

Development and Design of Folk Arts Intangible Cultural Heritage Products with Laser Scanning Microscope

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Abstract: China is an ancient country with 5000 years of civilization and has a long history of culture. Among them, material and cultural heritage plays a very important role. However, the current existence and development of intangible cultural heritage is not optimistic, so it is imperative to protect intangible cultural heritage and develop and study intangible cultural heritage. With the continuous renewal of cultural industry, the innovative development and design of intangible cultural heritage is a necessary direction. Laser scanning microscope (LSM), originated in the mid-1920s, is an advanced technology developed rapidly and has been widely used in many fields such as cell and molecular biology. In order to promote the development and design of intangible cultural heritage products, laser scanning microscope is applied to the development and design of intangible cultural heritage products. This paper first investigates and analyzes the research status of intangible cultural heritage at home and abroad, then describes the laser scanning microscope in detail, and finally applies the laser scanning microscope to the development and design of paper-cut art and embroidery products. Through the investigation, we can see that the industrialization of non-heritage can be divided into productive protection, creative protection and digital protection. In recent years, cultural and creative market has great investment income, and cultural and creative products are loved by minors. The development and design industry of intangible cultural heritage products has infinite potential, and the application of laser scanning microscope in it is very innovative and feasible, which is of great significance to promote the development and design of intangible cultural heritage products.

1. Introduction

In June 2000, UNESCO officially determined "intangible cultural heritage". In October 2003, the

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Convention for the protection of intangible cultural heritage was adopted. Its purpose is to protect the intangible cultural heritage represented by festival etiquette, handicraft, dance music, oral communication and tradition [1]. After the concept of intangible cultural heritage was introduced into China, it has greatly affected the concept of cultural heritage protection in China, and gradually promoted the development of cultural heritage protection in China. In recent years, China's urbanization speed is faster and faster, and the protection of cultural heritage in China has also made great progress. The rescue speed is faster and faster, and the integrity of intangible cultural heritage protection is higher and higher. China's intangible cultural heritage protection gradually has its own characteristics, to explore suitable ways for China's intangible cultural heritage protection. In recent years, the trend of globalization is more and more obvious, and China's modernization process is faster and faster, which has greatly changed the cultural ecology of our country. Many intangible cultural heritages in China have been destroyed, which has greatly affected our intangible cultural heritage. Since then, China's intangible cultural heritage protection began. China's intangible cultural heritage protection has three important measures, namely comprehensive protection, rescue protection and production protection. In addition, as one of the four ancient civilizations in the world, China's intangible cultural heritage also plays an important role in world civilization. In addition, it also exposes various factors that hinder the development of intangible cultural heritage protection to a higher level, such as over commercialization, over commercialization and fragmentation. These factors also hinder the progress of world intangible cultural heritage protection. The existing policies and methods can no longer adapt to the current situation. The government and the Committee for the protection of intangible cultural heritage of the United Nations Educational, scientific and cultural organization have deliberated and adopted ethical principles for the protection of intangible cultural heritage [2]. In 2015, 12 new laws and regulations were added to protect the inheritance and development of Intangible Cultural Heritage [3]. In recent years, the concept of "protecting and utilizing intangible cultural heritage" has gradually come into people's vision. According to the opinions issued by the general office of the State Council and the general office of the CPC Central Committee, the project aims to inherit and develop Chinese excellent traditional culture, pointing out that the protection and inheritance of Chinese excellent traditional culture is the primary task.

China's cultural heritage is a treasure of the times. This is conducive to enhancing the Chinese people's cultural consciousness and cultural self-confidence and making the foundation of Chinese cultural soft power more solid. Through the current environment and conditions, the inheritance and development of intangible cultural heritage is of great significance to China, especially to realize the great rejuvenation of the Chinese dream. At the same time, efforts should be made to develop the advanced socialist culture so that the inheritance and development of our intangible cultural heritage will reach a higher level. In today's development situation, how to make our national culture develop and grow is a problem that needs everyone to think about and pay attention to. However, with the continuous change and development of the environment, the environment of traditional culture has disappeared, and the industrial commodity economy began to suppress the traditional culture. Many excellent traditional cultures in China has gradually disappeared, and many intangible cultural heritages cannot be inherited. The emergence of creative industries, not only across the traditional cultural industries in China, but also led to the development of creative industries. The protection utilization experiences of intangible cultural heritage are as follows: (1) comprehensive protection. 13 conventions for the protection of intangible cultural heritage. UNESCO suggests that the contracting parties should take appropriate financial, administrative, legal and technical measures to establish an organization for the compilation and compilation of intangible cultural heritage documents, so as to create conditions for promoting the utilization of intangible cultural heritage. (2) Government support. South Korea and Japan have made remarkable achievements in this regard. Japan uses disaster relief funds to integrate the protection of intangible cultural heritage into the daily life of ordinary people and encourages all people and groups to participate actively. To protect the inheritors of intangible cultural heritage in the way of reproduction. South Korea is different from Japan. (3) Participation of social organizations. In the process of marketization in foreign countries, non-individual organizations have a great impact on intangible cultural heritage. (4) Industrial operation. The inspiration of industrial management comes from "Cultural Heritage Day" in France. Exempting all public museums has attracted the active participation of social organizations. Many people and tourists are willing to attend the festival.

The concept of productive protection of intangible cultural heritage has always been the focus of academic circles in China [4]. Productive protection mainly refers to the transformation of intangible cultural heritage and its resources into productive forces and products through production, circulation and sales, so as to produce economic benefits, promote the development of related industries and play the role of intangible cultural heritage in production. In practice, we should actively protect the intangible cultural heritage and realize the benign interaction between the intangible cultural heritage protection and the coordinated development of economic society. It is necessary to clarify the basic starting point and foothold of the productive protection concept and practice of intangible cultural heritage in China. It is the protection and inheritance of traditional skills. The ultimate purpose of raw material selection, production, promotion and sales is protection. If any link is ignored, it is difficult to achieve the desired effect. As intangible cultural heritage has two different modes of production: material production and spiritual production, so "productive protection" has a certain trend. For the folk literature, folk music, folk dance, folk art and other projects with symbol and spiritual production as the main production objects, there is no direct commodity circulation. In contrast, intangible cultural heritage projects that can transform economic benefits, produce, distribute, exchange and consume in the market have greater productive protection potential. Therefore, according to the guidance, "production protection" is mainly implemented in the fields of traditional art, traditional art, traditional medicine and pharmaceutical processing

In the development and design of intangible cultural heritage, many products cannot be produced on a large scale. Due to the lack of machine operation, the production process of many products is too long and detailed, leading to the mass sales of innovative products of intangible cultural heritage. Laser scanning microscope can help solve this big problem. We will study how to observe, scan and apply laser scanning microscope to product development and production.

2. SWOT Analysis of Intangible Cultural Heritage

2.1. Advantages of Intangible Cultural Heritage

(1) Cultural heritage is profound and a good way to inherit. Intangible cultural heritage represents the memory of culture and plays an important role in the crowd. We all know that people can't live in the moment. The memory of history is an important part of our life. People are inseparable from "collective meaning" in social and cultural life [5]. Take a weathered cultural town as an example. It has a natural flavor of mountains and rivers. It is the breeding of mountains and rivers and the influence of culture that the ancient town has been formed in the inheritance and development of generations. History is not a static, it is a living body. History not only reflects the

past, but also exists in the present and leads the future. Therefore, intangible cultural heritage is called "living culture". The development of ceramic culture needs the cultural soil behind people.

(2) The characteristics are obvious and cannot be copied. Intangible cultural heritage is a kind of life Heritage [6], around people's life and daily life. It is not restricted by any utilitarianism. It has the simplest life interest and exuberant long-term vitality. The obvious feature of "coercion" is the order. "Bi" is the core intangible cultural heritage, mainly reflected in style, content and response ability. The word "Bi" runs through the beginning and the end in a clear order. This kind of very special intangible cultural heritage has the characteristics of non-duplication and local characteristics. This is an important chip in the market competition.

(3) With the participation of the whole people, there is great potential for market development. Most of the intangible cultural heritage comes from the people's Construction Association, so the most suitable way to protect the intangible cultural heritage and living environment is in the folk. However, China's intangible cultural heritage protection is mostly arranged by the state, and the public's sense of collective participation is very weak. In the protection of intangible cultural heritage, we should give full play to the masses and create a social environment in which the whole people participate in the protection. Whether the market development potential of a region can be brought into play is a matter of great concern to people. State participation not only provides a convenient way for people to understand the intangible cultural heritage, but also creates a good atmosphere for the protection of Intangible Cultural Heritage [7]. As mentioned above, this is the case in the ancient town, where all the residents gather together and gradually become an inherent Festival habit. Every family, every family, everyone is a participant and actor in this story. This kind of activity enables all the people in the town, from 100 to 1 years old, to participate, to unite, to be enthusiastic and to have a sense of collectivity. The market development potential is huge. They have the most solid public base. It is this solid folk power that can open up the corresponding market demand. In short, the intangible cultural heritage with the participation of the whole people has a strong development potential, and its market power cannot be underestimated.

2.2. Disadvantages of Intangible Cultural Heritage

(1) The site is restricted. The ancient street is north-south and is roughly surrounded by Zhaobi hall. At the other end of town street is old town street. It grew in a crack in an old street. Nowadays, with the continuous evolution and development of the ancient town, the ancient street has been unable to bear the continuous expansion of the size of the ancient town. Although the responsible ancient town has replaced the main concrete street of the town where the performance venue is located, the main street is still crowded during festivals. Therefore, the selection of performance venues in the ancient town is greatly restricted, which hinders the inheritance and development of the ancient town.

(2) There is a lack of investors. The development of intangible cultural heritage industrialization must be led by a small number of investors. Without these investors, the industrialization of intangible cultural heritage will have no foundation, just like trees without roots and water without source. As far as our ancient town is concerned, there is no activity that can make the people of an ancient town continue the tradition of thousands of years, and no art can make the people of an ancient town attach so much importance to such investment. Not every family has wealth or class. Organizations raise money regardless of wages and try not to ask for it. Its industrialization began in recent years. On the one hand, the strength of the people in the town is far from enough to make the real industrial development of the ancient street. On the other hand, they are all amateur

investors with limited funds and are unlikely to become big investors. The lack of baby investors restricts the industrialization development of Changle Story Club.

2.3. Opportunity Analysis

(1) The protection awareness of the government and the public has been improved. More and more attention has been paid to the protection of intangible cultural heritage by the government and relevant departments. Therefore, the Miluo municipal government seized all the favorable opportunities to carry out a series of practical intangible cultural heritage protection work. Miluo municipal government organized responsible persons of Miluo City, Changle, Lianyuan, Zhu Mei, Yiyang Majitang and Yongzhou Huangyang temple to sign the cooperation agreement of Hunan Museum Story alliance. We should strengthen development goals, regional exchanges, industrial integration, inheritance and protection. This is the first time that the China Pavilion has held a story Culture Festival. The government will set up a stage and sing stories. Create a story town and a story Culture Industrial Park, and create a characteristic town integrating cultural tourism stories. The implementation of the work has laid a good foundation for promoting the creation, production, business scale and industrial development of the story club. In addition, the decision-making level of the ancient town focused on polishing the name card of intangible cultural heritage and creating the slogan of story town, which laid a new high point for the development of the story. The story full of historical essence and cultural details will make this town full of stories continue to grow. The protection of this intangible cultural heritage has become the cultural consciousness of 30000 ancient town people.

(2) The diversity of teaching forms. As the unique folk culture of the ancient town, in order to better inherit and inherit the ancient town culture, Mr. Chen Fanxing applied to take this activity as a form of campus teaching. Standing in the primary school physical education class, there is a special story meeting course activity, such as walking on stilts story is its representative. Some teachers are good at storytelling in class. They teach and arrange exercises for students. They have been influenced by stories since childhood, making this folk culture deeply rooted in the hearts of children. In addition, stories are planned to enter the classroom in the form of teaching materials, mainly including six parts: source, value, program, artist, inheritance and dissemination.

2.4. Threat Analysis

(1) The influence of modern civilization and commercialization. There is no doubt that the local feelings and affinity of intangible cultural heritage make it have infinite vitality [8]. But now, under the impact of modern civilization, more and more people conform to the development trend of the times, choose to go out for employment, far away from their own tradition. On the one hand, the soil for the growth of traditional culture has changed. On the other hand, due to the different values of modern people, the inheritance and protection of intangible cultural heritage are facing severe challenges.

(2) The inheritance chain is weak [9]. At present, intangible cultural heritage, as a kind of discourse produced in heritage movement, is still based on local culture and should be inherited by local people. When we talk about the word "inheritance", it is neither a simple copy of history nor a pure inheritance of traditional culture. It needs to be constantly updated and transformed, which will bring us more pressure. The traditional culture of mugongdu is preserved and protected by the inheritors of the older generation. Their ideas have been unable to keep up with the rapid development of the information age, and their innovative ideas naturally decline. However, for the

younger generation, they are not willing to return to the town and retain the ancient traditional culture.

(3) The market competitiveness is low. At the present stage, the inheritance and protection of intangible cultural heritage mainly stay in the imitation and display of the original ecology, and its language curriculum is relatively simple, it is difficult to meet the needs of modern society, and form a fierce competition with other cultural brands in the market [10]. From the perspective of development, card brand is the process of human emotion expression and creation. In other words, it reflects a way of life and life mentality of modern people. Therefore, the value of brand cannot be ignored. It has not formed its own cultural brand advantage. The lack of brand awareness and initiative in developing cultural and economic value of Changle Story Club directly leads to its weak market competitiveness as intangible cultural heritage.

3. Application of Laser Scanning Microscope in the Development and Design of Folk Arts Intangible Cultural Heritage Products

3.1. Brief History of Laser Scanning Microscope

The prototype of laser scanning microscope was born in 1950s. It is also the original model of modern laser scanning microscope. In the 1970s, Raman spectroscopy was first described by some scholars [11]. Later, in the late 1980s, a scholar successfully demonstrated the optical cross section and fluorescent probe surface of biomaterials with laser scanning microscope for the first time, marking the perfection of laser scanning microscope technology. In 1987, two scholars described "the arrival of confocal microscope era" in "nature", which also showed that laser scanning microscope has become a relatively perfect skin imaging diagnostic tool.

3.2. Working Principle of Laser Scanning Microscope

Laser scanning microscope (LSM) [12] is a new kind of microscope which integrates optical microscope, laser scanning and computer image processing technology. Its important components are laser source, confocal system and computer system [13]. Laser scanning microscope can completely observe the characteristics of different skin layers, also known as skin "CT". Laser scanning microscope is the product of computer, video and laser technology progress in modern society [14]. Laser scanning microscope transforms the field light source of traditional optical microscope into point light source. The laser source emits a laser beam. The laser beam is reflected by the spectroscope and irradiates the objective lens. The laser scanning microscope then scans the inside of the object. After scanning, the reflected light returns to the spectroscope again. Finally, the reflected light of mobile phone is used to collect light, and the 3D image is displayed on the display screen after being processed by computer software. In the process of urban and rural areas, the light from the laser source is focused twice, so it is called laser scanning microscope. Non-invasive, in situ, experimental and dynamic optical slices can be obtained by scanning the focal plane with different longitudinal depths along the thickness direction of the specimen. These optical slices are reconstructed by computer software to obtain specific 3D slices or 3D structures.

3.3. Definition Standard of Intangible Cultural Heritage

Nowadays, the domestic research on intangible cultural heritage is no longer just a simple investigation, static protection and display. From the relevant information, China's intangible

cultural heritage protection and research design aspects. (1) Research on the protection and utilization of industrialization. Some scholars believe that the industrial development and utilization of technological projects in intangible cultural heritage can bring sustainable long-term development to project protection. (2) Research on the cultural production, experience and consumption of intangible cultural heritage. "Cultural Renaissance: the modern value of traditional culture" demonstrates the development direction of traditional cultural value in modern society from a macro perspective. (3) Research on "individual cases" of intangible cultural heritage development. After studying the Boshan glass and its industrial protection, the Branch Bureau Boshan glass's non heritage cultural heritage, from all angles to understand it, to study all its problems, divided it into industrialization and non-industrialization, in-depth analysis of its market potential and economic value not reflected in the market economy system, and finally considered that its technology and industrialization should be protected It is feasible to protect and develop. (4) Research on intellectual property protection of intangible cultural heritage. Some scholars suggest protecting intellectual property rights of folk handicrafts and enhancing their development, such as developing their own brands or cultural commodities with independent intellectual property rights. (5) Research on cultural and creative products of intangible cultural heritage. According to the current social environment, a researcher deeply studies and analyzes intangible cultural heritage, finds out the core points of intangible cultural heritage cultural and creative design, and deeply discusses how to combine cultural and creative products with intangible cultural heritage, which is "non heritage cultural creation".

File	Definition Criteria
Convention for the protection of intangible cultural heritage of October 2003	"Intangible cultural heritage" refers to all kinds of social practice, forms of expression, concept expression, knowledge, skills and related tools, objects, handicrafts and cultural places, which are expressed as individuals by communities, groups and advantages and regarded as the components of cultural heritage.
Interim methods for application and evaluation of representative works of national intangible cultural heritage issued on March 26, 2005	Intangible cultural heritage is "all kinds of traditional cultural expression forms (such as performing arts, folk activities, traditional knowledge and skills, as well as related utensils, physical objects, handicrafts, etc.) and cultural space, which are closely connected with the collective life of all ethnic groups.
Articles 2 and 3 of the intangible cultural heritage of the people's Republic of China dated February 25, 2011	China's intangible cultural heritage is defined as: "the intangible cultural heritage referred to in this Law refers to various forms of traditional cultural expression passed down from generation to generation and regarded as an integral part of their cultural heritage, as well as the objects and places related to the forms of traditional cultural expression. The State takes measures to protect intangible cultural heritage, such as identification, recording and filing, so as to embody the excellent traditional culture of the Chinese nation. Intangible cultural heritage with historical, literary, artistic and scientific values shall be protected by means of inheritance and dissemination. "

Table 1. Three definitions of official documents

Shown as Table 1, three definitions of "intangible cultural heritage" in official documents.

3.4. Application of in Paper Cutting

The elements in paper cutting were extracted by laser scanning microscope. For example, the main content of paper-cut customs is ethnic customs, such as Shamanism goddess, Manchu pendants, patterns and so on. These elements reflect the life customs of Shamanism and are very representative. We need to extract representative elements from all paper cuts and redesign them. Paper cutting is a representative object in Shamanism sacrificial activities. Shamanism advocates nature and insists that everything has spirit. They worship the ancient trees and stones, so the shaman God tree paper cut was produced. Because shamans believe that animals and plants have life, so they take animals as clan totems and do a lot of animal paper cutting. Paper cutting also reflects the life and customs of Shamanism. These types of paper cut are very representative of paper cut, these part-time elements extracted, redesigned, can be integrated into the products of these paper-cut elements.

Paper cutting is a kind of material form which takes material as the carrier and spiritual and cultural field as the core, which is produced by artistic processing. Every piece of paper cutting is very meaningful. Paper cutting is closely related to the life of modern people. Guan's Manchu paper cut is the most color paper cut, with simple, simple, exaggerated characteristics, reflecting the close to nature style. Some paper cutting experts commented that Guan Yunde's paper cutting inherited "long and fresh national skills and feelings". The paper cutting model is representative and can reflect the original life. Paper cutting is full of the harmonious coexistence of man and nature, God and nature, man and God.

In the development and design, we should first grasp the cultural connotation contained in paper cutting. In paper cutting, each nation has its own characteristics, design everywhere expresses the harmony between human and nature. We need to decompose and reorganize the representative paper-cut patterns and apply them to product development and design. The cultural connotation embodied in paper cutting is the core concept of product redesign, which embodies the friendly coexistence of human and nature. Second, adhere to the principle of innovation. Innovation is the core of product design and development [15]. Contemporary teenagers like to pursue new things, but they not only pursue the surface of things, but also pursue the things behind the new things. Taking Manchu paper cut as the initial product, the elements are extracted, and then the design is applied to the product. Products will have innovative thinking, innovative ways and innovative means. In addition, we should also closely grasp the characteristics and needs of contemporary people when designing products, because ordinary people need more products or use them. In this way, intangible cultural heritage culture can be better spread and carried forward. Finally, the product developed and designed must be practical. Products come from life and eventually return to life. In addition to meeting the current aesthetic standards, it should also be enough to live, practical and easy to carry. This can stimulate consumers to purchase and disseminate intangible cultural heritage.

3.5. Application of in Embroidery

The embroidery patterns were analyzed by laser scanning microscope. The patterns and contents of embroidery are various. The content of embroidery troupe can be traced back to the primitive society and even earlier historical period. However, for some known and specific patterns, it is difficult to trace back to a relatively long time. These special patterns present different national cultures. Therefore, the development history of embroidery can be classified according to patterns. Take Qiang embroidery as an example. Qiang embroidery has rich cultural value, historical value,

artistic value, aesthetic value and economic value. The value of Qiang embroidery in patterns is also very rich. Qiang embroidery can reflect the national characteristics, living areas and living times. Embroidery pattern is a way for Qiang people to record their life and cultural development. After the erosion of time, the stolen copies have their own unique symbols.

Qiang embroidery is closely related to cultural and creative products. It is very feasible to use the design inspiration of Qiang embroidery patterns to develop design products. But in the process of design, we cannot simply add Qiang embroidery patterns, but selectively add design elements of Qiang embroidery. How to design this product, how to use embroidery group, how to better reflect the national culture contained in the pattern, are all problems we should seriously consider. Good pattern extraction and a certain scale of product development and design can spread and promote the development of skills that will not be handed down.

4. Results Analysis

Traditional paper cutting New paper cutting Traditional embroidery New embroidery Traditional paper cutting New paper cutting Traditional embroidery New embroidery Traditional paper cutting New paper cutting Traditional embroidery New embroidery<

4.1. Sales of New Paper Cutting and Embroidery

Figure 1. Sales of new paper cutting and embroidery

Shown as Figure 1, the sales volume of new paper-cut products and embroidery products is significantly higher than that of traditional paper cut and embroidery products. Obviously, the new paper cut and embroidery products with laser scanning microscope are more delicate and beautiful in appearance, and more innovative, so they can attract more buyers' interest, so they sell well. It can be seen that the application of laser scanning microscope in paper cutting and embroidery is very successful. In the future, laser scanning microscope can be used in the design, development and production of embroidery and paper cutting in a wider range.

4.2. Questionnaire Survey

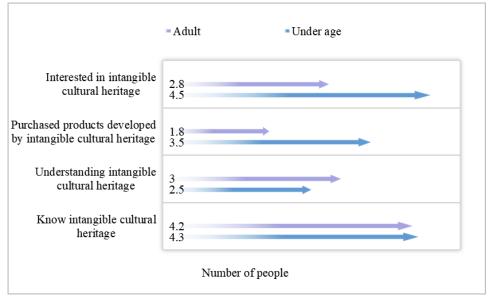


Figure 2. Survey results

Shown as Figure 2, both minors and adults know about intangible cultural heritage. Although adults know more about intangible cultural heritage, minors are more interested in intangible cultural heritage culture and are willing to spend money to buy products developed and designed by intangible cultural heritage. It can be seen that the publicity of intangible cultural heritage in recent years has been very effective. More and more people have begun to contact and understand the intangible cultural heritage products. It can also be seen that intangible cultural heritage in the consumer market of minors, minors obviously prefer new things than adults.

4.3. Economic Potential of Cultural and Creative Products

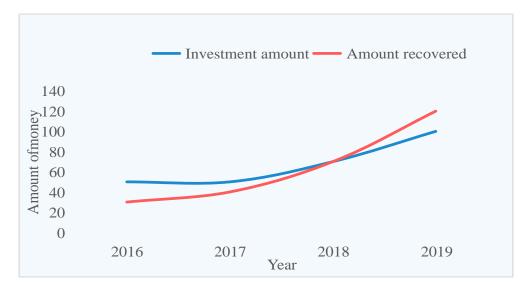


Figure 3. Investment and return of cultural and creative products

Shown as Figure 3, the market of cultural and creative products in the early years was very sluggish, with little investment and low returns. However, in recent years, the situation has begun to improve. With the support of national policies, more and more people understand the intangible cultural heritage and begin to design and develop the intangible cultural heritage. The market has gradually come to life. The amount of investment every year is rising, and the amount of return each year is also rising. It can be seen that the cultural and creative market has great development potential and is in the early stage of development, which is of great investment value.

4.4. Research on Related Papers

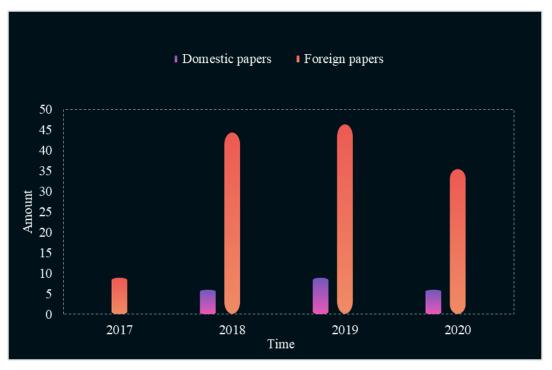


Figure 4. Distribution chart of publication time

Shown as Figure 4, the number of research and papers published by Chinese scholars on intangible cultural heritage is far less than that of foreign countries. But in recent years, the situation began to improve, and the number of papers published by Chinese scholars began to rise gradually. It can be seen that the development and utilization of intangible cultural heritage in China is still in its infancy and needs continuous exploration and practice.

5. Conclusion

Intangible cultural heritage is a variety of traditional culture, forms of expression and cultural space inherited by the Chinese nation from generation to generation and closely related to people's life. Intangible cultural heritage not only witnesses the history of the Chinese nation, but also our precious cultural resources. To make the traditional intangible cultural heritage adapt to the modern society, especially in the current situation of urbanization, globalization and marketization, "adaptive transformation" is the focus of Intangible Cultural Heritage Inheritance and development in today's society. In this paper, laser scanning microscope is applied to the design and development

of paper cut and embroidery products, which provides a new research direction for the development and design of intangible cultural heritage products. In the collation of literature and investigation, we can see that the research on the protection and utilization of intangible cultural heritage in China is still in its infancy, and the number of papers published by researchers in this field is much lower than that in foreign countries. However, in recent years, China's cultural and creative market has gradually become more and more vital. With the support of policies, it has gained more and more investment and higher economic returns. Therefore, the development space of cultural and creative market in China is very large. In addition, the survey results show that Chinese teenagers are very interested in intangible cultural heritage culture and are also curious and willing to buy relevant cultural and creative products. It is a new idea to apply laser scanning microscope to the design and development of intangible cultural heritage products, but it is worth our practice.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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