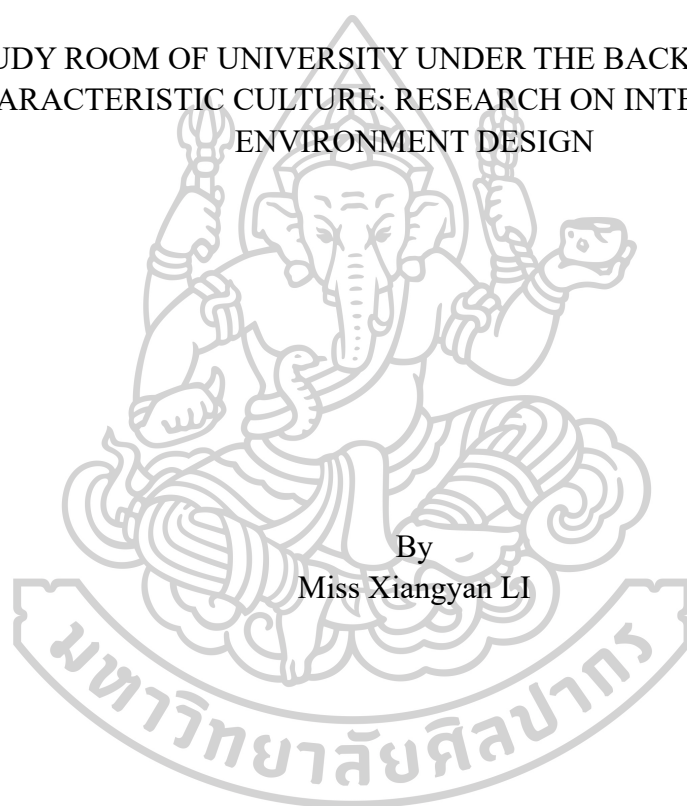


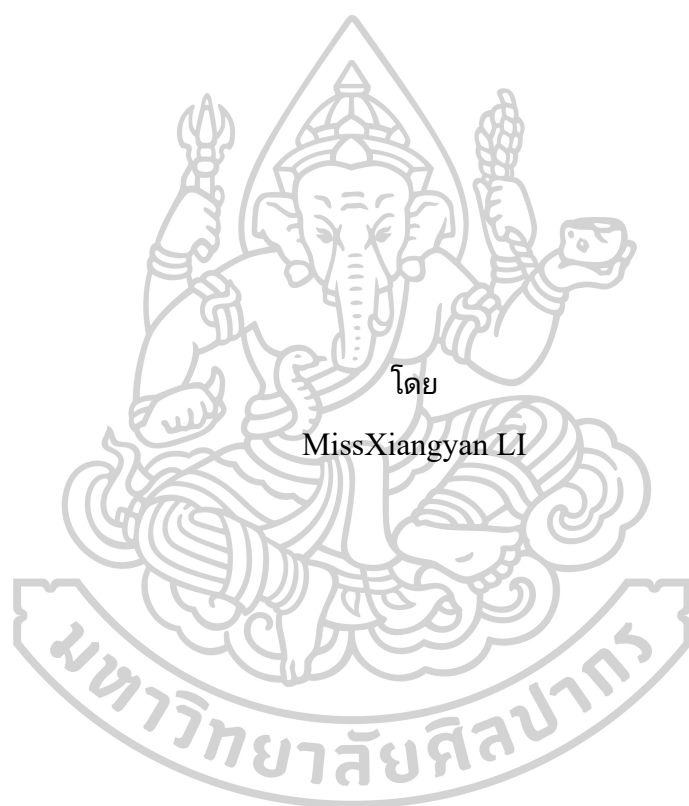


STUDY ROOM OF UNIVERSITY UNDER THE BACKGROUND OF
CHARACTERISTIC CULTURE: RESEARCH ON INTERIOR SPACE
ENVIRONMENT DESIGN



A Thesis Submitted in Partial Fulfillment of the Requirements
for Master of Fine Arts Design
Silpakorn University
Academic Year 2023
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ตัมบริบทางวัฒนธรรมที่เป็นเอกลักษณ์



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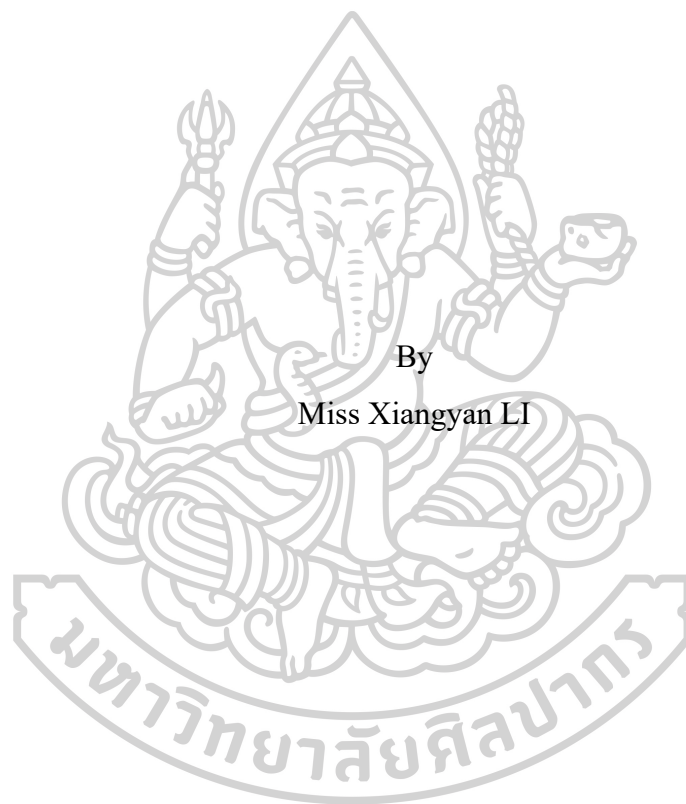
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Title Study Room of University under the Background of Characteristic Culture: Research on Interior Space Environment Design
By Miss Xiangyan LI
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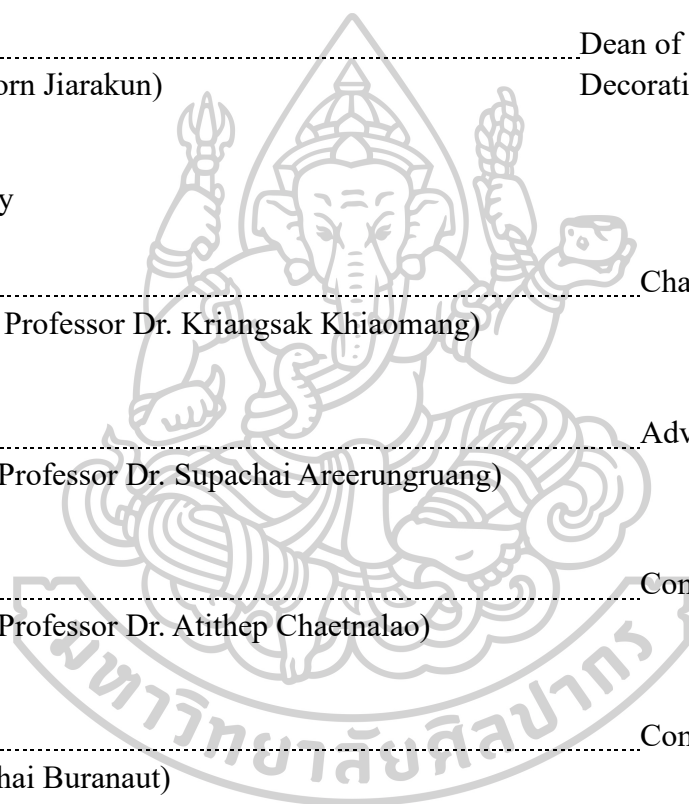
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Miss Xiangyan LI : Study Room of University under the Background of Characteristic Culture: Research on Interior Space Environment Design Thesis advisor : Assistant Professor Dr. Supachai Areerungruang

With the theme of the study room-interior space environment design in colleges and universities under the background of characteristic culture, this paper aims to explore the application of Ningxia national cultural characteristics in the interior space environment design of study rooms in colleges and universities. First of all, through the literature review of the origin and development of Ningxia culture, interior space environment design, university study room-interior space environment design, it lays a theoretical foundation for the follow-up study. Then, by using the research methods of literature research and questionnaire survey, this paper makes an in-depth analysis of the current situation of the interior space environment design of university study room. On this basis, this paper puts forward the principles of interior space environment design of study room in North Minzu University, as well as the design ideas of interior space environment of study room under the background of Ningxia culture. At the same time, it discusses the main points of the indoor space environment design of the university study room, including the functional partition, spatial layout to provide a good study space for students to enhance their learning experience. In addition, this paper also discusses how to integrate the elements of Ningxia national culture, which realizes the inheritance and promotion of Ningxia culture. Finally, this paper discusses the design scheme, summarizes the contributions and shortcomings in the design process, and puts forward suggestions for improvement. Based on the research, this paper finds that the design scheme incorporating elements of national culture helps to enhance the cultural connotation and humanization level of the indoor space environment of the university study room, shaping the campus brand for the North Minzu University while providing a new way of thinking for the design of study rooms in other universities.

ACKNOWLEDGEMENTS

As my graduate thesis is about to be completed, I would like to take this opportunity to express my heartfelt thanks to those people who have given me support and help during my study and research. First of all, I would like to thank my supervisor, Professor Supachai Areerungruang, in particular. He not only provided me with selfless guidance academically, but also gave me valuable advice and encouragement when I encountered difficulties and challenges. Every discussion with him has benefited me a lot, and his patience and wisdom have given me a deeper understanding and higher pursuit of research. Throughout the research process, he maintained strict academic standards and attention to detail, which prompted me to constantly improve my work. I would also like to thank the members of the professor team who taught me and provided many valuable comments and suggestions during my research. They gave me a lot of substantial help in experimental design and data analysis, and always offered support and encouragement when I needed it. At the same time, I would like to thank my classmates and friends, especially Yan Wenjing, Hu Yating and Li Ruiying. In the process of writing the paper, your company and encouragement make me feel warm and powerful. We spent many nights working overtime together, facing challenges and difficulties together. Your friendship and support is an important motivation for me to persevere. I want to thank my family for this, especially my parents. They have always supported and understood me unconditionally. No matter what pressure and challenges I face, they always give me the greatest care and support. Especially during my postgraduate study, their understanding and encouragement enabled me to devote myself to academic research.

I was assisted by many outside experts throughout the research process. I would like to thank these experts for their guidance and advice on research methods and techniques. Their expertise and experience have played an important role in guiding my

research. I want to thank all the people who have helped and supported me. Chen Kejia, Surangkana Kongraphun It is with your help and support that I can successfully complete this paper. I am deeply touched by the concern and help of each of you, and I feel the warmth and strength on the academic road.

Although my research path is full of challenges and difficulties, it is with these valuable help and support that I can continue to progress and grow academically. This study has not only significantly improved my professional knowledge and skills, but also made me deeply realize the importance of teamwork and mutual assistance. In the future, I will continue to work hard, uphold a rigorous and realistic academic attitude, and actively explore and solve more academic problems. At the same time, I also hope to give back to the society and contribute to the promotion of scientific research and social progress.

Thank you from the bottom of my heart!

Xiangyan LI

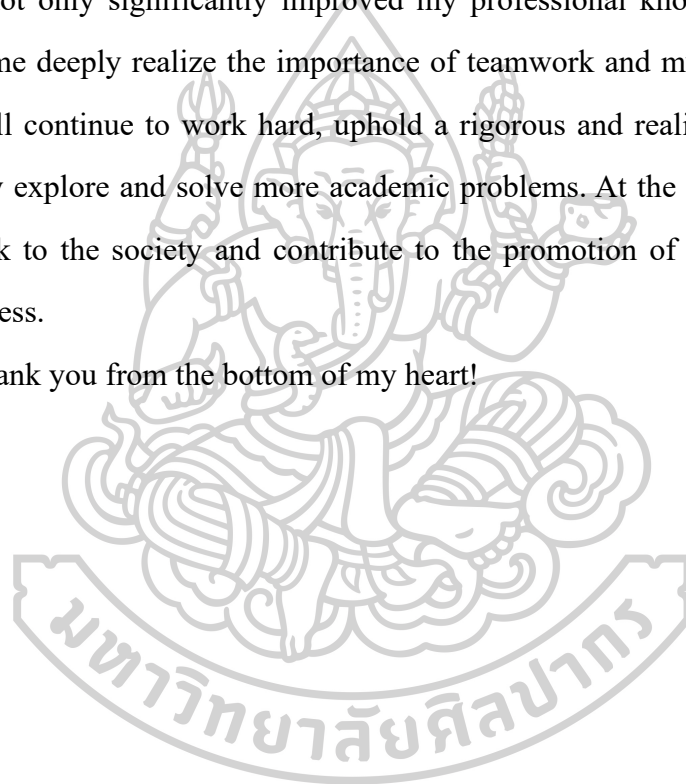


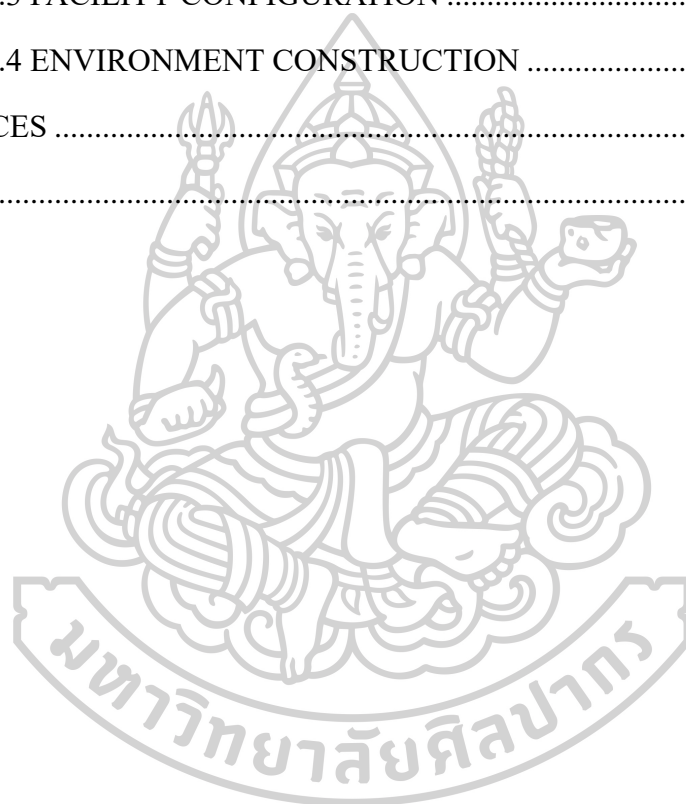
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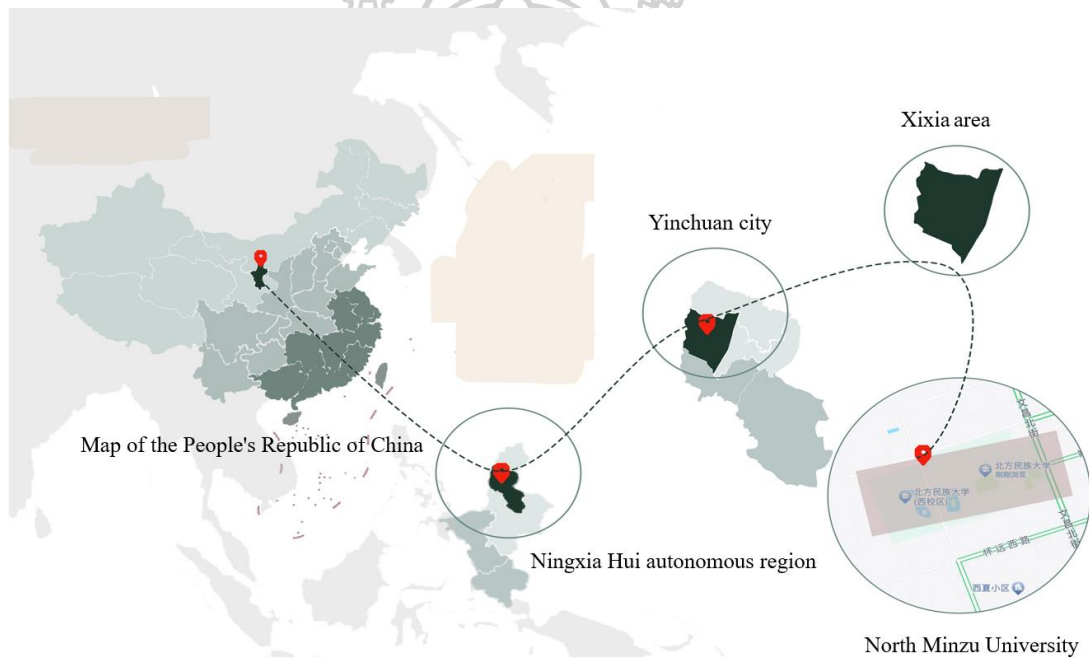
CHAPTER 1

INTRODUCTION

1.1 RESEARCH BACKGROUND

Located in the northwest of China (1), Ningxia is a multi-ethnic region with rich cultural heritage. Ningxia culture is not only an important part of Chinese culture, but also one of the representatives of northern Chinese national culture. Ningxia has a long history and was once an important passage of the Silk Road. Therefore, influenced by many aspects of culture, Ningxia culture has developed unique local characteristics.

Figure 1 People's Republic of China



Note. Self-drawn by the Author

As an important university in Ningxia, North Minzu University shoulders the important responsibility of inheriting and promoting the culture of northern nationalities. However, as of now, the indoor spatial environment design of the study room of the North Minzu University may face the following two problems. First, cultural conflict and integration: Ningxia is a region inhabited by many nationalities, and designers need to consider how to balance the characteristics of different national cultures and realize cultural integration and respect when designing study rooms. Over-emphasizing the cultural elements of one ethnic group may neglect students of other ethnic groups and lead to cultural conflict. Second, the balance between function

and aesthetics: the main function of the study room is to provide study space. Therefore, the design needs to consider how to maximize the use of space while providing a comfortable study environment. The background of the study room-interior space environment design of North Minzu University is mainly based on the following considerations:

First of all, the inheritance and promotion of Ningxia culture. Ningxia culture is an important part of Chinese culture. Through the study of interior space environment design of study room, we can better inherit and carry forward Ningxia culture, and let more people understand and understand Ningxia culture.

Second, the enhancement of the learning experience for college students. Study room is an important place for college students to study. Through the research on the design of interior space environment, we can enhance the learning experience of college students and create a comfortable, quiet and conducive environment for learning.

Third, the promotion of cultural exchanges. Study room is an important place for students to communicate. Through the study of interior space environment design, it can promote the communication between students with different cultural backgrounds, and enhance mutual understanding and understanding.

Therefore, the study room-interior space environment design of North Minzu University under the background of Ningxia culture is of great significance.

1.2 RESEARCH ASSUMPTIONS

This study hypothesizes to discuss the study room interior space environment design of North Minzu University under the background of Ningxia culture. The research will analyze the cultural characteristics of the Ningxia region and their impact on the interior design of study rooms, while taking into account the characteristics and needs of the North Minzu University. Through research and design practice, this study aims to propose a study room interior space environment design which is suitable for the cultural background of Ningxia and the needs of North Minzu University.

1.3 SIGNIFICANCE AND PURPOSE OF THE RESEARCH

1.3.1 RESEARCH SIGNIFICANCE

As an autonomous region in Northwest China, Ningxia enjoys a rich and diverse cultural background. As an important university in Ningxia, North Minzu University shoulders the important task of inheriting and developing the northern ethnic culture. In this university, the study room is an important learning place, and its interior space environment design has an important impact on students' learning atmosphere and cultural identity. Therefore, it is of great significance to study the interior space

environment design of the study room of North Minzu University under the background of Ningxia culture.

First of all, the study of the study room interior space environment design of North Minzu University under the background of Ningxia culture is helpful to carry forward and inherit the northern ethnic culture. Ningxia is a multi-ethnic region. The students of North Minzu University come from all ethnic groups. They study and communicate in the study room, creating a unique cultural atmosphere together. Through the study of the interior space environment design of the study room, we can deeply excavate and show this kind of cultural atmosphere, and further carry forward and inherit the northern national culture.

Secondly, it is of great significance to study the interior space environment design of the study room of North Minzu University under the background of Ningxia culture to enhance the learning effect of students. As one of the main places for students to study, the indoor environment of study room has an important impact on students' learning attitude and learning efficiency. Through the research on the design of the interior space environment of the study room, we can discuss how to optimize the environment of the study room from the aspects of psychology, physiology and so on, so as to improve the learning effect of students. The study of the interior space environment design of the study room of North Minzu University under the background of Ningxia culture is helpful to enrich the connotation of campus culture. The campus environment is an important part of the school culture. As a part of the campus environment, the interior space environment design of the study room is of great significance to show the cultural connotation of the school. Through the study of the interior space environment design of the study room, we can further enrich the connotation of campus culture and enhance the overall image of the school.

Finally, the study of the study room interior space environment design of North Minzu University under the background of Ningxia culture plays a positive role in promoting the development of the field of interior design in colleges and universities. As a comprehensive subject, interior design involves many fields such as architecture, environment, art and so on. Through the study of the interior space environment design of the study room, we can promote the development of the field of interior design in colleges and universities, and provide reference for other colleges and universities.

1.3.2 RESEARCH PURPOSE

- 1: Inherit and carry forward Ningxia culture.
- 2: Enhance the learning experience of college students.
- 3: Shaping campus brand.

1.4 EXPECTED BENEFITS

Improve learning efficiency. Good indoor environment can improve students' learning efficiency and increase learning time.

Enhance the cultural experience. The integration of national culture enables students to experience and understand the cultural characteristics of various nationalities in addition to learning.

Shaping campus brand. Characteristic study room design helps to enhance the image of the school, attract more excellent students to study, and enhance the competitiveness of the school.

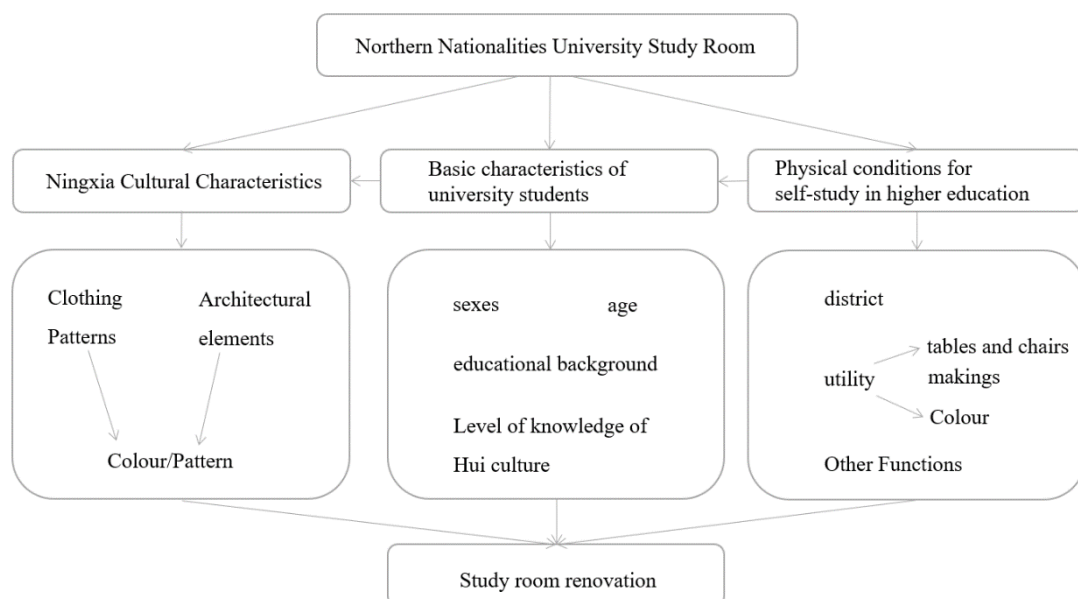
1.5 SCOPE OF RESEARCH

Indoor: North Minzu University Self-study

Crowd: College students, university teachers, experts, designers.

1.6 RESEARCH FRAMEWORK

Figure 2 Research Framework



Note. Self-drawn by the Author

1.7 RESEARCH METHODS

1: In order to achieve the purpose of studying the study room-interior space environment design of North Minzu University under the background of Ningxia culture, this paper carries out the design work based on the design concept of "seeking common ground while reserving differences". The research method is divided into

time sequence. The first method is to collect data, which is the process of commenting on Ningxia culture in the relevant fields of universities corresponding to the research objectives. Then, research will be conducted on Ningxia culture and the interior space environment design of university self-study rooms to identify the logical relationship between the two, in order to further explore the interior space environment design of self-study rooms in North Minzu University under the background of Ningxia culture.

2: Understanding the current situation of study rooms in North Minzu University through fieldwork and questionnaires.

3: Questionnaire interview: Collecting suggestions from students, university teachers and experts.

4: Questionnaire analysis: Based on the questionnaire demand, design a study room suitable for students.

1.8 KEY WORDS

1.8.1 NATIONAL CULTURE

National culture is a unique cultural heritage and characteristics formed in the long-term historical development of a country, a region or a nation. It includes material culture, spiritual culture, institutional culture and other aspects, which is an important symbol of national identity and an important part of human civilization. National culture has distinct regional and epochal characteristics. Due to the differences in natural environment, historical background, economic development level and other factors, different regions have formed their own unique cultural traditions. At the same time, the social system, scientific and technological progress and ideological changes in different times will also have a profound impact on national culture. Therefore, national culture is a dynamic and changing system. National culture is the spiritual pillar of a nation. It contains national values, moral norms, aesthetic taste, religious beliefs and other spiritual connotations, and is the source of national cohesion and creativity. The inheritance and development of national culture helps to enhance national pride and identity, and promote national unity and social harmony (Li, Chen, & Guo, 2024).

1.8.2 NINGXIA CULTURE

Ningxia, as an autonomous region in northwest China, has a long history and rich culture. Since ancient times, Ningxia has been a multi-ethnic area, thus forming a unique and rich Ningxia culture. Located in the upper reaches of the Yellow River, Ningxia is an important passageway of the ancient Silk Road. Since ancient times, it has been an important hub for cultural exchanges between the Central Plains and the Western Regions. In the long-term historical evolution, Han culture and Western Regions culture, farming culture and nomadic culture blended with each other, forming a unique Ningxia culture (Shi Suxia, Cao Tengfei, & Yi Hongshan, 2024). One of the representatives of Ningxia culture is Islamic culture. The Hui

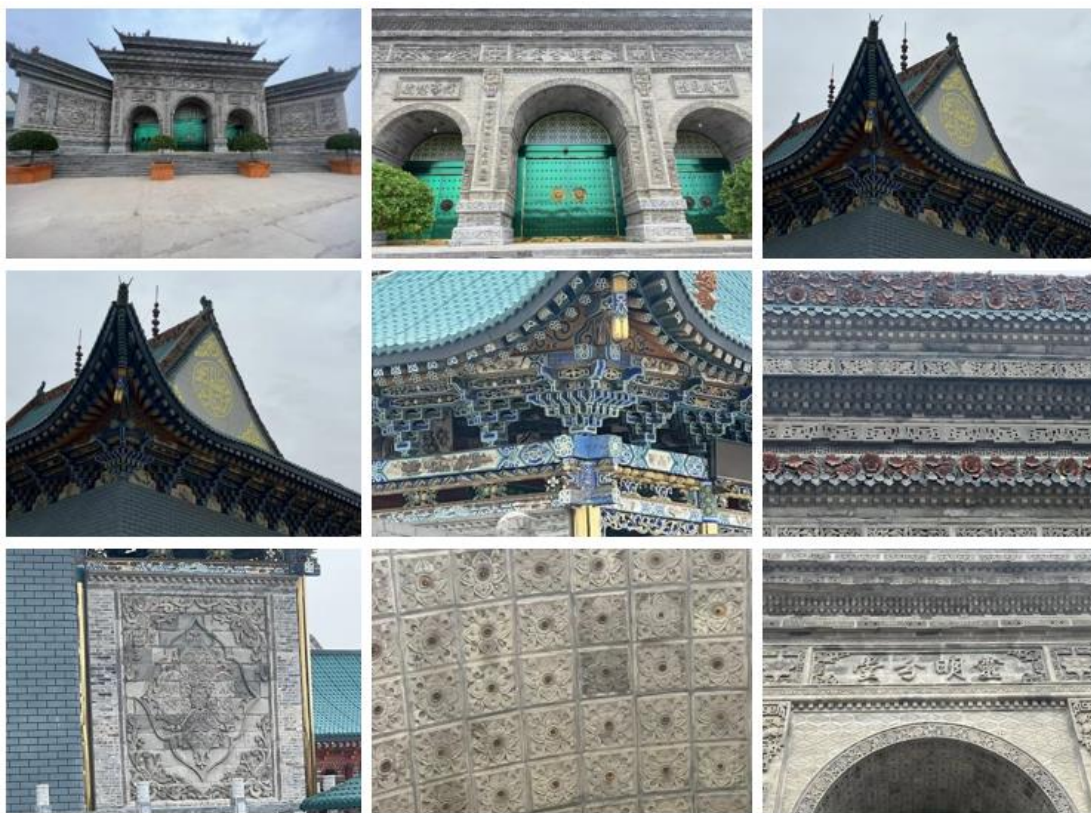
nationality is the main ethnic group in Ningxia (as shown in Figure 3), and the religious belief of the Hui nationality is Islam. Ningxia possesses many exquisite Hui temples (as shown in the picture: 4), as well as Nanguan Hui Temple in Yinchuan and Wuzhong Hui Temple. These Islamic temples are not only places for Hui people to carry out religious activities, but also important carriers of Ningxia culture. In addition, the language, clothing, diet and festivals of the Hui nationality have their own unique features, which constitute a rich and colorful Ningxia culture. Another important aspect is Ningxia's farming culture. Located in the Yellow River Basin, Ningxia is a famous agricultural production area with fertile land and suitable climate. Farmers here have been engaged in farming activities for generations, forming a unique farming culture. Farming culture includes traditional agricultural production methods, farm tools, farming customs and so on, which are important components of Ningxia culture. In addition, Ningxia is also rich in intangible cultural heritage. For example, Ningxia paper-cut, Guyuan shadow play, Hui Huaer, etc. These intangible cultural heritages represent the wisdom and creativity of Ningxia people and are an important part of Ningxia culture (Chen Hongyu, Yang Yang, Yang Yi, & Yang Sheng, 2024).

Figure 3 Hui people in Ningxia



Note. Taken by the Author

Figure 4 Mosque in Ningxia



Note. Taken by the Author

1.8.3 UNIVERSITY STUDY ROOM

University study room is a very important place in the university campus, which provides a quiet and comfortable learning environment for students, and is an important place for students to learn and improve themselves (Ha Feng, & Wen Jiakui, 2023). The environment of the study room has a very important impact on the learning effect of students. In the study room, students can stay away from the outside world and concentrate on their studies. Study rooms are usually fully equipped with learning facilities, such as desks, chairs, lighting, etc., to provide students with a comfortable learning space. In addition, colleges and universities should have good ventilation and warm facilities to ensure that students can maintain good physical condition in the process of learning. In addition to providing a learning environment, colleges and universities should also have a strict management system for study

rooms. For example, the study room colleges and universities should have a clear opening and closing time, students need to enter and leave the study room within the prescribed time. At the same time, colleges and universities should prohibit loud noise and the use of mobile phones in order to ensure a quiet and learning atmosphere in the study room. The study room is not only a place for students to learn, but also a platform for students to improve themselves. In the study room, students can freely choose the content and method of study, and arrange their study plans according to their needs and interests (Şekerci, Kahraman, Özturan, Çelik, & Ayan,2024). At the same time, the study room is also a place for students to exchange and learn experience. Students can learn from each other, help each other and make progress together.

1.8.4 INTERIOR SPACE ENVIRONMENT DESIGN

Interior space environment design is a creative activity that uses professional knowledge and skills to plan, design and decorate interior space to meet the needs of people's life, work and study. Interior space environment design includes space planning, interface design, furniture design, lighting design, color matching, material selection and other aspects, aiming at achieving the functionality, aesthetics and comfort of space. Interior space environment design, as a combination of art and science, carries people's yearning for a better life. University designers should grasp the development trend, pay attention to humanization, green environmental protection, intelligent and other aspects, and constantly innovate and improve the level of interior space environment design, to create a better living space for people.

CHAPTER 2

LITERATURE REVIEW AND RELATED RESEARCH

2.1 ORIGIN AND DEVELOPMENT OF NINGXIA CULTURE

2.1.1 NINGXIA

Ningxia, known as the Ningxia Hui Autonomous Region, is one of the five autonomous regions of the People's Republic of China, located in northwestern China, on the upper reaches of the Yellow River. The capital city is Yinchuan. Ningxia is at the junction of Longdong, Shaanxi and Inner Mongolia, neighboring Inner Mongolia Autonomous Region in the east, Gansu Province in the west, Inner Mongolia Autonomous Region in the north and Shaanxi Province in the south. Since ancient times, Ningxia has been a region inhabited by many ethnic groups, and was an important corridor of the ancient Silk Road. Therefore, it played an important role in ancient Chinese history, especially in promoting cultural exchanges between China and foreign countries. Today, Ningxia is famous for its unique history, culture and natural scenery.

In terms of history and culture, Ningxia has a long history and profound cultural heritage. As the former core area of the Xixia Kingdom, Ningxia possesses many historical relics from the Xixia period (Dong, Ibrahim, & Azahari, 2024). Ningxia is also one of the main inhabited areas of the Hui nationality, with rich Hui culture and Hui religious culture. Hui paper-cut, shadow play, folk music and dance are all valuable components of Ningxia culture.

In terms of natural scenery, Ningxia has beautiful natural scenery, such as Shahu Lake and Helan Mountain, which are famous tourist attractions. Sand Lake is a natural landscape combining deserts and lakes, while Helan Mountain is a natural barrier in Ningxia, with magnificent mountains and beautiful scenery.

In terms of special delicacies, Ningxia's delicacies are also quite distinctive, the most famous of which are hand-grabbed mutton, Ningxia fried rice, and various pasta. In addition, Ningxia's melons and fruits are also very famous, such as Lingwu long jujube, Zhongning wolfberry and so on.

In terms of economic development, Ningxia is an important part of China's western development strategy. In recent years, Ningxia has actively developed tourism, agriculture and high-tech industries, and its economic strength has been continuously strengthened.

In terms of nationality and religion, as an area inhabited by ethnic minorities, Ningxia pays attention to the freedom of ethnic culture and religious belief. The

influence of Hui culture and religion is particularly significant here, and the Drum Tower in Yinchuan City is a symbol of the integration of ethnic culture and religious beliefs in Ningxia Hui Autonomous Region.

Generally speaking, Ningxia is a place where history and modernity are intertwined, natural scenery and national culture are integrated, and it has unique charm and important position.

2.1.2 NINGXIA CULTURE

As an autonomous region in China, Ningxia enjoys a rich and unique history and culture. Ningxia's traditional culture includes Helan shadow play, Hui paper-cut, Hui folk musical instruments, Hui costumes and other forms, which are precious cultural heritage of Ningxia Hui Autonomous Region. For example, Helan shadow play is an ancient art of shadow play, which tells the historical stories and folklore of Ningxia in the form of shadow play, and is one of the traditional cultures of Ningxia (Yang et al., 2024). Ningxia is also one of the birthplaces of prehistoric archaeology in China, with a long history. Thirty thousand years ago, there were already human beings living here, forming a unique prehistoric culture. For example, the Shuidonggou site in Lingwu City is the earliest site where Paleolithic human culture was discovered in China, and the unearthed stone tools and other cultural relics show the wisdom and skills of ancient ancestors. In addition, there are dinosaur fossil sites in Lingwu City, showing dinosaur fossils 160 million years ago. Another famous example is the Western Cinema of Zhenbeibao, which was built during the reign of Hongzhi in the Ming Dynasty as a frontier fortress in the Ming and Qing Dynasties (Lee, & Kim, 2024). Today, it has become the first AAAA national tourist attraction in Yinchuan and one of the most popular tourist destinations in China. It is not only rich in history and culture, but also the cradle of Chinese movies, where many famous movies were filmed. In addition, Ningxia's culinary culture is also quite distinctive, such as Lingwu jujube, which is known for its crispy, sweet, and plump flesh, and is a characteristic fruit of Ningxia region. Generally speaking, Ningxia's culture is diverse and rich, not only has a profound historical background, but also has unique national and regional characteristics.

(1) The origin of Ningxia culture

The cultural origin of Ningxia can be traced back to prehistoric times. Ningxia Hui Autonomous Region, located in the upper reaches of the Yellow River, is rich in prehistoric cultural sites, such as Shuidonggou Site, which is the earliest place where Paleolithic ancient human culture was discovered in China and one of the birthplaces of prehistoric archaeology in China. The discovery of Shuidonggou Site has opened the prelude to a century of archaeology in China, which is of great significance to the study of human evolution and the origin and development of Chinese civilization.

Ningxia is located in the transitional zone of farming culture and nomadic culture, and has been a multi-ethnic exchange and blending area since ancient times. This unique geographical location and the history of multi-ethnic convergence make Ningxia culture unique integration and inclusiveness. Here, we can find not only the traces of grassland culture, but also the characteristics of farming culture. In addition, Ningxia was once the core area of Xixia, and Xixia culture left a deep impression in Ningxia. The Western Xia Kingdom, which existed from 1038 to 1227, was a regime with a unique culture and political system in Chinese history. Tangut script, Tangut art, and architecture all left a rich legacy in Ningxia (Feng, Gao, Guo, & Gu, 2024). Islamic culture and the influence of Islam are also an important part of Ningxia culture. Ningxia is one of the main areas where the Hui people live in compact communities. Islamic culture and Hui religion have a profound influence in this area. The Hui people's diet culture, costume culture, festival customs and so on are richly reflected in Ningxia.

Ningxia's cultural origins are diverse, including the accumulation of prehistoric culture, the blending of multi-ethnic cultures, and the influence of specific historical periods such as Xixia culture, which together constitute the unique cultural features of Ningxia.

(2) The content of Ningxia culture

Ningxia Hui Autonomous Region is one of the five autonomous regions in China, located in the northwest of China and the upper reaches of the Yellow River. As a region with a long history, Ningxia's traditional culture combines the characteristics of multi-nationalities and cultures, and has unique historical value and cultural charm. The following is a study of Ningxia's traditional culture:

In terms of Xixia culture, Xixia is a regime that existed in Northwest China in history, and its culture is unique in Chinese history. Tangut is a unique character of Tangut, which combines some elements of Chinese characters and has its own characteristics. The law, literature and art of the Western Xia Dynasty are of great research value. Xixia culture in Ningxia refers to the cultural heritage left by the Xixia Dynasty (1038 – 1227), a regime established by the Dangxiang Qiang people in Chinese history, in Ningxia (Zhu, 2024). The Western Xia Dynasty once existed in today's Ningxia Hui Autonomous Region, western Gansu Province, northern Shaanxi Province, parts of Inner Mongolia Autonomous Region, and a small part of Qinghai Province. The characteristics of Xixia culture are mainly reflected in the following aspects: Xixia script: The Xixia Dynasty created its own script, called Xixia script, which is an alphabetic writing system with nearly 6000 characters (Wang, Qi, & Liu, 2024). These texts were mainly used in official documents, inscriptions and publications, reflecting the high level of culture at that time. Buddhist culture: During the Western Xia Dynasty, Buddhism was supported and respected by the state, and many temples and pagodas were built during this period, such as the Chengtian Temple Pagoda in Yinchuan City. The Buddhist art of the Western Xia Dynasty absorbed the elements of India, Islam and the Central Plains, and formed a unique

style. Western Xia Mausoleums: The Western Xia Mausoleums are the tombs of the Western Xia Dynasty, located at the eastern foot of Helan Mountain, with a large scale and a rigorous layout. They are important sites for the study of the history of the Western Xia Dynasty. Porcelain of the Western Xia Dynasty: The porcelain of the Western Xia Dynasty was developed in technology, with various shapes and smooth glaze colors, especially the use of underglaze red and scratching techniques, which was quite distinctive. Tangut murals: The murals of the Tangut period are famous for their exquisite brushwork and rich and colorful content, reflecting the social life of the time, including religious ceremonies, daily life, war scenes, etc. Ethnic integration and multi-culture: The Western Xia Dynasty was located in the intersection of Song, Liao, Jin, Mongolia and other ethnic groups, which absorbed multi-cultures and formed a unique national culture and artistic style. Xixia culture is not only an important part of the history of Ningxia, but also a reflection of the cultural diversity of the Chinese nation (Ha Feng et al., 2023). At present, Ningxia Hui Autonomous Region continues to make efforts in protecting the cultural heritage of Western Xia and promoting cultural exchange, promoting the inheritance and development of Western Xia culture.

In terms of ethnic culture, it is one of the major ethnic groups in China, and its culture occupies an important position in Ningxia. Islamic costumes, music, dance, paper-cut, shadow play and other artistic forms all show the life customs and aesthetic tastes of the Islamic people. Islamic food culture, especially hand-grabbed mutton and other delicacies, is also popular. Ningxia is the only autonomous region of the Hui nationality in China. The Hui population accounts for about 35% of the total population of Ningxia. The Hui culture in Ningxia has a long history, which can be traced back to the Tang Dynasty. Due to many ethnic migrations and integrations in history, Ningxia has formed a unique multi-culture. Ningxia's Hui culture is embodied in many aspects, such as traditional music, dance, clothing, architecture and so on. Ningxia's ditty is a traditional rap art, which is deeply loved by the local people. Ningxia's Hui musical instruments are also quite distinctive, and the performers are able to play colorful melodies on the instruments through complex techniques (He Wenjing, & Gao Xuemei, 2024). Ningxia's bathing culture is very developed, especially for the Hui people, bathing is regarded as an important religious activity and moral requirement. In addition, there are other ethnic minorities in Ningxia, such as the Tu, Tibetan, Salar, etc. Each ethnic group has its own unique culture and tradition. The architectural culture of Ningxia is also quite distinctive, especially the Hui architecture, which has a strong Arab flavor. The food culture in Ningxia is also rich, integrating the characteristics of multiple ethnic groups, forming a unique Ningxia flavor.

In terms of folk art, Ningxia's folk art is rich and colorful, such as shadow play, paper-cut, mountain flower (a folk decorative art), Hui medicine bone-setting, etc., which are all treasures of Ningxia culture. As an autonomous region in northwest China, Ningxia is rich in folk arts. Here are some representative Ningxia folk arts. The Jiuqu Yellow River Lantern Festival: The Jiuqu Yellow River Lantern Festival in

Yanchi County, Ningxia is a long-standing large-scale folk cultural activity. People use bamboo poles or straw to build Jiuqu Dragon Gate, spontaneously swim in the array, and hang lanterns, forming a hundred lantern arrays, implying good luck.

Ningxia Helan Inkstone: Helan stone is produced on the cliff of Helan Mountain in Ningxia. The structure of the stone is uniform, showing natural dark purple and pea green. Helan Inkstone is made of Helan stone, which has the miraculous effects of generating ink, storing ink, protecting Hao, and not drying ink for several days. It is a fine inkstone.

Ningxia Paper-cut: Paper-cut is one of the traditional folk art forms in China. Ningxia Paper-cut is famous for its unique style and exquisite patterns (Deng Lian, 2023). Paper-cut works are usually used for festival decoration, wedding and other occasions.

Ningxia Hui Huaer: Huaer is a popular folk song form in northwest China, and Ningxia Hui Autonomous Region is one of the important birthplaces of Huaer. Huaer songs are rich in content and beautiful in melody, which are the favorite music form of the Hui people.

Ningxia brick carving: The folk brick carving artists in Longde County of Ningxia, represented by Wei Shixiang, have the unique skill of firing architectural brick carvings. The architectural brick carvings he fired are loved by local farmers.

Ningxia clay sculpture: Ningxia clay sculpture is a traditional folk art form, with the Yellow River mud as raw material, shaping a variety of characters, animal images, with strong local characteristics. These folk art forms reflect the cultural characteristics and national customs of Ningxia, and are an important part of the cultural treasure house of the Chinese nation (Ren Xiurong, 2024).

In terms of festival customs, Ningxia's festival customs reflect the blending of multi-cultures, such as the traditional Islamic festivals of Eid al-Fitr and Gurban Festival, which have strong national characteristics. As a multi-ethnic region, Ningxia has rich and colorful national festival customs and culture. The following are some representative festivals and customs: Eid al-Adha. Eid al-Adha is one of the most important festivals in Ningxia, also known as Eid al-Adha. On the tenth day of the twelfth month of the Hijri calendar, the people of Ningxia will hold a celebration. Before the festival, every family will clean up and prepare holiday food. On the day of the festival, people will get up early and go to the mosque to pray, after which the sacrifice ceremony will be held. During the festival, relatives and friends will visit each other, share delicious food and give red envelopes (Yang Xueyan, 2023).

In terms of Eid al-Fitr, Eid al-Fitr is one of the three major festivals of Islam, marking the end of Ramadan. The Ningxia Hui Autonomous Region has designated Eid al-Fitr as an official holiday. During the festival, the Hui people will wear festival costumes, congratulate each other and share festival food.

In terms of Xixia Culture Festival, Ningxia was once the core area of Xixia Kingdom, so Xixia Culture has a profound influence here. The Xixia Cultural Festival is held every year to display the history and culture of Xixia, including Xixia characters, art, architecture and so on. As for the Flower Festival, it is a traditional festival activity in Ningxia Hui Autonomous Region and one of China's intangible cultural heritages. "Hua'er" is a form of folk song popular in northwest China, and the Ningxia Hui Autonomous Region holds flower festivals to show this unique ethnic

culture. In terms of Spring Festival customs, the Spring Festival is the most important traditional festival in China, which is celebrated by both Han and Hui people in Ningxia. Celebrations include putting up Spring Festival couplets, setting off firecrackers, making dumplings, and performing dragon and lion dances. In terms of historical relics, Ningxia has many historical relics, such as Xixia Mausoleum and Zhenbeibao Film and Television City, which are not only important objects for historical research, but also windows for tourists to understand Ningxia's history and culture (Yang Xueyan, 2023).

As mentioned above, it is only a part of the festival customs and culture of Ningxia. In fact, there are more national festivals and customs in Ningxia, which reflect the blending and development of multi-cultures in Ningxia. Ningxia's traditional culture is an important part of the treasure house of Chinese culture. Its unique national customs and profound historical details attract many domestic and foreign tourists to explore. With the continuous development of society, Ningxia's traditional culture is constantly being inherited and developed.

2.1.3 DEVELOPMENT OF NINGXIA CULTURE

As an autonomous region of China, Ningxia Hui Autonomous Region, located in the northwest of China, has rich cultural resources and unique ethnic customs. In recent years, Ningxia's cultural development has made remarkable achievements, mainly in the following aspects:

(1) Cultural protection and inheritance

Ningxia attaches great importance to the protection and inheritance of traditional culture, and systematically collects, collates and studies Islamic culture and Xixia culture. By holding various cultural festivals, such as the traditional Eid al-Fitr and Gurbang festivals of the Hui people, the inheritance of national culture has been promoted (Gao Weixiang, 2023). As a region with a long history and rich national culture, Ningxia attaches great importance to the protection and inheritance of culture. The following are some of Ningxia's major practices and achievements in cultural protection and inheritance: Legislation and policy support: The Ningxia Hui Autonomous Region has formulated a series of laws and regulations on the protection of cultural heritage to ensure that the protection of cultural heritage has laws to follow. Policies and measures have been introduced to strengthen the protection of intangible cultural heritage and support the inheritance of traditional culture and handicraft. Protection and inheritance of intangible cultural heritage: Ningxia actively applies for the intangible cultural heritage of UNESCO, for example, Ningxia Hui Huaer (a folk song) has been listed in the world intangible cultural heritage list. Establish a database of intangible cultural heritage to record and preserve the traditional skills and festival customs of all ethnic groups. Restoration and protection of cultural relics and historic sites: restore and protect important historical relics and historic sites, such as the mausoleum of the Western Xia Dynasty and the rock paintings of Helan Mountain, so

that they can be properly preserved and opened to the outside world. Strengthen the maintenance of ancient buildings, such as Hui ancient villages, Islamic temples, etc., to maintain their original historical appearance as far as possible. Cultural education and popularization: Ningxia traditional culture education should be added to school and social education to cultivate young people's understanding and love of local culture. Through holding open classes, lectures, exhibitions and other forms, the public's understanding of traditional culture will be enhanced. The combination of culture and tourism: develop cultural tourism and integrate traditional culture into tourism products, such as the intangible cultural heritage tourism routes in Ningxia Hui Autonomous Region, so that tourists can experience the cultural charm of Ningxia during their travels. Through tourism promotion, the international popularity of Ningxia's traditional culture will be improved. Cultural exchange and foreign cooperation: Ningxia actively participates in cultural exchange activities at home and abroad, such as holding or participating in various art festivals and cultural festivals to display Ningxia's traditional culture. Cooperate with academic institutions and cultural heritage protection organizations at home and abroad to conduct cultural exchanges and academic research. Innovation and activation: Innovating the manifestation of traditional culture, such as combining Hui music and dance with modern stage art, to make it more modern and attractive. The government should promote the activation and utilization of traditional culture, such as combining traditional handicraft with modern design to make it more in line with modern aesthetics and market demand (Gao Weixiang, 2023). Based on these measures, Ningxia has not only effectively preserved its rich cultural heritage, but also revitalized it in contemporary society, laying a solid foundation for the inheritance and development of Ningxia's traditional culture for future generations.

(2) Revitalization of cultural industry

Relying on local traditional culture and tourism resources, Ningxia actively promotes the development of cultural industries, and has developed cultural tourism, intangible cultural heritage inheritance, and cultural creative industries. For example, Zhenbeibao Film and Television City has become an important base for displaying the ancient northwest culture of China and the history of Xixia. As an important region in western China, Ningxia Hui Autonomous Region has made remarkable achievements in the revitalization of cultural industry in recent years. The following are the main measures and achievements of Ningxia in the revitalization of cultural industry. In terms of policy support and planning, the government of Ningxia Hui Autonomous Region has issued a series of policy documents, which clarify the objectives and paths of the development of cultural industry and provide policy guarantee for the revitalization of cultural industry. A plan for the revitalization of the cultural industry has been worked out, key development areas and projects have been identified, and specific policies and measures have been put forward. In the construction of key cultural projects, we should increase investment in the construction of cultural infrastructure, such as libraries, museums and culture, so as to enhance the function of

cultural services (Sha Aixia, 2023). Promote the construction of cultural industrial parks and demonstration bases, attract enterprises to settle in, and form industrial clusters to serve colleges and universities. In the aspect of excavation and promotion of characteristic culture, we should deeply excavate and inherit Ningxia Hui culture, Xixia culture and other characteristic cultures, and create cultural brands. By organizing various cultural festivals, such as the Hui Flower Competition and the Xixia Culture and Art Festival, we can promote traditional culture and attract tourists. Integration and development of culture and tourism: give full play to Ningxia's geographical and national advantages, promote the deep integration of culture and tourism, and create new cultural tourism products and routes. Improve the quality of tourism services, create distinctive tourism brands, and attract more tourists to experience the cultural charm of Ningxia. In the cultivation of cultural and creative industries, we should support the development of cultural and creative industries, such as animation, digital film and television, network culture, and promote the combination of traditional culture and modern science and technology. Encourage the development and promotion of cultural and creative products, and enhance the market competitiveness of Ningxia's cultural products. In terms of foreign cooperation in cultural industry, we should actively participate in cultural exchanges and cooperation at home and abroad to enhance the influence of Ningxia's cultural industry. Establish cooperative relations with domestic and foreign cultural institutions and enterprises, jointly develop cultural projects, and promote the "going out" of cultural products (Sha Aixia, 2023). Through these measures, Ningxia's cultural industry has made considerable progress, providing strong support for the economic and social development of the whole region. In the future, Ningxia will continue to strengthen the revitalization of cultural industry, promote the integration and development of culture, economy and society, and contribute to the construction of a better Ningxia.

(3) Cultural exchanges and cooperation

Ningxia actively carries out cultural exchanges with foreign countries, demonstrates its cultural charm by organizing cultural groups to perform abroad and participate in international art festivals, and also attracts international friends to visit Ningxia. Located in the northwest of China, Ningxia Hui Autonomous Region has rich cultural resources and unique historical background. In terms of cultural exchanges and cooperation, Ningxia has taken a series of measures to actively promote cultural exchanges and mutual learning at home and abroad. In terms of ethnic cultural exchanges, Ningxia is a multi-ethnic area where Islamic culture and Han culture coexist and form a unique national culture. Through holding activities such as the Hui Huaer Culture Festival and the Hui Food Festival, the inheritance and development of national culture have been promoted. Historical and cultural excavation: Ningxia pays attention to the excavation of Xixia historical culture and Islamic culture. Through the establishment of Xixia Cultural Industrial Park and Xixia Museum, Xixia culture is promoted and its popularity at home and abroad is enhanced. In terms of international cultural exchanges, Ningxia has actively participated in the

construction of the "country" and carried out cultural exchanges and cooperation with the countries along the "Belt and Road" route, such as holding the Sino-Arab Economic and Trade Forum (Zhang Yulong, 2023).

(4) Cultural innovation

Ningxia encourages cultural innovation and has created a large number of new literary and artistic works, such as drama, dance and music, which not only enrich the people's spiritual and cultural life, but also win wide recognition and praise at home and abroad. The innovation of traditional culture in Ningxia is reflected in the following aspects: In the study of Xixia culture, Ningxia has deeply studied and excavated Xixia culture, established Xixia museums and research institutions, and let more people know about this ancient culture through exhibitions and academic research. In terms of cultural inheritance, Ningxia, as an autonomous region, pays attention to cultural inheritance and innovation. For example, the Hui Huaer Culture Festival will be held to combine traditional music, dance and modern art forms to make it more modern and attractive. In the protection of intangible cultural heritage, Ningxia actively declares and protects intangible cultural heritage, such as paper-cut, clay sculpture, brick carving and other traditional handicraft, which not only retains traditional skills, but also innovates on the basis of them. In the development of cultural industry, Ningxia relies on abundant cultural resources to develop cultural industry, such as establishing cultural and creative industry parks, attracting artists and cultural enterprises to settle in, and promoting the integration of culture and science and technology. In the construction of cultural exchange platform, Ningxia invites domestic and foreign artists to participate in the exhibition by establishing various cultural exchange platforms, such as Yinchuan Culture and Art Festival and Ningxia International Photography Festival, to promote cultural exchange and integration. In terms of education and inheritance, Ningxia traditional culture education should be integrated into the education system, so that students can contact and learn local culture from an early age, and cultivate cultural identity and pride (Zhang Yulong, 2023). Based on these measures, Ningxia has achieved certain results in traditional cultural innovation, which not only enriches the cultural life of local people, but also contributes to the inheritance and development of China's outstanding traditional culture.

(5) Popularization of cultural education

Ningxia has strengthened the popularization of cultural education and set up traditional culture classes in schools and communities, such as Hui dance, shadow play, paper-cut and other courses, so that more people can learn and understand Ningxia's traditional culture. The education of ethnic culture in Ningxia is mainly carried out through the following aspects: In school education, Ningxia pays attention to incorporating ethnic culture into the curriculum system, such as telling the history and culture of ethnic minorities in Ningxia in history and geography courses, so that students can understand and respect each other's differences. Set up characteristic courses, such as palindrome, Islamic language, as well as national music, dance,

painting and other art courses, to cultivate students' national culture and artistic accomplishment. In terms of cultural activities, various ethnic cultural activities, such as "Ningxia Hui Autonomous Region National Unity Month" and "Hui Huaer Competition", are held to enable students to understand and learn ethnic culture more deeply. In terms of social practice, students are encouraged to participate in social practice activities, such as visiting museums, cultural sites, and participating in the protection and inheritance of national culture, so as to enhance their awareness of national culture and protection. In terms of cultural exchange, students are organized to participate in cultural exchange activities at home and abroad, and cultural exchange mechanisms are established with schools in other regions to enhance students' understanding and respect for different cultures through mutual visits and exchanges (Zhang Yulong, 2023). In terms of media publicity, based on media platforms such as television, radio and the Internet, ethnic cultures are publicized, allowing more people to understand and identify with Ningxia's ethnic minority cultures. Through these educational methods, Ningxia is committed to inheriting and promoting national culture, cultivating citizens' national cultural awareness and identity, and promoting national unity and social harmony.

(6) Cultural tourism development

Ningxia's tourism industry has developed rapidly, with cultural tourism as the core, launching a number of characteristic tourism routes, such as Islamic customs tour, Xixia cultural tour, etc., attracting a large number of domestic and foreign tourists. Ningxia's ethnic culture is rich and colorful, and has high tourism development value. The following are some information about the development of ethnic cultural tourism in Ningxia: In terms of characteristic tourism resources, Ningxia is rich in ethnic cultural resources, such as Islamic culture and Tu culture, which provide unique tourism products for tourism. Ningxia also has many famous natural and cultural landscapes, such as Helan Mountain, Shahu Lake, Zhenbeibao Film and Television City, which attract a large number of tourists. In terms of the development of cultural tourism products, Ningxia pays attention to the development of cultural tourism products, such as Islamic customs tourism and Tu folk tourism, so that tourists can experience not only scenery, but also culture (Zhang Yulong, 2023). Ningxia has launched a series of cultural and tourism activities, such as the "Tourism Festival of Ningxia Hui Autonomous Region" and the "Sand Lake International Tourism Festival", which have attracted a large number of domestic and foreign tourists. In terms of improving tourism infrastructure, Ningxia has intensified the construction of tourism infrastructure, improved the quality of tourism services and improved tourists' tourism experience. A number of high-level hotels, scenic spots and tourist trails have been built to provide convenient tourist conditions for tourists. In terms of cultural tourism promotion, Ningxia actively publicizes and promotes cultural tourism through various channels, such as media, network and tourism promotion meetings, so as to enhance the popularity and influence of Ningxia tourism. In terms of cooperation and exchanges, Ningxia actively carries out cooperation and

exchanges in the field of tourism, and cooperates with well-known tourism agencies and travel agencies at home and abroad to jointly develop the tourism market. Generally speaking, the development of ethnic cultural tourism in Ningxia has achieved remarkable results, which not only contributes to the economic development of Ningxia, but also provides rich cultural tourism experience for tourists. In the future, Ningxia will continue to intensify the development of cultural tourism and promote the high-quality development of tourism.

Generally speaking, Ningxia's cultural development is full of vitality, not only has it made new achievements on the basis of inheriting and protecting traditional culture, but also has made positive progress in the revitalization of cultural industry, the expansion of cultural exchanges and the promotion of cultural innovation. With the continuous promotion of the construction of cultural strong areas, the cultural industry in Ningxia will become more prosperous and developed in the future.

2.2 INTERIOR SPACE ENVIRONMENT DESIGN

2.2.1 OVERVIEW OF INTERIOR SPACE ENVIRONMENT DESIGN

Interior space environment design is an artistic and technical activity that transforms the interior space of a building into a fully functional, comfortable and beautiful space to meet people's needs. It not only pays attention to the use function of space, but also involves aesthetic, cultural, psychological and other factors, aiming at creating an indoor environment with both practical and aesthetic value. In terms of design connotation, interior space environment design mainly includes the following aspects: Functional design: to meet the basic needs of users, such as study, work, rest, etc., to rationally plan the spatial layout, and to ensure the efficiency and convenience of space use (Cho, & Suh, 2023). Comfortable design: consider ergonomics, psychology and other factors to create an indoor environment in line with human comfort, such as appropriate temperature, humidity, lighting and ventilation. Aesthetic design: use visual elements such as color, material and shape to create an interior space with aesthetic feeling and cultural connotation, so as to enhance people's aesthetic enjoyment and spiritual satisfaction. Cultural design: the combination of regional characteristics, national culture and the spirit of the times, reflecting the specific cultural atmosphere and aesthetic concepts, such as the use of traditional patterns, materials and design techniques. Environmentally friendly design: Focus on the choice of materials and the use of energy to reduce the burden on the environment, such as the use of sustainable materials, energy-saving equipment and natural ventilation design. Intelligent design: Integrate modern information technology and intelligent systems to improve the intelligent level of interior space, such as intelligent lighting, security monitoring and automation control. Safety design: ensure the safety of interior space, including fire prevention, theft prevention, explosion prevention, skid prevention, etc., to ensure the safety of people in the use process (Cho et al., 2023). Generally speaking, interior space environment design is a highly

comprehensive subject, which requires designers to have rich professional knowledge, keen aesthetic vision and solid practical ability to meet people's growing demand for a better interior environment.

2.2.2 INTERIOR SPACE ENVIRONMENT DESIGN STRATEGY

With the development of social economy and the improvement of the quality of life, people's demand for interior space environment and aesthetic requirements are getting higher and higher. The design of interior space environment not only affects people's daily life and work efficiency, but also relates to physical and mental health and emotional communication. Therefore, it is of great practical significance to discuss the design strategy of interior space environment.

First, adhere to the people-oriented design concept. People-oriented is the fundamental starting point of interior space environment design. College designers should fully consider the needs, behavior and psychological characteristics of users, pay attention to the interaction between people and space, and strive to create an indoor environment that meets the requirements of ergonomics, psychology and aesthetics. In the process of design, attention should be paid to the division of functional areas, the rationality of streamline layout and the grasp of spatial scale to ensure that the interior space can not only meet the needs of use, but also bring people a sense of comfort and pleasure (Burçak, 2023).

Second, focus on greening and energy conservation. With the concept of sustainable development deeply rooted in the hearts of the people, green environmental protection and energy saving and emission reduction have become an important part of interior space environment design. Designers should choose environmentally friendly materials, green furniture and energy-saving equipment to reduce environmental pollution and energy consumption in interior space. In addition, we should make full use of natural light, ventilation and renewable energy to improve the energy efficiency of interior space and create a healthy and comfortable living and working environment.

Third, emphasize cultural connotation and personalized expression. The design of interior space environment should not only meet the requirements of practicality and aesthetics, but also embody certain cultural connotations and personalized characteristics. College designers should fully tap the cultural background, interests and aesthetic concepts of users, and use regional characteristics, traditional elements and innovative techniques to create an indoor environment with unique personality and cultural charm. At the same time, we should pay attention to the creation of space atmosphere, and enhance the expression and appeal of space by means of color, material, lighting and decoration.

Fourth, optimize the spatial layout and functional zoning. The design of interior space environment should pay attention to the rationality of spatial layout and the clarity of functional zoning. According to the needs of users and the characteristics of

activities, designers should plan the space layout reasonably and improve the efficiency of space utilization. In terms of functional zoning, it is necessary to clarify the functional attributes of each area, achieve dynamic and static zoning, clean and dirty zoning, private public zoning, etc., to ensure the efficient utilization and safety of interior space.

Fifth, integrate technology and art to improve intelligence. With the continuous progress of science and technology, intelligent technology is more and more widely used in the design of interior space environment. Designers should make full use of advanced technologies such as intelligent home, intelligent lighting and intelligent ventilation to improve the intelligent level of interior space. At the same time, attention should be paid to the combination of scientific and technological elements and artistic techniques to create an indoor environment full of scientific and technological sense and artistic flavor.

In summary, in terms of the strategy of interior space environment design, colleges and universities should follow the principles of people-oriented, green, cultural connotation, spatial layout and integration of science and technology and art. Designers should constantly learn and innovate to meet people's needs for interior space environment and create a better living and working environment for users.

2.2.3 CONTENTS OF INTERIOR SPACE ENVIRONMENT DESIGN

With the improvement of living standards and the diversification of aesthetic concepts, people's demand for interior space environment design is increasing. Interior space environment design is a comprehensive art, which integrates architectural design, environmental art, furniture design, decorative art and other fields.

Space layout design is the basis of interior space environment design, which involves the division of space, the setting of functional areas and streamline organization. Designers need to fully consider the needs, behavior patterns and psychological expectations of users to create a spatial layout that is both practical and beautiful (Daghistani, 2023). Reasonable space layout can improve the efficiency of space use and make people feel comfortable and pleasant in the indoor environment.

Interface design includes the design of wall, floor and ceiling. These interfaces are not only the enclosure of space, but also an important part of decoration and expression. Interface design should consider many factors, such as material, color, shape and texture, in order to create an indoor environment that meets the functional needs and aesthetic tastes (Shen, 2023).

Furniture and furnishings design is an important part of interior space environment design. Furniture should not only satisfy the use function, but also consider the factors such as shape, material and color, and coordinate with the overall space environment. Furnishings, such as hanging pictures, sculptures, vases, etc., can

play the role of finishing touch and increase the personality and artistic atmosphere of the space.

Lighting and color design, lighting and color design are very important to the interior space environment. Reasonable lighting design can create a warm and comfortable atmosphere to meet the needs of different functional areas (Colenberg, 2023). Color design should integrate the color matching, contrast, and harmony of the space, making the indoor environment more dynamic and layered.

Ventilation and environmental protection design, ventilation and environmental protection design is an important part of modern interior space environment design. Good ventilation can ensure indoor air quality and meet the needs of people's healthy life. At the same time, the use of environmental protection materials is also the basic requirement of interior space environment design, which is conducive to protecting the environment and human health.

Intelligent design, with the development of science and technology, intelligent design has gradually become a part of interior space environment design. Intelligent design includes smart home, smart office and other aspects, through scientific and technological means to improve the environmental quality of interior space and the convenience of life.

In a word, interior space environment design includes space layout, interface design, furniture and furnishings design, lighting and color design, ventilation and environmental protection design and intelligent design. Designers need to consider these factors comprehensively to create a practical and beautiful interior space environment to meet people's living needs and aesthetic pursuit.

2.3 UNIVERSITY STUDY ROOM-INTERIOR SPACE ENVIRONMENT DESIGN

2.3.1 UNIVERSITY STUDY ROOM-DEFINITION AND CONTENT OF INTERIOR SPACE ENVIRONMENT DESIGN

With the vigorous development of higher education in China, the study room in university campus has become an important place for students to study daily. A comfortable, quiet and fully functional study room can not only improve students' learning efficiency, but also create a positive campus cultural atmosphere. Therefore, the interior space environment design of university study room is particularly important (Tang, 2023).

Functional layout. The interior space design of university study room should fully consider its use function and rational layout. Generally speaking, study rooms should be divided into public areas, study areas, rest areas and so on. Reception desk, bulletin board, newspaper shelf and other facilities can be set up in the public area to facilitate students to obtain relevant information; the study area should be divided into

single seat area, group discussion area, etc. To meet the learning needs of different students; the rest area can be set up with sofa, tea room, etc., so that students can relax properly after study.

Lighting and color. The lighting design of self-study room should follow the principles of comfort, energy saving and eye protection. Adequate and soft lighting can alleviate the visual fatigue caused by long-term learning and improve learning efficiency. In addition, color has a significant impact on people's psychological state. The color design of the study room should be based on warmth and tranquility, avoiding too bright or depressing tones. The collocation of wall, floor and furniture should be harmonious and unified to create a comfortable learning atmosphere.

Indoor noise control. Study room is a quiet environment, and indoor noise control is very important. In the process of architectural design, colleges and universities should use sound insulation materials to reduce the interference of external noise. At the same time, the selection of indoor floors, walls and furniture should also take into account their sound insulation performance. In addition, we can also set up special sound insulation facilities, such as sound insulation windows, sound insulation doors, etc., to further reduce indoor noise. **Ventilation and air quality.** The ventilation and air quality of the study room are directly related to the health of the students. When designing, colleges and universities should ensure indoor air circulation and avoid dead corners. Fresh air systems or air purifiers can be installed to improve indoor air quality. At the same time, the configuration of green plants can also play a certain role in purifying the air and beautifying the environment. **Furniture and facilities.** The furniture and facilities of study rooms should conform to the principles of ergonomics and be comfortable, practical and durable. For example, the height of desks and chairs should be adjustable to suit students of different heights; bookshelves, lockers and other colleges and universities should be reasonably designed to facilitate students to access items. In addition, colleges and universities should consider setting up multi-functional sockets, USB charging ports and other convenient facilities (Lu Lu, 2023).

In conclusion, in terms of the design of the indoor spatial environment of university study rooms, colleges and universities should focus on the balance between functionality and comfort in order to create a quiet, comfortable and convenient learning environment. Well-designed study rooms will become a bright landscape on campus, providing a quality learning space for teachers and students.

2.3.2 UNIVERSITY STUDY ROOM-DEVELOPMENT HISTORY OF INTERIOR SPACE ENVIRONMENT DESIGN

The theoretical research and design practice of study room architecture in the world is earlier than that in China. In 1980, Palatonov of the former Soviet Union combed the history of scientific development in his book *Design of Study Room Buildings*, believing that the construction of study rooms is the inevitable result of the

development of scientific research itself, and expounded the overall planning and organization of study room buildings. In 2004, Daniel D. Wach of the United States elaborated the development process of laboratory architecture in *Research Laboratory Architecture*, distinguished laboratories of different nature, described laboratory types, architectural design issues, engineering design issues in detail, and focused on the interior space in Section 7. Neil Appleton of Australia elaborated the definition of scientific research and study room architecture in the *Planning and Design of Scientific Research Building* in 2013, analyzed the characteristics of modern study room architecture, put forward the planning of laboratory space, and prospected the design trend of laboratory. *Study Room Architecture* compiled by Gaudi International Publishing Co., Ltd. in 2013 shows 31 cases of excellent study room architecture, including 8 cases of university study room architecture, and briefly introduces the design concept and highlights of each project (You Liyue, 2023).

In the 21st century, the emerging technology industry has become the main driving force to promote social development and progress. China clearly regards deepening the reform of science and technology system and promoting the construction of innovation system as one of its development strategies, and constantly improving the education system of production, education and research is an important way to implement this strategy. "Production" refers to industry, "education" refers to schools, and "research" refers to research institutions. The three make use of their respective superior resources and carry out technological innovation and production integration through teamwork, thus producing huge economic benefits and promoting social progress. Universities are the main supporting institutions of talents and technical resources, which are becoming more and more important to the economic development of countries. The development of national science and technology needs the support of scientific research achievements of universities. In the field of modern education, it is not only necessary to improve students' knowledge and ability through traditional classroom teaching, but also to develop practical teaching with students as the main body and the cultivation of people's comprehensive quality as the center. The teaching mode of production, teaching and research in colleges and universities focuses on the cultivation of applied talents in colleges and universities, and the cultivation of students' employability and collaboration ability. At the same time, scientific research achievements are important evaluation indicators in the evaluation system of comprehensive strength of colleges and universities, so constantly improving the education mode of production, teaching and research and enhancing the competitiveness of scientific research have become an important proposition for the development of colleges and universities. Teaching is the most basic function of a university. As the product of the new era, the mode of industry-university-research education is a teaching activity with the cultivation of scientific research and innovation ability as the core, which breaks the working state of independent research of scientific researchers in the past. At present, the old indoor layout is no longer suitable for the current needs of scientific research and innovation (Ren Zeyu, 2023).

Students not only need independent study space for independent research, but also need communication space to share knowledge and information and inspire scientific research and innovation. These needs determine that there must be a public space suitable for the teaching characteristics of colleges and universities in the study room building. This kind of informal learning, which is not teacher-led, has no fixed and rigorous organization of learning activities, and is not carried out in the traditional classroom, is called informal learning. Comparatively speaking, the study room buildings on the old campus were built according to the traditional teaching model, and lacked study room spaces that could help improve students' research and innovation abilities and meet their diverse needs. What is more urgent is that some schools still excessively pursue the utility rate of buildings, and many newly built and under construction study room buildings do not improve the environment in terms of organization, physical environment and cultural atmosphere, which provides a reference for the design and research of study room space in university study room buildings. Due to the profound historical accumulation of international universities, the development of disciplines and relatively advanced teaching concepts, the design of study room buildings has also accumulated to a certain extent. The research in this field generally focuses on the general theory and method of the experimental space, and puts forward the rational design strategy of the physical environment in the laboratory space, but it is undeniable that it lacks the exploration of the internal public environment of the building, and the research on the humanized design of the study room space reflecting the changes and development of the times is relatively limited.

In China, the books on the design of university study room building space were published earlier, and the examples cited are relatively old, and most of them take the laboratories in study room buildings as the research object. Comparatively speaking, it focuses on construction engineering and equipment, while the research on study room space design is less, which is not of great reference value for the study of this topic.

2.3.3 UNIVERSITY STUDY ROOM-INTERIOR SPACE ENVIRONMENT

DESIGN STRATEGY

University study room is an important place for college students' daily learning, and its interior space environment design directly affects students' learning efficiency and experience. This paper will explore the design of university study room and interior space environment, in order to provide a useful reference for the construction and transformation of university study room. The main function of university study room is to provide students with a quiet, comfortable and convenient learning environment. On this basis, the study room should also meet the following requirements: good lighting and ventilation: the study room should ensure adequate natural light and appropriate ventilation system to improve indoor air quality and create a healthy learning environment for students; reasonable spatial layout: the

study room should be reasonably divided into study areas, rest areas and other functional areas to meet the different needs of students. At the same time, colleges and universities should consider the layout of seats to ensure mutual respect and privacy among students. Convenient facilities and equipment: Study rooms should be equipped with necessary facilities and equipment, such as bookshelves, lockers, water dispensers, etc., to facilitate students' study and life. Quiet and comfortable atmosphere: The study room should be kept quiet to avoid noise interference. At the same time, interior decoration and furniture selection colleges and universities should pay attention to comfort, so that students will not feel tired after a long time of study.

The main points of interior space environment design of university study room include:

Design style: The design of university study room should follow the principle of simplicity, atmosphere and practicality, and avoid too complicated decoration. At the same time, colleges and universities should reflect the cultural characteristics of the school and create a personalized interior space.

Color collocation: Color has a greater impact on people's psychology and emotions. Colleges and universities should follow the principle of warmth and tranquility in color matching of study rooms to alleviate students' learning pressure. Generally speaking, light tones are good for keeping the mood calm, while dark tones give people a sense of stability.

Illumination design: Illumination is an important factor affecting the comfort of the study room. Colleges and universities should ensure adequate and soft lighting in study rooms and avoid strong direct light. In addition, natural light can be introduced into the room through windows and skylights to reduce energy consumption.

Furniture selection: College students should choose environmentally friendly, good texture and durable materials for study room furniture. The height of desks and chairs should be moderate, in line with the principles of ergonomics, in order to reduce the fatigue of students studying for a long time.

Greening design: Green plants are added in the study room, which is conducive to improving the indoor environment, purifying the air and providing students with a little vitality. University should pay attention to the combination of functionality and aesthetics in the design of interior space environment of university study room, so as to create a comfortable, quiet and convenient learning environment. Through the design and transformation of the study room, it is helpful to improve students' learning efficiency and promote their all-round development. Colleges and universities and relevant design departments should study the interior space environment design of study rooms in depth, constantly optimize the environment, and provide better learning conditions for college students (Yuan Shuaibing, 2023). With the development and progress of society, university education has begun to attach more and more importance to students' independent learning and innovation ability. As an important place for students to study independently in universities, the

interior space environment design of study room directly affects the learning effect and learning experience of students.

One is to rationally plan the spatial layout. Reasonable planning of the spatial layout of the study room is the basis to ensure a good learning environment for students. First of all, we should fully consider the actual use needs of the study room, and rationally divide the study area, rest area, storage area and other functional areas to meet the different needs of students. Secondly, we should fully consider the permeability and mobility of space, try to avoid crowded and disorderly spatial layout, in order to create a quiet and comfortable learning environment. With the continuous development of society, university education has gradually become an important base for personnel training. As an important part of university education, study room provides a place for students to study independently and improve themselves. Therefore, how to reasonably plan the interior space environment design of the study room has become a problem that the current university administrators need to pay attention to. As the main place for students to study, the rationality of the space layout of university study room directly affects the learning effect of students. Reasonable planning of space layout can improve the efficiency of the use of study rooms, so that students can better participate in learning in a comfortable environment. In the design of study rooms, colleges and universities should fully consider the layout of seat arrangement, information cabinets, bookshelves and other facilities to ensure the maximum use of space, while avoiding mutual interference and creating a quiet and clean learning atmosphere. University study rooms should not only provide learning places, but also meet the needs of students in leisure, communication and other aspects. Therefore, in the design of interior space environment, colleges and universities should pay attention to functional zoning, and reasonably set up different areas such as self-study area, communication area and reading area. In the self-study area, colleges and universities should set up enough seats to meet students' learning needs; in the communication area, facilities such as sofas and tea tables can be set up to facilitate students' discussion and communication; in the reading area, colleges and universities should set up bookshelves and information cabinets for students to consult information. Through the setting of functional zoning, the study room can become a diversified learning space to meet the different needs of students. Lighting and ventilation are important factors that can not be ignored in the design of interior space environment of study room. Good lighting can effectively alleviate the visual fatigue caused by long-term study and improve the learning effect. Proper ventilation can ensure the indoor air quality and create a comfortable learning environment. In the design of study rooms, colleges and universities should make full use of natural light, set up windows and glass reasonably to ensure indoor brightness; at the same time, colleges and universities should set up ventilation systems to ensure indoor air circulation. In the interior space environment design of university study room, decoration and atmosphere creation are of great significance to enhance students' interest in learning. By hanging inspirational slogans, famous sayings, epigrams and

other decorations, students' learning motivation can be stimulated; by using warm color matching and comfortable furniture, a relaxed and pleasant learning atmosphere can be created. In addition, we can also relieve students' pressure and improve their learning efficiency by playing soft music and setting up green plants. In summary, in the design of indoor spatial environment of university study rooms, universities should pay attention to the rational planning of spatial layout, and create a comfortable, convenient, and efficient study space for students from the aspects of improving the efficiency of use, meeting the diversified needs, creating a good indoor environment, and enhancing the interest of students in learning (Yi Yannan, Guo Chen, Li Yixuan, & Yu Jia, 2023), which not only facilitates the growth and development of the students, but also helps to improve the overall quality of education in the university.

Focus on the interior design style. Study room interior design style college should be simple, generous, conform to the cultural atmosphere of the university. Colleges and universities should pay attention to color matching, material selection and decorative elements in order to create a warm and natural learning environment. In addition, colleges and universities should try to avoid too complicated decoration, so as not to distract students' attention. With the continuous development of society, as an important place for students to study, the interior space environment design of university study room has been paid more and more attention. University study room is an important place for students to study, read and communicate, and its interior space environment design directly affects students' learning effect and experience. Therefore, how to use the principles of interior design reasonably to create a space environment that not only meets the functional needs of university study rooms, but also has aesthetic and comfort has become an important issue for designers to pay attention to. In the design, the main style is simple modern style, simple modern style pays attention to the concise and lively space, as well as the realization of functionality. In the design of university study rooms, the use of simple and modern style can create a quiet and refreshing learning environment, which helps students concentrate. Classic traditional style: Classic traditional style emphasizes the symmetry, balance and decoration of the space. The design of this style can make the university study room more solemn and elegant, and create a quiet and solemn learning atmosphere. Natural ecological style emphasizes harmonious coexistence with nature, making full use of natural light, color, material and other factors to create a comfortable and pleasant learning environment (Tang Min, 2023). The design of this style helps to improve students' learning enthusiasm and comfort.

Reasonable planning of space layout is the key to improve the efficiency of university study room. Designers of colleges and universities should fully consider the functional requirements of study rooms, rationally allocate learning areas, rest areas, storage areas, etc., to ensure the maximum use of space. Good daylighting and lighting design is essential to improve the use of university study rooms. In order to create a bright and comfortable learning environment for students, designers should

make full use of natural light and allocate artificial lighting reasonably. Color plays an important role in creating the psychological atmosphere of university study rooms. According to the functional requirements of the study room, designers should choose appropriate color matching to create a space environment that helps students concentrate and relax. The choice of materials has an important impact on the comfort and beauty of university study rooms. Designers in colleges and universities should choose materials that conform to ergonomics, are environmentally friendly, and are easy to clean and maintain, so as to create a comfortable and healthy learning environment for students. University should pay attention to the choice of style and the application of strategy in the interior space environment design of university study room. By planning the space layout reasonably, optimizing the daylighting and lighting design, paying attention to the indoor color matching and selecting appropriate materials, we can provide a good learning environment for college students and improve the efficiency and comfort of the study room (Yu Dongbo, Yue Xiaolin, & Zheng Xiaoying, 2023). In the design process, designers colleges and universities should give full consideration to the functional needs of the university study room, to create both beautiful and practical space environment.

Provide comfortable learning facilities, study rooms Colleges and universities should provide comfortable learning facilities, such as ergonomic desks and chairs, adequate light and appropriate temperature, to ensure that students maintain a good physical and mental state in the learning process. At the same time, colleges and universities should take into account the public nature of the study room and provide some convenient charging interfaces and drinking water equipment to facilitate the use of students. University study room is a place for students to study and research independently, and its interior space environment design has an important impact on students' learning effect and experience. Therefore, colleges and universities should provide comfortable learning facilities to create a good learning environment.

First of all, the study room colleges and universities should provide comfortable learning facilities, including comfortable seats and tables. Chair colleges and universities should have good ergonomic design, which can adjust the height and angle to meet the needs of different students. Tables should be spacious enough so that students can comfortably place books and study materials. In addition, colleges and universities should provide sufficient storage space so that students can store their personal belongings and documents.

Secondly, colleges and universities should provide good lighting and ventilation for study rooms. Lighting should be soft to avoid glare and eyestrain. Colleges and universities should also maintain air circulation in the study room to provide fresh air and suitable temperature. In summer, colleges and universities should provide air conditioning to reduce the temperature, and in winter, colleges and universities should provide heating to keep warm. Colleges and universities should also provide good noise control facilities in the study room. Noise is one of the important factors that affect students' study, so colleges and universities should take measures to reduce the

interference of noise. For example, colleges and universities can decorate walls and floors with sound insulation materials, close windows to avoid external noise, and provide noise control devices such as earplugs (Wang Xiangyu, Xue Peng, Zhang Jun, & Ding Hui, 2023).

Finally, colleges and universities should provide good Internet access and power outlets. Students need to use electronic devices and the Internet to study, so study room colleges and universities should provide enough network access points and power outlets to meet the needs of students. College study rooms Colleges and universities should provide comfortable learning facilities to create a good learning environment. This includes the provision of comfortable seating and tables, good lighting and ventilation, noise control facilities, as well as Internet access and power outlets. These designs will enhance students' learning outcomes and experiences and enable them to better utilize study rooms for independent learning and research.

Pay attention to the safety and health of the indoor environment, the safety and health of the indoor environment of the study room is an important factor to ensure the learning effect of students. When designing, colleges and universities should strictly abide by the relevant national standards and regulations, and select environmentally friendly, non-toxic and harmless building materials and decorative materials. In addition, full consideration should be given to indoor air quality, noise pollution and other issues, and appropriate measures should be taken to prevent and control them. In today's society, space environment design has become a hot topic of concern. Among them, the integration of national culture into space environment design can not only highlight the cultural heritage of our country for 5000 years, but also enhance the unique charm of space environment (Yang Yin, 2023). However, while pursuing the elements of national culture, we should pay more attention to the safety and health of indoor environment in order to ensure the safety of people's lives and property and the quality of life. Integrating national culture into space environment design can inherit and carry forward the excellent traditional Chinese culture. Integrating national culture into space environment design can make more people understand and feel the excellent culture of the Chinese nation, which is conducive to the inheritance and promotion of traditional culture. National cultural elements have unique artistic charm and visual effects, which can enhance the aesthetic value and ornamental value of the space environment. Integrating national cultural elements into the design of space environment will help to enhance national identity and cohesion and promote national unity.

The safety and health of indoor environment is directly related to people's life safety and health, especially to the human respiratory system, skin and other vulnerable parts. Safe and healthy indoor environment can provide people with comfortable and peaceful living and working space, which is conducive to improving the quality of life. Good and safe indoor environment can make people feel happy, relieve pressure and contribute to mental health. In the design, we should choose environmentally friendly materials: in the design of space environment, colleges and

universities should choose environmentally friendly, non-toxic, harmless building materials and decorative materials to ensure that the pollution of the indoor environment is minimized. Reasonable planning of interior space layout to ensure good indoor lighting, ventilation, humidity and other conditions to meet people's living and working needs. In the process of design, we should respect the characteristics and connotations of national culture, avoid blindly pursuing fashion and individuality, and ignore the inheritance and development of national culture. In the design of space environment, safety factors should be fully considered to ensure that the indoor environment has basic safety functions such as fire prevention, theft prevention and explosion prevention. Designers should constantly improve their professional quality, master advanced design concepts and technologies, and create a safe and healthy indoor environment for people. To integrate national culture into space environment design, we should not only fully display the unique charm of national culture, but also pay attention to the safety and health of indoor environment. Only on the basis of ensuring the safety of people's life and property and the quality of life, can the value of space environment design be truly realized.

Integrating the concept of green environmental protection, green environmental protection is an important theme in today's society, the design of university study room should also integrate the concept of green environmental protection. For example, natural ventilation, natural lighting and other methods can be used to reduce energy consumption; select energy-saving and environmentally friendly equipment and materials to reduce the operating costs of the study room. With the development of society and the improvement of people's awareness of environmental protection, the concept of green environmental protection has become one of the design principles of various industries. Integrating the concept of green environmental protection into the design of space environment can not only reduce the consumption and destruction of natural resources, but also improve people's quality of life and achieve sustainable development. Integrating national culture into the design of space environment can show the diversified cultural characteristics of our country and enhance people's sense of national pride and identity. First of all, make full use of green materials. In the design of space environment, designers should fully consider the choice of materials, try to use green environmental protection materials to reduce environmental pollution. For example, in terms of building materials, renewable resources such as natural stone and wood can be selected to avoid the use of man-made materials containing harmful substances. In terms of decorative materials, colleges and universities should choose low volatile organic compounds (VOC) paint, wallpaper, etc. To reduce indoor air pollution (Cheng Yutong, 2023). At the same time, we can also use waste for reuse design, such as waste wood, bottles and so on, which not only reduces the damage to the environment, but also reflects the innovative spirit of national culture. Secondly, we should pay attention to the application of energy-saving and environmental protection technology in Colleges and universities. In the design of space environment, designers should pay attention to the application

of energy-saving and environmental protection technology in colleges and universities, improve energy efficiency and reduce energy consumption. For example, in construction, renewable energy such as solar energy and geothermal energy can be used to reduce dependence on traditional energy. In terms of interior design, colleges and universities should choose high-efficiency and energy-saving lighting, air conditioning and other equipment, and adopt intelligent control system to achieve fine management and reduce energy waste. In addition, we can also adopt green landscape design, such as rain garden, green roof, etc., to improve the green area and promote the harmonious development of the ecological environment.

Thirdly, integrate the elements of traditional national culture. Integrating traditional national cultural elements into the design of space environment can show the rich historical and cultural heritage of our country. Designers can draw inspiration from folk art, traditional patterns and architectural styles, and apply these elements to their designs in innovative ways. For example, patterns, colors and materials with national characteristics can be used to create a space environment with national charm. At the same time, we can also learn from the layout and structure of traditional buildings to achieve the perfect integration of modern and traditional, and to show the charm of national culture.

Finally, it emphasizes the harmonious coexistence of man and nature. In the design of space environment, it is an important way to realize sustainable development to integrate the concept of green environmental protection and emphasize the harmonious coexistence of man and nature. University designers should fully consider the relationship between man and nature and create a livable, comfortable and healthy space environment. For example, in the design, we should pay attention to the interaction between indoor and outdoor space, improve the penetration of natural light, increase the green area, and create an ecological space environment. In addition, we can also adopt low-carbon and environmentally friendly design techniques, such as three-dimensional greening, permeable pavement, etc., to reduce the impact of buildings on the environment and achieve harmonious coexistence between man and nature. Integrating national culture into the concept of green environmental protection in space environment design is an important way to achieve sustainable development. Designers in colleges and universities should make full use of green environmental protection materials, pay attention to the application of energy-saving and environmental protection technology, integrate traditional national cultural elements, emphasize the harmonious coexistence of man and nature, and create a livable, comfortable and healthy space environment for people.

To sum up, the design of interior space environment of university study room should focus on space layout, design style, learning facilities, safety and health, and green environmental protection, so as to create a comfortable, quiet and safe learning environment and promote students' autonomous learning and innovation ability.

2.4 NATIONAL CULTURE AND SPACE ENVIRONMENT DESIGN

2.4.1 PROGRESS IN ETHNIC CULTURE AND SPATIAL ENVIRONMENT DESIGN

In China, the level of display space design tends to show a decreasing trend from east to west and from south to north. It so happens that the regions with more ethnic minorities in China are northwest and southwest, but the level of display design in these regions is relatively low, which is determined by many factors. Therefore, the author's research on the topic of cultural interpretation in display space design in Inner Mongolia is of some reference to the display space design in other regions. Compared with the western region, the eastern coastal cities have done relatively well in this respect, and have done a good job in expressing the culture in the exhibition space in an internationally understood language, but there are also some poor cases. There are some relatively complete books on the theory of exhibition space design in China, which can be used for reference in the design of exhibition space, but the theory of exhibition space design with national characteristics is not complete enough to study the design of exhibition space from the perspective of various national cultures. In terms of design practice, there are relatively few ethnic groups in the eastern region, so it is easier to choose the culture to express in the design of exhibition space, and it is easier to extract the design concept, so there are some good design cases in the design of exhibition space in the eastern region. In the western region, there are many nationalities, while considering the national culture, we have to consider the feelings of foreign audiences. When all factors are put together, the elements of design become more, so it is easy for designers to grasp the theme they want to express, so there are fewer successful cases.

In foreign countries, there is a big gap in the level of exhibition space design, which is generally the same as the economic level and scientific and technological level of their own countries. From the 41st World Expo in Shanghai in 2010, it can be clearly seen that the core value of the theme of this World Expo is the sustainable development of cities. Under the background of globalization, it explores the global urbanization of the urban era and the great challenges faced by universities in the world. We can clearly divide the exhibition space design level of each national pavilion into three parts from a macro perspective: first, developed countries, most of their pavilions use international general design concepts to express their culture, and the design language is easier to meet visitors from various countries, which pays great attention to the display and expression of scientific and technological level. At the same time, many details can express the principle of people-oriented, focusing on the experience and interaction between people and architecture, space and exhibits, the representative of which is the British Pavilion (Luo Zhengfu, 2023). Secondly, developing countries mostly use some cultural elements of their own countries to express their themes, but compared with some tourists from other countries, it is

difficult to understand the cultural content, receive less cultural aspects, but more superficial forms, they are often eager to express what they like most. The functionality is relatively poor, and the representative one is the China Pavilion (as shown in Figure 2.1 below). Thirdly, some backward countries use more straightforward language in the exhibition space, and the cultural level is very simple. The worse one has almost become a market for selling national crafts, and the representative one is the South Africa Pavilion. From a macro level, foreign countries can be roughly divided into three levels in the display space design level.

Figure 5 Space Design Examples



web photo

2.4.2 RESEARCH ON THE CONTENTS OF NATIONAL CULTURE AND SPACE ENVIRONMENT DESIGN

Space environment design is a process of planning and creating the internal and external space of a building, aiming at creating a beautiful, practical and comfortable environment (Han Zhiru, & Tian Yuan, 2023). In China, space environment design is faced with the problem of how to integrate national culture into design. In modern design, the use of national cultural elements can not only reflect national characteristics, but also meet people's needs for cultural identity. The application of national culture in space environment design is of great significance, which is mainly reflected in enhancing the individuality and vitality of the design. National culture has distinct regional characteristics and national characteristics. Integrating these elements into space environment design can make the design have unique individuality and improve the attractiveness and influence of the design. As a comprehensive art, space environment design can integrate national culture into it, make it glow with vitality in the new era, and further inherit and carry forward national excellent culture. To improve national pride and cultural identity, the use of national cultural elements in space environment design can make people feel the charm of national culture in daily life, improve national pride and enhance cultural identity (Miao Yuhang, 2023).

The current research on the integration of national culture into space environment design mainly focuses on the following aspects:

- (1) Deeply excavate national cultural resources

It is a very meaningful topic to integrate national culture into space environment design. As a province with a long history and colorful culture, Guizhou is rich in

minority cultural resources, which provide valuable materials for space environment design. First of all, we can dig deeply into the national architectural style. Guizhou's ethnic minority buildings, such as the Miao's Diaojiaolou, the Dong's Drum Tower and the Tujia's Tulou, have their own unique characteristics and charm. Integrating these architectural styles into modern space design can not only increase the uniqueness of space, but also enable people to better understand and experience national culture. Secondly, ethnic elements can be used for decoration. Guizhou's minority cultures are rich in patterns, colors and symbols, such as Miao embroidery, Dong silver ornaments, Tujia cloth and so on. These elements can be used to decorate the walls, floors and furniture of the space, adding a unique cultural atmosphere to the space. In addition, we can also introduce ethnic activities and cultural festivals. For example, we can set up national music performances, dance performances, handicraft production and other links in the space, so that people can better experience and understand the national culture in daily life.

On an objective level, integrating national culture into spatial environment design can not only increase the uniqueness and cultural connotation of the space, but also promote the inheritance and development of national culture. College designers should deeply understand and study the national culture, excavate the elements with representativeness and regional characteristics, and provide rich materials for design. In China's rich national cultural resources, space design has a broad space for excavation and application in universities. Integrating national culture into space design can not only enhance the cultural connotation of space, but also inherit and carry forward national culture. The strategy of excavating national cultural resources. In-depth study of national culture: Space designers should deeply understand and study national culture, including national history, culture, customs, beliefs and other aspects, from which representative elements are extracted to provide rich creative sources for space design. In space design, we should emphasize national characteristics, combine national cultural elements with space functions and aesthetics, and create a space environment with national characteristics. Innovative design: In the process of excavating national cultural resources, space designers should pay attention to innovation, combine traditional national elements with modern design techniques, and inject new vitality into space design. Respect for cultural diversity: China has a large number of nationalities, so space design should respect the characteristic culture of all nationalities, fully tap the cultural resources of all nationalities, and create a pluralistic and harmonious space environment.

Specific research on the method of mining national cultural resources, mainly extracting national elements, extracting representative elements from national traditional culture, such as patterns, colors, materials, shapes, etc., and applying them to space design. Integration of ethnic customs: the space design is integrated with ethnic customs, such as ethnic costumes, music, dance, drama, etc., to create a strong ethnic cultural atmosphere. Use of national materials: select materials with national characteristics in space design, such as bamboo, wood, embroidery, brocade, etc., to

reflect the charm of national crafts. Draw lessons from national architectural style: draw lessons from national architectural style in space design, such as Mongolian yurt, earth building, bamboo building, etc., to create a space image with national characteristics. Tell national stories: tell national stories through space design, such as legends, epics, folk stories, etc., so that the space can become a display window of national culture. In a word, excavating national cultural resources in space design requires designers to have rich knowledge of national culture and keen aesthetic vision, as well as to make full use of innovative thinking and design techniques. Through the excavation and application of national cultural resources, space design will be more distinctive and connotation, and provide people with creative and warm living environment.

(2) Innovative design techniques

In our country, national culture is rich and diverse, with high historical value, cultural value and aesthetic value. Integrating national culture into space environment design is not only helpful to inherit and carry forward national culture, but also to enhance the uniqueness and artistry of space environment. In order to achieve this goal, designers need to work hard on innovative design techniques. Designers should give full play to the resource advantages of national culture and dig deeply into the representative and unique elements of national culture. These elements can include ethnic patterns, totems, traditional colors, architectural styles, craftsmanship, etc. (Li Zhen, Luo Xiaomeng, & Zheng Juyan, 2022). The refinement and utilization of these elements can make the spatial environment design with distinctive national cultural characteristics.

Innovative design techniques mainly include deconstruction and reorganization. Designers can deconstruct the elements of national culture, decompose them into basic graphics, colors, materials and other elements, and then recombine them to form innovative design techniques. For example, the combination of traditional national patterns and modern graphic elements can create design works with the characteristics of the times; integration and collision, designers can integrate national cultural elements with the cultures of different regions and countries, resulting in collision and forming a unique design style. For example, the combination of Chinese national elements and western modern design techniques creates a space environment design with an international perspective; abstraction and simplification, designers can abstract and simplify the national cultural elements to meet the modern aesthetic needs of colleges and universities (Zhang Yishu, & Li Zhang, 2022). Through the refinement and generalization of national culture, the design works not only have national characteristics, but also conform to the modern aesthetic trend; science and technology and tradition, designers can make full use of modern scientific and technological means, such as digitalization, 3D printing, etc., to innovate the expression of national cultural elements. At the same time, it can also combine traditional crafts with modern science and technology to enhance the artistry and uniqueness of space environment design. In the process of design, designers should

fully consider the interaction between space environment and human beings, so as to combine national cultural elements with human needs. For example, interactive devices are added to the design so that the audience can participate in it and experience the charm of national culture. In addition, we can also create an immersive space environment through sound, light, electricity and other technical means, so that people can enjoy the convenience and interest brought by modern science and technology while feeling the national culture. In short, the integration of national culture into the design of space environment requires designers to constantly explore and practice innovative design techniques. Through in-depth excavation of national cultural elements, innovative design techniques and focusing on the interaction between space environment and people, national culture is integrated into space environment design to create a space environment with unique charm and cultural heritage for people. In the design of space environment, designers should combine national cultural elements with modern design techniques, innovate design style, and make the design not only have national characteristics, but also conform to modern aesthetics. Interior design is not only about creating a functional space, but also about cultural expression. In the design process, the integration of national cultural elements can not only enhance people's sense of national identity, but also make the interior design more distinctive. However, how to maintain the national cultural characteristics on the basis of the use of innovative techniques for interior design has become a major challenge facing the current designers. National cultural elements in interior design mainly include traditional symbols, which are an important part of national culture, such as Chinese knots, paper cuttings, blue prints, etc. Incorporating these symbols into interior design can create a unique national atmosphere. Color and material: National culture is closely related to color and material. For example, red symbolizes happiness and auspiciousness in Chinese culture, and the use of red materials or decorations can convey strong national customs. Traditional patterns: Traditional patterns carry rich national cultural connotations, such as the word "Fu", "Dragon and Phoenix", "Eight Diagrams", etc. Applying these patterns to interior design can show a unique national aesthetic. Furniture and furnishings: National style furniture and furnishings is an important means to show national culture. Such as Ming and Qing furniture, traditional porcelain, folk handicrafts, etc., these elements into the interior design, can create a strong national atmosphere. In terms of the innovative techniques of national culture in interior design, deconstruction and reorganization: designers can deconstruct the elements of traditional national culture, decompose them into basic graphics, colors, materials and other elements, and then recombine them to create design works with national characteristics and in line with modern aesthetics. Integration of modernity and tradition: combining modern design concepts with traditional national cultural elements, such as incorporating traditional design elements into modern furniture, or using modern materials to show traditional crafts, to achieve the harmony and unity of modernity and tradition. Abstraction and symbolization: The traditional national cultural elements are abstracted and their

symbolic meanings are extracted to show the connotation of national culture in the form of concise lines, shapes and colors. Application of innovative materials in colleges and universities: use new materials and scientific and technological means, such as 3D printing, laser cutting, etc., to make innovative expression of traditional national cultural elements, so as to make interior design more contemporary. Integrating national culture into interior design not only helps to inherit and develop national culture, but also adds unique charm to the design. Designer universities should deeply explore the connotation of ethnic culture, flexibly apply innovative techniques, achieve the harmonious unity of interior design and ethnic culture, and create a beautiful living environment for people (Liu Lirui, 2022).

Focus on the creation of space atmosphere

College designers should make full use of national cultural elements, such as colors, patterns, materials, etc., to create a space atmosphere with national characteristics. In China, interior space design is a comprehensive art that integrates knowledge of many disciplines. It not only needs to meet people's practical needs, but also pays attention to the creation of space atmosphere. In this process, national culture plays a vital role. National culture is the spiritual pillar of a nation, which includes many aspects of national history, customs, beliefs, art and so on. In interior space design, national culture not only embodies the aesthetic concept and values of designers, but also is an important element of creating space atmosphere. Through the use of national cultural elements, we can make the interior space design more distinctive and meet people's spiritual needs. The specific application of national culture in interior space design is reflected in the application of traditional elements in colleges and universities. In interior space design, designers can use traditional cultural elements, such as paper-cut, New Year pictures, embroidery, national costumes and so on, to create a space atmosphere. These traditional elements not only have strong national characteristics, but also arouse people's memories of traditional culture, making the space more cultural. As for color matching, color is a very important part of interior space design. In the design of national culture and interior space, the collocation of colors in colleges and universities should pay attention to the aesthetic concept of national characteristics. For example, red in traditional Chinese colors represents happiness and auspiciousness, which can be used in interior space design to create a festive atmosphere; blue represents freshness and tranquility, which can be used to create a fresh and natural space atmosphere. The use of traditional materials, traditional materials in interior space design in colleges and universities, not only can reflect the national characteristics, but also give the space a unique texture. Such as bamboo, wood, stone and other natural materials, they have strong folk customs, can make the interior space closer to nature, create a comfortable and pleasant space atmosphere. In terms of layout and decoration, the combination of national culture and interior space design is also reflected in layout and decoration. The layout of Chinese traditional dwellings is symmetrical and harmonious, which can be used for reference in modern interior space design. At the same time,

decorations with national characteristics, such as tapestries, porcelain and wood carvings, are also important means to create a space atmosphere. In a word, national culture plays an important role in interior space design. Through the use of traditional elements, color matching, materials, layout and decoration, we can effectively create a space atmosphere, make the interior space design more distinctive, and better meet people's spiritual needs. In the future practice of interior space design, our colleges and universities should continue to tap national cultural resources, combine national culture with modern design concepts, and create more interior spaces with rich national cultural connotations for people (Wang Jiajia, & Zhou Hui, 2022).

On the objective level, Chinese national culture is rich and colorful, and the characteristic culture of each region provides a constant source of inspiration for spatial environment design. Integrating national culture into space environment design is not only helpful to inherit and carry forward national culture, but also to enhance the unique charm of space environment. In this process, it is particularly important to pay attention to the creation of space atmosphere. First, we should have a thorough understanding of the connotation of national culture. In order to successfully integrate the elements with national characteristics into the design of space environment, designers should first have a deep understanding of the connotation of national culture. This includes national history, customs, religious beliefs, artistic expression and so on. Through in-depth understanding of national culture, designers can better grasp the connotation of national elements, so as to create a space atmosphere in line with national characteristics. Second, respect the natural and human environment. In the design of space environment, colleges and universities should follow the principle of respecting the natural and humanistic environment by integrating national cultural elements. Designers need to fully consider the regional characteristics, climate conditions, ecological environment and other factors, and combine the elements with national characteristics with these environmental characteristics to make them coexist harmoniously. For example, in areas with beautiful natural environment, elements such as landscape and architectural style of national style can be used to create a quiet and comfortable space atmosphere. Third, pay attention to the use of color, material and shape. Color, material and modeling are important means to create atmosphere in space environment design. In the process of integrating national cultural elements, designers should be good at using these techniques to highlight the space atmosphere with national characteristics (Zhao Yajie, & Xue Xiaojun, 2022). For example, our traditional national colors are rich and varied, such as red, yellow, blue, etc. Designers can use these colors to create a warm and festive atmosphere. At the same time, designers can also choose materials with national characteristics, such as wood, silk, fabrics, and unique national shapes, such as paper-cut, carving, etc., to make the space environment more national cultural charm. The fourth is to integrate national arts and crafts. National art and craft is an important part of national culture, which is integrated into the design of space environment to help enhance the cultural connotation of space atmosphere. Designers can use national painting, sculpture,

ceramics, folk handicraft and other art forms, as well as unique technology, such as carving, weaving, embroidery, etc., to make the space environment full of artistic flavor. Fifth, pay attention to the integration of modern and traditional. In modern society, universities should pay attention to the integration of modern and traditional space environment design, and combine the elements with national characteristics with modern design techniques. On the basis of retaining national elements, designers can use modern design concepts and technologies to create a space environment with national characteristics and in line with modern aesthetic needs. In a word, it is very important to pay attention to the creation of space atmosphere when integrating national culture into space environment design. Designers need to deeply understand the connotation of national culture, respect the natural and human environment, be good at using color, material, shape and other techniques, integrate national art and technology, and pay attention to the integration of modern and traditional, in order to create a space atmosphere with national characteristics and in line with modern needs.

(4) Strengthen the combination of function and culture.

In the design of space environment, designers should pay attention to the combination of function and culture, so that the design can not only meet the practical needs, but also have cultural connotations.

With the development of society, people have higher and higher requirements for space environment design, not only for beauty and comfort, but also for rich cultural connotations. As a unique national culture of our country, integrating it into the design of space environment can not only enhance the taste of design, but also inherit and carry forward the national culture. In the process of integration, it is particularly important to strengthen the combination of function and culture. On the one hand, to inherit and carry forward the national culture, China has five thousand years of history, rich national culture provides a steady stream of inspiration for the design of space environment. Integrating national culture into design is helpful to inherit and carry forward national culture and enhance national pride. On the other hand, to enhance the taste of design, national culture contains rich aesthetic concepts and values, which can be integrated into the design of space environment to enhance the taste of design and make the design more distinctive. At the same time, to enhance the comfort of the space environment, the national culture contains a wealth of living philosophy and lifestyle, these elements into the design of the space environment, help to improve the comfort of the space, to meet people's pursuit of a better life.

Strengthen the combination of function and culture and emphasize functionality: in the process of design, we should fully consider the functionality of national culture to ensure that the design can not only meet people's daily needs, but also reflect the characteristics of national culture. For example, when designing traditional furniture, we can combine the living habits of modern people, retain traditional elements, and increase storage functions; Culture: In the design, we should pay attention to excavating the connotation of national culture, and integrate representative cultural elements into the design. Such as traditional patterns, colors, materials and so on, can

reflect the characteristics of national culture. At the same time, we should also pay attention to conveying the values of national culture in the design, so that people can enjoy the beautiful space and feel the charm of national culture at the same time. Innovation: When integrating national culture, we should pay attention to innovation and avoid blindly restoring ancient ways. College designers should stand in the forefront of the times, with an open mind to understand and use national culture, and combine it with modern design concepts, to create a space environment with characteristics of the times and cultural connotations. Sustainability: In the design process, we should fully consider the sustainability of the environment and follow the principle of green environmental protection. There are many ideas about the harmonious coexistence between man and nature in the national culture. Integrating these ideas into the design will help to achieve sustainable development. It is very important to strengthen the combination of function and culture in the integration of national culture into space environment design. Designers should fully tap the connotation of national culture, innovatively apply it to the design, and pay attention to environmental protection and sustainable development on the basis of meeting people's needs. Only in this way can we really realize the inheritance and development of national culture in space environment design.

In China, with the rapid development of interior design industry, people have higher and higher requirements for home environment, not only pursuing beauty and comfort, but also paying more attention to the integration of functionality and cultural atmosphere. Strengthening the combination of interior space function and national culture can not only meet the living needs of modern people, but also inherit and carry forward the rich national culture of China and create a unique space atmosphere. The integration of interior space function and national culture. In terms of spatial layout, Chinese traditional architecture pays attention to symmetry and harmony, which still has high practical value in modern interior design. For example, spaces such as living rooms, dining rooms, and bedrooms are often laid out symmetrically, making them more regular and balanced. At the same time, drawing lessons from national elements, such as traditional furniture, decorations and so on, makes the space more cultural atmosphere. In terms of the use of materials, the rich natural resources in ethnic areas provide unique materials for interior design. For example, natural materials such as bamboo, wood and stone not only have the characteristics of environmental protection and health, but also reflect national characteristics. In interior design, these materials can be used skillfully to create a space environment with national characteristics. In terms of color matching, the rich colors in national culture provide inspiration for interior design. For example, bright colors such as red and yellow can be used for local decoration to make the space full of vitality, while calm colors such as black and gray can be used for large areas of walls or furniture to create a quiet and stable atmosphere. In terms of decorative elements, patterns, symbols and other elements in national traditional culture have high artistic value. In interior design, these elements can be extracted for simplification and innovation, and applied to walls, furniture,

curtains and other decorations to create a unique national style (Bao Qian, Yang Zhengxing, Zhao Xiajie, & Deng Yuxin, 2022).

The inheritance and development of national culture in space environment design is not only the promotion and inheritance of national excellent culture, but also an innovation of modern design. Designers in colleges and universities should deeply tap the national cultural resources, innovate design methods, pay attention to the creation of space atmosphere, strengthen the combination of function and culture, integrate national culture into space environment design, and create a beautiful, practical and comfortable space environment with national characteristics for people.

2.5 RESEARCH ON NATIONAL CULTURE AND INTERIOR SPACE

ENVIRONMENT OF UNIVERSITY STUDY ROOM

University study room is an important place for students to learn and communicate, and its interior space environment design directly affects students' learning effect and experience. In our country, the national culture is broad and profound. Integrating it into the interior space environment design of university study room can not only embody the unique charm of national culture, but also stimulate students' national pride, which is conducive to the construction of university study room with Chinese characteristics.

2.5.1 CONNOTATION AND CHARACTERISTICS OF NATIONAL CULTURE

(1) Connotation of national culture

National culture is a combination of common values, morals, aesthetics and other aspects formed by a nation in the course of its long-term development. Chinese national cultures are rich and diverse, including Confucian, Taoist and Buddhist cultures, as well as the folklore and traditional arts of various ethnic groups. The connotation of national culture refers to the inherent spiritual and material wealth of a nation's unique cultural tradition, values, religious beliefs, customs, artistic forms, language and other aspects formed in the long-term historical development process. The connotation of national culture is rich and diverse, which is an important symbol of national identity and the core content of national spirit. The following is a detailed analysis of the connotation of national culture: Values: The connotation of national culture embodies the unique values of the nation, including national ethics, moral concepts, aesthetic standards and so on. For example, the traditional virtues of the Chinese nation emphasize benevolence, loyalty, etiquette, harmony and so on, and these values have a very high status in Chinese traditional culture. Religious belief: Religious belief is an important part of the connotation of national culture. Different nationalities have different religious beliefs, such as Buddhism, Taoism, Islam and so on. To a great extent, these religious beliefs have influenced the lifestyle, ideology

and artistic creation of the nation. Customs and habits: The connotation of national culture also includes the customs and habits of the nation, such as festival celebrations, weddings and funerals, dietary habits, etc. These customs and habits contain the historical traditions and national spirit of the nation, and are important manifestations of national cultural connotations; art forms: national cultural connotations are manifested in art forms such as national music, dance, drama, painting, sculpture and other unique artistic styles. These art forms reflect the aesthetic concept, emotional expression and creativity of the nation; Language: Language is the basis of national cultural connotation, and different nations have their own unique language. Chinese characters are the treasure of Chinese culture and contain rich cultural connotations. The language of each nation is an important carrier of national wisdom and cultural heritage; Historical tradition: The connotation of national culture is also reflected in the historical tradition of the nation. Various ethnic groups have formed rich historical legends, epics and biographies in the long process of historical development. These historical traditions are not only the embodiment of national cultural connotation, but also the important pillar of national spirit. Philosophical thought: The connotation of national culture also includes the unique philosophical thought of the nation, such as the ideological system of Confucianism, Taoism and Buddhism. These philosophical thoughts have a profound impact on national values, moral norms, culture and art. Scientific skills: The connotation of national culture is also reflected in the scientific skills of the nation. The four great inventions of ancient times, the Egyptian pyramids and Indian mathematics are all treasures of the scientific skills of various nationalities, demonstrating the wisdom and creativity of the nation (Wang Yunfei, & Li Xiuxia, 2022).

National culture has rich and diverse connotations, including values, religious beliefs, customs, art forms, language and writing, historical traditions, philosophical ideas and scientific skills, and is both an important symbol of national identity and the core content of the national spirit. Protecting and inheriting the connotation of national culture will help to enhance national self-confidence and promote national harmonious development.

(2) Characteristics of national culture

National culture has the characteristics of long history, rich connotation, strong regionality and orderly inheritance. The integration of national culture into the interior space environment design of university study room is helpful to highlight the uniqueness of Chinese culture and improve the quality of interior environment. National culture has the characteristics of diversity and uniqueness, historical inheritance, regionality, dynamics and influence. First, diversity and uniqueness: national cultures are diverse, and each nation has its own unique cultural traditions and characteristics. This is reflected in language, religion, customs, festival celebrations, art forms, diet and so on. For example, the Spring Festival in China, the Thanksgiving Day in the West and the Ganges River sacrifice in India are all unique manifestations of their respective national cultures. These cultural characteristics

reflect the history, beliefs and values of the nation, and are the expression of the diversity of national culture. Second, historical inheritance: national culture is the product of historical development, carrying the historical memory and wisdom of the nation. Traditional culture has been inherited and developed in the long history, forming the core content of national culture. For example, Confucianism in China and Buddhist culture in India are all manifestations of historical inheritance. This inheritance makes the national culture have lasting influence and vitality (Song Qichao, Zhang Danyang, & Hou Yu, 2022). Third, regional: national culture is affected by geographical environment, climatic conditions, resource distribution and other factors, and has obvious regional characteristics. The ethnic cultures of different regions reflect the interaction between the local people and the natural environment and their unique understanding of life. For example, the south of China is rainy, and the element of water in folk art is more abundant, while the north is dry, and the cultural characteristics of fire are more prominent. The fourth is dynamic: national culture is not static, but constantly absorbed, integrated, innovated and developed in the process of historical development. With the advance of globalization, cultural exchanges between different ethnic groups have become increasingly frequent, and national cultures are constantly adjusting and evolving. For example, with the development of modern science and technology, there are new ways to spread and inherit national culture, such as the influence of network, film and television media on national culture. Fifth, the influence: the national culture not only has a profound impact on the internal members, but also has a certain impact on other nations and even the global culture. For example, Chinese Spring Festival, British Shakespeare's plays and other cultural phenomena have a high reputation in the world and become a bridge for cultural exchanges. The influence of national culture reflects its unique value and attraction.

To sum up, national culture has the characteristics of diversity and uniqueness, historical inheritance, regionality, dynamics and influence. These characteristics not only embody the rich connotation of national culture, but also make it a treasure in the treasure house of world culture. Protecting and inheriting national culture is conducive to enhancing national cohesion and promoting the development of world cultural diversity.

CHAPTER 3

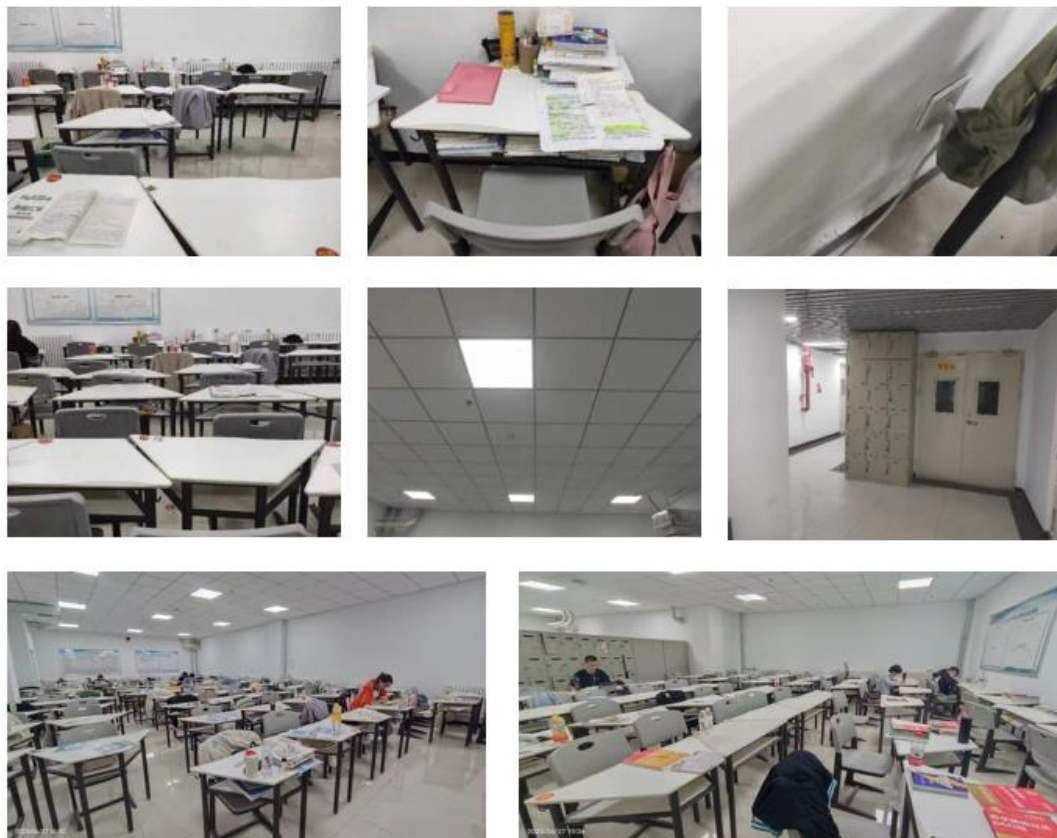
RESEARCH METHODS

3.1 LITERATURE RESEARCH

This study takes Ningxia culture as the background, studies the interior space environment design of the study room in North Minzu University, and discusses the current situation, problems and improvement measures of the interior space environment design of the study room by using the literature research method. Through the collection, collation and analysis of relevant literature, this paper aims to provide theoretical guidance and practical reference for the interior space environment design of study rooms in North Minzu University.

3.2 ON-SITE VISIT

Figure 6 Current Situation of the Study Room of North Minzu University



Note. Taken by the Author

Through the on-site visit, it can be found that the study room space of North Minzu University is cluttered, with single function distribution and old infrastructure, which is not conducive to students' learning.

3.2 QUESTIONNAIRE SURVEY

Located in northwestern China, Ningxia is a multi-ethnic region with a rich cultural heritage. Located in Yinchuan, the capital of Ningxia Hui Autonomous Region, the North Minzu University (NMU) is an important base for training high-level specialists of various nationalities and engaging in nationalities research. In this cultural background, the study room-interior space environment design of North Minzu University is particularly important. In order to better understand the needs of students for the study room environment, we conducted a questionnaire survey

Figure 7 Online Questionnaire Interview with North Minzu University Students

* 20. 自习室内桌椅设备的舒适度 (是否存在椅子过低, 桌面过高等不舒适的状况)?

A: 是的

B: 没有

* 21. 储存柜寄存方式是否安全方便?

A: 安全

B: 很不安全

C: 还可以

提交

☆ 问卷星 提供技术支持

Note. Taken by the Author

3.2.1 INVESTIGATION AND DESIGN

This survey is mainly aimed at the students of North Minzu University to understand their needs and satisfaction with the interior space environment of the study room. The content of the questionnaire mainly includes the basic information of students, the use of the study room, the satisfaction of the study room environment, and the functional needs of the study room.

3.2.2 RESEARCH IDEAS

This survey uses a questionnaire survey, through the understanding of the use of students' study rooms, to analyze the problems existing in the interior space environment of study rooms, and to provide students with design schemes that meet their needs.

3.2.3 INVESTIGATION STEPS

Formulate the questionnaire: According to the purpose of the survey, design the questionnaire content that meets the needs, including the basic information of students, the use of the study room, the satisfaction of the study room environment, the functional needs of the study room, etc.

Distribute questionnaires: Distribute questionnaires in each campus of North Minzu University, and adopt a combination of online and offline methods to ensure the coverage and effectiveness of the questionnaires.

Collecting questionnaires: After the questionnaires are distributed, the answers are collected in time, and the questionnaires are sorted out and counted. A total of 610 questionnaires were distributed, 609 were recovered, 608 were valid, and the effective rate was 99.7%.

Analysis results: Data analysis of the collected questionnaire, to understand the needs and satisfaction of students for the interior space environment of the study room, to find out the existing problems.

Write the report: according to the research results, write the research report to provide students with the design scheme of the interior space environment of the study room that meets the needs.

This paper hopes that through this questionnaire research to understand the students of the North Minzu University on the study room interior space environment needs, to provide targeted design solutions for the school, to create a comfortable, quiet, functional study room environment, to create better conditions for students to study.

3.2.4 ANALYSIS OF QUESTIONNAIRE DATA

In this survey, from the perspective of gender, the proportion of men and women is relatively balanced, of which the proportion of men is 48.36%, and the proportion of women is 51.64%; from the perspective of identity, the proportion of freshmen is 35.86, which is higher. From the professional point of view, science and liberal arts students are more, accounting for 48.19% and 38.82% respectively.

Table 1 Basic Information

Dimensions	Options	Quantity	Proportion
Gender	Male	294	48.36%
	Female	314	51.64%
Identity	Freshman	218	35.86%
	Sophomore	181	29.77%
	Junior	94	15.46%
	Senior	63	10.36%
	PG	52	8.55%
Major	Science	293	48.19%
	Literary class	236	38.82%
	Art category	79	12.99%

In this survey, from the perspective of gender, the proportion of men and women is relatively balanced, of which the proportion of men is 48.36%, and the proportion of women is 51.64%; from the perspective of identity, the proportion of freshmen is 35.86, which is higher. From the professional point of view, science and liberal arts students are more, accounting for 48.19% and 38.82% respectively.

Table 2 What is your main purpose for coming to the study room

Options	Proportion
Self-study	42.11%
Meet, discuss and get together with friends	40.63%
Participate in community activities	42.27%
Leisure and relaxation	69.57%

In the survey on "What is your main purpose for coming to the study room", the proportion of people who say leisure and relaxation is on the high side. It indicates that students do not have a comprehensive understanding of the function of the study room.

Table 3 How often do you come from the study room

Options	Proportion
Every day	16.78%
2-4 times a week	37.50%
2-4 times a month	22.04%
2-4 times a semester	23.68%

In terms of the frequency of entering the study room, the proportion of people who said 2-4 times a week was 37.5%, which was on the high side. The second is 2-4 times a semester, which shows that the frequency of students entering the study room is relatively low.

Table 4 How long do you usually stay in the study room

Options	Proportion
1 hour thought	13.65%
2-3 hours	26.64%
4 hours	17.60%
The time is indefinite	42.11%

In terms of the time spent in the study room, the proportion of students who said that the time was uncertain was 42.11%, which was relatively high, followed by 4 hours. It can be seen that students stay in the study room for a relatively long time.

Table 5 What do you think of the infrastructure and internal environment of the school study room

Options	Proportion
gratified	12.99%
generally	18.59%
unsatisfied	35.53%
It sucks	32.89%

In terms of students' perception of school study room infrastructure and internal environment, 32.98% and 35.53% of the students expressed poor and dissatisfaction, respectively. It can be seen that students are less satisfied with the infrastructure and internal environment of the school study room.

Table 6 Self study room renovation. What facilities or services would you like the self-study room to provide

Options	Quantity	Proportion
Free Wi-Fi	253	41.61%
Power socket	257	42.27%
washroom	174	28.62%
Locker	225	37.01%
Water dispenser	256	42.11%
Reading corner or lounge area	161	26.48%
Light brightness	295	48.52%

In terms of what facilities or services they want to provide in the study room, the proportion of choosing lighting brightness, power sockets and water dispensers is too high, which reflects the students'demand for space facilities in the study room.

Table 7 Which of the following factors do you think are the most important to consider when renovating the study room space

Options	Quantity	Proportion
Number and layout of seats	379	62.34%
Facilities and service configuration	558	91.78%
Sanitation and ventilation	295	48.52%
Noise control	466	76.64%

In the question of "Which of the following factors do you think are the most important to consider when renovating the study room space", the options of facilities and service configuration and noise control account for a higher proportion.

Table 8 What factors have an impact on your learning experience in the study room

Options	Quantity	Proportion
Overall atmosphere and space environment effect	210	34.54%
Architectural modeling, color and decoration of study room	382	62.83%
Internal spatial form	281	46.22%
Physical environment inside the study room	542	89.14%
Che Fuzhu space (toilet)	354	58.22%
Management (Access Control System)	337	55.43%

In the question of "What factors do you think have an impact on your learning experience in the study room", students who express the architectural shape, color, decoration and physical environment of the study room account for the largest proportion. This provides direction and inspiration for us to carry out the interior space environment design of the study room of North Minzu University under the background of Ningxia culture. Attention should be paid to the architectural shape, color, decoration and internal physical environment of the study room in the design.

Table 9 How much do you know about Ningxia culture

Options	Proportion
Very well	6.91%
Little bit	32.40%
Not at all	60.69%

In the survey on "How much do you know about Ningxia culture", 60.69% of the students said they did not know. It can be seen that students'awareness of Ningxia culture needs to be improved urgently. This also requires us to highlight the cultural elements of Ningxia in the interior space environment design of the study room of North Minzu University under the background of Ningxia culture.

Table 10 Have you ever been exposed to Ningxia cultural elements in your study or life

Options	Proportion
Yes	9.87%
No	90.13%

In the survey on "whether they have been exposed to Ningxia cultural elements in their study or life", 90.13% of the respondents have not been exposed to Ningxia cultural elements in their study or life. This shows that there are few cultural elements in Ningxia in study or life at present. This requires us to integrate more Ningxia cultural elements into the interior space environment design of the study room of North Minzu University under the background of Ningxia culture.

Table 11 Do you think it is a good idea to integrate Ningxia cultural elements into the renovation of university study rooms

Options	Quantity	Proportion
Very much in favor	256	42.11%
Favorable	241	39.64%
Neutral	29	4.77%
Not very favorable	46	7.57%
Not at all favorable	36	5.92%

In the question "Do you think it is a good idea to integrate Ningxia cultural elements into the transformation of university study rooms", the proportion of students who agree and very much agree is relatively high. It can be seen that under the background of Ningxia culture, the interior space environment design of the study room of North Minzu University is more reasonable and meets the needs and expectations of students.

Table 12 What features or elements of Ningxia culture would you like to see in the study room

Options	Proportion
Traditional architectural style in Ningxia	87.83%
Display of Ningxia traditional costumes or handicrafts	86.18%
Ningxia traditional books or art display	76.81%
Characteristics of Ningxia scenic spots	46.55%

In the survey on "What characteristics or elements of Ningxia culture do you want to see in the study room", it shows that Ningxia's traditional architectural style, traditional costumes and handicrafts account for a relatively high proportion. It can be seen that under the background of Ningxia culture, we should actively use these

characteristics or elements of Ningxia culture in the interior space environment design of the study room of North Minzu University.

Table 13 What kind of experience or feeling do you think will be brought to you by adding Ningxia ethnic culture to the study room space design

Options	Quantity	Proportion
More friendly and integrated into the environment	563	92.6%
Enhance cultural identity	542	89.14%
Provide a better learning atmosphere	306	50.33%
Increase attractiveness	293	48.19%

In the survey about "What kind of experience or feeling do you think will be brought to you by joining the Ningxia ethnic culture in the study room space design?", the proportion of students who said they were more friendly and integrated into the environment and enhanced their cultural identity was very high. It can be seen that under the background of Ningxia culture, we should attach importance to the integration of Ningxia ethnic culture into the interior space environment design of the study room of North Minzu University.

Table 14 Do you think it is necessary to use Ningxia characteristic culture in the transformation of school study rooms

Options	Quantity	Proportion
Yes, Ningxia special culture can enrich the cultural atmosphere of study rooms	491	80.76%
Uncertain, need to know more about the connotation and effect of Ningxia characteristic culture	54	8.88%
Unnecessary, Ningxia characteristic culture is not compatible with the function of the study room	63	10.36%

In the survey on "Do you think it is necessary to use Ningxia characteristic culture in the transformation of school study rooms", the proportion of students who said "Yes, Ningxia characteristic culture can enrich the cultural atmosphere of study rooms" was 80.76%. It can be seen that under the background of Ningxia culture, we should actively use Ningxia characteristic culture in the interior space environment design of the study room of North Minzu University.

Table 15 Do you think that the use of Ningxia characteristic culture in the study room will increase students'attention to Ningxia regional culture

Options	Quantity	Proportion
Yes, it can stimulate students' interest in the regional culture of Ningxia	501	82.4 %
Uncertain, need further observation and evaluation	53	8.72%
No, not interested	25	8.88%

In the survey on "Do you think the use of Ningxia characteristic culture in the study room will increase students' attention to Ningxia regional culture?", the proportion of students who said "Yes, it can stimulate students' interest in Ningxia regional culture" was very high, accounting for 82.4%. It can be seen that in the interior space environment design of the study room of North Minzu University under the background of Ningxia culture, we should attach great importance to stimulating students'interest in Ningxia regional culture

Table 16 During the peak period of the study room, can the entrance and exit areas meet the needs of students

Options	Proportion
Yes	7.89%
Not really	36.68%
No	55.43%

In the survey on "whether the entrance and exit areas can meet the needs of students during the peak period of study room flow", 55.43% of the students said they could not. It can be seen that the entrance and exit area of the study room of North Minzu University can not effectively meet the needs of students during the peak period of the flow of people in the study room. Therefore, we should do a good job in the design and planning of the import and export areas in the interior space environment design of the study room of the North Minzu University under the background of Ningxia culture.

Table 17 Are you satisfied with the temperature of the four seasons in the study room

Options	Quantity	Proportion
Very satisfactory	36	5.92%
Generally	278	45.72%
Unsatisfactory	294	48.36%

In the option of "Are you satisfied with the temperature in the four seasons in the study room", the proportion of students who are not satisfied is the highest, which is 48.36%. It can be seen that the four seasons temperature in the study room needs to be adjusted urgently. This requires us to do a good job of temperature control in the interior space environment design of the study room of North Minzu University under the background of Ningxia culture.

Table 18 Comfort of desk and chair equipment in self-study room (whether there are uncomfortable conditions such as too low chair and too high desktop)

Options	Proportion
Yes	90.30%
No	9.70%

In terms of the comfort of the desk and chair equipment in the study room, students generally believe that the comfort is good, but some students feedback that the chair is too low and the desktop is too high. Therefore, under the background of Ningxia culture, we should take into account the comfort of the desk and chair equipment in the interior space environment design of the study room of North Minzu University.

Table 19 Is the storage cabinet safe and convenient

Options	Quantity	Proportion
It's safe	85	13.98%
It's not safe	421	69.24%
It's okay	102	16.78%

In the survey on "whether the storage cabinet is safe and convenient", the proportion of students who said "unsafe" was 69.24%. It can be seen that safety is also the key factor for us to consider the interior space environment design of the study room of North Minzu University under the background of Ningxia culture.

3.2.5 CONTENT ANALYSIS OF EXPERT INTERVIEW

(1) Interview before design

Question 1: What do you think is the significance and value of incorporating Ningxia cultural elements into the renovation of study rooms?

I think it's good. In Ningxia, any place must highlight our local characteristics, especially in the study room of college students. It can not only show our national culture, but also achieve the publicity effect we want. In our study room, we can hang some landscape paintings of Ningxia, or put some handicrafts with Ningxia characteristics. Let students know more about and love our Ningxia culture.

Question 2: What is the important role of the display of Ningxia culture in the university campus for students and campus culture?

There is a very important role, which is a way for us to publicize Ningxia culture. Students can feel the cultural charm of Ningxia more intuitively through these cultural displays, which is especially important for cultivating their cultural self-confidence. We are now pursuing multiculturalism, and adding elements of Ningxia culture not only enriches the campus culture, but also enables students from different places to better understand and accept each other's cultural differences, and this is not promoting the exchange and integration of campus culture.

Question 3: Which Ningxia cultural elements do you think are more suitable to integrate into the study room environment?

I hope that traditional handicraft works such as paper-cut or embroidery in Ningxia can be used as artistic decoration of the study room. These handicraft works not only have aesthetic value, but also enable students to appreciate the charm of traditional culture during the interval of learning. They can also play some folk songs or folk stories of Ningxia in the study room to create a learning environment full of regional cultural characteristics. Let students feel the charm of Ningxia in music and learn more about local stories.

Question 4: How to ensure that the integration of Ningxia cultural elements does not affect the learning atmosphere and functionality of the study room?

The core of the study room is learning, so all the design should be carried out around this core. When choosing Ningxia cultural elements, we can choose some symbols or patterns related to learning and wisdom. We can present Ningxia Hui characters or traditional patterns in the form of bookmarks, desktop ornaments and other small objects, which not only reflects the cultural characteristics, but also does not interfere with learning. We can also use color psychology to choose some colors that can make people calm and focused as the main color of the study room, supplemented by the embellishment of Ningxia culture, so as to create a study room environment with both cultural atmosphere and suitable for learning.

Question 5: What are the challenges that may be faced in the process of integrating Ningxia's cultural elements?

For designers, the biggest challenge is how to integrate traditional elements and Ningxia cultural elements. Ningxia's cultural elements mostly have strong historical and national characteristics, while modern study rooms pay more attention to practicality and simple style. To combine the two, we must find the right balance point, neither completely retro nor too avant-garde. How to make the whole study room look fashionable without losing its cultural background is a very mental thing.

Question 6: What do you think colleges and universities should do to address these challenges?

Invite local cultural experts, historians, even artists and craftsmen in Ningxia, so that our designers can have a deeper understanding of the essence of Ningxia culture, experts can also provide valuable suggestions to make the design closer to the cultural reality, and we can also refer to some successful cases of cultural integration to see how they are. When we design the study room, we can be more inspired and have more direction.

Question 7: What specific suggestions or opinions do you have in transforming the study room into Ningxia culture?

In the renovation of the study room, we can consider decorating the space with Ningxia characteristics, hanging some paintings or photographs depicting Ningxia scenery, so that students can not only feel the culture of their hometown, but also show our students' elegance, and in the layout, we can learn from the traditional architectural style of Ningxia and adopt the Hui nationality. Design a self-study space with national characteristics and in line with modern aesthetics.

Question 8: What are the possible future trends in the display and transmission of Ningxia culture on university campuses?

Schools can offer some elective courses related to Ningxia culture, so that students can have a more systematic understanding of Ningxia's history, art, folklore, etc. Schools can hold various cultural activities, such as Ningxia Culture Week, Folk Culture Festival, etc., through performances, exhibitions, lectures and other forms, so that students can personally experience and experience Ningxia culture.

Based on interviews with three experts, it is evident that experts are in favor of adding ethnic features to education. It is important to note that the study room cannot be fully designed according to Hui ethnic features, nor can it be designed too modern to lose its local features. Therefore, it is necessary to adjust the relationship between the two in the design process, so that it cannot be too retro or too avant-garde.

CHAPTER 4

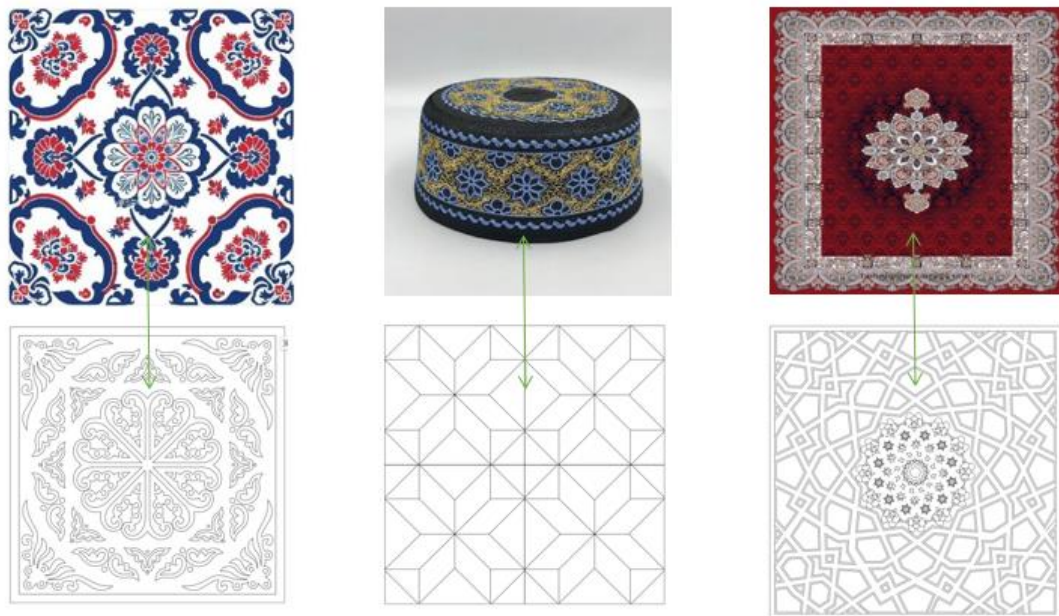
DESIGN

Ningxia, as an autonomous region in northwest China, has a long history, culture and rich ethnic customs. As an institution of higher learning focusing on cultivating talents of all nationalities, the interior space environment design of the study room of North Minzu University should fully reflect the cultural background of Ningxia and the characteristics of national unity. This design will discuss how to design the interior space environment of the study room of North Minzu University, which not only has national characteristics, but also conforms to modern aesthetics, under the background of Ningxia culture.

4.1 PRINCIPLES OF INTERIOR SPACE ENVIRONMENT DESIGN FOR STUDY ROOMS OF NORTH MINZU UNIVERSITY

Embodying national unity: North Minzu University, as an institution of higher learning with multi-ethnic characteristics, shoulders the important mission of cultivating outstanding talents of all nationalities. As an important place for students' daily learning, the interior space environment design of study room not only affects the learning effect of students, but also reflects the important window of national unity of the school. The interior space environment design of the self-study room in North Minzu University should fully embody the national unity and display the cultural characteristics of all nationalities. In the design, various ethnic elements can be used, such as patterns (Figure: 8), colors, furniture, etc., to create a multicultural atmosphere. At the same time, we should also pay attention to the mutual respect and tolerance of all ethnic cultures and avoid cultural conflicts and discrimination. The design of colleges and universities should fully respect the cultural characteristics of all nationalities, display the scene of harmonious coexistence of all nationalities by means of spatial layout and decorative elements, and embody the characteristics of national unity of North Minzu University.

Figure 8 Ningxia Ethnic Patterns



Note. Self-drawn by the Author

Highlight Ningxia culture: In the design, colleges and universities should integrate Ningxia's historical and cultural elements, such as Xixia culture, Islamic culture, etc. By displaying Ningxia's historical relics and intangible cultural heritage, people can feel the charm of Ningxia culture in the process of learning and leisure. Specifically, the first is to respect regional cultural characteristics. As an autonomous region in the northwest of China, Ningxia has rich national culture and historical details. In the design of study room interior space environment, colleges and universities should fully tap the cultural elements of Ningxia region, such as Islamic culture, Xixia culture, etc., and integrate these elements into the design to show the unique regional cultural characteristics of Ningxia. The second is to highlight national characteristics. As an institution of higher learning for nationalities, the interior space environment design of the study rooms in North Minzu University should fully reflect the national characteristics. Traditional patterns, colors, materials and other elements of various nationalities can be used to create a study room space with national characteristics, so that students can feel a strong national cultural atmosphere in the process of learning and leisure. Third, pay attention to functionality and comfort. The design of interior space environment of study room should not only pay attention to the creation of cultural atmosphere, but also take into account the functionality and comfort. In the design, colleges and universities should rationally arrange the space, fully consider the learning needs of students, and provide sufficient learning space and facilities. At the same time, we should also pay attention to the design of seats, lighting and other details to improve students' learning comfort. Fourthly, in the

design, colleges and universities should combine innovation with tradition, break the spatial layout and design concept of traditional study rooms, and explore new design methods of study rooms that meet the needs of modern students. At the same time, we should also pay attention to the inheritance and development of traditional culture, combine traditional elements with modern design, and provide students with a creative and traditional cultural atmosphere of learning space. In a word, the interior space environment design of the study room in North Minzu University should follow the principles of respecting regional cultural characteristics, highlighting national characteristics, paying attention to functionality and comfort, emphasizing environmental protection and energy saving, and combining innovation with tradition, so as to create a learning environment with regional characteristics and cultural atmosphere. This will help to enhance students' interest in learning and effectiveness, and cultivate talents with national characteristics.

Focus on functionality and comfort: The interior space design of the study room should not only meet the learning needs of students, but also focus on comfort to create a quiet and comfortable learning environment. In the design, colleges and universities should rationally plan the spatial layout, fully consider lighting, ventilation and other factors, and improve the quality of indoor environment. Study room is an important place for students to study. Its interior space design should not only meet the learning needs of students, but also pay attention to comfort and create a quiet and comfortable learning environment. In the design, colleges and universities should rationally plan the spatial layout, fully consider lighting, ventilation and other factors, and improve the quality of indoor environment (Lu Zhonghui, 2022). First of all, the spatial layout of the study room should be reasonably planned. **Classroom seating arrangements:** Colleges and universities should minimize distractions and create comfortable learning spaces. A combination of seats or group discussion areas can be used to meet the learning needs of different students. In addition, colleges and universities should take into account the height and comfort of students, choose the appropriate height of desks and chairs, as well as the appropriate size of classroom space to ensure that students have enough space for activities. Secondly, the lighting and ventilation of the study room are also very important. Good lighting can alleviate visual fatigue and improve learning efficiency. Transparent windows or skylights can be used to increase natural light into the classroom. At the same time, good ventilation can ensure indoor air quality and reduce the spread of bacteria and viruses. Reasonable ventilation system or window design can be used to ensure indoor air circulation. The interior design of the study room should also pay attention to comfort. Soft lighting, comfortable seats, appropriate temperature and other design elements can be used to create a comfortable learning environment. At the same time, we can also add some humanized designs, such as bookshelves, lockers, etc., to facilitate students to store books and articles. Finally, the design of the study room should also take into account the sound insulation effect. I mainly use sound insulation materials on indoor walls, floors and ceilings to reduce the interference of external noise and

create a quiet learning environment (Li Qian, 2022). Colleges and universities should reasonably plan the space layout, fully consider lighting, ventilation and other factors, improve the quality of the indoor environment to meet the learning needs of students, and create a comfortable and quiet learning environment.

Integration of modern and traditional: In the design, colleges and universities should combine modern aesthetics with traditional elements, use advanced design concepts and technical means to create a study room interior space environment with national characteristics and modern flavor. North Minzu University is an institution of higher learning with multi-ethnic characteristics, and its interior space design should fully reflect the perfect combination of national culture and modern aesthetics. In the design process, the following principles will help to create a study room environment that not only meets the modern needs, but also is rich in traditional charm. First, the principle of functional priority. As an important place for students to study, the interior space design of study room in colleges and universities should take meeting the functional needs as the primary goal. When designing, colleges and universities should fully consider ergonomics, behavioral psychology and other related factors to create a comfortable, practical and convenient learning environment. For example, reasonable seating arrangement, good lighting and ventilation, and diversified learning space should be set up to meet the learning needs of different students. Second, the principle of integration of national characteristics. The multi-ethnic cultural background of North Minzu University provides rich materials for the interior design of study rooms. When designing, colleges and universities should extract the excellent elements of various national cultures, such as patterns, colors, materials, etc., and use them innovatively in combination with modern design techniques. In this way, it can not only show the unique charm of national culture, but also stimulate students' national pride. For example, the national patterns of Ningxia are integrated into the wall decoration, and furniture and lighting equipment with national characteristics are selected. Third, the principle of simplicity and generosity. Modern design style emphasizes simplicity, generosity and neatness. In the interior design of study rooms, colleges and universities should avoid excessive decoration and tedious details to create a quiet and refreshing learning atmosphere. Simple design not only helps to improve the efficiency of space use, but also reduces students' visual fatigue and helps to improve learning efficiency. For example, furniture with simple lines and bright colors are used to create a simple and orderly interior space (Zhu Hua, & Jiang Hui, 2022). In a word, the interior space design of the study rooms in North Minzu University should integrate modern and traditional principles, fully consider the factors such as function, national characteristics, simplicity, ecology and flexibility, so as to create a learning environment that not only has national characteristics, but also conforms to modern aesthetics and practicality.

4.2 DESIGN IDEAS FOR STUDY ROOM INTERIOR SPACE

ENVIRONMENT IN THE CONTEXT OF NINGXIA CULTURE

Spatial layout: With national unity as the core, the study room is divided into several functional areas, including study area, communication area, rest area, etc. The learning area can adopt modular design to meet the learning needs of different students; the communication area can be equipped with multi-functional meeting rooms, discussion corners, etc. To promote communication and cooperation among students; the rest area can be equipped with comfortable seats, leisure corners, etc. To provide students with space to relax.

Decorative elements: In the interior space design of the study room, the historical and cultural elements of Ningxia, such as Xixia characters and Islamic patterns, are displayed in the form of art installations and wall paintings. At the same time, modern design techniques can be used to abstract these traditional elements, making the whole space more artistic and modern.

Lighting and color: The interior space design of the study room, colleges and universities should pay attention to lighting and lighting design to create a comfortable learning environment. On colour choice, can use sweet, halcyon tonal, wait like cream-colored, shallow blue, tie-in woodiness furniture and adornment, show natural, harmonious breath.

Green vegetation: In the interior space design of the study room, the introduction of green vegetation, such as potted plants and hanging baskets, can not only beautify the environment, but also purify the air and improve the comfort of the learning environment. At the same time, green vegetation also helps to relieve students'pressure and improve their learning effect.

Under the background of Ningxia culture, the interior space environment design of the study room in North Minzu University should embody national unity, highlight Ningxia culture, pay attention to functionality and comfort, and integrate modern and traditional. Through ingenious spatial layout, decorative elements, lighting and color, as well as green vegetation and other design techniques, it creates a study room interior space environment with national characteristics and modern flavor, providing students with comfortable and efficient learning experience.

4.3 KEY POINTS OF INTERIOR SPACE ENVIRONMENT DESIGN OF UNIVERSITY STUDY ROOMS

4.3.1 FUNCTION PARTITION

The study room is divided into study area, rest area, communication area and other functional areas to meet the diverse needs of students. Functional partition is the key in the interior space environment design of university study room. **Quiet Study Area:** The Quiet Study Area is the core area of the study room and is designed to

provide a distraction-free, focused learning environment for students. Colleges and universities should choose locations far away from noise sources and adopt sound insulation materials and designs, such as sound insulation walls, carpets, etc., to reduce the impact of external noise. The seating arrangement should be compact but not crowded to reduce interference with each other while maintaining a certain amount of privacy. Different types of seats can be set up, such as separate seats, two-person seats, etc., to meet the needs of different students.

Group discussion areas: Group discussion areas provide a space where students can engage in collaborative learning and discussion. It can be set in the corner or partition area of the study room to reduce the impact on other areas. Provide movable tables and chairs to allow students to adjust seating combinations as needed. A whiteboard or display board can be provided for students to demonstrate and communicate.

Private study area: The private study area is designed for students who need more privacy. Some partitions or screens can be set up to form a relatively private study space. These areas can reduce external distractions and help students concentrate better, and some amenities, such as electrical outlets, lamps, etc., can be provided to meet the needs of students.

Multi-functional area: Multi-functional area can be used for holding lectures, seminars, workshops and other activities, and can also be used as a temporary learning area. Variability should be considered in the design so that the layout can be adjusted according to the needs of different activities. It can be equipped with multimedia equipment, projectors and so on to meet the needs of different activities.

Rest area: The rest area provides a space for students to rest properly between studies. It is possible to set up some comfortable sofas, coffee corners, etc., and provide some amenities, such as water dispensers, coffee machines, etc. Rest areas can be designed to create a relaxed and pleasant atmosphere to help students relax.

Storage area: The storage area provides a space for students to store their personal belongings and study materials. Colleges and universities should set up enough bookshelves, drawers and lockers to meet the needs of students. Universities should design storage areas in a safe and convenient manner to protect the property safety and privacy of students.

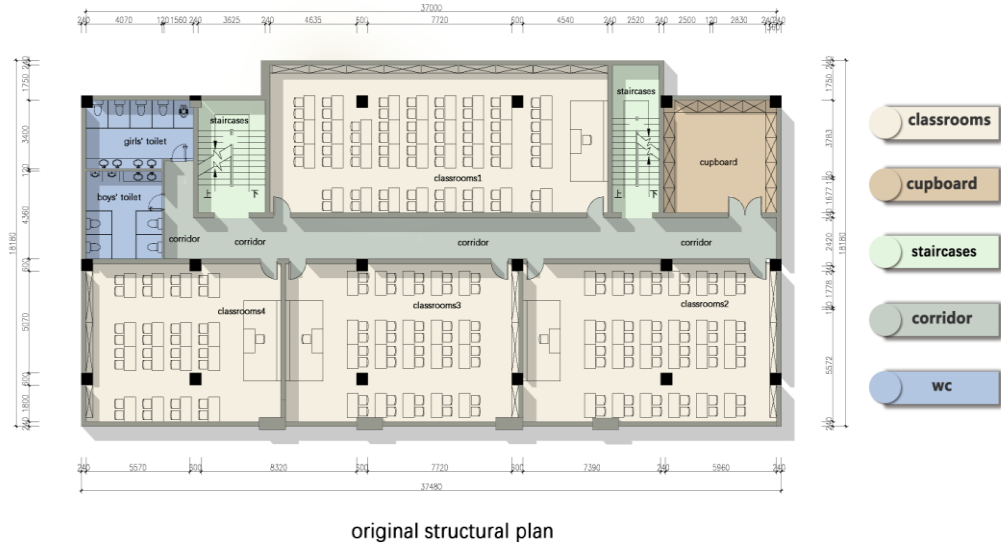
Auxiliary function area: The auxiliary function area includes office equipment areas such as photocopiers, printers and scanners, as well as computer workstations. Colleges and universities in these areas should be convenient for students to use, but do not occupy too much space, and some charging stations can be set up to meet the charging needs of students' mobile phones, computers and other electronic devices. In a word, the functional partition design of university study rooms should fully consider the needs and comfort of students in order to create an efficient, convenient and comfortable learning environment. At the same time, attention needs to be paid to the coordination and streamline layout of functional areas so that students can easily switch between different areas.

4.3.2 SPATIAL LAYOUT

University study room is an important place for college students to study, and its interior space layout has an important impact on students' learning atmosphere and efficiency. Ningxia national culture is vast and profound. Integrating it into the interior space layout of the university study room not only helps to promote the Ningxia national culture, but also creates a learning environment with national characteristics for students. Integrating Ningxia ethnic culture into the interior space layout of university study rooms is helpful to inherit and carry forward Ningxia ethnic culture and create a unique learning environment for students. In the actual design process, we should pay attention to the organic combination of functionality, national characteristics, comfort and innovation, so that the study room can become an important place to disseminate Ningxia national culture. In the future development, colleges and universities should continue to explore and improve, in order to improve the quality and level of the interior space layout of university study rooms. University study rooms should pay attention to the openness and compactness of space and create a comfortable and quiet learning atmosphere. Third, illumination and color: make full use of natural light, with appropriate lighting, to create a warm and comfortable indoor environment. The use of color in colleges and universities should conform to the characteristics of Ningxia national culture and reflect a stable and harmonious atmosphere. With the vigorous development of higher education in China, university study room has become an important place for students' daily learning and academic exchanges. The illumination and color design of the study room not only affect the learning effect of students, but also create a unique national cultural atmosphere in Ningxia, and stimulate students' interest in learning and national pride.

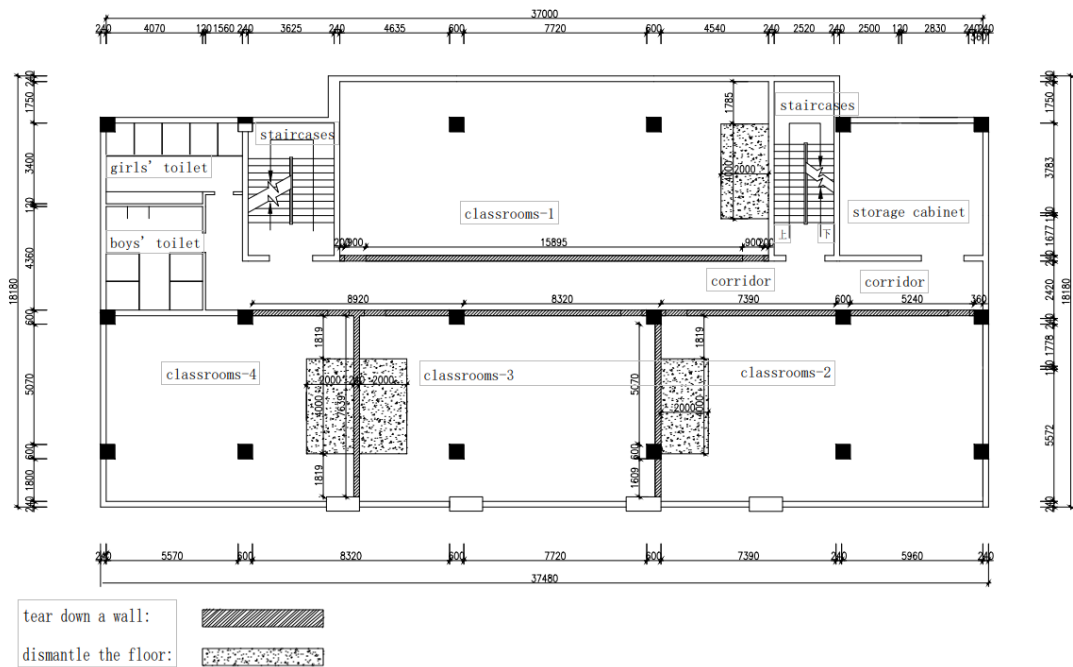


Figure 9 Original Structure Diagram of Interior Space Environment Design of Study Room of North Minzu University under the Cultural Background of Ningxia



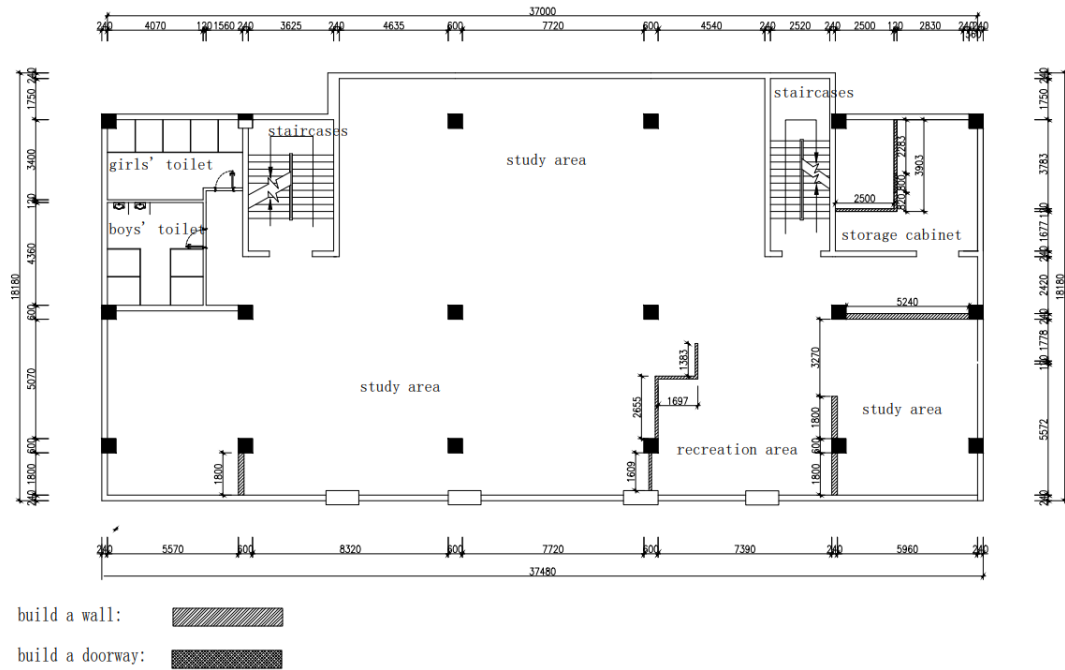
Note. Self-drawn by the Author

Figure 10 Wall Demolition Design for Study Room Interior Space Environment Design of North Minzu University in the Context of Ningxia Culture



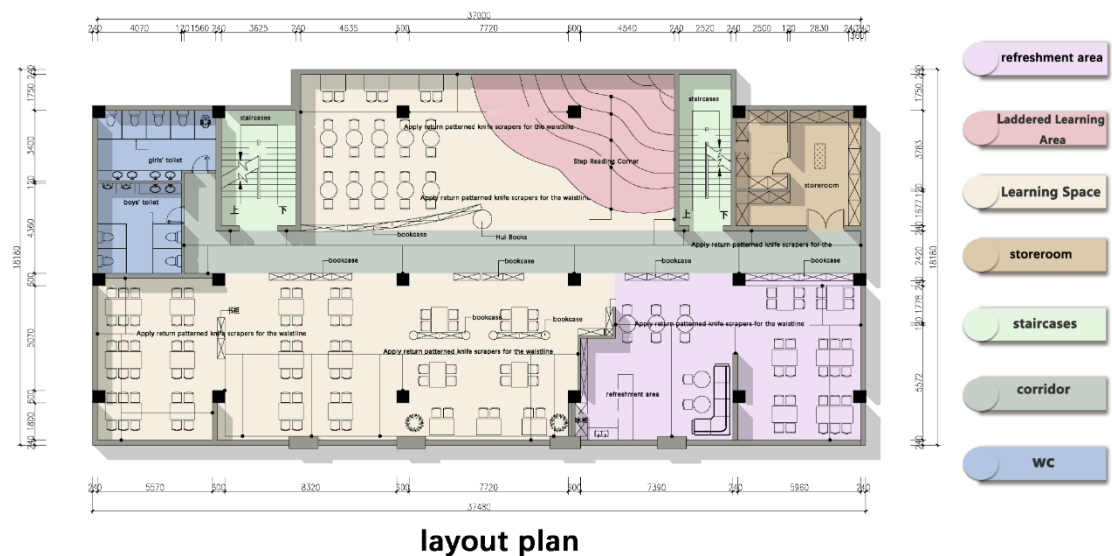
Note. Self-drawn by the Author

Figure 11 Wall Masonry Design of Study Room Interior Space Environment Design of North Minzu University in the Context of Ningxia Culture



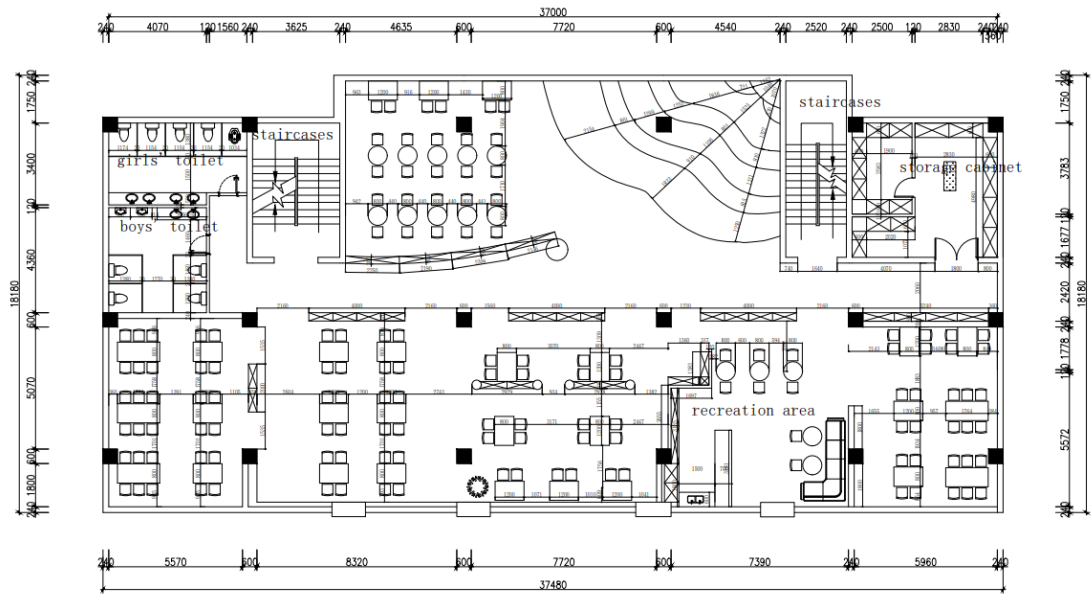
Note. Self-drawn by the Author

Figure 12 Graphic Design of Interior Space Environment Design of Study Room of North Minzu University in the Context of Ningxia Culture



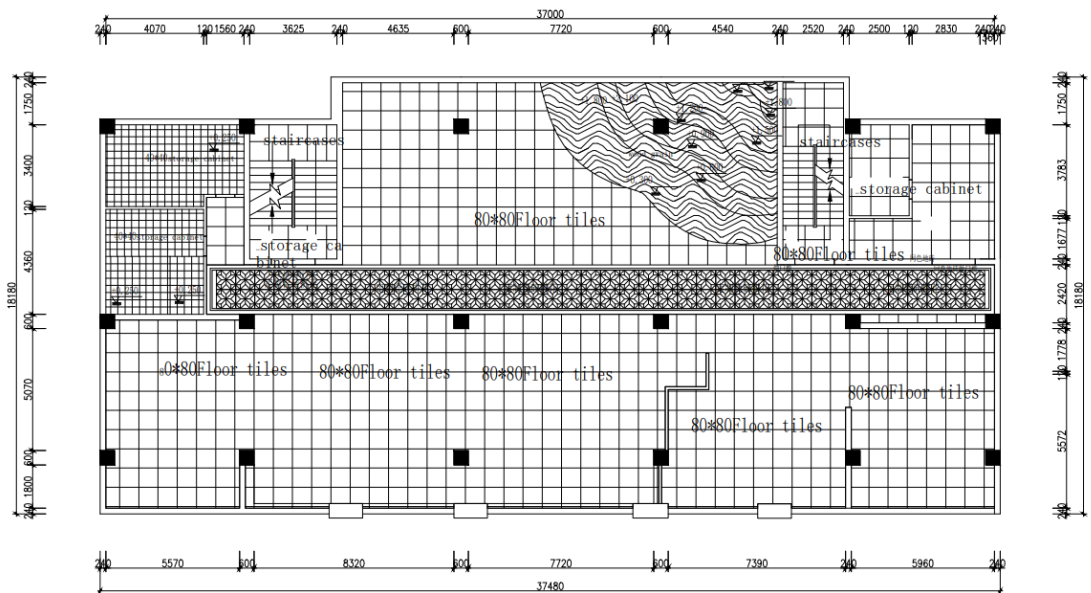
Note. Self-drawn by the Author

Figure 13 Plan Dimension Design of Interior Space Environment of Study Room of North Minzu University in the Context of Ningxia Culture



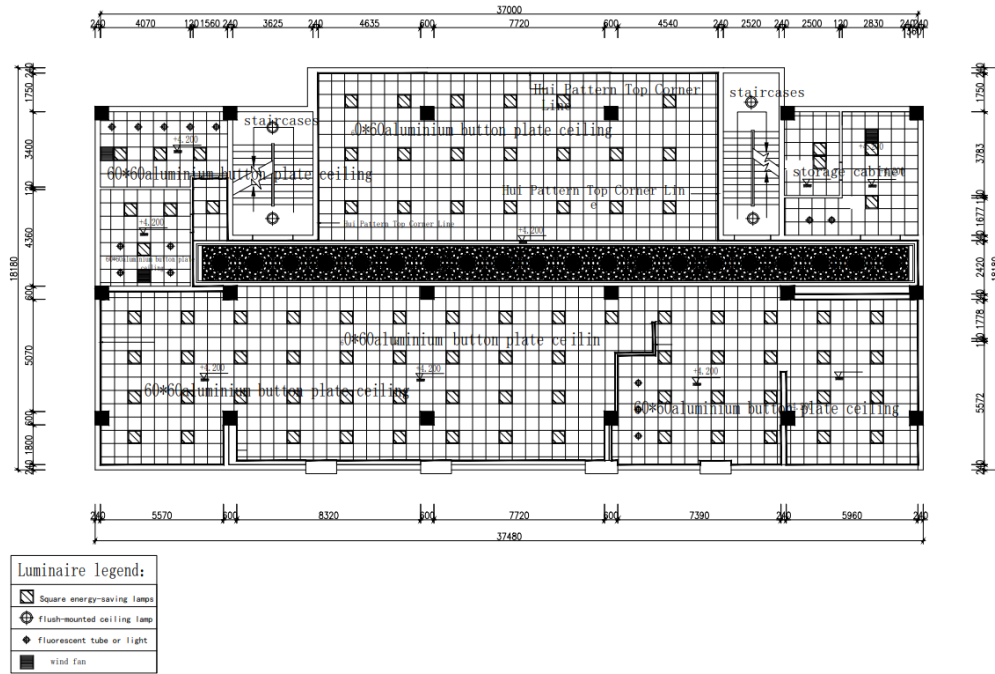
Note. Self-drawn by the Author

Figure 14 Design of Floor Auxiliary Tiles in the Study Room Interior Space Environment Design of North Minzu University in the Context of Ningxia Culture



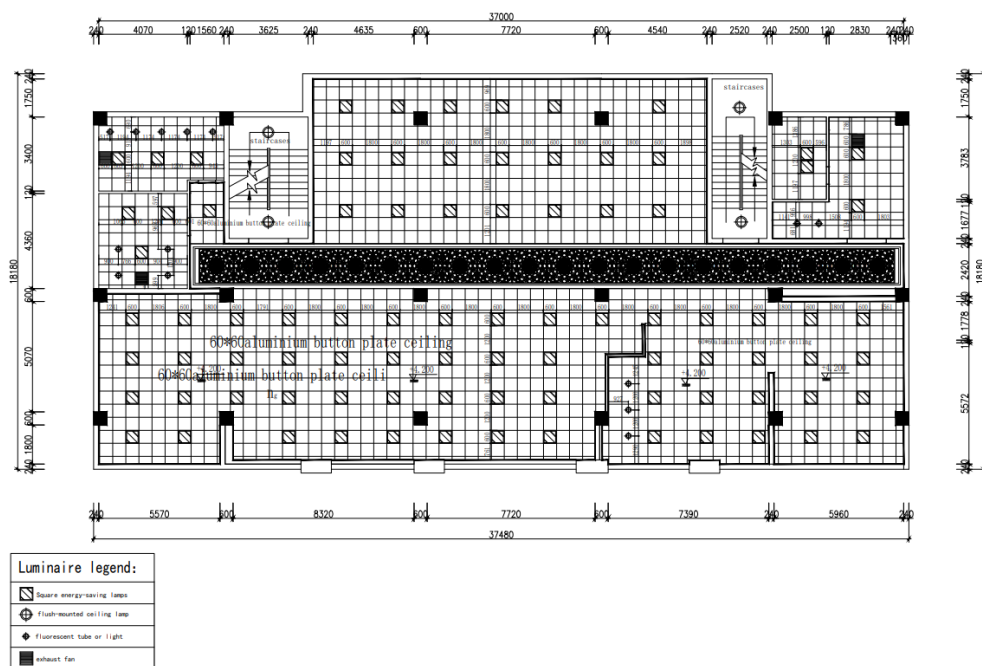
Note. Self-drawn by the Author

Figure 15 Ceiling Design Drawing of Interior Space Environment Design of Study Room of North Minzu University in the Context of Ningxia Culture



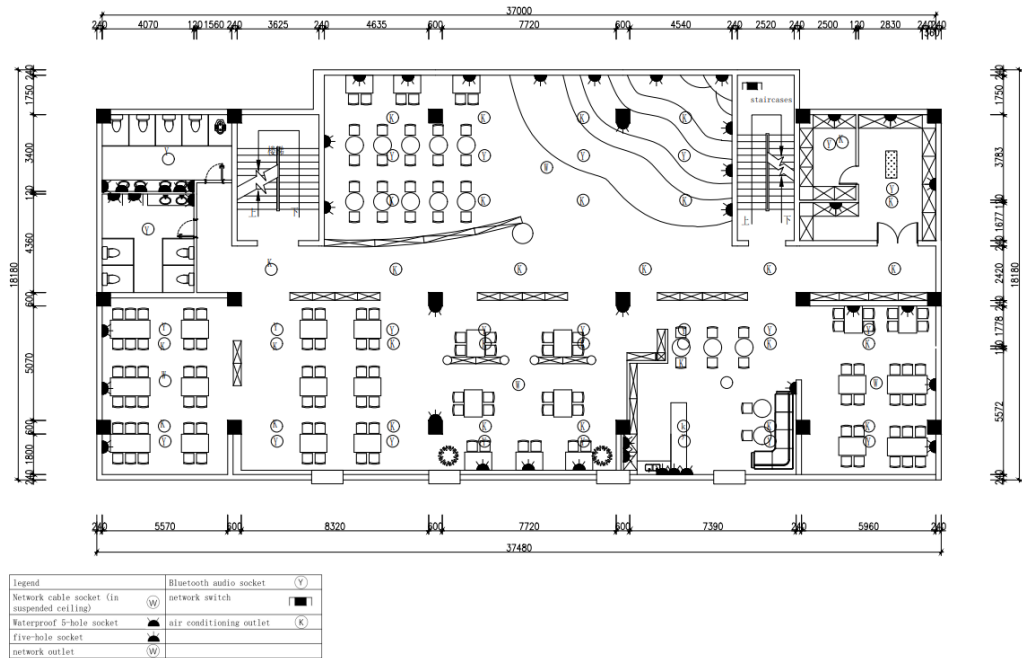
Note. Self-drawn by the Author

Figure 16 Dimensioned Design of Lamps and Fixtures for the Study Room Interior Space Environment of the North Minzu University in the Context of Ningxia Culture



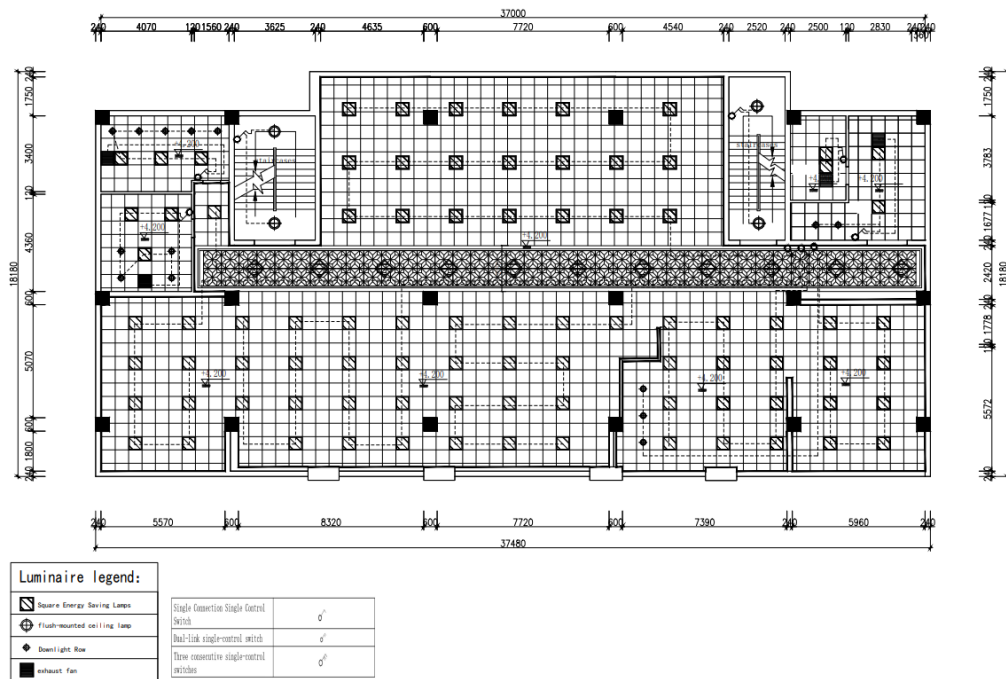
Note. Self-drawn by the Author

Figure 17 Socket Layout of Study Room Interior Space Environment Design of North Minzu University in the Context of Ningxia Culture



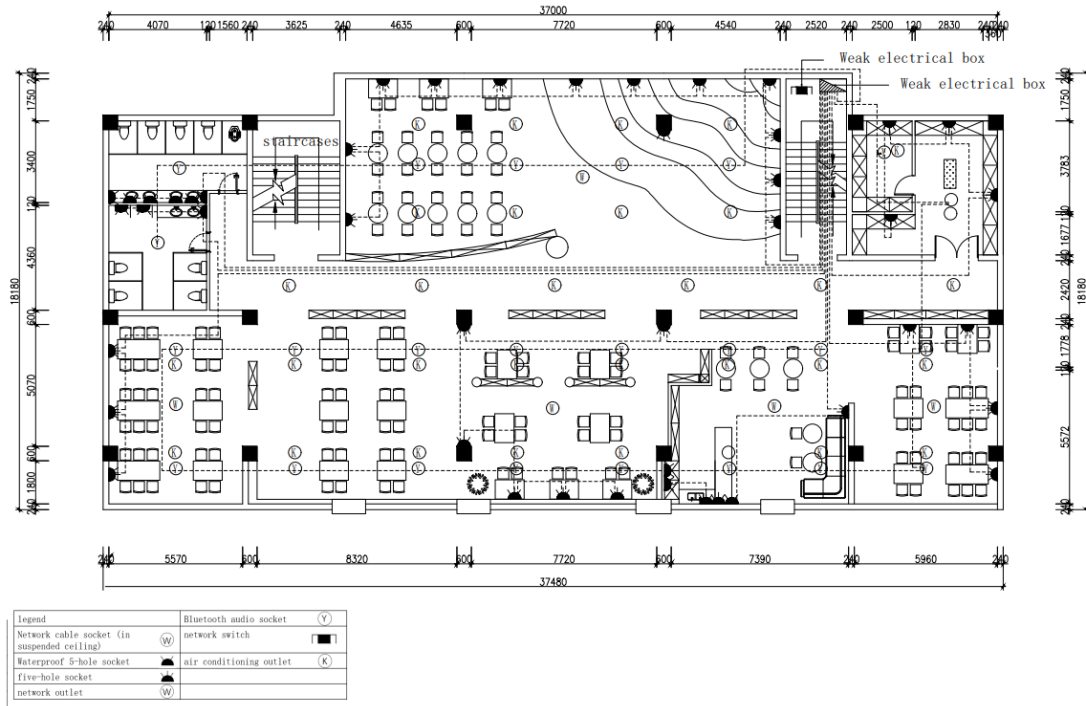
Note. Self-drawn by the Author

Figure 18 Switch Control Diagram of Study Room Interior Space Environment Design of North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

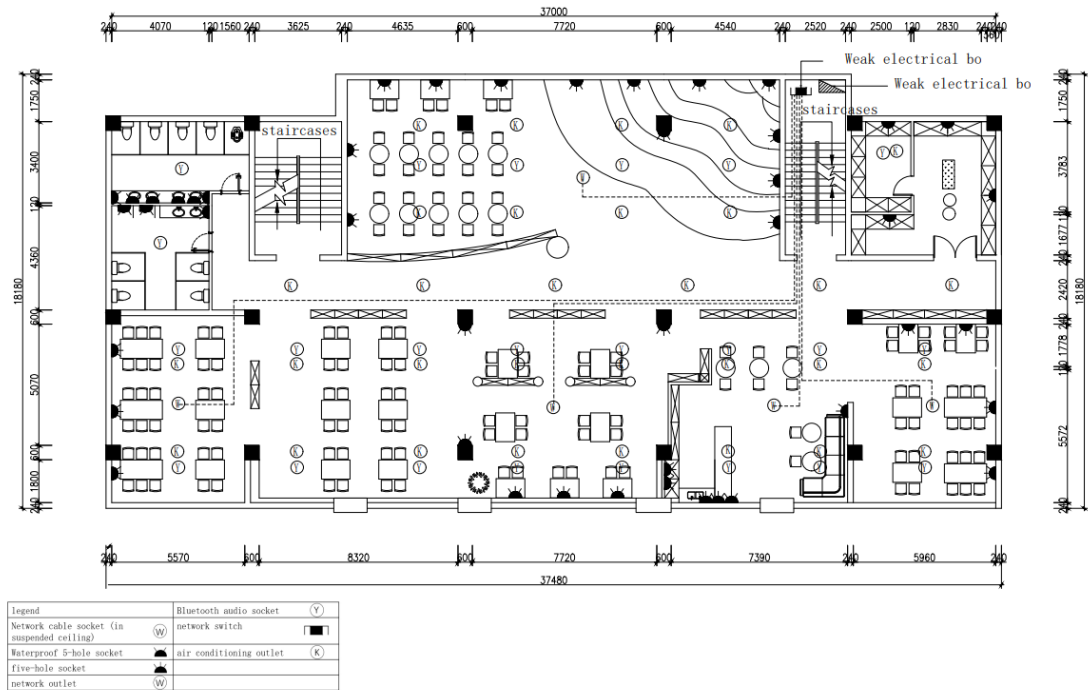
Figure 19 Socket Wiring Diagram of Interior Space Environment Design of Study Room of North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

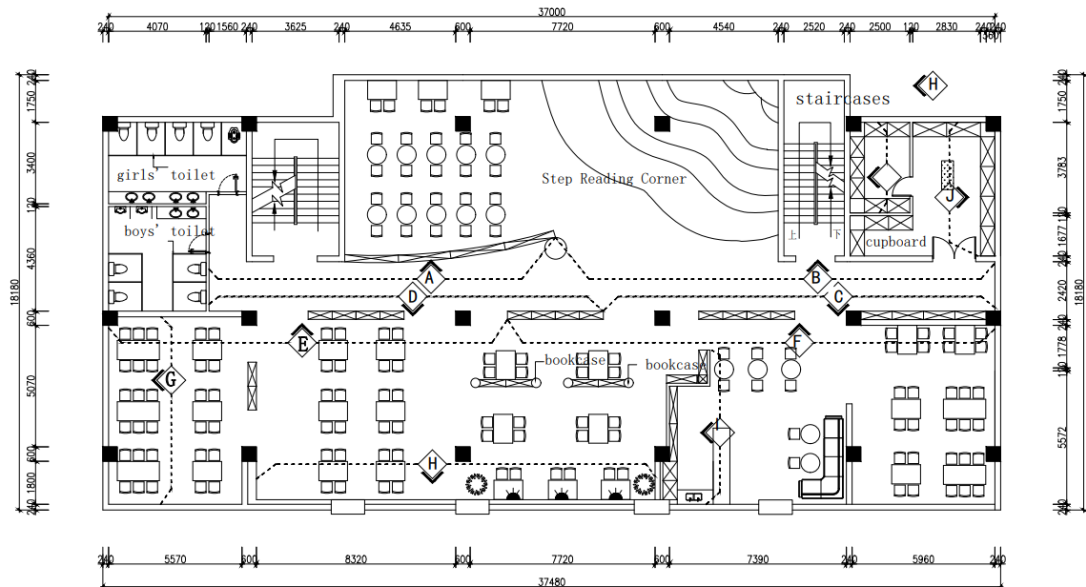


Figure 20 Weak Power Alignment Diagram of Interior Space Environment Design of Study Room of North Minzu University in the Context of Ningxia Culture



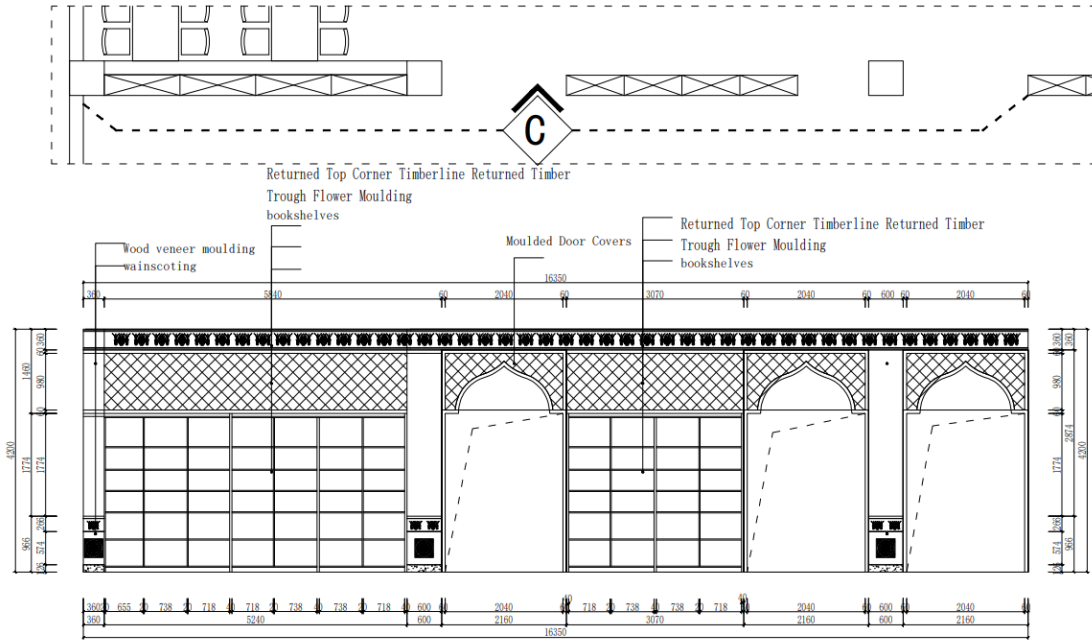
Note. Self-drawn by the Author

Figure 21 Elevation Index of Interior Space Environment Design of Study Room of North Minzu University in the Context of Ningxia Culture



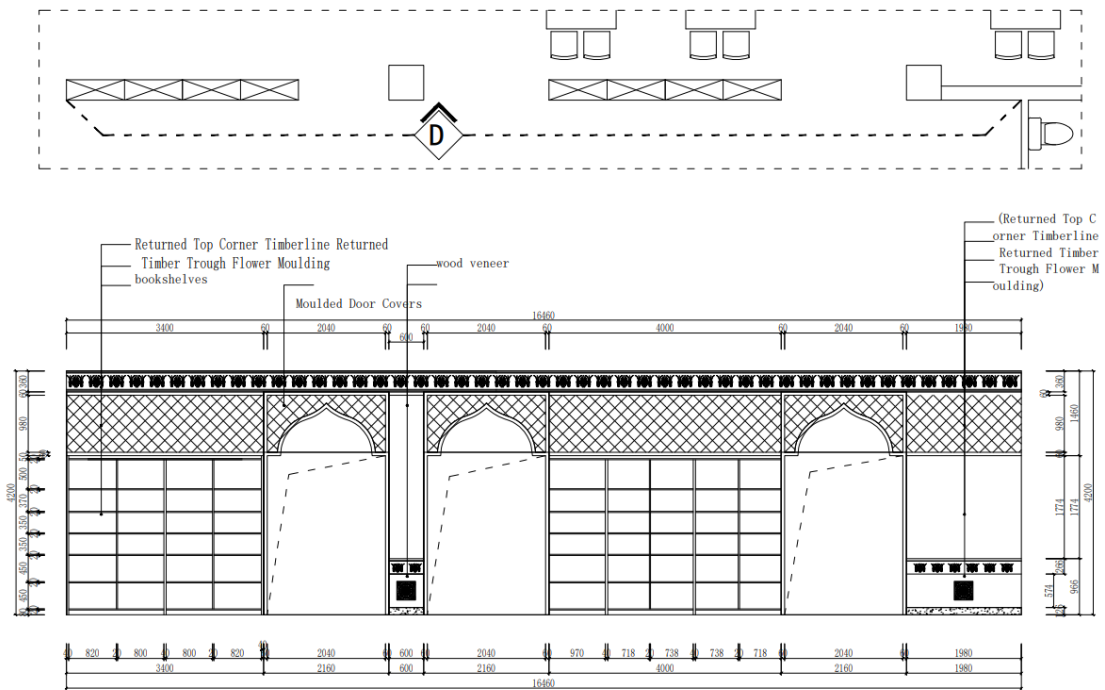
Note. Self-drawn by the Author

Figure 24 Elevation C of the Interior Space Environment Design of the Study Room of North Minzu University in the Context of Ningxia Culture



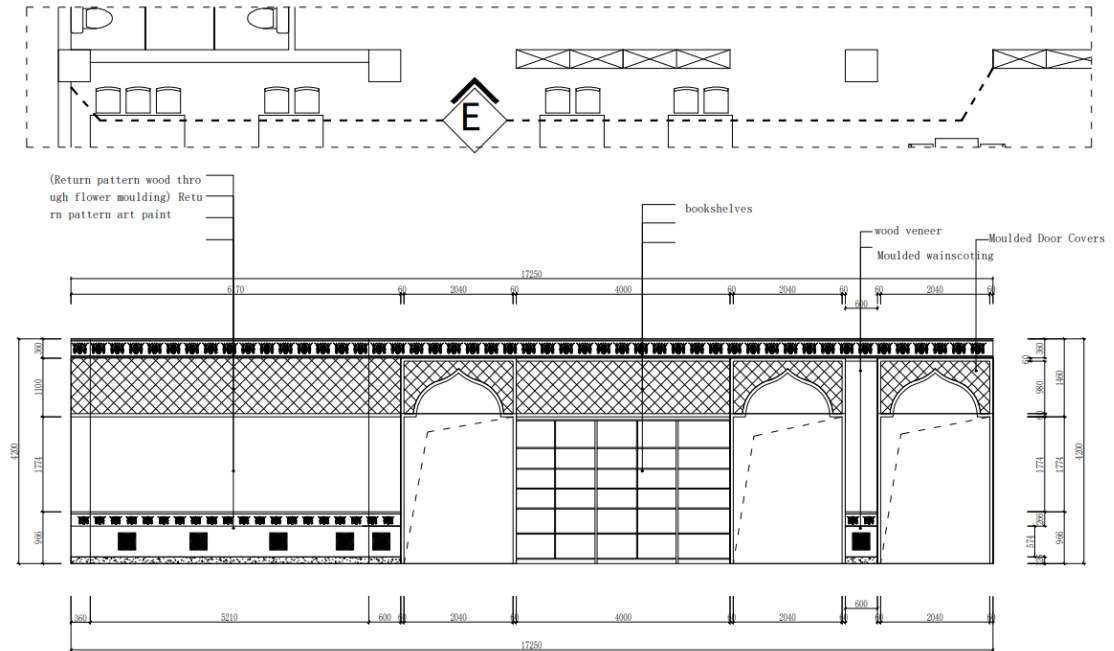
Note. Self-drawn by the Author

Figure 25 Elevation D of the Interior Space Environment Design of the Study Room of North Minzu University in the Context of Ningxia Culture



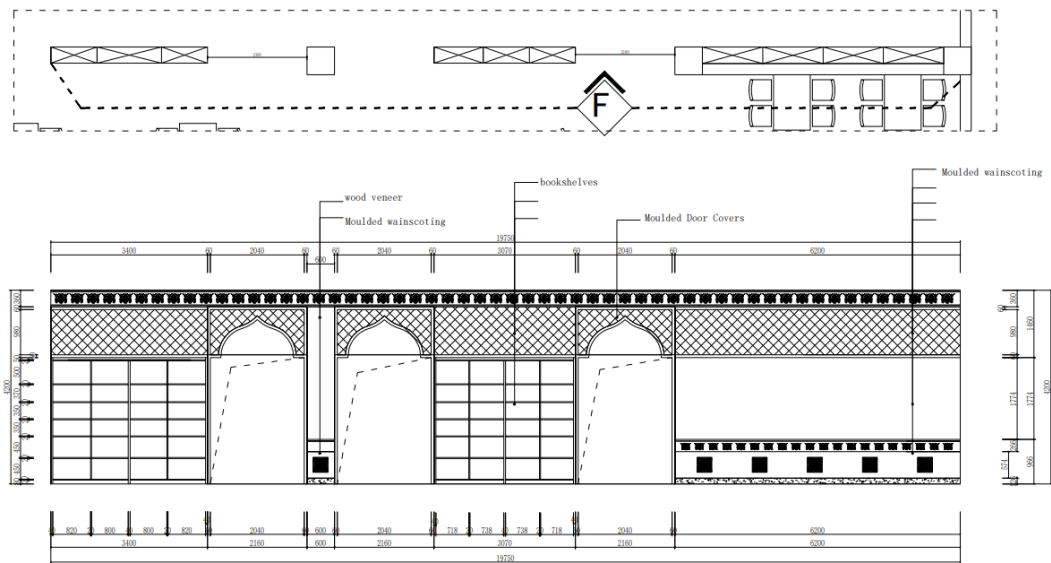
Note. Self-drawn by the Author

Figure 26 Elevation E of the Interior Space Environment Design of the Study Room of North Minzu University in the Context of Ningxia Culture



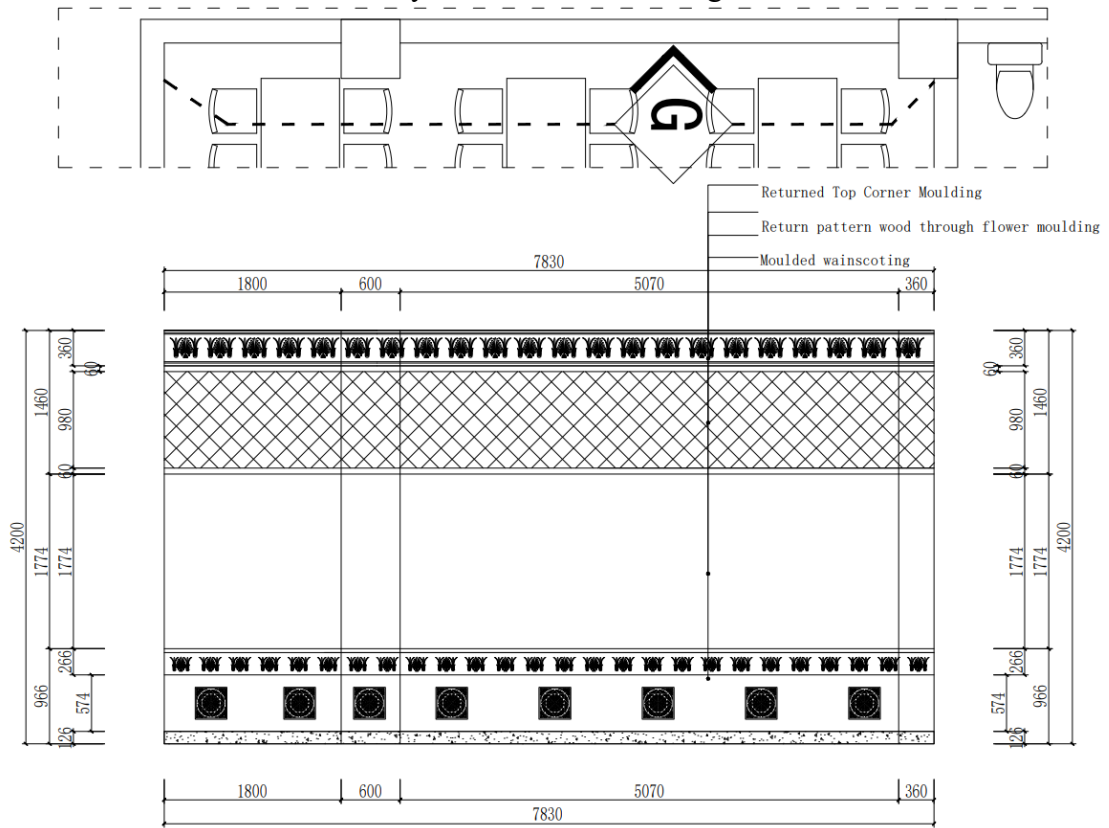
Note. Self-drawn by the Author

Figure 27 Elevation F of the Interior Space Environment Design of the Study Room of North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

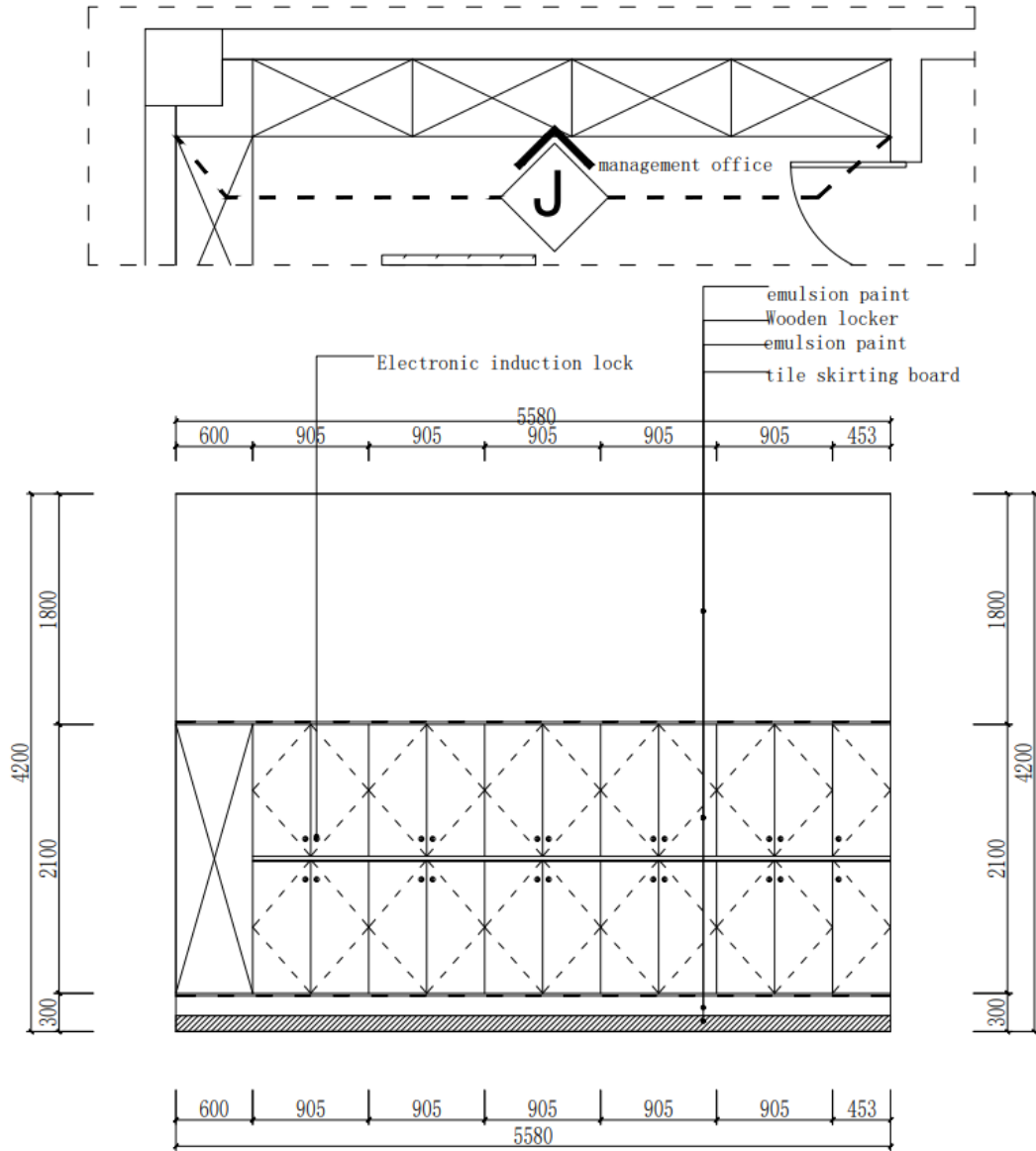
Figure 28 Elevation G of the Interior Space Environment Design of the Study Room of North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

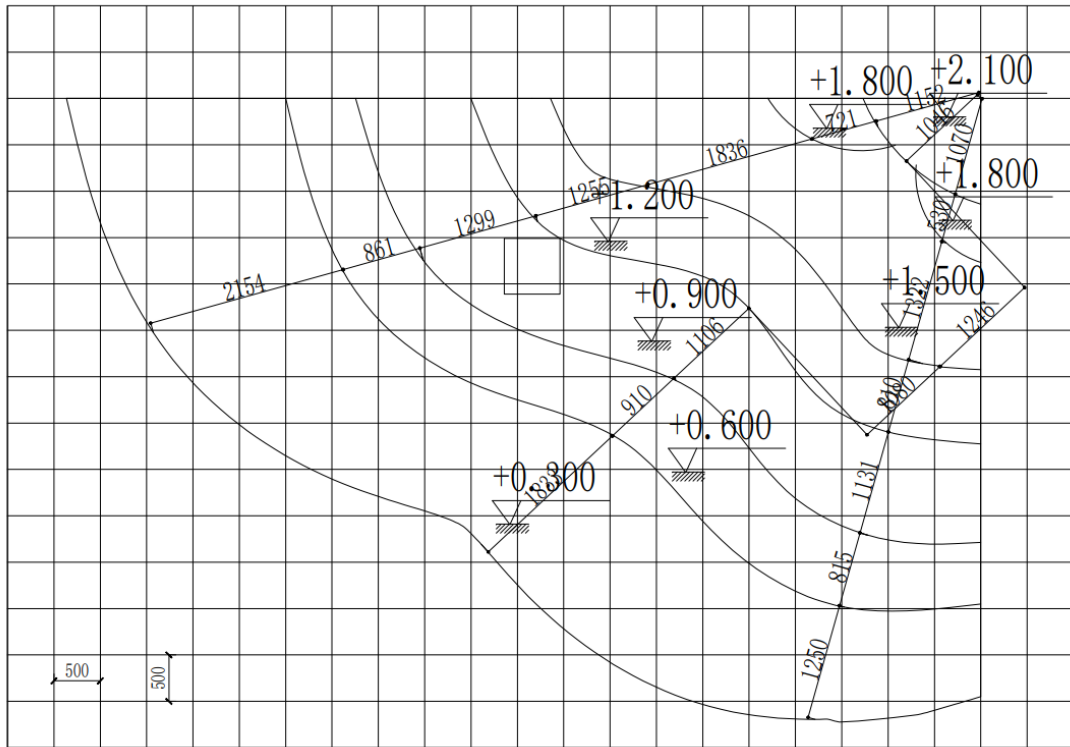


Figure 29 Elevation J of the Interior Space Environment Design of the Study Room of North Minzu University in the Context of Ningxia Culture



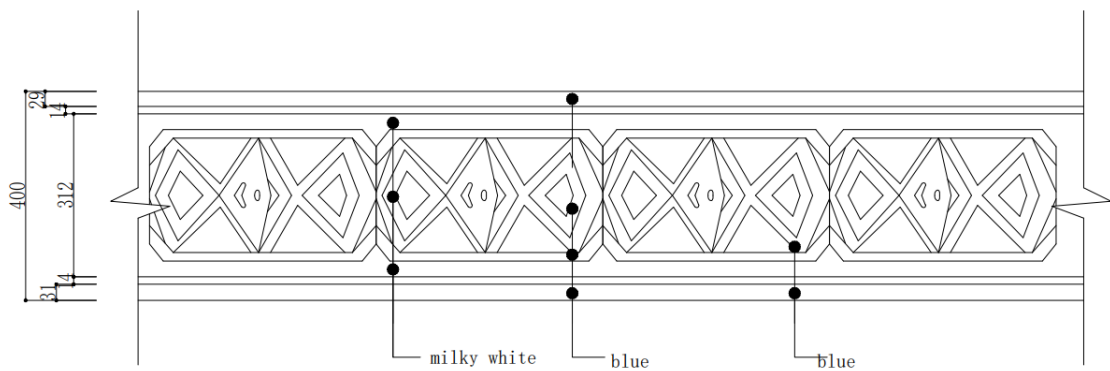
Note. Self-drawn by the Author

Figure 30 Step Reading Diagram of the Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

Figure 31 Floral Pattern of the Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia



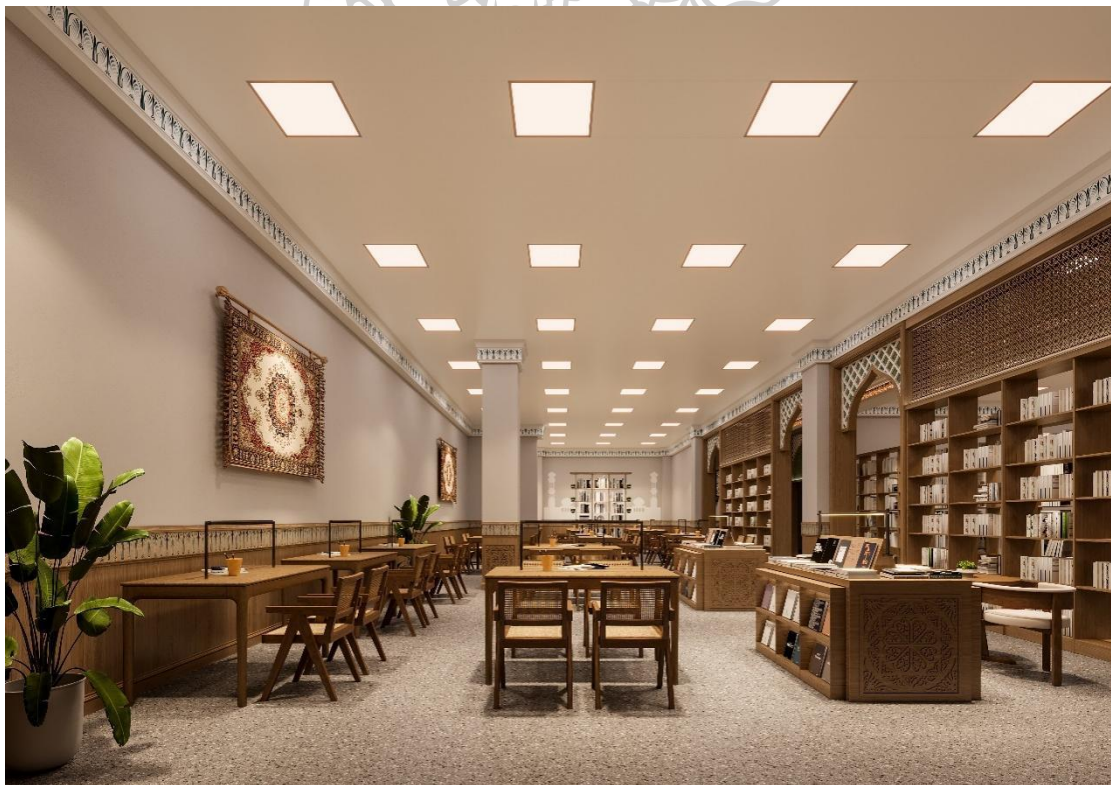
Note. Self-drawn by the Author

(1) Lighting design of study room

Self-study room colleges and universities should make full use of natural light, window design should consider lighting and ventilation, so that indoor light is

sufficient and air circulation. Natural light can effectively improve the visual environment and reduce energy consumption, which is conducive to the physical and mental health of students. At the same time, natural light also helps to show the spacious and bright study room and increase the learning atmosphere. In the study room, colleges and universities should reasonably allocate artificial light sources to meet the different learning needs of students. Eye protection lamps can be used to reduce the irritation of light to the eyes. In addition, local lighting can be set up, such as reading lamp, desk lamp, etc., so that students can adjust the light intensity according to their personal needs and improve the learning effect. In order to create a comfortable learning environment, the lighting color of the study room should tend to be soft. Can use the lamps and lanterns of warm tonal, wait like yellow, orange, give a person with sweet, comfortable feeling. At the same time, by adjusting the brightness and color temperature of lamps and lanterns, the light color is more abundant to meet the needs of students for different scenes.

Figure 32 Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



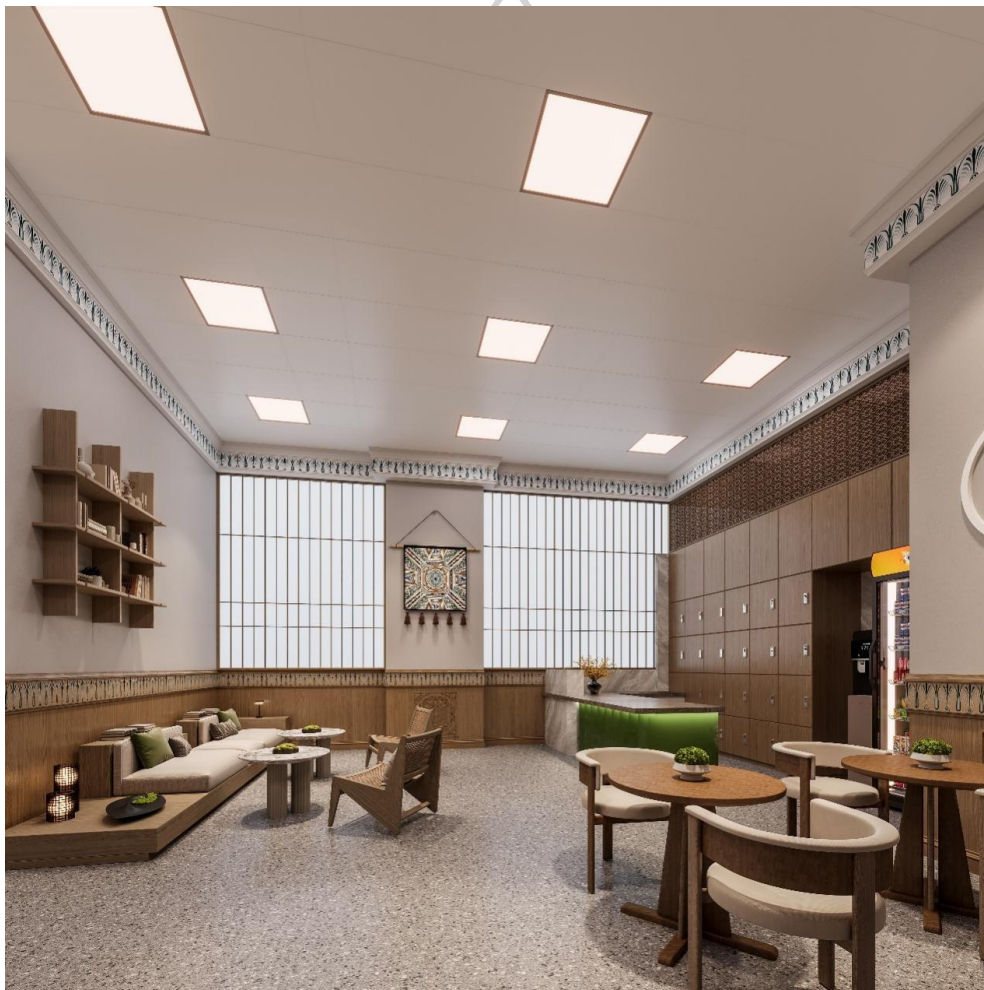
Note. Self-drawn by the Author

(2) Wall color

The wall color of the study room has an important impact on students' learning mood. Choosing colors with national characteristics, such as red, blue and green, can

not only reflect the charm of our traditional culture, but also stimulate students'enthusiasm for learning. In addition, we can also use wall paintings and hangings to display national patterns and elements and enhance the cultural atmosphere of the study room. The furniture color of the study room should be coordinated with the wall color in order to create a harmonious learning environment. Wooden furniture can be chosen to reflect the natural and simple national style. The color collocation of furniture should follow the principle of simplicity and avoid being too complicated, so as not to affect students'learning concentration.

Figure 33 Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

The ground color of the study room plays an important role in the visual effect of the whole space. Choose the ground material of shallow tonal, wait like shallow wood grain, cream-colored, can make the space appears more capacious, bright. At the same time, the color of the ground should be coordinated with the color of furniture and wall to maintain the unity of the overall style. The illumination and color design of

university study room integrated with Ningxia ethnic culture should make full use of natural light, rationally allocate artificial light sources, pay attention to the adjustment of illumination color, and select the wall, furniture and ground color with ethnic characteristics. Through these design techniques, we can not only create a comfortable learning environment, but also carry forward the national culture of Ningxia, and stimulate students' interest in learning and national pride.

(3) Materials and decoration

Choose environmentally friendly and durable materials, and use decorative elements with national characteristics, such as paper-cut, embroidery, ceramics, etc., to enhance the aesthetic value of interior space.

Choose respect in study room material, it is ground material: On the choice of study room ground material, can consider to use the ceramic tile that has ethical distinguishing feature, wooden floor to wait. For example, the selection of ceramic tile patterns with traditional Chinese characteristics, or the use of wood flooring splicing methods reflecting national and regional characteristics, can not only show the charm of Ningxia national culture, but also create a comfortable and warm learning environment. 2 It is metope material: metope material can choose emulsion paint, wallpaper to wait, use the design of ethical element and colour to undertake collocation. For example, the use of traditional Miao pattern wallpaper, or the choice of latex paint color with national characteristics, so that students feel a strong atmosphere of Ningxia national culture in the learning process. 3 It is furniture material: The furniture in study room, wait like desk, chair, bookshelf, can choose woodiness material, reflect ethical tradition craft. At the same time, furniture design can incorporate national elements, such as the back and legs of chairs carved with traditional national patterns, and the side panels of bookshelves carved with national characteristics.

In the study room decoration design, the first is the spatial layout: in the spatial layout of the study room, we can learn from the layout characteristics of national architecture, such as symmetry, enclosure, etc., to make the space more harmonious and unified. At the same time, coconut tree areas can be set up, such as traditional tea break area, national craft exhibition area, etc., to enrich the functionality of the study room. 2 It is illume design: On illume design, can use the droplight that has ethical distinguishing feature, wall lamp to wait, build sweet and comfortable study atmosphere. At the same time, natural light can be used, such as windows, transparent partitions, etc., to integrate indoor and outdoor landscapes, reflecting the ventilation and lighting characteristics of national architecture. Third, the choice of decorations: study room decorations can choose Hui handicrafts, calligraphy and painting, fabrics and so on. For example, hanging embroidery with national characteristics, ornaments of Tujia nationality and silver ornaments of Miao nationality can not only show Ningxia's national culture, but also enhance the artistic atmosphere of the study room.

Incorporating Ningxia national culture into the material and decorative design of university study rooms not only enhances the environmental quality of the study rooms, but also cultivates students' sense of national identity and patriotism. In the process of design, colleges and universities should fully tap the connotation of Ningxia national culture, pay attention to the collocation of materials and decoration, and create a learning space with national characteristics.

4.4 DESIGN AND IMPLEMENTATION OF INTERIOR SPACE ENVIRONMENT OF UNIVERSITY STUDY ROOM INTEGRATED WITH NINGXIA ETHNIC CULTURE

4.4.1 USE OF TRADITIONAL ELEMENTS

The traditional elements of Ningxia ethnic culture are integrated into the design, such as screens, panes, couplets, etc., to show the charm of Ningxia ethnic culture. As an important place for students to study, university study rooms not only need to provide a comfortable learning environment, but also should focus on creating a strong cultural atmosphere. Under the background of the diverse Ningxia ethnic culture in China, it is of great significance to integrate Ningxia ethnic culture into the study room strategy and use traditional elements. This will not only help to enhance the cultural connotation of the study room, but also enhance students' recognition and inheritance of Ningxia's national culture. At present, the problems of university study rooms include: (1) lack of cultural atmosphere: study rooms pay too much attention to functionality and neglect the creation of cultural atmosphere, which makes it difficult for students to feel the edification of Ningxia national culture in the process of learning. (2) Lack of traditional elements: The lack of application of traditional elements in the design of study rooms in colleges and universities makes Ningxia national culture not reflected in the study rooms. (3) Learning experience is single: the study room only provides learning space, which fails to provide students with diversified learning experience according to the characteristics of Ningxia national culture.

University study room strategies that incorporate Ningxia's ethnic culture contain the following six main aspects. (1) Use of traditional architectural elements: In the design of study rooms, traditional architectural elements are integrated, such as upturned eaves, wooden structures, etc., to reflect the characteristics of Ningxia ethnic culture. (2) Integrate traditional artistic elements: integrate traditional painting, sculpture, paper-cut and other artistic elements into the study room decoration to enhance the cultural atmosphere of the study room. (3) Use traditional furniture elements: arrange traditional furniture in the study room, such as wooden tables and chairs, bookshelves, etc., so that students can feel the charm of traditional culture in the learning process. (4) Create Ningxia ethnic culture theme area: set up Ningxia ethnic culture theme area in the study room, display ethnic costumes, crafts, etc., so

that students can deeply understand and feel Ningxia ethnic culture. (5) Hold Ningxia ethnic cultural activities: regularly hold Ningxia ethnic cultural activities in the study room, such as traditional festival celebrations, ethnic music appreciation, etc., to enrich students' learning life. (6) Carry out learning guidance in combination with Ningxia ethnic culture: use Ningxia ethnic culture resources to carry out learning guidance, such as inviting Ningxia ethnic culture and art masters to teach, so that students can inherit and carry forward Ningxia ethnic culture in the learning process.

Figure 34 Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

It is of great significance to integrate Ningxia ethnic culture into the strategy of university study room and use traditional elements. This will help to enhance the cultural atmosphere and learning experience of the study room, and enhance students' recognition and inheritance of Ningxia's national culture. Through the implementation of the above strategies, the university study room will become an important place to inherit and carry forward Ningxia's national culture, and contribute to the cultivation of talents with national feelings.

4.4.2 INTEGRATION OF MODERN DESIGN

Integrating modern elements into the design, such as simple lines and bright colors, makes the interior environment not only have national characteristics, but also conform to modern aesthetics. As an important place for students to study, the environmental design of university study room has a great impact on students' learning effect and mood. With the return and attention of Ningxia ethnic culture, how to integrate Ningxia ethnic culture into the design of modern university study room has become an urgent problem to be solved. From the perspective of the integration of Ningxia ethnic culture and modern design, the researcher explores the innovative path of university study room design.

The current situation and problems of university study room design are mainly reflected in 3 aspects: (1) Lack of characteristics: the current university study room design is too simple and practical, resulting in the lack of characteristics of many study rooms, which is difficult to stimulate students' interest in learning. (2) Lack of cultural connotation: In the process of designing university study rooms, the excavation of cultural connotation is often neglected, which makes the study rooms lack a strong cultural atmosphere. (3) Lack of ethnic elements: In the design of university study rooms, few designers pay attention to the integration of Ningxia ethnic cultural elements, which makes the study rooms lack unique ethnic characteristics. Integrating Ningxia ethnic culture into the design of modern university study room is helpful to enhance the cultural connotation and unique charm of the study room. College designers should dig deeply into the connotation of Ningxia ethnic culture, innovate the use of ethnic elements, combine modern design concepts, pay attention to the balance between function and beauty, and create a comfortable and pleasant self-study environment with ethnic characteristics for college students.

Figure 35 Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

4.4.3 INNOVATIVE DESIGN

On the basis of respecting Ningxia's national culture, innovative design is carried out, such as combining traditional patterns with modern graphics to form unique visual symbols. University study room is an important place for college students' daily learning, and its environmental design has an important impact on students' learning effect and psychological state. However, there are some problems in the design of study rooms in many universities, such as lack of characteristics and monotonous environment, which are not conducive to stimulating students' interest in learning. Therefore, how to innovate the design of university study room and enhance its connotation and attraction has become an urgent problem to be solved. Currently, the following problems are prevalent in university study rooms: (1) Lack of

characteristics: Most study rooms are too simple and monotonous in design, lack of cultural atmosphere and personality characteristics, which is not conducive to stimulating students' interest in learning. (2) The environment is monotonous: The interior decoration and facilities of the study room are relatively single, and it is easy to feel tired after a long time of study. (3) Unclear functional zoning: The internal space layout of the study room is unreasonable, and the functional zoning is not clear, resulting in a poor learning atmosphere. In view of the above problems, this paper puts forward an innovative design method of university study room with Ningxia ethnic culture, including: (1) Design decorative elements with ethnic characteristics: to integrate Ningxia ethnic cultural elements into the interior decoration of study room, such as traditional patterns, architectural styles, etc., to enhance the cultural atmosphere of study room. (2) Create diversified learning space: design diversified learning space according to the characteristics of different nationalities to meet the different learning needs of students. (3) Integrate the concept of green environmental protection: pay attention to green environmental protection in the design, select environmentally friendly materials, and create a healthy learning environment. (4) Strengthen functional zoning: reasonably plan the internal space of the study room, define the functional zoning, and improve the learning efficiency. Taking the self-study room of a university as an example, the above design methods are used in practice. In the design, we selected the representative elements of Ningxia ethnic culture, such as Mongolian and Hui ethnic works of art and patterns, into the interior decoration of the study room. At the same time, according to the characteristics of different nationalities, a variety of learning spaces are designed, such as quiet self-study areas, discussion areas, rest areas and so on. In the selection of materials, priority should be given to environmental protection materials to ensure the health of the learning environment. Through the above design, the study room has taken on a new look and attracted more students to study. Based on the analysis of the current situation of university study room, this paper puts forward an innovative design method of study room strategy which integrates Ningxia national culture, and carries out specific design practice. The results show that the design method can effectively improve the attractiveness and utilization rate of the study room, and provide better learning experience for college students. In the future design, we will continue to explore more innovative methods to contribute to the development of university study rooms.

Figure 36 Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

4.4.4 ECOLOGY AND ENVIRONMENTAL PROTECTION

The design focuses on ecology and environmental protection, choosing green building materials and reflecting the concept of sustainable development. With the continuous development of society, people's awareness of cultural heritage and environmental protection has been gradually strengthened. As an important place of higher education in China, university study room is not only a place to learn knowledge, but also an important position to inherit Ningxia national culture and emphasize ecology and environmental protection. Therefore, how to integrate Ningxia

ethnic culture into university study room strategy and emphasize ecology and environmental protection has become an urgent problem to be solved.

Figure 37 Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

In the university study room into the Ningxia ethnic culture strategy. One is to set up an exhibition area of Ningxia ethnic culture. In the university study room, a special exhibition area of Ningxia ethnic culture can be set up to display the customs, traditional festivals and folk arts of the Hui people in China. This can not only enhance students' understanding and recognition of Ningxia's national culture, but also stimulate their national pride. The second is to carry out the theme activities of Ningxia ethnic culture. University study rooms can regularly hold Ningxia ethnic cultural theme activities, such as ethnic knowledge contests, ethnic dance performances, ethnic music appreciation, etc., so that students can feel the charm of Ningxia ethnic culture and improve Ningxia ethnic cultural literacy. Third, we should strengthen ethnic culture and education in Ningxia. University self-study room colleges and universities should incorporate Ningxia ethnic culture education into

their daily teaching plans, through offering Ningxia ethnic culture courses and holding Ningxia ethnic culture lectures, so that students can systematically learn Ningxia ethnic culture knowledge and improve Ningxia ethnic culture literacy.

In terms of the strategy of emphasizing ecology and environmental protection in university study rooms, the first is to advocate the concept of green environmental protection. Colleges and universities should actively advocate the concept of green environmental protection, remind students to save electricity and water, reduce paper waste, encourage the use of environmentally friendly stationery, and cultivate good environmental habits. The second is to create a green self-study environment. Colleges and universities should strengthen the environmental layout of self-study rooms, select environmentally friendly materials, and create a green and comfortable self-study environment. At the same time, students are encouraged to participate in campus greening activities to enhance environmental awareness. Third, carry out environmental protection theme activities. University study rooms can regularly carry out environmental protection activities, such as World Earth Day and World Environment Day, to guide students to pay attention to ecological environment protection and actively participate in environmental protection practice activities. Integrating Ningxia ethnic culture into the university study room strategy, emphasizing ecology and environmental protection, is helpful to cultivate young people with Ningxia ethnic cultural literacy and environmental awareness in the new era. University self-study room colleges and universities should give full play to their own advantages and take active measures to contribute to inheriting Ningxia national culture and advocating the concept of environmental protection.



Figure 38 Interior Space Environment Design of the Study Room of the North Minzu University in the Context of Ningxia Culture



Note. Self-drawn by the Author

4.4.5 HUMANIZED DESIGN

Pay attention to the needs of students, optimize the spatial layout, and create a convenient and comfortable learning environment. As an important place for students to study, university study room not only needs to provide a quiet and comfortable learning environment, but also should pay attention to the integration of Ningxia national culture and embody humanized design. In such a space, students can feel the unique charm of Ningxia's national culture and enhance their cultural self-confidence. First of all, the study room can be integrated into the national elements in the spatial layout. For example, you can use wooden furniture, with national style decorations, such as paper-cut, traditional Chinese painting, etc., to create a strong national atmosphere. In addition, we can also set up thematic study rooms according to the

characteristics of different nationalities, such as the Mongolian nationality, so that students can better understand and experience the local conditions and customs of the Hui nationality after learning. Secondly, the study room can provide rich books on Ningxia ethnic culture. Schools can purchase a number of books related to Hui history, culture, folklore and other fields for students to borrow. In this way, students can consult relevant information at any time in the process of self-study, increase their knowledge and improve their understanding of Ningxia's national culture. In the study room, we can also hold various ethnic cultural activities in Ningxia. For example, organize performances of folk dance, music and drama, so that students can feel the charm of Ningxia's national culture while enjoying the art (She Huili, & Cao Xiaolin, 2022). At the same time, we can also carry out national knowledge contests, lectures and other activities to stimulate students' interest in Ningxia national culture and improve their Ningxia national cultural literacy. In terms of humanized design, colleges and universities should fully consider the comfort of students. For example, it is equipped with comfortable seats, air conditioning, drinking water and other facilities to ensure that students can maintain a good physical and mental state during a long period of study. In addition, colleges and universities should also set up a reservation system for self-study rooms to facilitate students to reserve seats in advance and avoid wasting time waiting in line. At the same time, the management of the study room should also reflect the humanization. For example, a flexible management system is implemented to adjust the opening hours of study rooms according to the needs of students. During the examination week or special period, the self-study time can be extended appropriately to meet the learning needs of students. In addition, colleges and universities should strengthen the environmental maintenance of study rooms to ensure a clean and tidy learning environment. In a word, the strategy of university study room integrated with Ningxia national culture should pay attention to humanized design and provide students with a comfortable and cultural learning space. In such an environment, students can not only concentrate on learning better, but also feel the charm of Ningxia national culture and cultivate their cultural self-confidence. Integrating Ningxia ethnic culture into the interior space environment design of university study room is helpful to improve the quality of indoor environment and cultivate students' national pride. During the design process, universities should focus on function, space, light, materials and other aspects of the design on the basis of fully exploring the connotations of the Ningxia national culture, and innovatively use traditional elements and modern design techniques to create a university study room with Chinese characteristics.

4.4.6 EVALUATION RESULTS

Figure 39 Assessment Interview Student of From North Minzu University



Note. Taken by the Author

Student feedback:

In order to understand the implementation of this design, the author designs the interior design evaluation under the background of Ningxia culture, and takes students of North Minzu University as the research object to understand their feedback.

Table 20 Are you satisfied with the overall effect of the renovated study room

Options	Proportion
Satisfactory	78%
Generally	12%
Unsatisfactory	10%

According to the survey data, students are satisfied with the overall effect of the transformed study room.

Table 21 Can the cultural elements of Ningxia added in the study room help you better understand the culture of Ningxia

Options	Proportion
Yes	88%
No	12%

They generally believe that the Ningxia cultural elements added in the study room can help them better understand the culture of Ningxia.

Table 22 Are you satisfied with the functional distribution of the renovated study room

Options	Proportion
Satisfactory	80%
Generally	14%
Unsatisfactory	6%

Students are highly satisfied with the functional distribution of the reformed study room.

Table 23 Can the renovated study room increase the number of times you go to study in the study room

Options	Proportion
Yes	82%
No	18%

The transformed study room can increase the number of times students go to study in the study room

Table 24 Do you have any dissatisfaction with the interior color matching of the renovated study room

Options	Proportion
Yes	80%
No	20%

The satisfaction of color matching in the renovated study room is high, and 80% of the students said there was no dissatisfaction.

Interviews with University Faculty:

Question 1: Are you satisfied with the functional distribution of the renovated study room?

I am very satisfied, from the appearance, there are both modern elements and elements of Ningxia culture, the integration of the two is perfect, especially in the second picture, I like the Ningxia elements above, as well as the book corner, I am also very satisfied, the only regret is that I am tired of reading, I did not see the rest area shown in the picture.

Question 2: Are you satisfied with the interior color after the transformation?

The color is OK, the whole is very soft, clean and tidy, but a little worried about the intensity of the lighting, can meet our needs, and in the picture, I did not find a ventilation outlet.

Question 3: Do you think there is any function of cultural propaganda if the Hui pattern is added to the study room?

Of course, it would be better if we could design some other Ningxia cultural elements in the exhibition area.

Through the assessment of the university teachers, it can be found that the teachers are satisfied with the overall renovation of the interior. At the same time, the individual test teacher was not very satisfied with the lighting in the study room and felt that the overall darkness needed to be adjusted.

CHAPTER 5

CONCLUSION

5.1 CONCLUSION

This paper studies the interior space environment design of the study room of North Minzu University under the cultural background of Ningxia, and puts forward the principles and strategies of the study room design under the cultural background. Through field research and analysis, the problems in the design of self-study room are found, and the solutions to these problems are put forward.

In the design, our colleges and universities should pay attention to the openness and comfort of the space, as well as the appropriate increase of learning AIDS to improve learning efficiency. On this basis, it can also realize the promotion and inheritance of Ningxia culture as well as the enhancement of campus image. In addition, colleges and universities should also consider the intelligent construction of study rooms, such as the installation of intelligent lighting and temperature control systems, in order to improve the comfort and efficiency of the use of study rooms.

5.2 DISCUSSIONS

Based on a comprehensive and detailed study, this study designs a study room suitable for major universities in Ningxia. By comparing the results of this study with existing studies, significant similarities and differences can be found. First of all, compared with existing space designs, the study room designed in this study has significant advantages in terms of functionality and innovation. Many existing spaces are designed with only a basic distribution of functions. However, some geographic areas require the design of spaces with special features. Comparatively speaking, this design is still better in terms of applicability and user satisfaction, which meets the spatial needs of students while accomplishing the promotion of regional culture and campus branding.

5.3 CONTRIBUTION

Located in the upper reaches of the Yellow River, Ningxia is an important node of the ancient Silk Road, and its culture is a blend of elements from the Central Plains, the Silk Road and the Hui culture. As an important part of Ningxia culture, the unique ethnic customs and religious beliefs of Hui culture put forward special requirements for interior space design. Under the background of Ningxia culture, the design of the interior space environment of the study room in North Minzu University should fully consider the regional cultural characteristics and functionality. Through reasonable

layout, integrating cultural elements, paying attention to environmental protection and humanized design, we can create a learning environment that not only meets the needs of students, but also has Ningxia characteristics. This can not only provide students with comfortable learning space, but also enhance the connotation of campus culture and create good conditions for training talents of all nationalities.

5.4 DEFICIENCIES

There are still some shortcomings in this study. First of all, due to time constraints, this study only focuses on one ethnic university in Ningxia, and fails to cover the study room design needs of more ethnic groups and regions. Secondly, this study has some limitations in data collection and processing, and fails to fully consider all the factors that affect the design of study rooms. In the future, we can further explore the application of study room design in colleges and universities of different nationalities and regions to meet the needs of more nationalities and regions. At the same time, more advanced technologies and concepts, such as green building design and intelligent management, can be introduced to further improve the level and efficiency of study room design. In addition, from the perspective of ergonomics, we can make more detailed and humanized design of seats, tables and other facilities in the study room to improve the comfort and efficiency of learners.

5.5 SUGGESTIONS

5.5.1 SPATIAL LAYOUT

In terms of spatial layout, colleges and universities should fully consider the learning needs and usage habits of students of all nationalities, and rationally divide functional areas. Flexible modular design can be used to freely combine seats and discussion areas according to actual use needs to meet the learning needs of different students. At the same time, national unity should also be taken into account to avoid adverse effects on a certain ethnic group in the spatial layout.

5.5.2 INTERIOR DECORATION

In interior decoration, we can use the elements of Ningxia regional characteristics, such as Islamic architectural style, Ningxia scenery and so on, to create a strong regional cultural atmosphere. In terms of material selection, environmentally friendly and sustainable materials can be used to reflect the design concept of green environmental protection. In addition, we can create a comfortable and quiet learning atmosphere through lighting design and color matching.

5.5.3 FACILITY CONFIGURATION

In terms of facilities allocation, the functional requirements of the study room should be fully taken into account. Colleges and universities should be equipped with basic facilities such as comfortable desks and chairs, sufficient light and power sockets (Shi Suxia et al., 2024). At the same time, we can also add some intelligent equipment, such as self-service borrowing and returning machines, online learning platforms, to improve the efficiency of the use of study rooms. At the same time, colleges and universities should also take into account special needs, such as setting up rooms for mothers and babies and access for the disabled to meet the needs of different students.

5.5.4 ENVIRONMENT CONSTRUCTION

It is very important to create a study room environment, which directly affects the learning effect of students. Colleges and universities should keep the room clean and tidy, and carry out regular ventilation and cleaning. At the same time, we should strengthen the management of the study room, formulate strict rules and regulations for its use, and ensure the quiet and order of the study room. In addition, we can also organize various cultural activities, such as lectures and exhibitions, to enrich students'extracurricular life and enhance the cultural atmosphere of the study room.

In summary, for the study room interior space environment design of North Minzu University in the context of Ningxia culture, colleges and universities should give full consideration to the regional cultural characteristics and the functional needs of the school, to create a study room space that has both national characteristics, but also comfortable and practical. This will help to enhance the learning effect of students, promote national unity, and lay the foundation for the sustainable development of the school.

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PUBLICATION

Xiangyan Li; Supachai Areerungruang. (2023). The Application of Ningxia Cultural Characteristics in the Renovation of Study Rooms in Northern Nationalities University. *Advances in Higher Education* Volume 7(33). 2023.

