a lack of awareness and research on design education for children.

As China's growth has slowed down in recent years, there has been an increasing emphasis on creativity as a qualitative growth engine. Therefore, in the long run, the importance of creative talents is expected to increase in order to improve national competitiveness in the future. Previous studies have shown that effective creativity education is best implemented in childhood, when the brain is still developing, and will be more time-consuming and costly in adulthood.

Therefore, the purpose of this study is to propose a design education programme to promote creativity in Chinese children and to verify the effectiveness of the programme in promoting creativity.

1.2. Method and scope of the study

This study was conducted by reviewing the literature on the main concepts of creativity and its importance. In addition, the necessity of childhood design education and the cases of countries that are implementing design education were summarised. The specific process of developing and validating an educational programme to promote creativity in Chinese children is as follows. First, in-depth face-to-face interviews were conducted with Chinese parents of elementary school children to understand their perceptions, expectations, and opinions about design education and to derive the direction of programme development. Second, three drafts of design education programmes were proposed through idea generation and organisation with a group of experts currently engaged in education. Third, the three drafts were evaluated by experts and parents in the form of face-to-face in-depth interviews, and one draft was finally selected to develop the design education programme. Fourth, we conducted

classes for children between 9 and 10 years old. To check whether the children's creativity was improved, we conducted creativity tests using the Torrance Tests of Creative Thinking (TTCT), the most commonly used and recognised measurement tool, before and after the programme. The results were then analysed by an official organisation to compare the changes in creativity index before and after the class to verify the effectiveness of the design education programme.

This study was conducted to develop and validate a design education programme to promote creativity in Chinese children, and was conducted from the perspective of design education as universal education rather than specialised design education.

2. theoretical reflections

2.1. The concept of creativity

In educational psychology, creativity is defined as 'the ability to produce something new, original, and useful' or 'the ability to think outside the traditional way of thinking, to create new relationships, or to produce non-routine ideas' ^[8]. Creativity has been emphasised as a very important trait in modern society, and countless efforts have been made to specifically identify, develop, and utilise it. However, as it is a subject that has been studied in a wide range of fields and with a variety of research models, the definition of creativity varies greatly depending on the time period and academic discipline. The modern study of creativity can be traced back to Guilford of the American Psychological Association in 1950. Early studies of creativity focused on the thought structures of people who were considered creative and the outputs they produced. In the 1970s, creativity was studied mainly in terms of cognitive aspects and problem-solving processes. In the 1980s, a view emerged that creativity should be interpreted through an outcome-orientated assessment, in contrast to process-orientated creativity, and in the modern era, an integrated interactive view, such as the 4 P's, emerged, which refers to the complex interaction of the creative person (Person), process (Process), product (Products), and environment (Press) factors. The flow of research on creativity is summarised in **Table 1** ^[9].

As shown in **Table 1**, research on creativity has varied over the ages. As a comprehensive view that penetrates through these opinions as a whole, it may be possible to extract the context of 'the idea or ability to create new value' and 'the most appropriate and effective methods and processes in the current situation'. Kim (2014) argued that human creativity is the ability to edit existing things to make them feel new in a different context, and that anyone can train creativity through training ^[10]. From this perspective, it can be said that human creativity is something that can be trained through proper education and learning. It can also be hypothesised that creativity can be expressed in different ways depending on the surrounding environment, and environmental factors are an important topic in recent research on creativity.

Therefore, when designing educational programmes to promote children's creativity, it is necessary to consider the educational environment and socio-cultural context of the target children and to find localised teaching methods that can be adapted to them.

Table 1. Definitions of different perspectives on creativity

Perspective	Scholar	Definition of creativity
Cognitive	Guilford (1959)	The power to give birth to something new and novel, i.e., to produce new thinking; considered equivalent to divergent thinking.
	Veron (1989)	The power to produce new and unique ideas, insights, inventions, or artistic output.
	Bum Mo Jung (2001)	The power of creating something new and rewarding
Personality traits	Rogers (1962)	Creativity is the emergence of an action that produces a new result, a process that is generated by the characteristics of the individual and the events, people, materials, and circumstances of his or her life history that surround him or her, and the motivation for seeking such a process is the tendency to self-realisation.
	Taylor (1988)	It is a complex psychological process that expresses productive and creative thinking, and is characterised by perseverance, an attitude of achievement, change and improvement. It is an attitude that seeks perseverance, achievement, change and improvement, and a passion that gives rise to great conviction.
	Foreground circle (2006)	The ability to create objects or ideas that are valued by society and culture for the well-being of oneself and others, as well as the ability to come up with new opinions to solve problems, is a character trait that underpins the character traits.
Troubleshooting process	Torrance (1977)	The process of recognising a problem, generating ideas to solve it, formulating and testing hypotheses, and communicating the results.
	Youngechae Kim (2001)	The mental process of generating new and useful ideas.
	Liu Zhonglin (2002)	The process of making choices based on what you already know.
Deliverables	Amabile (1983)	New and relevant ideas, actions, or deliverables.
	Weisberg (1999)	Original, positively evaluated output in the arts, sciences, and work.
	Shi Guangming (2002)	Something new, unique, and valuable that a person has produced in the course of their thinking and doing.
Interactions between individuals and their environment	Urban (1995)	Ability to mobilise insights from a given or perceived problem to create new, novel, or original output.
	Csiksentmihalyi (1996)	It emerges from the interaction of a system composed of three elements: a culture that contains symbolic rules, a person who brings newness to the symbolic domain, and a field of experts who recognise and validate that newness.
	Rose (1996)	It is a trait that every human being possesses and refers to both the ability to generate new ideas and the ability to integrate and modify previous ideas. In addition, creativity can be developed and the degree to which it is developed is determined by the given environment.
	Plucker & Beghetto (2004)	Interactions between processes and their ability to produce useful results or outputs.
	Sawyer (2006)	The emergence of what is appropriate from an individual, group, or society.

2.2. Components of creativity

As shown in the literature, there are various views on creativity and what constitutes creativity.

Guilford (1959) identified fluency, flexibility, elaboration, originality, reconfiguration, and persistence as the basis of creativity, while Torrance (1962) identified the following elements in addition to fluency, flexibility, originality, and elaboration: abstraction, openness, courage, originality, intuition, optimism, adventurousness,

engagement, and curiosity. Lubart (1994) proposed intellectual abilities, knowledge, thinking styles, personal characteristics, motivation, and environment as factors in the expression of creativity, and Urban (1995) presented a comprehensive list of these components, dividing them into cognitive and definitional aspects^[11].

In recent creativity research, an integrative approach that emphasises the interaction of the cognitive and definitional components of the above streams with environmental factors has formed the main context.

Since the creativity measurement tool used in the experiments of this study is the TTCT, the components proposed by Torrance (1962) were considered in the development of the training programme.

2.3. Torrance tests of creative thinking (TTCT)

The Torrance Tests of Creative Thinking (TTCT) or Torrance Tests of Creative Thinking is a well-known and popular creativity testing tool. Torrance defines divergent thinking as creativity, which is the ability to generate many different and new ideas. The sub-factors of divergent thinking are ‘sensitivity to problems or deficits’, ‘fluency’, ‘flexibility’, ‘originality’, and ‘elaboration’. According to Torrance, these factors play a dominant role in creative thinking, and he developed the TTCT to provide a methodology for measuring them.

The TTCT consists of two main parts: verbal and shapes. The Verbal Creativity Test assesses items such as ‘fluency’, ‘flexibility’, and ‘originality’, while the Figurative Creativity Test assesses items such as ‘fluency’, ‘originality’, ‘abstractness of ideas’, ‘elaboration’, and ‘resistance to jumping to conclusions’. The items in the verbal and pictorial creativity tests are shown in Table 2 below^[12,13].

Table 2. TTCT creativity test assessment questions

Delimiters	Question	Content
Language part	Activity 1 Ask a question	List questions that can be asked about the picture.
	Activity 2 Guess the cause	Look at the picture and make a guess about the cause of the event.
	Activity 3 Guess the outcome	Look at the picture and make a guess about the outcome of the event.
	Activity 4 Enhancing your work	Look at the conditions presented and come up with ideas to improve them.
	Activity 5 Unique uses	Come up with clever ideas using existing objects.
	Activity 6	* Previously implemented but now removed.
	Activity 7 Imagine	Look at a given situation and imagine what creepy things might happen.
Shape parts	Activity 1 Compose a figure	Use your imagination to construct a picture based on a given picture.
	Activity 2 Complete the drawing	Complete a picture based on an unfinished, incomplete shape.
	Activity 3 Draw a circle-line	Draw as many objects or pictures as possible on the given circles or lines.

The TTCT can be used to test creativity in a wide range of populations, from children to adults. The data is provided in percentile scales for each age group, making it easy to intuitively understand where a test subject’s creativity level is^[14]. The verbal and shapes sections of the TTCT have two types, A and B, and are widely used as

a tool to verify the effectiveness of educational programmes in various fields as a pretest and posttest to promote creativity.

3.Design education

3.1. The concept of design education

In education, design is broadly divided into general and specialised education according to its purpose. Since the emergence of the Bauhaus, design education has mainly developed around professional curricula to train professional designers.

Table 3. Value of design as general education^[15]

Advocates	The value of design education
Bruce Archer	Explain the justification for design education as a third domain, on par with the humanities and sciences.
Stuart Pugh	Emphasise that design integrates knowledge from both art and science.
Charles L.Owen	Problem Solving, Conceptualisation, Visualisation, Communication, etc. design education with professional training
Nigel Cross	real-world Problem Solving, Constructive Thinking, and non-Verbal thinking are essential values of design education. values of design education.
Charles Burnette	Assert that design is a general process that is not limited to any particular domain, but can be applied to any subject area.
Victor Papanek	Argues that design education can develop the ability to critique and create cultural values.
J. Norman	Asserting its role as an important medium for developing creative abilities and integrating experiences from other subjects and life experiences.

Since then, the scope of design has expanded significantly, and the roles required of designers have also changed. Design as a general education in Shenzhen aims to develop creative problem-solving skills by cultivating integrated thinking skills.

Charles Burnette argued that design is a completely generic process and that everyone does design ^[5], and Nigel Cross believes that design education can further develop the ability to develop general knowledge ^[16]. These views do not limit design to specialised education. They illustrate the view that design is a tool or discipline of universal education and can be applied in many fields to contribute to problem solving. From this perspective, design as a professional education is considered to be instrumental, while design as a general education is considered to be more intrinsic to education. Design education that is appropriate for childhood can promote emotional development in addition to aesthetic senses ^[17]. Therefore, it is necessary to seriously consider the academic status of design as a general subject.

3.2 The importance of childhood design education

Torrance's (1995) research on the developmental trends of creativity shows that creativity is a continuous growth throughout childhood ^[3]. In addition, studies by Alieldin (1979), Carroll (1979), Leven (1984), and others, influenced by Torrance's theory, have shown that children's creativity tends to increase with age during the preschool and elementary school years ^[4].

Appropriate design education in childhood can enhance children's aesthetic abilities and promote their

emotional development. Hong (2011) found that people who experienced design education in childhood are more likely to have the ability to enjoy and evaluate design as adults ^[17]. Design education is effective in promoting the development of children's problem-solving skills and can enhance their ability to express themselves creatively.

3.3 Best practices in design education

Design-advanced countries have recognised the value of design education and have made efforts to incorporate design into the general curriculum. These curricula focus on early childhood and childhood, the stage when children's creativity develops, and are designed to provide direct and indirect experiences of design thinking and processes. As a representative example, the characteristics of design education in the UK, the US, and Japan are summarised in **Table 4** below.

Table 4. Design education in advanced design countries

Country	United Kingdom	United States	Japan
Programmes Name	Design and Technology	K-12	Art and Craft
When to implement	1960 year	1989 year	1989 year
Training for	5~16 years old	5~13 years old	6~12 years old
Educational purposes	Increase design literacy across the population Increase creativity.	Improve the effectiveness of task-based problem-solving skills training.	Increase creativity Improve self-directed thinking.
Teaching methods	4 stages by age Key Stage Operations	Hands-on activities based on K-12 processes	Three levels of formative activities by age
Curriculum	Experience design activities in your life	Libraries & Art Galleries and more Programmes.	Creating with interactivity

It can be seen that the educational programmes in the examples above are designed to provide children with hands-on experiences, such as formative activities and problem solving. They also strive to promote children's creativity through the process of identifying problems and approaching solutions.

4. Design education programme development

4.1.Direction of programme development

Before developing the design education programme, this study conducted in-depth interviews with parents in China to explore the development direction suitable for the local educational environment. The survey was conducted from 21 August 2019 to 31 August 2019 in Nankai District and Heping District of Tianjin City, China. The composition of the interview participants is shown in **Table 5** below.

Table 5. Overview of parents participating in in-depth interviews

Category	Age	Gender	Child age	Child gender
Parent A	37years old	women	10 years old	women
Parent B	43years old	women	10 years old	women
Parent C	40years old	women	10 years old	women
Parent D	43years old	women	10 years old	women
Parent E	41years old	women	10 years old	Female
Parent F	36years old	women	9years old	women
Parent G	36years old	women	9years old	Female
Parent H	38years old	women	9years old	women
Parent I	35years old	women	9years old	women
Parent J	37years old	women	9years old	Female

The in-depth interviews were conducted orally and lasted approximately 60 minutes. The interviews were transcribed and analysed. The interviews were conducted in a relaxed atmosphere, broadening the scope from issues related to children's education to creativity promotion and design education. This was done to prevent the researcher from dominating the interview and to build rapport and encourage more candid responses. The main questions we wanted to find out through the interviews were:

- a) What do you know about design education?
- b) What do they think about children's creativity?
- c) If there was a design education programme to promote creativity, what would they expect to see?
- d) What are the characteristics of a design education programme that is suitable for the Chinese educational environment?

The following table summarises the main points of the interviews. Similar concepts are combined into the same sentence, and the frequency of answers is indicated.

Table 6. Summary of interview results

Category	Summary of interview content	Frequency
a	I've heard of it.	4
	Never heard of it.	2
	I know a little about it.	2
	I know a lot.	1
	I know it very well.	1
b	To be able to work out what needs to be done independently and not rely on others.	3
	Children need education at each level of development.	2
	To develop their natural abilities and help them realise their full potential.	2
	The ability to think outside the box.	1
	Activities that they can enjoy, activities that allow them to express themselves.	1
	I don't know. But I think it's very important.	1

Table 6 (Continued)

Category	Summary of interview content	Frequency
c	The process of developing a child's ability to think and express themselves.	4
	To enable them to think and plan for the future.	2
	To train their creative abilities through a variety of sensory stimuli.	2
	Activities that are interesting, enjoyable and allow them to express themselves.	2
d	Traditional Chinese morals and values, inherent virtues, family commitment and respect, and other spiritual and didactic elements are necessary for living in modern Chinese society.	7
	Educational content that reflects China's unique design, art, and vast and varied traditional cultural elements.	3

Table 7. Synthesis of in-depth interviews

Category	Summary
Perceptions of child creativity	Self-direction, independence, real-world applicability, individual expression
Design Education Programme Expectations design education programmes	Imagination, confidence, self-expression, autonomy
Characteristics of creativity education in China	Traditional Chinese values (such as respect, loyalty, prudence, modesty, filial piety, etc.), Chinese cultural elements, and unique Chinese art.

4.2. Programme design

The creativity of divergent thinking as defined by Torrance is the category of creativity in this study. The programme aims to induce children to think divergently, and set the learning direction so that children can reach a conclusion by organising the given problems in their own thoughts and methods. The basic teaching method of the programme is based on the Korean 'after-school design classroom' that the Ministry of Knowledge Economy has been promoting since 2008. The teaching method is divided into three stages: understanding design, problem discovery and problem solving, and presentation and integration. The programme developed in this study reorganises these three stages into four stages of 'understanding', 'designing', 'making' and 'presenting' to design a design education programme. Based on the results of a survey of Chinese parents, the programme was designed to include elements of Chinese cultural content and the traditional Chinese values implied in it. In addition, the programme was developed in consideration of the components of creativity proposed by Torrance.

An idea generation meeting was held to propose lessons for the design education programme. The meeting group consisted of four people, including the researcher, one PhD in design currently working in Chinese education, and two teachers majoring in Western painting. The meeting was conducted in a brainstorming format, and various Chinese cultural contents and their contents were summarised. The ideas generated from the brainstorming were visualised in the form of a mind map.

Through the idea meeting process, elements of traditional Chinese culture were identified and organised into categories to summarise the values associated with the cultural elements. Among them, we selected traditional drama, traditional costumes, and traditional crafts as elements that are suitable for programmes targeting children and easy to secure diversity of expression. Through this, we proposed three lesson plans for design education programmes that include Chinese cultural elements. Each lesson proposal is shown in **Table 8** below.

Table 8. Summary of each lesson plan

Cultural Factors	Traditional Theatre
Learning Concepts	Social Skills
Learning tools	Masks, paints
Highlights	Identify your own personality to design the main character of a light play; Discover role models in classic Chinese stories; Consider how you see yourself in your peer group.
Cultural factors	Traditional Clothing
Learning Concepts	Family Ethics
Learning Tools	Paper, non-woven fabric, cloth, etc.
Highlights	Learning to design traditional clothing linked to old stories; self-reflection through stories about filial piety.
Cultural factors	Traditional ceramics
Learning Concepts	Self-esteem
Learning Tools	Clay, paint
Highlights	Cultivating pride in one's culture through ceramics, a representative cultural content of China; self-expression training through learning the basic concepts of advertising.

4.3. Evaluation and selection of programme options

In order to evaluate the preferences of the three teaching options proposed above, collect opinions on each option, and investigate improvements, a second in-depth interview survey was conducted with the same group as the first interview survey.

The second round of in-depth interviews to evaluate the programme options was conducted from 20 November 2019 to 30 November 2019. Interviews were conducted via audio and video calls, each lasting approximately 30 minutes or more. The parent groups were provided with basic reference materials for the interviews in advance, and all individual interviews were transcribed.

Table 9. Results of the survey on preferences for class offerings

Category	Suggestion 1	Suggestion 2	Suggestion 3
A	3	1	2
B	3	1	2
C	3	2	1
D	2	1	3
E	3	2	1
F	3	2	1
G	2	3	1
H	2	3	1
I	1	3	2
J	3	1	2
Preference score total	25	19	16

*The weighted scores of 3, 2, and 1 are used to provide an intuitive representation of the order of preference.

Taken together, the interview responses to each of the lesson proposals indicate that the interview group believed that each of the proposals contained cultural elements and values and had elements that would appeal to children. Parents' preferences for the three proposals are shown in Table 9 above, in the following order: "Traditional theatre" - "Traditional costumes" - "Traditional pottery".

In particular, parents showed high interest in the programme that used elements of traditional drama because it was differentiated from the existing education related to traditional drama in the form of colouring books. In addition, the process of children thinking about their own personality and creating their own character by using the character expression elements of light drama was well received. In particular, many participants felt that the lesson plan using elements of traditional drama was less difficult than the other lesson plans and would be suitable for a programme targeted at children. Many participants also wished that the learning related to linguistic expression could be a little larger. As an improvement and complement to proposal 1, many people said that they would like to see more opportunities for children to organise their thoughts and express themselves more freely, rather than learning the form of traditional theatre in depth as it is. Therefore, we designed specific lesson plans and teaching materials around the elements of traditional theatre, and developed the lesson content in a way that allows children to organise and freely express their personal feelings about the form of expression and traditional theatre rather than the in-depth content of traditional theatre.

4.4. Design education programme proposal

The design education programme using traditional theatre is composed of four sections: understanding, design, production, and presentation, with the theme of creating one's own costume as the main artifact of a traditional light theatre. The programme aimed to promote creativity and enhance understanding of their own traditional cultural arts through the process of learning about and designing traditional costume styles for light theatre.

The programme also encouraged the children to identify their own personality and design their own costumes in the form of a light play, reflecting the opinions of themselves and their peers, so that they could naturally experience self-objectification and self-reflection. The structure of each learning stage is as shown in Table 10 above.

Table 10. Organisation of learning stages in a programme

Stages of learning	Topics	Content	Preparation
Understanding (1/4)	Appreciating the faces of characters in light drama	Learn about Chinese light theatre. Learn about the facial expressions of the characters in a puppet show. Describe their feelings while looking at the facial expressions of the characters. Talk about their favourite characters.	Image material of water, a representative light pole, basic material on the expression technique of light pole make-up.
Designing (2/4)	Transpolar face Designing	Organise your thoughts about your own personality. Encourage each other to think about what your friend's personality is like. Using the expressive techniques of puppetry to design your own puppet costume.	A sketching sheet with basic shapes outlining the expressive techniques of light pole make-up.
Creating (3/4)	Creating	Try out different ways to display your own designs on a white mask.	Colourable White Mask Various materials to create different colours and textures.
Presenting (4/4)	Publishing	Share with your friends what character you represented with the masks you created. Look at and evaluate your friend's masks. Compare it to your favourite light theatre character and imagine what you would do if you lived in that character's time.	Children's favourite costumes for their favourite characters Images of costumes and masks from other countries.

4.5. Implementation and validation

As an empirical study to verify the effectiveness of the proposed design education programme in promoting creativity, a class was conducted from 13 December to 22 December 2019 for 10 elementary school students aged 9-10 years old in Tianjin, China. The group was selected from students taking entrance-level art courses at an art institute. The lessons were conducted in four sessions of 60 minutes for each course. The overall class schedule is shown in **Table 11** below.

Table 11. Design education programme class schedule

Dates	Contents
6 - 8 December 2019	TTCT test pre-assessment
13-14 December 2019	Appreciating the characters and stories of an opera
15 December 2019	Designing my own Jingkei costume
20 - 21 December 2019	Create a mask for my design
22nd December 2019	Showcasing my Jingkei costume
27th - 29th December 2019	TTCT Test Post-Assessment

Prior to the design education programme, the children were pre-assessed using the TTCT creativity test. A post-assessment was also conducted using the same method after the programme was completed to observe whether creativity had improved. Both the pre- and post-assessments were conducted using the TTCT test for verbal and shapes creativity and were assessed by an accredited organisation. The results of the pre- and post-assessments of children's creativity are shown in **Table 12**. The creativity indices for each part of the verbal and shapes tests are presented in terms of standardised scores and corresponding percentile scores.

Table 12. Comparison of TTCT creativity test assessment results – shapes

Separation		TTCT Creativity Test - Shapes section					
		Pre-assessment		Post-assessment			
		Standard score	Percentile	Standard Score		Percentile	
				Points scored	Incremental value	Points scored	Incremental value
3rd Year	A	90	25	105	+15	67	+42
	B	112	84	122	+10	97	+13
	C	89	24	119	+30	94	+70
4rd Year	D	106	70	120	+14	95	+25
	E	102	59	109	+7	77	+18
	F	102	59	106	+4	70	+11
	G	91	28	98	+7	47	+19
	H	88	21	112	+24	84	+63
	I	93	33	106	+13	71	+38
	J	101	53	112	+11	84	+31
Average		97.4	45.6	110.9	13.5	78.6	33

Table 13. Comparison of TTCT creativity test assessment results – language

Separation		TTCT Creativity Test - Shapes section					
		Pre-assessment		Post-assessment			
		Standard score	Percentile	Standard Score		Percentile	
				Points scored	Incremental value	Points scored	Incremental value
3rd Year	A	77	13	103	+26	55	+42
	B	71	7	127	+56	92	+85
	C	92	38	118	+26	84	+46
4rd Year	D	109	64	116	+7	81	+17
	E	87	31	106	+19	58	+27
	F	83	21	116	+33	81	+60
	G	80	17	127	+47	92	+75
	H	97	45	98	+1	47	+2
	I	99	49	117	+18	83	+34
	J	101	51	112	+11	74	+23
	Average	89.6	33.6	114	24.4	74.7	41.1

As shown in **Table 12** and **Table 13** above, the pre- and post-assessment results of the TTCT test confirm the effectiveness of the design education programme in this study in promoting children's creativity. The mean percentile value of the post-test improved by 33% in the shape section and 41.1% in the language section. In addition, the mean standardised scores improved by 13.5 and 24.4 points in the shape and language sections, respectively.

5. Study results

5.1. Comparison of pre- and post-test means

In order to analyse whether the design education programme presented in this study has a positive effect on promoting children's creativity, a paired t-test was conducted using SPSS Window (Ver.21) to analyse the data from the TTCT pre- and post-test. The results showed significant changes in both verbal and graphic creativity.

Table 14. Comparison of pre- and post-creativity test means

Separation		t	df	p
1	Pre-Post Geometry Standardised Scores	-5.346	9	.000***
2	Pre-Post Geometry Percentile	-5.095	9	.001**
3	Pre-Post Language Standardised Scores	-4.464	9	.002**
4	Pre-Post Verbal Percentile	-4.974	9	.001**

* = $p < 0.5$, ** = $p < 0.1$, *** = $p < 0.001$.

5.2 Comparison of pretest and posttest subfactor means

Paired t-test was used in this study. The results showed that fluency, a subfactor of linguistic creativity ($t(9) =$

-4.626, $p < .01$), flexibility ($t(9) = -5.094$, $p < .01$), and originality ($t(9) = -3.291$, $p < .01$). In the subfactors of shape creativity, there were significant changes in abstractness of the title ($t(9) = -3.213$, $p < .05$) and resistance to hasty closure ($t(9) = -2.834$, $p < .05$). On the other hand, there were no statistically significant changes in fluency ($t(9) = -.095$, $p > .05$), originality ($t(9) = -1.843$, $p > .05$), and elaboration ($t(9) = -2.000$, $p > .05$), with only modest increases in scores.

Table 15. Pre- to post-creativity test subfactor mean comparison

	Separation	t	df	p
1	Pre-Post Language Fluency	-4.626	9	.001**
2	Pre- and post-language flexibility	-5.094	9	.001**
3	Pre-post verbal originality	-3.291	9	.009**
4	Pre- to post-shape fluency	-.095	9	.927
5	Pre- and post-shape originality	-1.843	9	.098
6	Pre- and post-shape elaboration	-2.000	9	.077
7	Pre-Post Abstractness of subject matter	-3.213	9	.011*
8	Pre-Post Shapes Resistance to hasty conclusions	-2.834	9	.020*

* = $p < 0.5$, ** = $p < 0.1$, *** = $p < 0.001$.

6. Conclusion

In this study, we developed a design education programme to promote Chinese children's creativity. Based on in-depth interviews with Chinese parents, we developed a programme consisting of four stages of 'understanding, designing, making, and presenting' using elements of Chinese cultural contents such as traditional drama, and implemented the programme in Chinese elementary school children in grades 3-4. In order to verify the effectiveness of the programme in promoting creativity, the Torrance Tests of Creative Thinking (TTCT) were administered to the children before and after the programme to observe changes in the children's shapes and language creativity indexes.

By comparing the results of the pre- and post-test, we found that the children's creativity in shapes improved by 13.5 standard deviations and 33% in the mean percentile, while the children's creativity in language improved by 24.4 standard deviations and 41.1% in the mean percentile. We also conducted a paired-sample t-test on the pre- and post-test results, and found that the children's creativity improved significantly in the post-test after the programme. In the post-assessment, we found that the verbal creativity index was significantly higher than the shape creativity index. This is thought to be a result of the fact that parents' opinions on the importance of verbal expression were gathered during the design of the programme and reflected in the lessons. The children in the class were professionally trained in art and spent a lot of time on art during the day. It is assumed that the parents were aware of this and requested that their children's weaknesses be compensated for.

The results of the analyses of the sub-factors of the TTCT's verbal and pictorial creativity index are as follows.

The sub-factors fluency (63.6 per cent), flexibility (70.5 per cent) and originality (63.8 per cent) of the linguistic creativity index were all significantly improved on average in the post-assessment after the class. We also conducted a paired-sample t-test on the results of the sub-factor assessments and found that the

improvements were statistically significant. Abstractness of title (37.1%), a subfactor of the Shape Creativity Index, Resistance to jumping to conclusions (15.4%), originality (15%), sophistication (12.9%), and fluency (3.1%) all improved on average in the post-assessment. A paired-samples t-test revealed statistically significant gains in abstractness of the subject line and resistance to hasty closure. On the other hand, originality, elaboration, and fluency did not show statistically significant results, even though the indexes of the items improved. A study by Heo (2016) also analysed the results of the TTCT and found that while the overall creativity index improved, sub-factors such as fluency and originality showed little change or even a decrease in scores^[18]. The children who participated in the design education programme in this study were all enrolled in pre-school art education and had basic artistic expression skills. This may explain why they did not show significant gains in items such as fluency and elaboration related to expressive behaviour. In addition, the small sample size of 10 children in this study may have had some influence on these results.

In other words, although no significant results were found for some of the sub-factors, based on the view of creativity as a set of sub-factors, the overall improvement in the creativity index of the participating children suggests that the programme contributed to the improvement of children's creativity. As discussed in the theoretical study, creativity has a rapid growth curve in infants and young children, and it has the characteristics of timely education that requires education appropriate to the growth stage. Therefore, it is very important to provide educational opportunities to promote creativity in infants and young children. Therefore, this study developed a design education programme using Chinese cultural contents to enhance the diversity of creativity education for Chinese children and verified its effectiveness. As an example of creativity education, it is expected to contribute to the promotion of creativity in Chinese children. It is also expected to be used in various educational fields as an example of developing an educational programme using unique cultural contents.

The effectiveness of the educational programme developed in this study was verified by conducting actual classes for children. However, there is a limitation that the number of participants in the class was limited to 10 children. This can be overcome by conducting future studies with a larger number of children. Since the children in this study were receiving specialised art education for entrance examinations, it is recommended that future studies should be conducted with children in general public education institutions who have not experienced entrance examination art. In addition, it is necessary to conduct a multi-faceted comparison and validation study using various categories such as regional culture, urban and rural, and ethnic identity.

For the sake of future generations, it is important to utilise cultural content from not only China but also other countries. I hope that research on the development of educational programmes for various purposes, including the promotion of creativity, using cultural contents will be actively conducted for future generations.

Disclosure statement

The authors declare no conflict of interest.

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A Study on the Sustainability of Social Enterprises Focusing on Companies in the Field of Culture and Arts

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Abstract: Recently, measures for successful settlement and sustainability of social enterprises have become an important topic. Accordingly, researches related to social enterprises are increasing, but studies measuring sustainability are still insufficient. In this study, in order to seek the sustainability and development of social enterprises in the field of literature and arts, a theoretical model for the sustainability of social enterprises in the field of culture and arts was presented. To this end, interviews were conducted with social enterprises in the field of culture and arts, and the results were analyzed to derive the concept and categorization of sustainability of social enterprises in the field of culture and arts. In addition, the integration between the derived categories is illustrated. For a social enterprise in the field of culture and arts to be sustainable, differentiated culture and arts services are important, and each company must constantly strive for its mission and vision, and a differentiated branding strategy unique to companies is required. This research is expected to lay the foundation for empirical research on social enterprises in the culture and arts sector as data for entrepreneurs and prospective entrepreneurs who run social enterprises in the field of culture and arts.

Keywords: Social enterprise; Sustainability; Culture and arts; Ground theory methodology

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1. Introduction

Social enterprises have been discussed in Korea since the unemployment problem emerged as a serious social problem after the foreign exchange crisis in order to heal the increased unemployment and the resulting poverty while providing jobs to the socially vulnerable. At that time, the social job project implemented by the government as a national alternative to realize a welfare society was not able to provide good jobs to the people because it focused only on funding from the national government, so the need to provide quality jobs that can generate profits while providing social services emerged through the introduction of social enterprises, which are gaining prominence in the United States and Europe ^[1]. In response, the government enacted the ‘Social Enterprise Development Act’ in 2007 to institutionalize and systematize social enterprises, and interest in social

enterprises has been increasing in recent years, not only from the central and local governments but also from academia ^[2].

As social enterprises have been presented as a good alternative to achieve economic independence by pursuing economic sustainability and management techniques like general for-profit enterprises while pursuing social value^[3], the establishment of social enterprises in the field of culture and arts will not only provide artists with the opportunity to become self-sustaining, but will also be a very good opportunity to create stable jobs if the operation is done well. In particular, the number of social enterprises in the arts and culture sector has increased from 11 in 2008 to 275 as of December 2020, accounting for 9.9% of the total 2,777 social enterprises in Korea^[4]. However, it is very difficult to judge the performance of social enterprises in the arts and culture sector based on the quantitative development in line with the government's policy support. This is because the productivity of organizations in the cultural sector can be stagnant due to the characteristics of the service industry, where human labor that cannot be replaced by machines or other factors is used in the production process, and it is not easy to expect businessability or profitability due to the high proportion of labor costs due to the input of specialized personnel ^[5]. Therefore, it is necessary to identify the current status of social enterprises in the cultural sector and set effective policy directions for the sustainability of these organizations in order to develop them qualitatively. Social enterprises are characterized as mixed organizations that pursue profits and realize social purposes, and in order to pursue both goals simultaneously, they need to secure sustainability without relying on government support ^[5].

Recently, research on social enterprises has been increasing as measures for the successful establishment and sustainability of social enterprises have become an important topic. Since 2009, studies have been conducted by the Ministry of Employment and Labor and the Korea Social Enterprise Promotion Agency to analyze the performance status of social enterprises, and there is a gradual trend toward empirical analysis. However, since the studies are focused on analyzing the overall status and performance, there is a lack of research from various perspectives, and there are few studies that explore sustainability to explore the direction of development. In the study by Youngbeom Lee et al ^[6], the importance of securing each company's own identity, strategy, and public relations marketing in addition to economic and social factors is revealed through a grounded theory approach to the sustainability of social enterprises, but it is difficult to generalize the results of the study to the cultural and arts sector because the research integrated the industries of social enterprises such as social services, manufacturing, and the environment to derive a sustainable development model from an overall perspective. In addition, previous studies on the sustainability of social enterprises in the arts and culture sector ^[7-9] have limitations in that most of them focus on the operational status of organizations through literature surveys or case studies, and are limited to quantitative studies that quantify the performance and success factors of social enterprises ^[3, 10-11]. In this context, this study aims to propose a strategy model for the sustainability of social enterprises in the cultural sector that considers the specificities of the cultural sector in order to explore the sustainability and development of social enterprises in the cultural sector, which have difficulties in evaluating and strategizing performance and sustainability due to the unique characteristics of the cultural sector. For this purpose, we will apply grounded theory, one of the qualitative research methods. Grounded theory is a type of qualitative research that aims to derive a theory that can comprehensively explain the development process of the phenomenon of interest or the interaction of the participants ^[12].

The purpose of this study is to design a strategy model for creating sustainable performance of social enterprises in the cultural and arts sector, to provide practical suggestions for the sustainability of social enterprises in the cultural and arts sector, and to suggest policy implications to redefine the direction of

government support for social enterprises in the cultural and arts sector. This study can be used as a reference for entrepreneurs who are operating social enterprises in the field and for prospective entrepreneurs who are preparing to start social enterprises in the field, and it can lay the foundation for empirical research on social enterprises in the field.

2. Theoretical reflections

2.1. Social enterprise and social enterprise in the cultural sector

2.1.1. Concept and characteristics of social enterprise

The definition of social enterprise covers a wide range of areas and is defined differently by different fields of study and scholars. The social enterprise unit of the UK Department of Trade and Industry^[13] defines a social enterprise as “a business with a social purpose as its priority, where the surplus of the business is reinvested in the business, or in the community, rather than being used to maximize profits for shareholders and owners”^[13]. According to the Ministry of Employment and Labor, “a social enterprise is a company (organization) that conducts business activities such as the production and sale of goods and services while pursuing social purposes first.”^[3] In addition, the Social Enterprise Development Act defines a social enterprise as “an organization that is certified by the Minister of Employment and Labor as a company that conducts business activities such as the production and sale of goods and services while pursuing social purposes such as providing social services or jobs to vulnerable people and improving the quality of life of local residents.”^[4] A social enterprise is an organization that is certified by the Minister of Employment and Labor. Unlike for-profit companies that pursue profit for shareholders or owners, social enterprises are different in that they pursue social purposes as the main purpose of the organization, such as providing social services and creating jobs for vulnerable people^[14]. Luke and Chu^[12] defined social enterprises as “enterprises that exist for social purposes and utilize market-based technologies to achieve these purposes.” The difference between social enterprises and nonprofit organizations is the adoption of commercial operations.

A social enterprise in the field of cultural arts can be defined as an organization that provides social services based on cultural activities and creates jobs for cultural artists^[11] and conducts commercial activities for the survival of cultural arts workers while pursuing social purposes.

It can be defined as an organization that conducts for-profit activities for the survival of cultural workers in the field of cultural arts while pursuing social purposes^[14]. In this study, we define a social enterprise in the field of culture and arts as “a company that provides social services centered on cultural activities such as music, art, performance, comprehensive arts, traditional culture, and local culture, and conducts commercial activities in pursuit of social purposes such as job creation.” Based on these definitions from previous studies, social enterprises are independently operated companies that pursue social purposes and adopt the basic operating principle of reinvesting profits in the community. Social purpose here can be said to be the pursuit of public values, such as social services, job creation, or local public interest, rather than the pursuit of profit, and the achievement of social purpose is the performance of social enterprises, which is the biggest factor that can distinguish social enterprises from general enterprises.

Table 1. Definition of a social enterprise

Source	Definition
UK Department of Trade and Industry (DTI) ^[13]	A social enterprise is a business that prioritizes social purpose, where surpluses are reinvested in the business or community rather than being used to maximize profits for shareholders and owners.
Department of Employment and Labor ^[23]	A social enterprise is an intermediate form between a for-profit company and a non-profit company that conducts business activities such as the production and sale of goods and services while pursuing social purposes first.
Korea Social Enterprise Promotion Agency ^[3]	The Social Enterprise Promotion Act defines a social enterprise as an organization certified by the Minister of Employment and Labor as a company that conducts business activities such as the production and sale of goods and services while pursuing social purposes such as providing social services or jobs to vulnerable people to improve the quality of life of local residents.
Luke and Chu ^[12]	A social enterprise is a company that exists for a social purpose and utilizes market-based technologies to achieve this purpose.
Kwon Soon-Bong et al ^[11]	A social enterprise in the field of culture and arts is a company that provides social services based on cultural activities, pursues social purposes such as job creation, and conducts commercial activities for survival at the same time.
Ryu, Jung-A ^[14]	A social enterprise in the field of culture and arts is defined as “a company that pursues social purposes such as providing social services and creating jobs based on cultural arts activities such as performance, music, art, comprehensive arts, traditional culture, and local culture, and conducts profit-making activities. A company that pursues social purposes such as providing social services and creating jobs

2.1.2. Current status and characteristics of social enterprises in the cultural arts sector

Since the Social Enterprise Development Act was enacted in 2007, the number of social enterprises in the cultural arts sector has increased from 11 in 2008 to 275 as of December 2020, accounting for 9.9% of the total 2,777 social enterprises in Korea^[4]. According to a survey by the Korea Social Enterprise Promotion Agency^[4], the number of social enterprises by region is Seoul had the highest number of organizations with 518 (18.7%) and Gyeonggi had 480 (17.3%), while Sejong City had the lowest number of organizations with 16 (0.6%). By type of social purpose, 1,834 (66.1%) were for job provision, followed by 354 (12.8%) for other (creative and innovation), 212 (7.6%) for community contribution, 201 (7.2%) for mixed, and 176 (6.3%) for social service provision. By service sector, 1,523 (54.8%) were in other sectors, followed by 275 (9.9%) in culture and arts, 252 (9.1%) in education, 247 (8.9%) in cleaning, 126 (4.5%) in social welfare, and 122 (4.4%) in environment. The large proportion of social enterprises in the arts and culture sector is due to the fact that social enterprises in the arts and culture sector are required to pursue social purposes such as job creation and local economic development, and to operate in an entrepreneurial manner^[10].

Recently, interest in social enterprises in the field of culture and arts, which can have a positive effect on performing arts organizations and the culturally marginalized through various public service activities related to culture and arts, continues to increase, and social enterprises in the field of culture and arts can provide jobs for artists and contribute to the community.

Most social enterprises in the arts and culture sector are promoting multiple businesses that utilize the creativity of the arts and culture, and often operate in a mixed form with other sectors^[14]. According to the 2011 Arts Management Support Center Data Book1, social enterprises in the arts and culture sector differ from arts organizations in terms of legal status, operating values, organizational management, finance, and business. While arts organizations have flexibility in organizational management, such as artistic value orientation and artistic ties, social enterprises emphasize systematic organizational management while providing social services [Table 2].

Table 2. Arts organizations vs. social enterprises in the arts and culture sector

Item	General arts organizations	Social enterprise in the arts
Legal entity	Discretionary organizations	Nonprofit corporations and organizations
Entity Operating value	Artistic Achievement	Arts as a social service
Organizational operations	Running a loose organization Absence of labor contracts Emphasis on artistic ties	Organizing by Rules and Systems Labor contracts Emphasis on entrepreneurship and democratic processes
Finance	High reliance on public support Resin-oriented	Financial diversification orientationPursuit of profitability, sustainability, and growth
Business	Concentration on single-purpose businesses Focus on individual business	Brand expansion and business diversification Focus on annual business

Source: Arts Management Support Center (2011), Social Enterprise Certification Briefing Materials for the Arts and Culture Sector

Unlike general cultural organizations, social enterprises are becoming a realistic alternative for cultural artists in terms of economy, as they are efficiently operated by pursuing profitability and corporate management methods ^[9]. As such, social enterprises in the cultural field are growing quantitatively, and the importance of social enterprises in the cultural field is being emphasized, so related research on social enterprises in the cultural field is very important, but there are relatively few studies on social enterprises in the cultural field compared to other fields. Therefore, this study focuses on social enterprises in the field of culture and arts and aims to study their sustainability.

2.2. Prior research on social enterprises in the cultural sector

Although there are no studies that mention direct causes for the sustainability of social enterprises in the field of culture and arts, we can infer variables for the sustainability of social enterprises through studies that mention the success factors of social enterprises in general. Lee Kwang-woo ^[15] studied the success factors of sustainable social enterprises and identified six factors that affect the success of social enterprises: strategic factors, social entrepreneurship, management capabilities, organizational factors, business environment, and social networks, and verified the correlation between these factors and the success (performance) of social enterprises. The results showed that strategic factors, social entrepreneurship, organizational factors, business environment, and social network factors have a significant impact on the success of social enterprises. Jonathan and Tracey ^[16] suggested that the tension between investment, economic activity, and social action is what makes social enterprises sustainable. They proposed three distinct and comprehensive strategic options for social enterprise sustainability. These options are: distinguishing between social and commercial work, integrating social and commercial work, and collaborating with for-profit organizations. These options imply that it is important to distinguish between the capacities and relationships within an organization and how they increase the autonomy of social enterprises. In short, the key variables related to the transformation of nonprofits and social enterprises are institutional, organizational, and external environmental factors. Furthermore, the dependence of social enterprises on government can be an additional factor to consider when considering increasing the autonomy of social enterprises, and the importance of social enterprises is increasing over time because they can play a variety of positive roles within local communities, such as service delivery, job creation, and social initiatives. However, social enterprises face many financial challenges and will need to consider different ways to generate revenue, and for this reason, reliance on government may be an inevitable option in the early stages of social enterprise.

Social enterprises have the potential to be adapted and adapted to suit local needs and culture^[17], meaning that their sustainability must be considered within the context of the organization's internal and external environment and its relationship with the government. Social enterprises provide one model for nonprofits to increase their revenue while maintaining their mission^[18], but they are not an applicable or viable model when accompanied by validation of their sustainability.

Research on social enterprises in the field of culture and arts has a relatively short history, and in the early years, research was centered on the current situation and case studies^[7,13], and in recent years, attempts have been made to verify associations and correlations through statistics and information accumulation, and to analyze success factors^[8,10-11]. In a study by Park et al^[3], entrepreneurship of social enterprises in the field of culture and arts was divided into five sub-factors: innovativeness, enterprising, risk-taking, social value orientation, and job expertise, and each factor influenced the sustainability factors of social enterprises, economic foundation and environmental acceptability, through quantitative research. In addition, Lee et al^[6] viewed sustainability² as an important meaning of social enterprise success, and considered it to be the continuous fulfillment of social missions through profit generation.

The characteristics of the success factors of social enterprises in the previous studies are summarized as follows [Table 3].

Table 3. Characteristics of success factors of social enterprises in the cultural sector

Research	Characteristics of social enterprise success
Lee, Kwang Woo (2008) ^[15]	Strategic factors, Social entrepreneurship, Management capabilities, Organizational factors, Business environment, Social networks
Jonathan & Tracey (2010) ^[16]	Tensions between investment, economic activity, and social action
Weisbrod (1997) ^[18]	The organization's internal and external environment and relationship with government
Choi, Yoojin (2014) ^[8]	Social entrepreneurial factors, strategic factors, environmental factors
Jang, Gu-Bo (2017) ^[10]	Managerial and strategic factors, general and artistic competence factors, organizational factors, socio-environmental factors including government support and networks
Kwon, Soon-Bong et al (2016) ^[11]	Entrepreneurship, artistic competence, and social orientation
Park, Jin-Ah et al (2016) ^[3]	Innovativeness, enterprising, risk-taking, social value orientation, job expertise
Lee, Young-Beom et al (2016) ^[4]	Maintaining organizational identity, products/services for economic return Competitiveness and marketing

The characteristics of success factors that are common in previous studies of social enterprises in the arts and culture sector are social entrepreneurship, organizational environmental factors including social enterprise identity, and economic returns aimed at social value. Since the success of social enterprises in the field of culture and arts has many intangible factors and it is not easy to generate profits in a short period of time, it should be viewed from the perspective of sustainability that considers all of the above success factors. Therefore, this study aims to examine the success of social enterprises in the arts and culture sector from the perspective of sustainability in line with the previous studies.

2.3. Sustainability of social enterprises in the cultural sector

Corporate sustainability refers to the continuous maintenance and long-term growth of the organization's purpose and activities by utilizing corporate resources^[19]. Looking at the general meaning of sustainability, it

should be able to perform in the three aspects of sustainability: economic, social, and environmental aspects, and it should be able to make economic profits along with social responsibility and environmental soundness ^[20]. Social responsibility can be achieved by solving the problems of the current society through corporate activities, and environmental health can be achieved through sound entrepreneurship and continuous improvement of the working environment to maintain the sustainability of the company. Social enterprises can also be more sustainable when they align their financial performance with the interests of the communities they serve.

However, while the above definition of sustainability is applicable to for-profit enterprises because they ultimately aim to grow and survive financially through profit, it is difficult to evaluate sustainability of social enterprises based on financial performance such as profit. This is because the ultimate purpose of social enterprises is to solve social problems and create social value. In particular, social enterprises in the field of culture and arts must have a clearer purpose than other social enterprises because they often operate through intangible art-based activities rather than producing tangible physical goods.

From this perspective, sustainability of social enterprises in the arts and culture sector is the pursuit of social value through solving social problems while utilizing the resources of the enterprise to achieve economic goals. Since social enterprises are companies that realize both economic and social goals, both economic and social performance should be considered when discussing the sustainability of social enterprises in the cultural sector ^[21].

Previous studies on sustainability of social enterprises in the cultural sector have presented several problems related to performance indicators that are directly related to sustainability. First, compared to other social enterprise sectors, social enterprises in the field of culture and arts are often non-profit organizations, so it is difficult for them to maintain their corporate identity and stable financial operations while pursuing both ‘social value’ and ‘economic profit creation’ after converting to social enterprises ^[22].

In addition, despite engaging in various collaborative activities through culture, there is a lack of social awareness of the role and value of social enterprises in the field of culture and arts, which limits their ability to expand their activities as social enterprises and create continuous demand ^[5,23].

Looking at previous studies that have proposed sustainable measures to solve the problems of social enterprises in the field of culture and arts, Lee ^[24] proposed institutional support for sustainable management through interviews with dance companies certified as preliminary social enterprises in [Case Study on Sustainable Management of Preliminary Social Enterprises in the Field of Dance and Arts]. Based on the interviews, the researcher pointed out that the current social enterprise system provides support for product development and distribution, but there are limitations in the distribution of performances or cultural services by creative arts organizations. As a complement to this, the researcher suggests that professional consulting tailored to the characteristics of artistic organizations (dance companies) is required from the establishment stage, and that more specific business models should be established to increase sustainability as a social enterprise.

In 2013, Jang Gubo and Yang Junho ^[10]’s [Suggestions on the Sustainability of Social Enterprises of Professional Arts Organizations: Focusing on the Survey of Social Enterprises of Professional Arts Organizations] divided the factors affecting the sustainability of social enterprises into management and strategic factors, social entrepreneurial capabilities, organizational factors, and social and environmental factors, and analyzed the effects of these factors on economic and social performance for 62 (non) social enterprises registered as professional arts corporations in 2011.

On the other hand, a 2014 study by Kim Myung-hee ^[25], “Analysis of Success Factors of Social Enterprises in the Craft Sector: Focusing on the Case of Industry Craft in India,” shows that social enterprises in the craft sector can be sustainable like commercial enterprises and can grow into global enterprises. In particular, the

sustainability of social enterprises in the arts is a result of a combination of various factors, including appropriate strategies according to the growth period of the organization (social enterprise), innovative management such as value creation centered on the social mission of stakeholders and learning culture within the organization, and establishing specialized business strategies without relying on government subsidies as success factors.

As we have seen, social enterprises can be sustainable when they are socially responsible, environmentally sound, and economically profitable. This requires support to develop business models that address social issues, including social missions, and to create a healthy organizational culture and work environment. In addition, efforts should be made to connect social enterprises with the communities they serve, so that both organizations and communities can develop together.

3. Research methodology

This study utilized a qualitative research method to build a strategy model for sustainability of social enterprises in the cultural sector. Qualitative research is a research method suitable for in-depth understanding and interpretation of the experiences, behaviors, phenomena, events, etc. of research participants and is suitable for exploring natural phenomena that are not artificially manipulated ^[26].

Among the qualitative research methods, this study chose the grounded theory methodology ^[27], which is an exploration of a series of processes by identifying the causal and situational context centered on a phenomenon, because it was determined that in exploring strategies for sustainability of social enterprises in the cultural arts sector, it is necessary to specifically identify and understand the current operating status of the enterprises and how economic and social performance and environmental factors interact.

In order to conduct in-depth interviews, a preliminary survey was conducted to collect information on social enterprises and practitioners in the cultural arts sector to select interviewees, and a semi-structured questionnaire was developed to conduct in-depth interviews. Based on the collected interview data, the researcher used grounded theory methodology to categorize the central phenomena and processes of sustainable development of social enterprises in the field of culture and arts and to derive core meanings by diagramming the contextual relationships that emerge in this process. The specific research procedures were as follows.

3.1. Selection of participants for in-depth interviews

The selection method of participants in this study was theoretical sampling based on the concepts derived from the data according to the data selection method of grounded theory methodology. In-depth interviews were conducted with representatives of social enterprises in the arts and culture sector among social enterprises certified by the Ministry of Employment and Labor. The interviewees were W, a social enterprise that has been planning and operating art education involving artists and providing a platform for artists and the public to communicate since 2013, and C, a social enterprise that was certified as a social enterprise in 2016 and has been hosting performance planning and events for the purpose of enjoying various cultural programs through collaboration with government agencies, Social enterprise L, which is creating a local cultural research and local creator platform with local artists based in the Gyeonggi region in 2018; social enterprise E, which is developing and operating performances and art education programs based on books for children and adolescents; and finally, social enterprise A, which was certified as a social enterprise from a pre-social enterprise in 2020 and is planning and operating art education contents in collaboration with university institutions. The in-depth interviews were conducted one-on-one for about two hours and were recorded after obtaining informed consent. The general

characteristics of the interviewees are as follows [Table 4].

Table 4. General characteristics of in-depth interviewees

Separation	Region	When to authenticate	Industry	Type	Interviewer Positions
Social EnterpriseW	Seoul	2013	Arts & Culture	Other (Creative and Innovative)	Representative
Social Enterprise C	Seoul	2016	Arts & Culture	Social Service Provision	Representative
Social Enterprise L	Gyeonggi	2018	Arts & Culture	Social Service Provision	Representative
Social Enterprise E	Seoul	2010	Arts & Culture	Other (Creative and Innovative)	Representative
Social Enterprise A	Seoul	2019	Arts & Culture	Other (Creative and Innovative)	Representative

3.2. Data collection and analysis

The data collection was done through interviews and notes, operational reports of social enterprises, and observations, triangulated with observations. Prior to the on-site interviews, the researcher explained the researcher's research through phone calls and emails in order to create a natural atmosphere with the participants. The on-site interviews were conducted on a one-on-one basis, and a semi-structured questionnaire was used to facilitate the interviews. The main content of the questionnaire consisted of the current operation status and main business or service of the social enterprise in the cultural sector, financial and social performance, institutional support, and strategies for the survival and sustainability of the enterprise, and the specific structure of the questionnaire is as follows [Table 5].

Table 5. Organize questions

Who we are	Performance and operational/management intervention factors	Strategies for sustainability
Industry & Organizational Structure	Description of successful business or service	The organization's desire for longevity and sustainability
How we got started	Financial and social value performance	Strategic differences from typical social enterprises
Main business and services	Constraints and crises in the operation process and how they were overcome	Availability of domestic and international role model organizations
Years in operation	Institutional support from government, local government, etc.	Future self-sustaining operation Possibility and strategy

All the collected data were transcribed for analysis, and the transcribed data were analyzed using the principle of constant comparative analysis ^[28], which is a process of forming scattered raw data into more meaningful information through continuous comparative analysis. According to these principles, the researcher conceptualized the raw data by reading and analyzing the raw data line by line, deriving the meaningful units that emerged, and conceptualized the conceptualized data into more meaningful categories by iterative comparative analysis, and elaborated the categories by comparing the concepts and categories with each other.

The data were analyzed through the procedures of open coding, axial coding, and selective coding using the grounded theory method ^[28]. In open coding, concepts, subcategories, and categories were derived based on the evidence obtained from the in-depth interviews. In axial coding, we tried to present a paradigm model by connecting the categories to a specific structural framework, and we tried to build a theoretical model by

presenting the integration between the categories as a visual model, such as a picture or a schematic. In addition, to ensure the validity and reliability of the research, three of the research participants were subjected to a member check process to confirm the accuracy and errors of the research conclusions, and the truthfulness and rigor of the research were ensured through peer debriefing.

4. Analysis results

4.1. Open coding

This study aims to explore the model as a way for sustainable development of social enterprises. To this end, after analyzing the contents of in-depth interviews conducted with social entrepreneurs in the field of culture and arts who are participants in this study, open coding was used to initially categorize the data, and then through an iterative comparative analysis process, concepts and categories were named and categorized among similar concepts. As a result, 17 concepts, 14 subcategories, and 9 categories were identified [Table 6].

Table 6. Concepts and categorization of sustainability of social enterprises in the cultural sector

Concepts (Content)	Subcategories	Categories
Desire to continue business operations independent of government support. Desire to continue to operate regardless of government support.	Desire to sustain social enterprises	social enterprise Desire for sustainable development
Desire to create business and jobs for artists. Want to impact artists and culture and arts majors who exist outside of the institutionalized art world arts and culture majors who exist outside the system. Desire for a successful model Striving to create a short-term model for social enterprise in the arts and culture sector.	The desire to discover and realize social value in arts and culture businesses	
Transitioning from a funded business to launch. A business that receives startup support and converts to a social enterprise after being connected to a prospective social enterprise.	Launching a social enterprise conversion from a support project	Launching a social enterprise
Lack of social enterprise mindset. Lack of understanding of running a business that is fundamentally a social enterprise, even though the business is related to culture and arts.	Lack of understanding of social orientation of organization members	Department of Work Performance and Human Resources
Formal and administrative policies. Lack of customized consulting or management systems based on each company's characteristics. Management consulting centered on reports and theories. Attitudes of the Ministry of Labor that emphasize only formal and administrative practices.	Inadequate government support policies	Culture and Arts Cultural cultural characteristics institutional support
Manufacturing/production-oriented policies. The institutional system of early social enterprises is centered on manufacturing and productive industries. Job creation-oriented policies. Social enterprises are biased toward job creation.		
Lack of business role models. Difficulty finding business role models for social enterprises specialized in the arts and culture sector.	Lack of role models	Lack of companies/ networks specialized in culture and arts
Human composition with diverse backgrounds. Organization members have diverse fields of study and careers.	Diverse human resources	Organizational Culture
Establishing a place of mutual understanding among employees. Weekly meetings and 1:1 interviews to improve understanding and awareness of roles among employees.	Culture of participation and communication among employees	

Table 6 (Continued)

Concepts (Content)	Subcategories	Categories
Leverage leaders' areas of expertise. Expand and leverage your leader's network of specialties.	Efforts Leverage leaders' networks and artistic abilities	Social Entrepreneurship spirit
Striving to create a sustainable work environment for organization members. Consider the office environment and the long-term work environment of organization members.	Leader's sense of responsibility	
Know your company and market. Identify current market issues and past problems to revise and supplement future business plans.	Market research and company status	Understand the company and market
Adopt a clear business purpose. Plan specific financial goals and develop a business model.	Plan financial/business goals	Achieving social enterprise goals
Explore your organization's position and sustainability as a social enterprise. Always think about your mission and vision to ensure you don't lose sight of your role as a social enterprise and your social orientation.	Prioritize the values and vision of the social enterprise	
Engage with the local community to fulfill your social purpose. Constantly communicate with the local community to contribute to community development, which is one of the roles of a social enterprise.	Maintaining solidarity with the community	

4.2. Axial coding

Axial coding refers to the process of linking categories into a specific structural framework in order to understand the relationship between the categories generated through open coding. According to Strauss and Corbin ^[28], a paradigm consists of causal conditions, contextual conditions, mediating conditions, behaviors and interactions, and outcomes. The process of identifying and describing these elements is the core task of axial coding, and the process of relating other categories to the central category is accomplished by the paradigm method. Therefore, based on the analysis so far, the paradigm for sustainability of social enterprises can be constructed as follows.

4.3. Selective coding

In selective coding, core categories are selected and elaborated by relating the selected core categories to other categories to connect, integrate, and elaborate the relevance between categories. Here, categories that are more abstract than the concepts or categories generated from open coding and axial coding are called core categories. In selective coding, consolidation refers to the development of thought that occurs as the researcher analyzes the raw data, and this consensus process can be achieved through the selection of core categories, outlining the story, and presenting visual models ^[29].

5. Conclusion

The purpose of this study is to explore strategies for the sustainable development of social enterprises in the cultural sector. For this purpose, in-depth interviews were conducted with five representatives of social enterprises in the performing arts genre and the contents were analyzed using the grounded theory methodology. The analysis resulted in a conceptualization and categorization of the sustainability of social enterprises in the field of culture and arts, and an integrated model was presented to illustrate the relationships between the categories.

As a result of the study, the interviewees discovered the social value of cultural and arts projects and launched social enterprises, and in some cases, they first conducted state-supported projects and then converted to social enterprises and launched them. Currently operating for an average of six years, the representatives expressed a desire for the sustainable development of their enterprises.

Although it can be said that they took full advantage of state institutional support at the beginning of their operations, there are limitations to their sustainable operation, as the support is focused on labor costs or does not reflect the business structure and operational characteristics of the arts and culture sector, such as formal documentation and regular commuting, resulting in the inability to obtain the consent of organization members or being overwhelmed by bureaucratic procedures other than their main tasks. This leads to dissatisfaction among organizational members and negatively affects the operation of the enterprise, as it is repeatedly necessary to educate and train organizational members on the procedures and values required to run a social enterprise in the absence of professional staff and training. In addition, they complained of difficulties in planning the big picture and long-term goals for the sustainability of the organization due to the lack of cultural and arts-specific companies and networks that can be benchmarked in the process of generating revenue and building business models. Nevertheless, each representative took responsibility as a leader and strived for the survival and development of their organizations by creating a sustainable working environment and making the best use of their majors and personal networks to discover business opportunities. In addition, they overcame their limitations by establishing an organizational culture through regular meetings and one-on-one interviews to create a place of mutual understanding and enhance the roles of organizational members.

The strategies for sustainability of social enterprises in the cultural sector that were commonly recognized through the interviews were to improve the limitations of capabilities such as organizational management and employee training mentioned above, and environmental challenges such as institutional support that is not suitable for the cultural sector, and to focus on expanding the market through the discovery of projects that emphasize the specificity and creativity of the cultural sector, linkages with local communities, and solidarity among cultural enterprises.

In this section, we will discuss specific implications and suggestions for the sustainability of social enterprises in the cultural arts sector based on the analysis.

First, you need to develop a business model based on a clear financial plan. Social enterprises have a social orientation in that they pursue social values and solve various social problems in the community by using their unique business characteristics. The cultural sector is appropriate as a social enterprise because the public nature of culture and art is in line with social values, and the creation of jobs in a field where stable jobs are relatively scarce can provide a stable foundation for artists^[30]. However, in order to discuss the sustainability of cultural and artistic social enterprises, it is inevitable to expand the corporate profit structure and think about organizational management, as the process of pursuing efficiency and generating profits in terms of running a 'business' may conflict with the values that artists inherently pursue, and difficulties in employment, management, and profit generation arise from the operation of the organization itself.

A study by Seo Soon Bok^[32], which explored the influencing factors of cultural and arts social enterprises, benchmarked successful domestic and foreign cultural and arts social enterprises and found that the establishment of a business model that commercializes the results of cultural and arts activities and securing the self-sustainability of the enterprise are key factors. However, a study by Jeon Hyun-soo and Choi Kyun^[33] found that a virtuous cycle between social and economic performance of domestic social enterprises has not yet been established and that economic and social goals are not balanced.

In particular, the nature of the cultural sector is such that it is difficult to quantify performance unlike manufacturing and production, so monetization models may require the help of experts. Therefore, it is necessary to establish partnerships with related organizations and private companies to supplement the lack of funds and actively seek ways to improve the profit structure through specialized consulting.

Therefore, social enterprises in the cultural sector should develop business models that take into account the aforementioned factors to further enhance their sustainability. For example, developing a business model related to online performances and exhibitions that can solve the problem of social depression, such as the symptoms of corona blue caused by the recent coronavirus outbreak, through culture and arts, and providing it through a profitable platform such as YouTube will be very helpful for the sustainability of social enterprises.

Second, systematic support and training for organizational management is necessary from the above perspective. Specifically, it is possible to provide education and training for organizational members, consulting support for operational strategies, etc. Interviewees commonly complained of difficulties in organizational management and member management, and mentioned the need for a systematic way to improve them. In order to prevent members from leaving, an organizational culture that can proactively lead and operate the organization should be established, and support programs such as education and mentoring should be operated to foster the entrepreneurial spirit of professionals and management staff.

In addition, since the cultural field requires specialized personnel such as art majors from an operational perspective, it is difficult to expand the business, so infrastructure elements should be able to fully utilize the support of the local community. In a study by Youngbeom Lee et al^[6], which explored the sustainability of social enterprises, the support of environmental background factors such as infrastructure was found to be a major factor for sustainable development.

Therefore, for the systematic organization and operation of social enterprises in the field of culture and arts, it would be helpful to develop and operate an expert matching platform where social entrepreneurs can receive support and training from experts in the areas that are lacking or necessary in the organization and operation of social enterprises to foster social entrepreneurs.

Third, it is necessary to expand business opportunities in conjunction with local communities and strive to discover products and services through local social support. Culture and arts provide opportunities for local residents to enjoy culture and arts, and the demand for them is increasing^[34]. Among the business types of culture and arts social enterprises, the community contribution type is the highest, which reflects the needs of local residents for culture and arts and the demand of local governments for local development. Although the global pandemic is currently causing difficulties in operating in-person performances and experience programs, it is necessary to look for opportunities to partner with local communities to expand cultural and artistic enjoyment in the region from a long-term perspective. In recent years, the revitalization of community-based cultural and social enterprises has been gradually developing as various local culture-related support and promotion ordinances have been enacted not only at the regional level but also at the basic level of local governments, and the institutional foundation of local cultural policies has been established^[35]. Linking with local communities will ultimately achieve the goal of solving social problems by raising the level of local culture, resolving the polarization of culture and arts, and eliminating the livelihood and career disconnection of artists in need.

Therefore, by utilizing the infrastructure of cultural and artistic fields such as artists, ball extensions, museums, and exhibition halls in each community, periodic cultural and artistic performances and exhibitions can be provided online, and revenue models can be developed in conjunction with products such as local specialties, food, and crafts, which will further increase business opportunities through community cooperation.

Fourth, there is a need for solidarity among social enterprises in the culture and arts sector to improve institutional support. The government's support for social enterprises began in 2007, and the cultural and arts sector accounts for more than 10% of the total, but the support is still limited, such as recruiting labor costs. In order to improve this, social enterprises in the culture and arts sector should form a network and form solidarity to identify structural problems and come up with improvement plans to promote reasonable support from the government and related organizations. The 'Sharing Meeting on the Status and Support Direction of Cultural and Artistic Social Economy' held in January 2020³ can be seen as an appropriate attempt in this sense. Based on the first cultural and arts social economy survey conducted in 2019, the Ministry of Culture, Sports, and Tourism and related organizations such as the Arts Management Support Center^[22] have created a network of cultural and arts social enterprises, including cooperatives, village enterprises, self-sustaining enterprises, and social ventures, and it is a good opportunity to bring to the surface and correct the problems faced by enterprises.

Therefore, it is necessary to establish an online network of cultural and artistic social enterprises that can coexist through solidarity with each other by continuously providing a place for communication of cultural and artistic social enterprises through online communities and SNS that are linked to the business model and profit model suggested above, so that they can share problems through real-time communication and solve them through institutional improvement.

Unlike the previous studies that have been conducted on the sustainability of social enterprises in general without considering the business field or characteristics of the enterprises, this study is important and meaningful in that it derives the concept and categorization of sustainability of social enterprises in the field of culture and arts through in-depth research on social enterprises in the field of culture and arts, and it is significant in that it suggests specific improvement measures to increase the sustainability of social enterprises in the field of culture and arts.

This study can be used as a reference for entrepreneurs who are operating social enterprises in the arts and culture sector or for prospective entrepreneurs in the field, and can lay the foundation for empirical research on social enterprises in the arts and culture sector. However, since there are limitations to generalizing the findings to all social enterprises in the cultural sector due to the rather small number of social enterprises in the performing arts genre and the lack of objective verification of the categories derived, further research on social enterprises in various genres of the cultural sector and in-depth statistical analysis of the impact of each category on the sustainability factors of social enterprises will provide more meaningful results and implications.

Disclosure statement

The author declares no conflict of interest.

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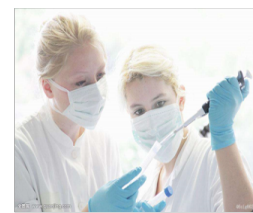
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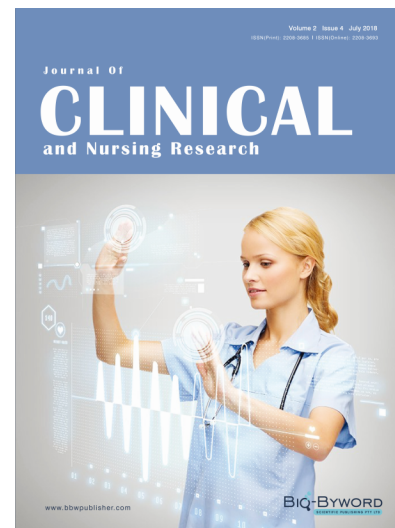
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