



Chinese Wisdom in Fiddle making in Jiangxi China

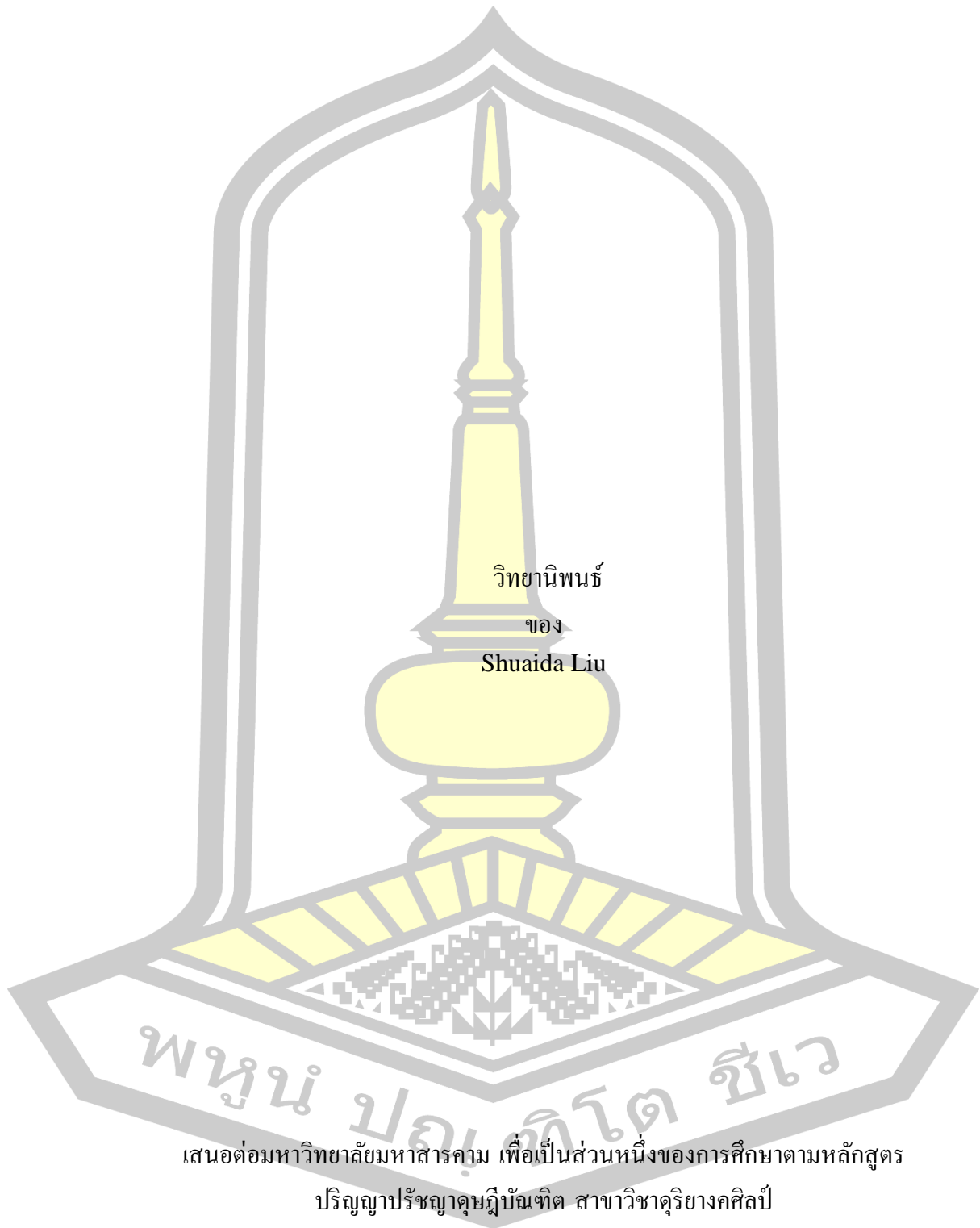
Shuaida Liu

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Doctor of Philosophy in Music

October 2023

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วิทยานิพนธ์
ของ
Shuaida Liu

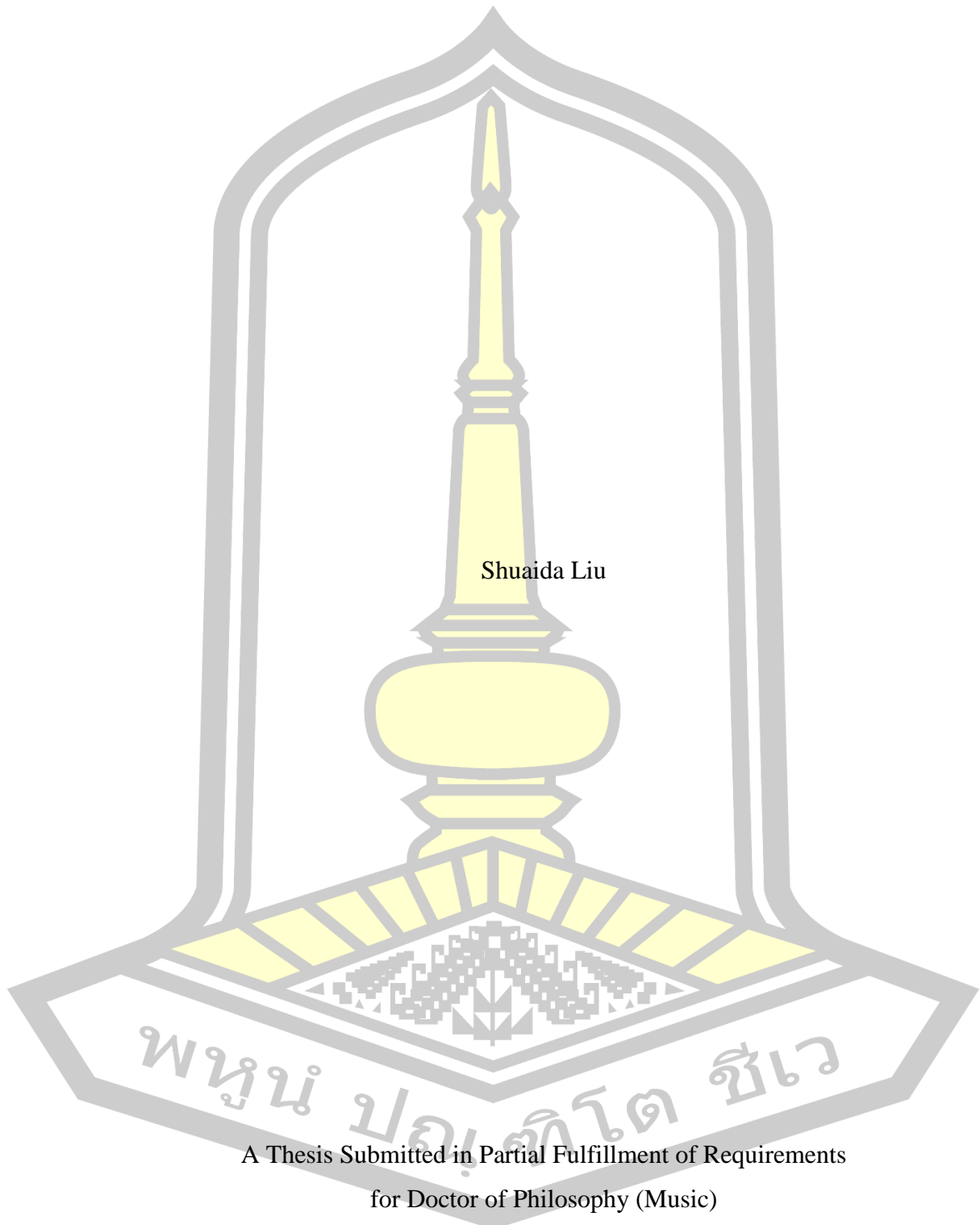
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เสนอต่อมหาวิทยาลัยมหาสารคาม เพื่อเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร
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Chinese Wisdom in Fiddle making in Jiangxi China



Shuaida Liu

A Thesis Submitted in Partial Fulfillment of Requirements
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October 2023

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The examining committee has unanimously approved this Thesis, submitted by Mr. Shuaida Liu , as a partial fulfillment of the requirements for the Doctor of Philosophy Music at Mahasarakham University

Examining Committee

Chairman

(Assoc. Prof. Chalernsak Pikulsri ,
Ph.D.)

Advisor

(Thanaporn Bhengsri , Ph.D.)

Committee

(Asst. Prof. Narongruch
Woramitmaitree , Ph.D.)

Committee

(Assoc. Prof. Phiphat Sornyai ,
M.A.)

Committee

(Asst. Prof. Weerayut Seekhunlio ,
Ph.D.)

Mahasarakham University has granted approval to accept this Thesis as a partial fulfillment of the requirements for the Doctor of Philosophy Music

(Asst. Prof. Khomkrich Karin , Ph.D.)

Dean of College of Music

(Assoc. Prof. Krit Chaimoon , Ph.D.)

Dean of Graduate School

พหุ มหาคีโต ชีว

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AUTHOR Shuaida Liu
ADVISORS Thanaporn Bhengsri , Ph.D.
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ABSTRACT

This research is called Chinese wisdom in Fiddle making in Jiangxi China, which is a qualitative research, aimed to 1) To study fiddle's environment situation in Jiangxi ; 2) To study the making process of fiddle in Jiangxi.

The qualitative research method is used. Data are collected on the spot through interviews with 3 key information providers in this field, and the collected data are classified and analyzed. The results show that:

With the development of the times, the traditional nature of fiddle has been impacted by modern multiculturalism due to its aesthetic appeal. Due to the Chinese people's love for wood and excessive hunting of pythons, the raw materials for fiddle production are becoming increasingly scarce. Due to poor environmental conditions and low income, the aging trend of inheritors is also increasing.

The fundamental reason why the existing production techniques of fiddle can be passed down is that they maximize the continuation of traditional fiddle production techniques, and continuously improve the artistic expression of fiddle through optimization and refinement based on systematic research. This kind of innovation that is inseparable from tradition is the fundamental guarantee for the inheritance of cultural heritage in different historical periods.

The development of traditional musical instruments in modern society is not optimistic, and even faces an endangered state. We need to continue traditional craftsmanship in social life, protect and inherit the production techniques of fiddle in Jiangxi. The production techniques of fiddle in Jiangxi, as an important carrier of traditional Chinese culture, should be vigorously inherited and developed in the context of current cultural prosperity.

Keyword : Fiddle, Chinese Wisdom, Making Process

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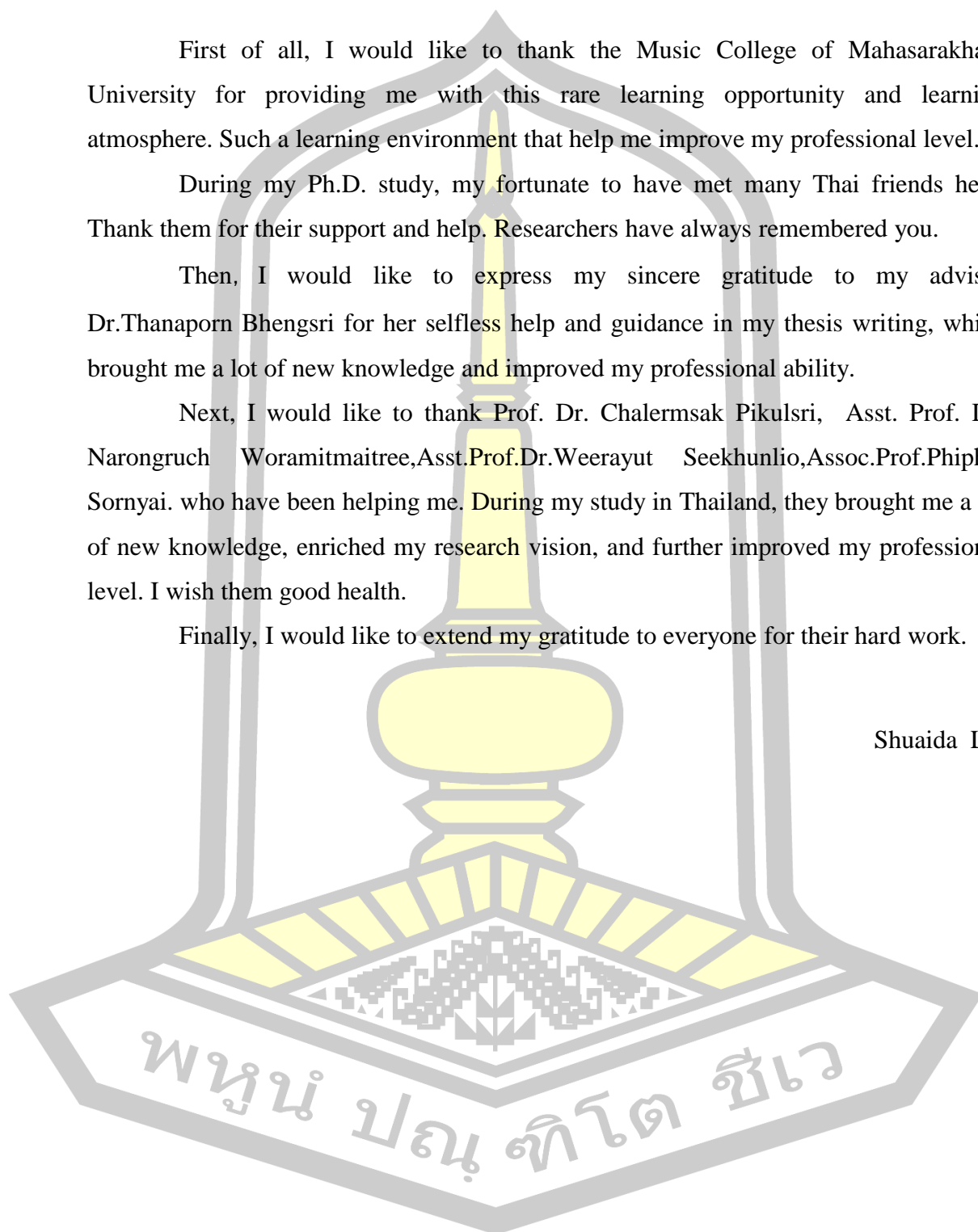
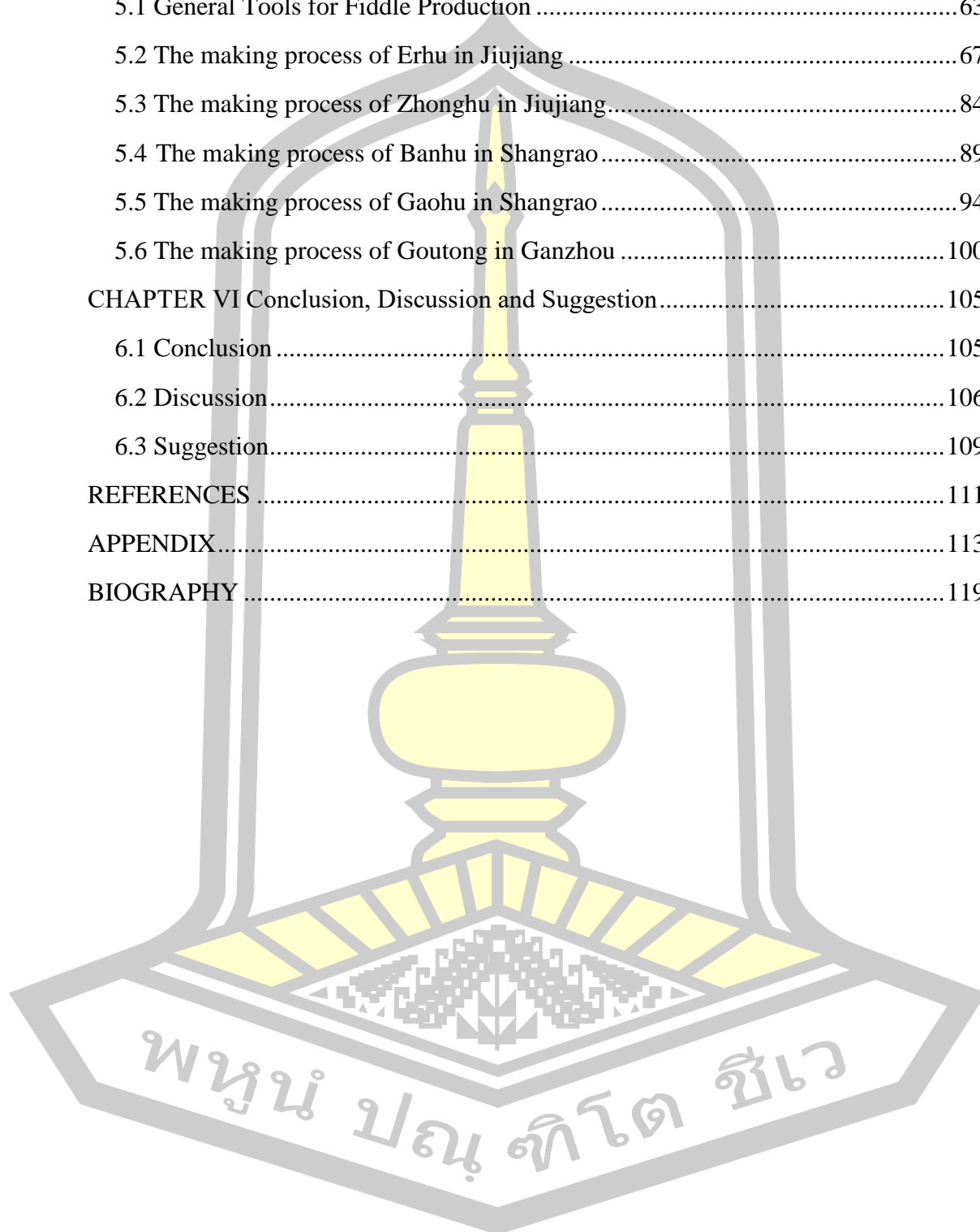


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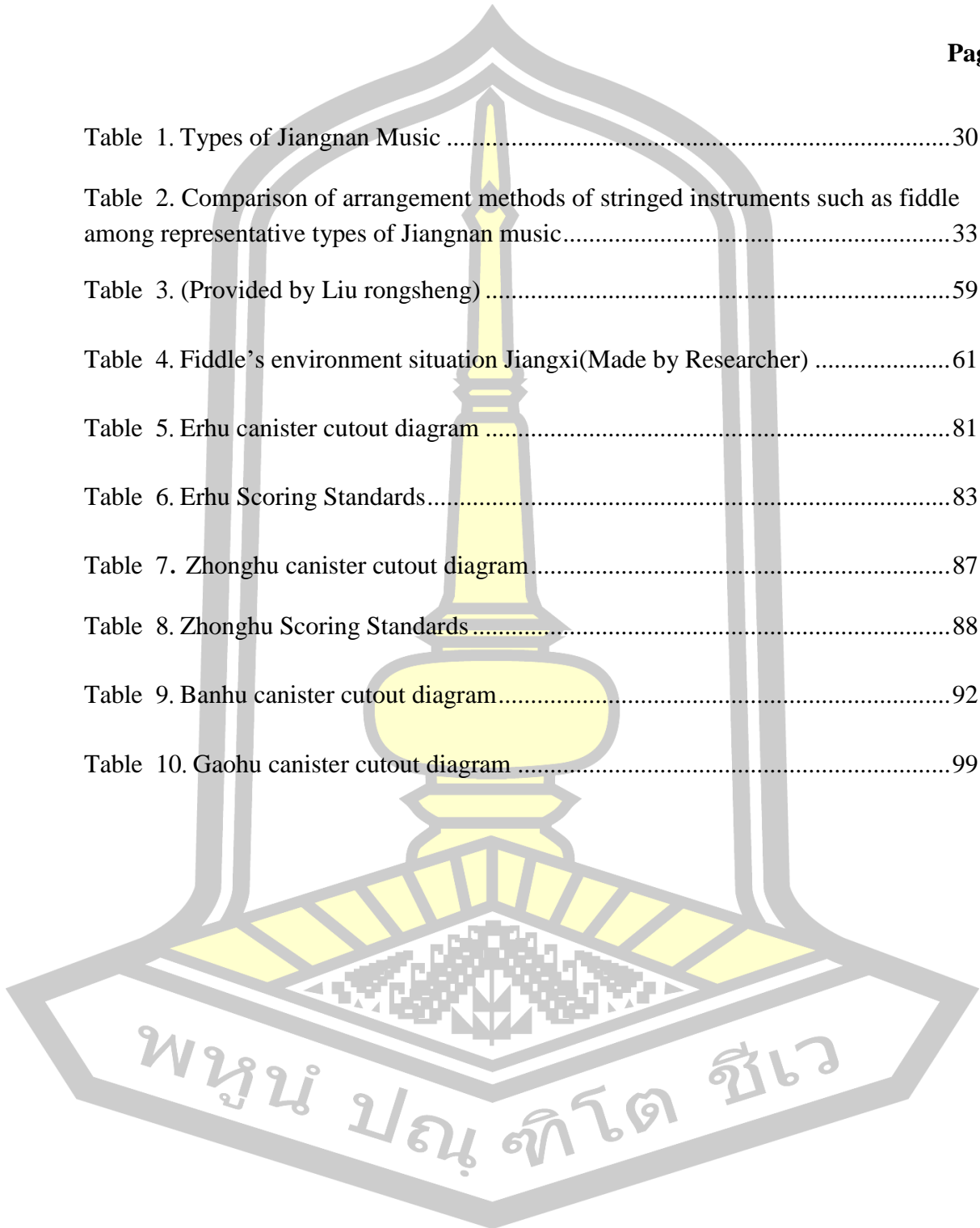
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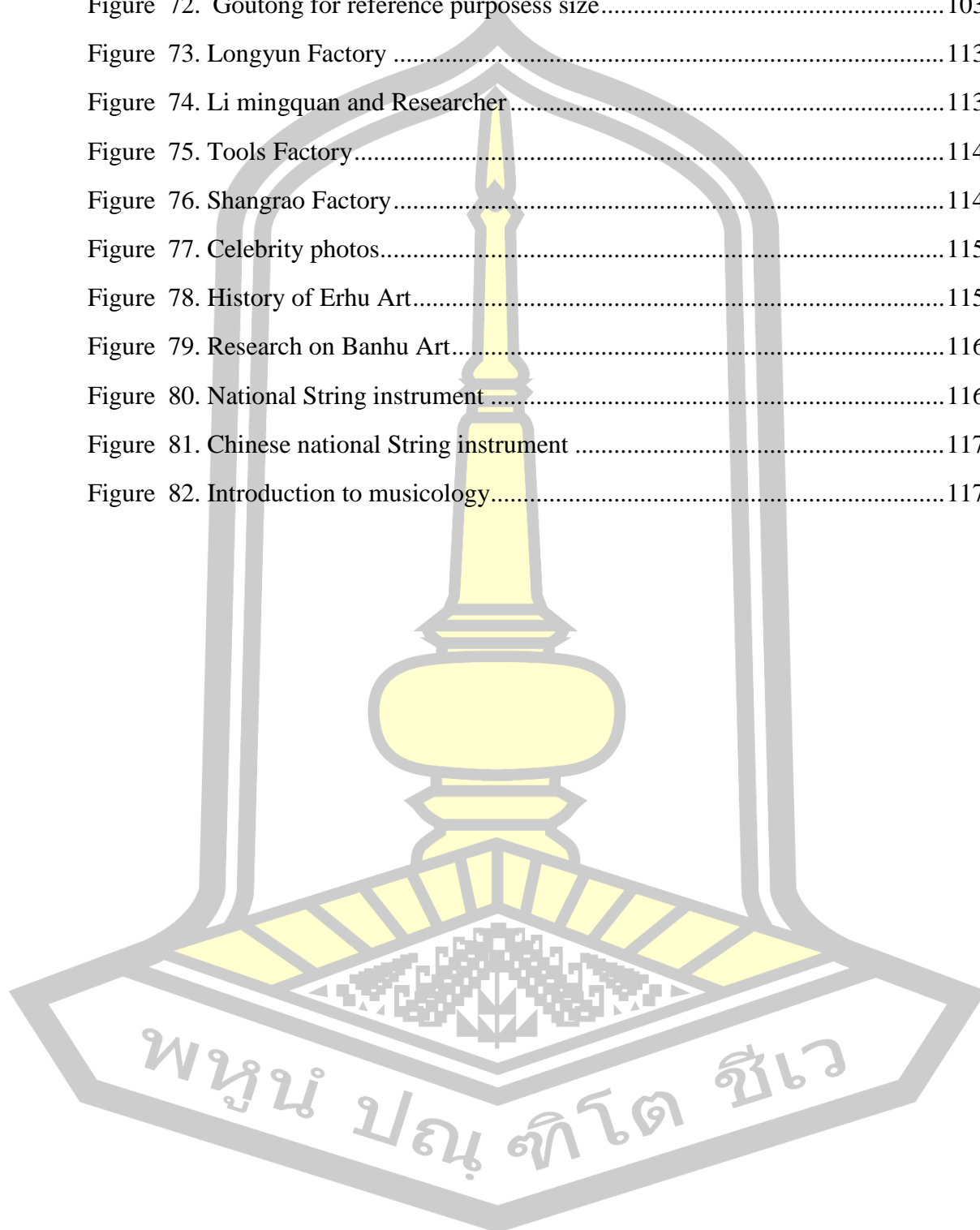
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CHAPTER I

Introduction

1.1 Background Introduction

In Chinese traditional art, China Fiddle has become one of the most widely spread national musical instruments with its graceful and long timbre and flexible playing methods. Compared with other regions, the development and evolution of fiddle in Jiangxi is quite representative.

First of all, China fiddle is rooted in the north, and its artistic inheritance for more than 1000 years is mainly in the form of accompaniment taught by mouth and heart. Later, relying on the improved practice of Jiangxi artists in Jiangnan, the shape, notation and playing method of fiddle have been gradually improved, and the audience has also been significantly expanded; Secondly, Jiangxi fiddle craftsmen always adhere to the traditional manual production and adhere to the original truth and effective protection. Therefore, Jiangxi fiddle art has a great rich cultural connotation. The discussion on the internal relationship between the behavior and consciousness of relevant groups is still insufficient (Wan Jingyi2016).

With the changes of the background of the times and the humanistic environment, the development of fiddle art is not only related to culture and art, but also related to the influencing factors such as political system, economic system, right discourse and public identity. In particular, the inheritance and protection of fiddle art is now being transformed into a human resource. Both its technical system and its aesthetic value and meaning system are beginning to be re excavated and utilized to meet the needs of cultural and economic development. In this context, the cultural connotation of Jiangxi fiddle art is studied. Jiangxi fiddle art has formed a development process from accompaniment to solo and then to diversified creation. In the late Qing Dynasty and the Republic of China, the rich and diverse traditional arts in Jiangxi promoted the spread of fiddle in Jiangnan. In modern times, Jiangxi fiddle art has formed a form of accurate notation and multi position (range), which has resolved the previous situation of being subject to no spectrum and single position, so

that the fiddle originally dominated by accompaniment has been expanded into a form of both solo and accompaniment(Zhu lei 2018).

Cultural heritage is not only one of the forms of national culture, but also one of the carriers of national cultural connotations, forms and ecology. Protecting and inheriting it is undoubtedly related to the survival and development of national culture. In recent times, whether proactive or reactive, countries around the world have gradually entered the modernization process and faced the impact of global integration trends. During this period, the traditional cultures of various countries and ethnic groups have experienced varying degrees of loss, variation, or assimilation in various aspects such as environment, form, function, and production. The development of industrialization has invisibly changed the original soil of fiddle art. Whether it is the design and production of musical instruments or the transformation of performance forms, they cannot be separated from the overall environment of modern economy and consumer society. Therefore, if we only focus on fiddle and do not focus on people and environment, fiddle art will inevitably enter the era of specimens.

So, what is the connection between fiddle and Jiangxi? What contribution has Jiangxi made to the development of fiddle? What other factors need to be paid attention to in the inheritance and protection of the fiddle manufacturing industry in Jiangxi? With these issues in mind, the author has decided to conduct in-depth on-site research on the inheritance and protection of the production technology of Jiangxi fiddle.

1.2 Research Objectives

- 1.2.1 To study fiddle's environment situation in Jiangxi
- 1.2.2 To study the making process of fiddle in Jiangxi

1.3 Research Questions

- 1.3.1 What is the fiddle's environment situation in Jiangxi Province
- 1.3.2 What is the process of making musical instrument of fiddle in Jiangxi

1.4 Importance of Research

- 1.3.1 We will know the fiddle's environment situation in Jiangxi Province

1.3.2 We can get the knowledge of the process of making musical instrument of fiddle in Jiangxi

1.5 Definition of Terms

1.5.1 Chinese wisdom refers to a controversial concept with broad and profound connotations and extensions. The Chinese wisdom in this article is mainly reflected in the first form of fiddle creation.

1.5.2 Contemporary status refers to the production time of fiddle investigated in this article is from March 2022 to the present day in 2023. This includes five types of fiddle, erhu, banhu, zhonghu, gaohu, goutong.

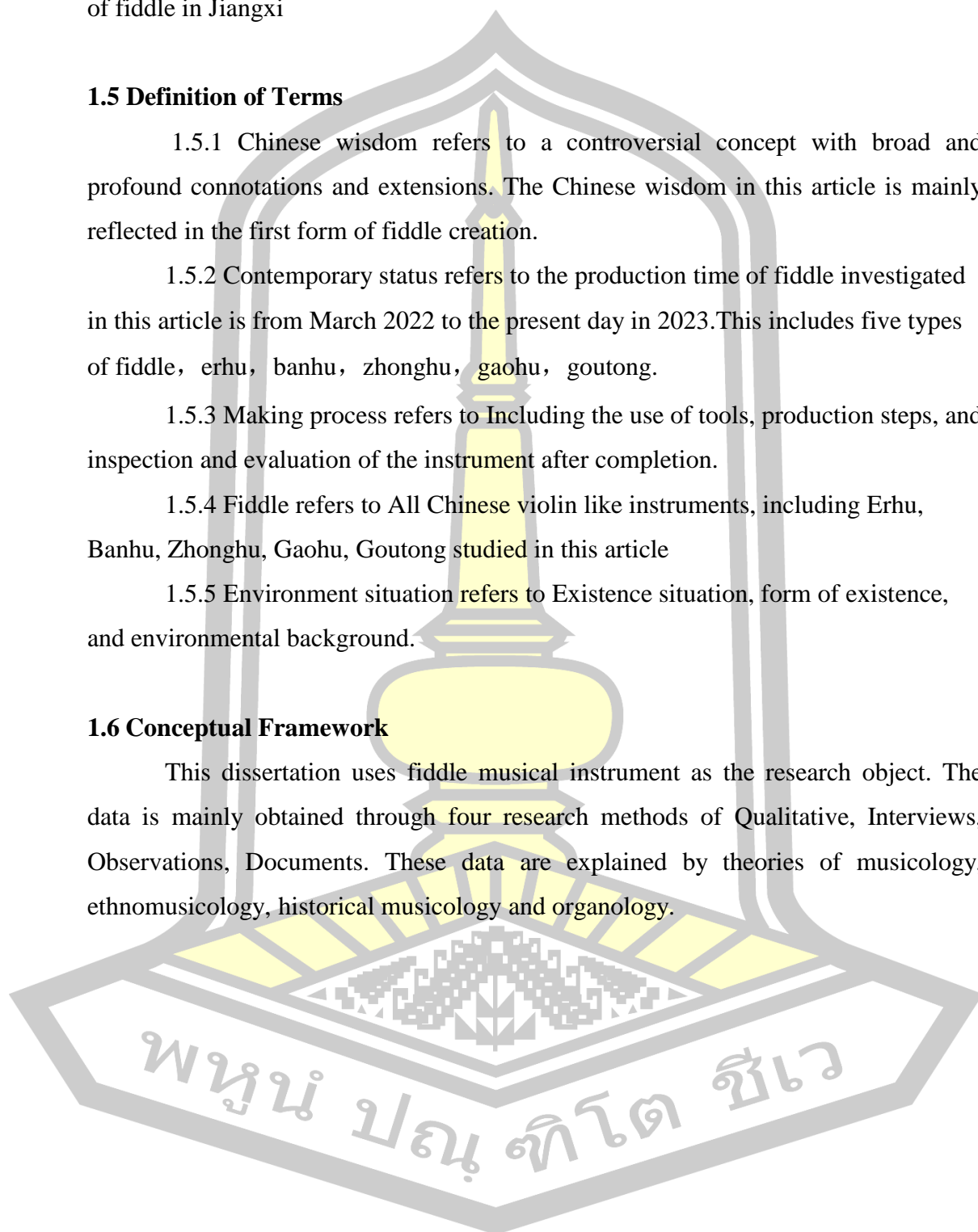
1.5.3 Making process refers to Including the use of tools, production steps, and inspection and evaluation of the instrument after completion.

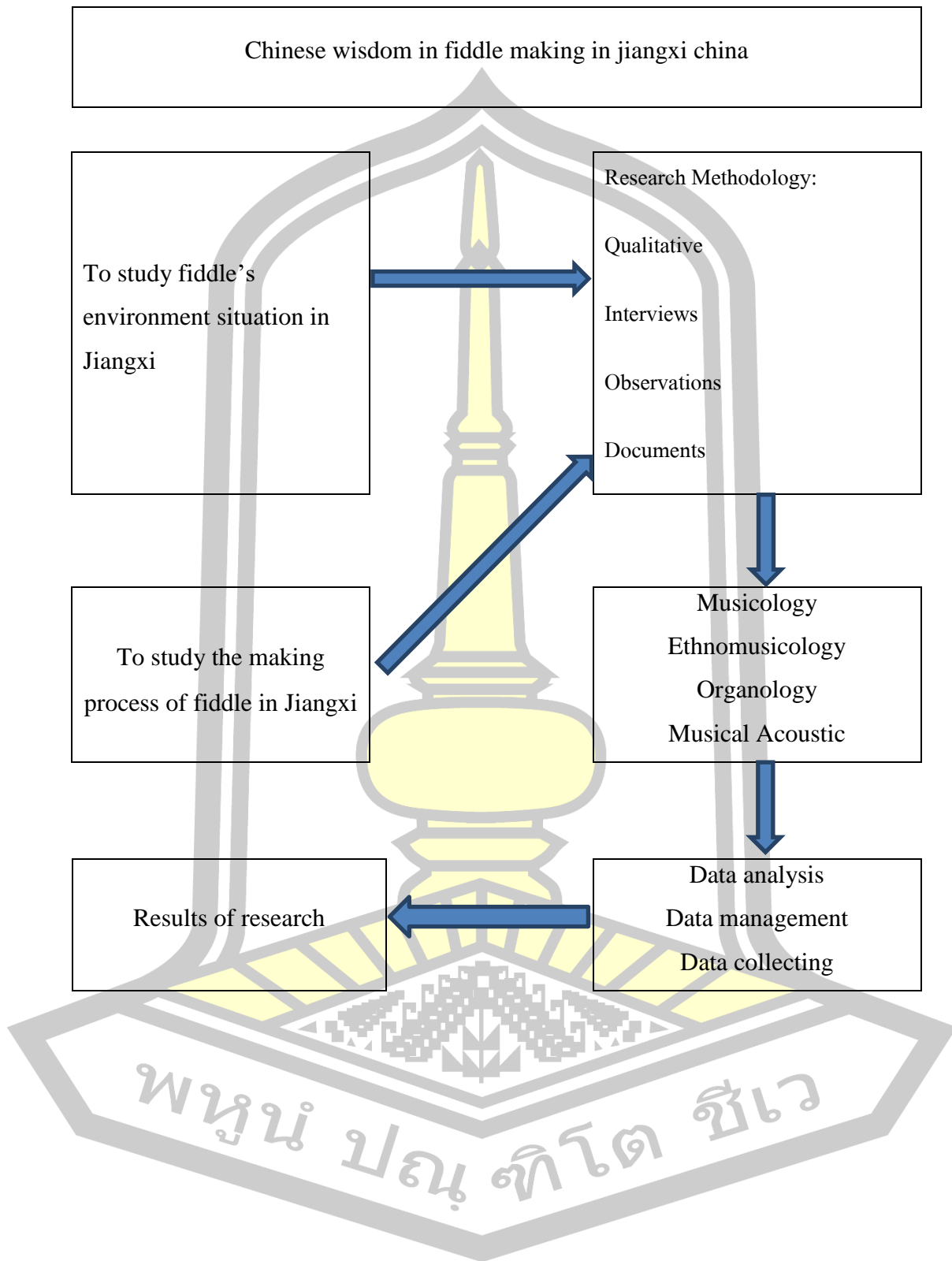
1.5.4 Fiddle refers to All Chinese violin like instruments, including Erhu, Banhu, Zhonghu, Gaohu, Goutong studied in this article

1.5.5 Environment situation refers to Existence situation, form of existence, and environmental background.

1.6 Conceptual Framework

This dissertation uses fiddle musical instrument as the research object. The data is mainly obtained through four research methods of Qualitative, Interviews, Observations, Documents. These data are explained by theories of musicology, ethnomusicology, historical musicology and organology.





CHAPTER II

Literature Reviews

This chapter reviews the relevant literature on the instrument Jiangxi fiddle to obtain the most comprehensive information available for this study, which was reviewed by the researchers according to the theme and objectives:

- 2.1 The General Introduction of Jiangxi Province
- 2.2 The Inheritance Method of Fiddle Production Techniques
- 2.3 The Introduction to Mainstream Chinese String instrument
- 2.4 Theories used in the research
- 2.5 Research Related

2.1 General Introduction of Jiangxi Province

2.1.1 Geographic environment

Jiangxi Province is located in southeastern China, on the south bank of the middle and lower reaches of the Yangtze River, between 24° to 30° N and 113° to 118° E. It is adjacent to Zhejiang and Fujian to the east, Guangdong to the south, Hunan to the west, and Hubei and Anhui to the north by the Yangtze River. The total area of the province is 166900 Square kilometre.

The terrain and landforms of Jiangxi Province are mainly composed of Jiangnan hills and mountainous areas; Basins and valleys are widely distributed, with Poyang Lake Plain and the Middle and Lower Yangtze Valley Plain Plain slightly in the belt(Jiangxi Geography. 2009).

The climate of Jiangxi Province belongs to a subtropical warm and humid monsoon climate, with an average annual temperature of approximately $16.3-25^{\circ}\text{C}$, generally increasing from north to south. The annual precipitation is 1341-1943 millimeters, one of the rainy provinces in China, with more in the south and less in the north, and more in the east and less in the west; There are many mountains and few basins. There are over 2400 rivers of all sizes in the province, with a total length of 18400 kilometers(province,cities,districts).

2.1.2 Population and ethnicity

The population of Jiangxi Province is approximately 45 million people, There are a total of 38 ethnic groups, with the main ethnic group being Han, accounting for over 99% of the total population. There are 37 ethnic minorities, including Hui, She, Zhuang, Manchu, Miao, Yao, Mongols, Dong, Koreans, Tujia people, Bouyei people, Bai, Yi, Li, Gaoshan, Tibetan and Shui. The ethnic group living in concentrated communities among ethnic minorities; Partial settlement of the Yao ethnic group; All other ethnic minorities are scattered in nature (Jiangxi Humanities, 2019).

2.1.3 Chinese traditional opera culture

The Yiyang Opera, formed in the early Ming Dynasty, is the source of the Gaoqiang Opera of Southern Opera, which has evolved into more than 40 traditional Chinese operas such as Beijing Opera and Sichuan Opera. The Four Dreams of Linchuan written by Tang Xianzu in the Ming Dynasty represents the highest level of Chinese classical drama and is known as "Oriental Shakespeare". In the Qing Dynasty, Jiang Shiquan was called the first composer during the reign of Emperor Qianlong. Jiangxi gradually formed a tea picking opera in the mid Qing Dynasty due to its abundant tea production.

There are various types of folk operas, including chants, fishing songs, folk songs, minor tunes, and lantern songs, among which Xingguo folk songs are the most famous (Jiangxi Culture, 2017).

2.2 The Inheritance Method of Fiddle Production Techniques

The production technique of fiddle is a type of creation art, which is often passed down from generation to generation through both professional training and folk learning. According to the classification criteria of organizational form, it can be divided into three types: apprenticeship inheritance, family inheritance, and karma inheritance.

2.2.1 Apprenticeship inheritance

Master apprentice inheritance is the main way of inheriting folk handicrafts. This approach may seem primitive, but it can maximize the protection of the inheritor's handicraft skills. In the process of inheritance between master and apprentice, the master is responsible for imparting knowledge and dispelling doubts,

and the apprentice's technical level and creative style are also directly influenced by the master. On the basis of learning the content taught by the master, gradually form one's own style through one's own spiritual understanding and refinement. For the production of fiddle, the difference in material selection and production techniques will directly affect the vocal effect of the finished fiddle. Therefore, there is a high demand for the skill level of the pianist, and it must be achieved through oral instruction from the master and repeated personal practice. This is also the fundamental reason why traditional production techniques are often passed down from master to apprentice. Producers often combine production and performance, and their performance skills are mostly taught by their masters or self-taught. This is different from the situation where most professional performers can understand the sound but are not aware of the instrument. Producers are more sensitive to the tone of the instrument and are more familiar with its sound production principles (Chen Kunpeng, 2007).

The author personally witnessed the fiddle producer Gucun Xiong adjusting the tone of each fiddle one by one, and continuously recorded the sound production effect and existing problems of each fiddle.

Due to the differences in wood and the subtle differences in manual production, fiddle needs to be repeatedly adjusted during the production process. Unqualified fiddle should be reprocessed or scrapped, and qualified fiddle also needs to be further adjusted to produce the best sound. Like humans, each fiddle has a different personality. In addition to testing the stability of single notes, the adjustment of fiddle also needs to reflect its expressive power through playing music. Most of us have not received professional training, and I have learned the evaluation of my current performance from my previous qin making master. There are also a few songs that I have compiled in my spare time, mainly used for adjusting instruments (Gucunxiong, 2022).

The existing fiddle enterprises, who served as apprentices in their early years and studied in their master's enterprise, gradually gained recognition from their master through their own hard research, and had the opportunity to learn from their master's core production skills, growing into representatives of young and middle-aged fiddle craftsmen.

In addition, the inheritance method passed down from master to apprentice is not limited by region. Some people have studied art in Suzhou in their early years, and some of their trained disciples have traveled to places such as Jiangxi, Sichuan, Shaanxi, Shandong, or Yunnan to spread the production technology of fiddle.

2.2.2 Family inheritance

The production techniques of fiddle will also be passed down through family means. As inheritors of their parents' generation, they will pass on their skilled handicrafts to their children and grandchildren through inheritance. As inheritors of their children, they choose to inherit the skills of their parents, on the one hand to meet their own livelihood, and on the other hand, they also follow the traditional ethical concept of inheriting their father's business from their children. Therefore, the traditional Chinese ethics have played a crucial role in achieving family style inheritance of fiddle production techniques. The absolute authority, clan ties, and recognition of skill values of the fathers have to varying degrees promoted the family inheritance of fiddle craftsmanship. The master of fiddle production, Qiang Rukang, passed on the art to his nephew Qiang Jinbo, who then passed it on to his son Qiang Xiaomin. Wan Qixing and Lu Linsheng also passed on their fiddle making skills to their daughters, and several of the disciples of the two masters became their son-in-law. For example, Bi Chunhong and Wang Huimin successively married Mr. Lu Linsheng's eldest and third daughters, while Huang Jianhong and Bu Guangjun became Mr. Wan Qixing's son-in-law (Liu rongsheng, 2022) .

The seniors are using their surplus heat, and the young fiddle craftsmen are also trying to understand their master's skills as much as possible, and constantly strengthening their own craftsmanship while teaching new students. At present, these younger generations have all grown into the backbone of fiddle production, and their children are also gradually exposed to fiddle production. In this mode, the production techniques of Wuxi fiddle will also have successors.

2.2.3 Industry inheritance

Industry inheritance refers to a mode of inheritance formed by people engaged in the same or similar industries for their own or industry needs. This model does not rely on blood or academic connections, but is based on social division of labor. The so-called industry inheritance can be roughly divided into two situations: firstly, the

inheritance of a certain intangible cultural heritage, such as a certain handicraft skill, such as drama and quyi, through the mentoring of apprentices; The second is that one does not seek apprenticeship, but often listens to and watches the performances, performances, and operations of artists, and learns without a teacher (Li mingquan, 2022) .

Professor of History at Nanjing University Xu Yiyi, an expert in intangible cultural heritage protection, believes that There are generally two ways of social inheritance: one is for those who do not have a master, or have not undergone formal apprenticeship ceremonies, to analyze the skills of the work by observing the artist's operations. This leads to the acquisition of skills without a teacher, and the other is for multiple nominal masters to pass on the skills to multiple apprentices. Social inheritance has developed greatly since the last century, with both master apprentice relationships based on labor contracts and self-learning transmission channels .From this, it can be seen that even without a master's face-to-face transmission and teaching, relying on one's own understanding and efforts, one can still become a relay of social inheritance. The inheritance of industry based on various social divisions of labor cannot be separated from successful self scholars.In the context of contemporary market economy, the traditional boundaries and absolute power between master and apprentice in handicrafts have become increasingly blurred, gradually transforming into an employment relationship.In this process, some teachers transform into bosses, and in addition to emotional factors, the recruitment of employees is more concerned with the profits that employees contribute to the enterprise. Even if there has not been a master apprentice inheritance relationship established before, as long as it meets the needs of both parties, it can provide a learning and development platform employees, thereby further promoting the development of industry inheritance.

Compared to apprenticeship inheritance and family inheritance, industry inheritance is more flexible and relies more on learners' own efforts to achieve it.Mr. Yang Xilong, General Manager of Meicun Hongyun Piano Workshop and fiddle Craftsman, is one of the representatives of the inheritance of fiddle production skills in the industry. He has never worshipped a famous pianist, but has become a self-taught performer. Through years of hard work and research, Mr. Yang Xilong's fiddle has received widespread praise in the market and has been invited to participate in the

Shanghai International Instrument Festival and Beijing International Instrument Exhibition for many consecutive years. The industry inheritance model can promote the dissemination and development of traditional handicrafts among the people, and effectively solve the survival problems of folk handicrafts. It is of great significance for the sustainable development of traditional art.

2.3 The Introduction to Mainstream Chinese String instrument

There are countless Chinese national String instrument in china.

For example.



Figure 1. Chinese String instrument 1

Source: <https://www.xiaohongshu.com/explore/>

Figure 1 shows

Erhu, Sanhu, Sihu, Zhuihu, Banhu, Jinghu, JinErhu, ChaoErxian, NanErxian
GaoHu, Zhonghu, Dahu, Zhuihu, Yehu



Figure 2. Chinese String instrument

Source: <https://www.xiaohongshu.com/explore/>

Figure 2 shows

Maguqin, Daguang, Xiqin, Niutuiqin, Xitae, Lei qin, Ajike, Naxi qin, Sanhu,
Lei qin Niujaohu, Lanaxian



Figure 3. Chinese String instrument 3

Source: <https://www.xiaohongshu.com/explore/>

Figure 3 shows

Niujiachou, Cuoqin, Siyu, Disiyu, Wenzhen, Gaosiyu, Zhazhen, Kuyizi, Genka
Huagutong, Laruan



Figure 4. Chinese String instrument 4

Source: <https://www.xiaohongshu.com/explore/>

Figure 4 shows

Tuhu, Huluhu, Matouqin, Sataer, Dihu, Zhongdihu, Dadihu, Fanggehu, Digehe, Dimatouqin, Gehu

There are countless types of musical instruments in China, in addition to the ones shown in the pictures, there are also many types that have gradually disappeared

from the public's view. What the author wants to introduce here are five kinds of String instrument in Jiangxi

2.4 The Theory Used in Research

2.4.1 Musicology

Musicology is the general term for all theoretical subjects that study music. The general task of musicology is to elucidate the nature and laws of various phenomena related to music. For example, studies on the relationship between music and ideology include music aesthetics, music history, music ethnology, music psychology, music pedagogy, etc. The study of the material and material characteristics of music includes musical acoustics, instrumental science, etc. The study of music form and its composition includes melodic theory. (Wang Xiaonan, 2019)

In this study, researchers used musicological methods to analyze the production, inheritance and protection of fiddle. The musicological analysis of this paper first focuses on the investigation of human spirit and social environment, and explains the music phenomenon from the perspective of human society, history and cultural life beyond music. Secondly, the social nature of music is explained through music itself, especially through the formal elements of music.

2.4.2 Ethnomusicology

Using Ethnomusicology research methods to do field work and interview key informants. It is divided into two stages: collecting, sorting out data and analyzing research data. The first phase of the work content in addition to the field recording, camera, including investigation, collection and records related to the music of all kinds of cultural phenomena, including the investigation and study music and social cultural background, and other art, explore the consciousness of singing, the music of the players as well as the meaning of the music they use language and so on. The second stage is to organize the work. It includes analyzing the collected acoustics data from all aspects of musical expression, such as sound system, music structure, singing and playing method (Zhu lei 2012) .

2.4.3 Organology

The earliest research content of musical Organology is the classification of musical instruments. At present, the research of musical Organology mainly focuses on the relationship between musical instruments and musical performance, musical instrument classification, musical instrument materials, musical instrument design, musical instrument production, musical instrument vibration mode, musical instrument symbolism, etc (Liu debo 2011) .

The main instrument used in this article is the Chordophone, which is a musical instrument that produces sound through the vibration of strings, such as pulling, striking, and rubbing strings.

2.4.4 Musical Acoustic

It is a science that studies the physical problems of musical sound and rhythm. The study of the principles of musical instruments and human pronunciation starts with three major components: exciters, resonators, and radiators, in order to achieve the highest efficiency and beautiful timbre (Zhang Ge 2006) .

Jiangxi has a profound history and culture, including various rich cultural heritages, abundant natural resources, and vast forests, lakes, rivers, and mountains. The people of Jiangxi live a simple and warm life, and the development of urban and rural areas is also very rapid. Jiangxi's culture is unique, with many different forms of music and art.

2.5 Research Related

Wang Xiaojun (2008)“A Study on the Form of Mawei Huqin”. This article takes Mawei Huqin as the research object, reviews the history of Huqin, and interprets the Huqin in history. Through the textual research of the literature and the comparative reference of the images of Hu Qin, the development process of Hu Qin is roughly divided into three stages: plucking, rolling and pulling. The author believes that Mawei Huqin first appeared in the Western Xia Dynasty (1038-1227), originated in northern Shaanxi, and its immortal status is in Mizhi Village (now Mizhi County)”. The author believes that Mawei Hu Qin has had a great influence on the development of bow string instruments, and has opened the prelude to Chinese bow string instruments.

Wan Jingyi (2011)“An analysis of fiddle works in Jiangxi music style”. The author will start with the music noumenon, creation characteristics and other aspects of these works, and focus on the analysis of the mode and tonality, music structure, rhythm and tempo, and material characteristics of these three works, Folk Songs, Songs Out of the River, and Sweet Tianjin in Spring Rain, and will discuss and study the style and characteristics of these Erhu works. Then the author analyzes such works in the aspects of fingering, rhythm, decorative notes and other playing skills. It is verified that the research on this work is still blank at present, and there is little literature available for reference. At the same time, the author also hopes to appeal to composers to create more distinctive Jiangxi music style works through the analysis of such Erhu works.

Cheng youfu (2012) “Formation and development of Gehu”. From the 1960s and 1970s and the end of the last century, the author respectively analyzed the causes of Gehu, its production process, its tone structure, and how Gehu became what it is under the condition of playing with various national instruments, and summarized the production methods of how many kinds of instruments Gehu absorbed.

Gao Jingze (2009),“A Probe into the Origin”, Differences and Similarities of Huqin Musical Instruments. The first chapter is a comparative study of the origin and development of various types of Huqin instruments. First of all, it is the origin of various types of Huqin, mainly from the social background, cultural background, and regional characteristics of three aspects, to explain the origin of the formation of various types of Huqin. Secondly, it expounds the development of modern Huqin art and makes a comparative study. The second chapter is the comparison of the similarities and differences of the forms of the Huqin instruments.

First, it expounds the structure of many kinds of Huqin and the comparison of the similarities and differences of the structures. Then, it analyzes the different ways of the instruments' sound production from the similarities and differences of the structures, so as to obtain the differences of the timbre of many kinds of Hu Qin instruments. Secondly, it explains the similarities and differences in the production process of various types of Huqin. The third chapter is about various kinds of playing techniques of Huqin. First, it summarizes the basic techniques of Huqin playing.

Secondly, it expounds the stylistic techniques of various kinds of Huqin performance and makes a comparative study.

Deng Wenhan (2014) "Production experience of Jinghu". The text of this article comes from the production experience of Jinghu in the four national musical instruments production experience compiled by Hong Guangyuan, Fu Lishan, Shi Shanpeng and other masters in 1959 and the reference room of the Musical Instrument Research Institute. Hong Guangyuan, Fu Lishan, Shi Shanpeng and other masters are famous musical instrument makers of the old generation. They are famous in the field of musical instrument production. Their oral experience in making musical instruments is undoubtedly very valuable, which is a wealth they left to future generations. This magazine publishes the words half a century ago, accompanied by the production pictures of modern Erhu makers, in order to pass on the traditional production technology of national instruments. These words reflect the production experience and painstaking efforts of the older generation of instrument makers and their predecessors.

Liu Debo (2011) "The Origin of Erhu", a National Musical Instrument. Some foreign musicologists believe that Erhu is a musical instrument introduced from abroad and developed in China. For example, the famous Japanese music theorist Tanabe Shangxiong once demonstrated that China's Erhu originated from India. However, the author believes that Erhu not only spread and developed in China, but also originated in China. Xiqin Jiqin Huqin (Mawei Huqin) Nanhu Erhu is an important clue to the origin and development of Chinese Erhu.

Zhang Ge (2006) "On the Formation and Development of Banhu". Another form of reform in the 1980s was the three stringed Banhu. Its shape was more than that of the traditional Banhu with an inner string five degrees lower. The bow broke away from the traditional playing method. The bow played outside the three strings, and changed in the aspects of the Erhu pole, kilos, yards, and brackets. On the basis of retaining the sound color of the traditional Banhu, the volume, sound quality, and playing methods were improved and broken through. Double strings, chords Various playing skills such as jumping bow. At present, the three stringed Banhu has two forms: treble and midrange.

Jin Hui (2015) “Historical Investigation and Research on Drum Fingerless Hu Qin”. The paper holds that the characteristics of the base wood of the cylindrical fingerless Hu Qin is the fingerless one string hanging in the air structure playing mode. It is Shan'er, the characteristic of the base wood, that makes it possible for the cylindrical fingerless Hu Qin to form the inter string rubbing and the unique playing method of taking notes in the air on the strings to become an independent category of our national traditional instruments. Therefore, the playing mode of fingerless one string hanging in the air structure is to study the historical development of cylindrical fingerless Erhu, and the more appropriate research considers that the portable bow can be used to study the development of the history of such instruments.

Zhang Tong (2006) “Three Causes and Four Rules of Erhu Production. The Erhu”, a national musical instrument, seems simple in shape, but the production process is very systematic. The production of Erhu involves the coordination of many disciplines, such as acoustics, mechanics, materials science, and so on, which cannot be completed by drawing a tiger with a cat. Combined with more than 20 years of experience in playing, appreciating and immersing the production field of Erhu, the author summarizes the three causes and four rules that Erhu production should follow, and makes a simple exposition here.

Zhu Haolin(2009) “A Study on the Manufacturing Technology of Contemporary Erhu”. This paper is divided into four chapters. The first chapter mainly summarizes the development process of Erhu production technology, and defines the time frame of this study. The second chapter studies the main materials and different parts of contemporary Erhu. The identification method of manufacturing process is described. The third chapter analyzes and studies the use of Erhu jack, Erhu code and muffling pad from the aspects of the function, debugging, use and structure of the jack. In view of the factors that influence the timbre of Erhu in actual use, the corresponding solutions are proposed. The fourth chapter mainly analyzes other factors that promote contemporary Erhu production technology, and summarizes the influence of other aspects of Erhu production technology evolution.

Meng Jianjun (2011) “Gu Cunxiong's whole Erhu production process”. Erhu bobbins are usually made of six or eight pieces of the same wood through processing

and splicing. In the jargon, they are called pile bobbins. In recent years, some qualified Erhu producers have made Erhu with whole barrel materials. The so-called whole drum is to use materials with thick diameter to cut according to the length of Erhu bobbin, then empty the middle, and then go through a series of processes to finish the production of Erhu bobbin. The advantage of the whole Erhu tube is that the six plates of the Erhu tube are taken from one piece of wood, eliminating the splicing of the plates, and the resonance of the plates and the cavity is very harmonious. Qin master Gu Cunxiong is good at making whole drums.

Yutan (2013) “The production techniques and artistic characteristics of Dai drum National Music” (02), 55-56. The article explains the production process of Drum.

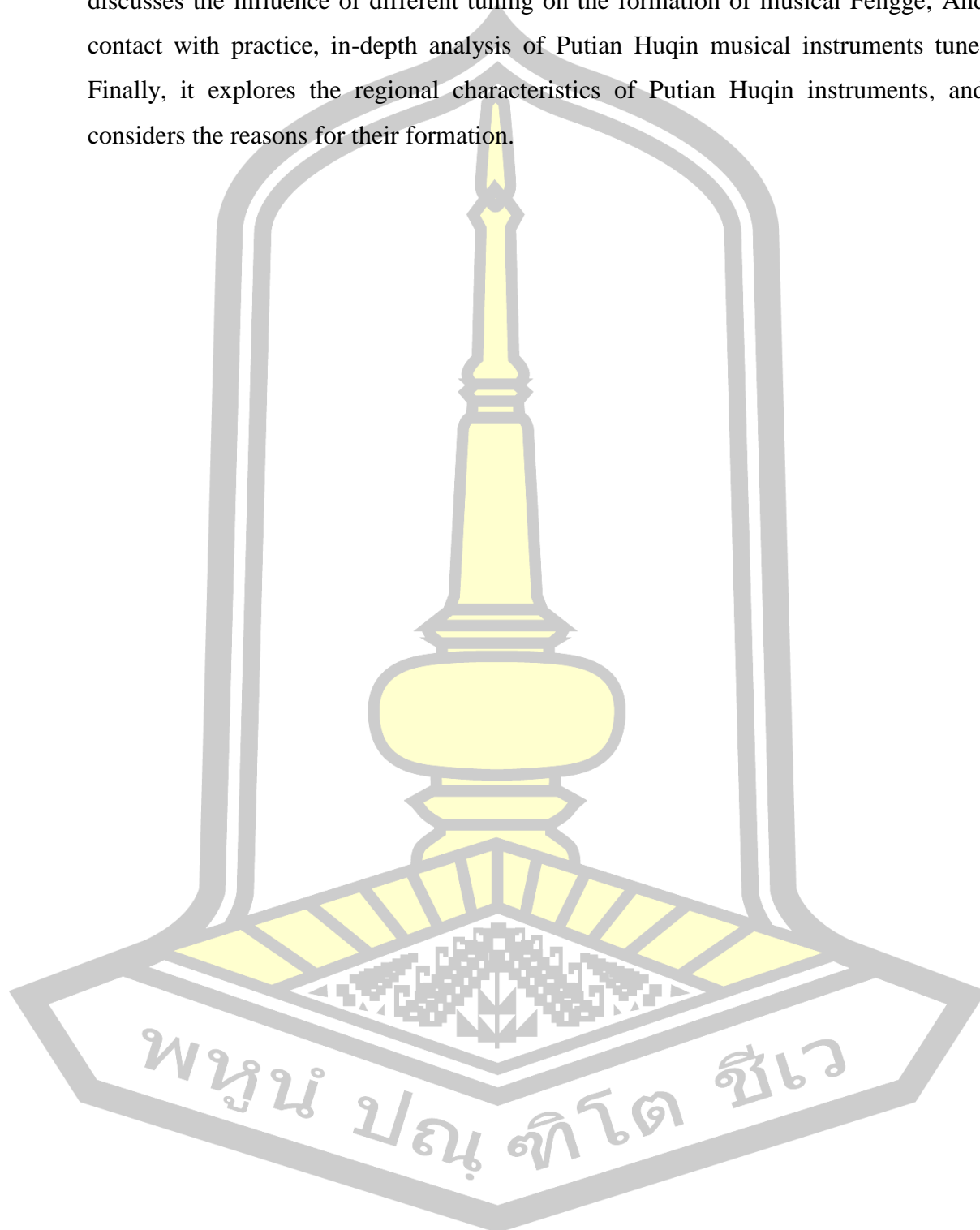
Song Enhui, (2017) “Pipa production procedures and post-commissioning Instrument” (06), 18-21. The article explains the production process and method of pipa, as well as the evolution of Pipa production.

Yao Xiaoyan, (2022) “Research on Guqin Production Technology”. *Tiangong* (30), 37-39. This article introduces the process and history of making Guqin

Li Jiabao (2014) “Study on the improvement of Erhu production materials”. Since the 1930s, the improvement of Erhu skin has never stopped. This is mainly because the traditional python skin, as the material of the skin, has shortcomings in three aspects: timbre stability, timbre quality and service life. The performance of the national orchestra needs a more stable and integrated timbre. There is a conflict between the supply of python skin and the protection of the ecological environment. As an important part of the improvement of Erhu production materials, the improvement of Erhu skin has a long way to go. 1. The history of the improvement of the Erhu skin at first, the Erhu skin was made of animal skins such as sheep, horses, cattle, snakes, cats, dogs, etc. Through practice, it was found that the snake skin or python skin had the best effect. Therefore, since the 1930s, the Erhu skin was designated as python skin.

Yi Ping (2013) “Research on Huqin Musical Instruments in Puxian Cultural Area of Fujian”. This paper describes the shape of Putian Huqin musical instruments, and understands the aesthetic taste of Putian folk from the decorative drawings of musical instruments with strong cultural atmosphere. Secondly, after marking the

tuning of Putian Hu Qin instruments according to the tone groups, the paper further discusses the influence of different tuning on the formation of musical Fengge; And contact with practice, in-depth analysis of Putian Huqin musical instruments tune. Finally, it explores the regional characteristics of Putian Huqin instruments, and considers the reasons for their formation.



CHAPTER III

RESEARCH METHODOLOGY

In this research is qualitative research, My Methodology I went to Jiangxi Province for field work to collect data. And found key informant. So, I had the methods follow as.

- 3.1 Research scope
 - 3.1.1 Scope of content
 - 3.1.2 Scope of research site
 - 3.1.3 Timeline of research
- 3.2 Research Process
 - 3.2.1 Key Informants
 - 3.2.2 Research tools
 - 3.2.3 Research process
 - 3.2.4 Data collection
 - 3.2.5 Data management
 - 3.2.6 Data Analysis
 - 3.2.7 Data Presentation

3.1 Research scope

3.1.1 Scope of content

The content includes the production process of Jiangxi fiddle, the history and development of Jiangxi fiddle, the music culture and content of Jiangxi fiddle music, the spread of fiddle performance, fiddle songs and the changes of Jiangxi fiddle music culture in China.

3.1.2 Scope of research site

In this theme, Selected three cities in Jiangxi Province as representatives for field research. They are located in the northernmost, easternmost and southernmost parts of Jiangxi

- 1) JiuJiang, the northernmost city, has the most developed economy.

2) ShangRao, the easternmost city, is close to Wuxi city, the hometown of fiddle

3) GanZhou, a city with the largest minority nationalities and the largest area

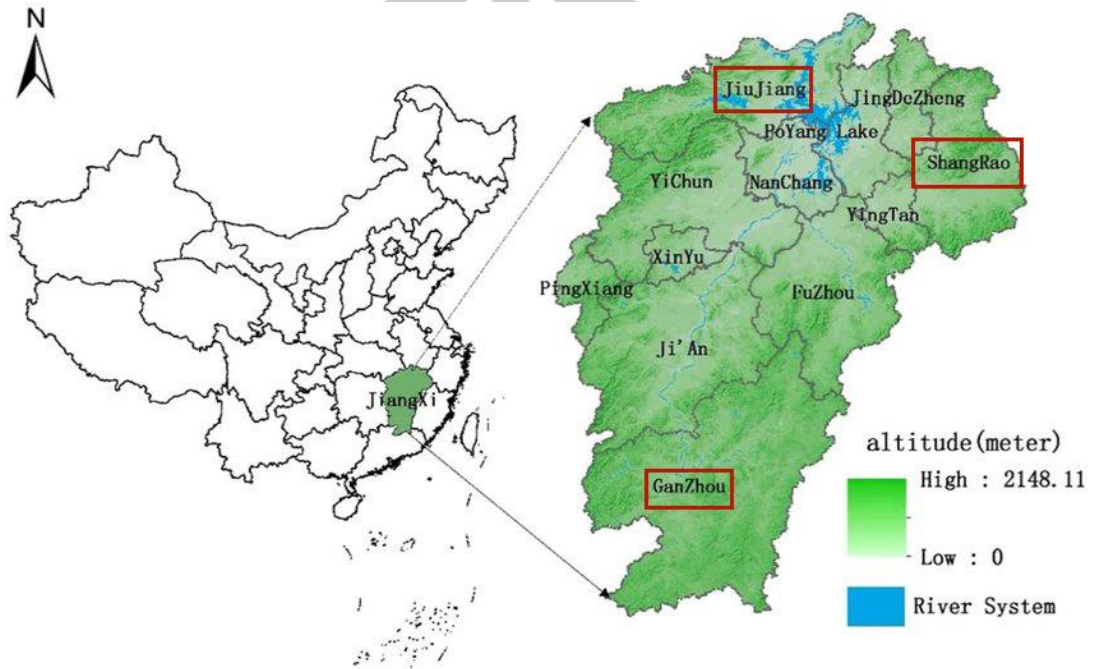


Figure 5. Xiqin in the “Music discipline standard”

Source: <https://www.google.com/search>

3.1.3 Timeline of research

The researcher conducted fieldwork from March 2023 to interviewed, observed, recorded, and videotaped key informants, and completed the writing and revision of the paper during this time.

3.2 Research Process

3.2.1 Key Informants

The criteria for my selection of informants are as follows:

- 1) The researcher selected an fiddle player and a master of fiddle production. They have all made contributions to the development of Jiangxi fiddle.
- 2) They were all born in Jiangxi Province, China, and have a certain understanding of Jiangxi folk culture.

1) Mr. Li Minquan



Figure 6. Mr. Li minquan

Source : Researcher

At the end of the Qing Dynasty (1840-1912), the Li family in Shangrao Town, Chaisang District, Shangrao City had craftsmen who made Hu Qin. Li Mingquan of Lion Town still insists on making fiddle by hand. In his opinion, the timbre of handmade fiddle would be better, which could not be achieved with machines. Chose him as informant because he is the most inherited fiddle producer in Shangrao. Their fiddle has a history of hundreds of years.

2) Mr. Gu cunxiong



Figure 7. Mr. Gu cunxiong

Source: Researcher

He is the inheritor of intangible cultural heritage of traditional fiddle production techniques. Famous national bowstring instrument maker. Founder of Jiangxi Longyun fiddle Factory.

Chose him as an informer because he has 50 years of experience in producing various fiddle, and his fiddle has won numerous awards. He also knows the production methods of various fiddle. He is good at playing traditional fiddle music and knows all kinds of folk fiddle music in Jiangxi. He is in JiuJiang.

3) Mr. Liu rongsheng



Figure 8. Mr. Liu rongsheng

Source: Researcher

He is a Kejia from Ganzhou, a folk fiddle producer. He is in GanZhou. His craftsmanship was handed down from his ancestors and can be traced back to the Ming Dynasty (1644 AD).

Chose him because he is a famous folk fiddle master in southern Jiangxi. He is known as the inheritor of China's intangible cultural heritage. His fiddle was once given to Japanese scholars as a gift. The production technology he mastered is the oldest in Jiangxi.

3.2.2 Research tools

Field research is an important research method in this dissertation. The research

tools of this paper are mainly interview method and observation method. The researcher

designs corresponding interview forms and observation forms according to different

interview objects and observation objects. Process of making the questionnaire.

- 1) Design questions based on research objectives.
- 2) Checking the appropriate content.
- 3) Bring it to the advisor to examine.
- 4) Be modified according to advisor editing.
- 5) Modified according to specialist advice before being used in the field.

3.2.3 Research process

Use historical review, literature analysis, interview, observation, participation experience and other methods to obtain data in the natural context, and use non-quantitative means to analyze them and draw research conclusions.

- 1) Document analysis (11/2021-12/2021);

Literature analysis: it is a form of qualitative research. Collected data and searched literature from libraries and network databases, and analyzed literature related to research topics.

- 2) Data collection (01/2022-03/2022);

The Collected data through literature analysis and field survey. Made a field visit to the research site (Jiangxi Province, China). Visited Jiujiang fiddle Masters, Shangrao fiddle Masters and Ganzhou Folk Artists. The production and performance of Jiangxi fiddle were recorded through interviews, observations, audio and video recordings.

- 3) Document analysis (04/2022-09/2012);

Analyze them in two ways. because these are related to the assumptions and design of research questions. The second is to carry out technical laboratory analysis of collected music sound materials, which requires special technology and sometimes special equipment for sound transcription and structure analysis.

- 4) Research conclusions obtained (10/2022-07/2023)

The analyzed data and obtained results are applied to relevant issues, especially ethnomusicology, and more broadly, social sciences and humanities.

3.2.4 Data collection

The author will collect data through document analysis and fieldwork. In order to make an in-depth study, researchers refer to literature materials in libraries and cultural centers and use network platforms such as CNKI (China National Knowledge Infrastructure) and other network platforms to complete the document analysis.

- 1) Interviewed three key people from three selected cities.
- 2) Collect Jiangxi's music content, performance skills and track music from websites, books and field surveys.
- 3) Record unique fiddle skills, fiddle production, and changes in music from websites, field observations and interviews.

3.2.5 Data management

From the data about the history and development, the music content, performance techniques and repertoire I collected, I classified these data according to the division of time, the classification of music content, the channel of music source, and the relevant information of different representatives. Management to provide help for subsequent data analysis.

3.2.6 Data Analysis

The method of literature research to investigate the literature and obtain information according to the research purpose of the history of Jiang fiddle Music, aiming to comprehensively and correctly understand and master the research problem. Secondly, Used Qualitative research, used depth interviews and observations for data collecting. So, Chosed informants, criteria for choose informant are follow as :

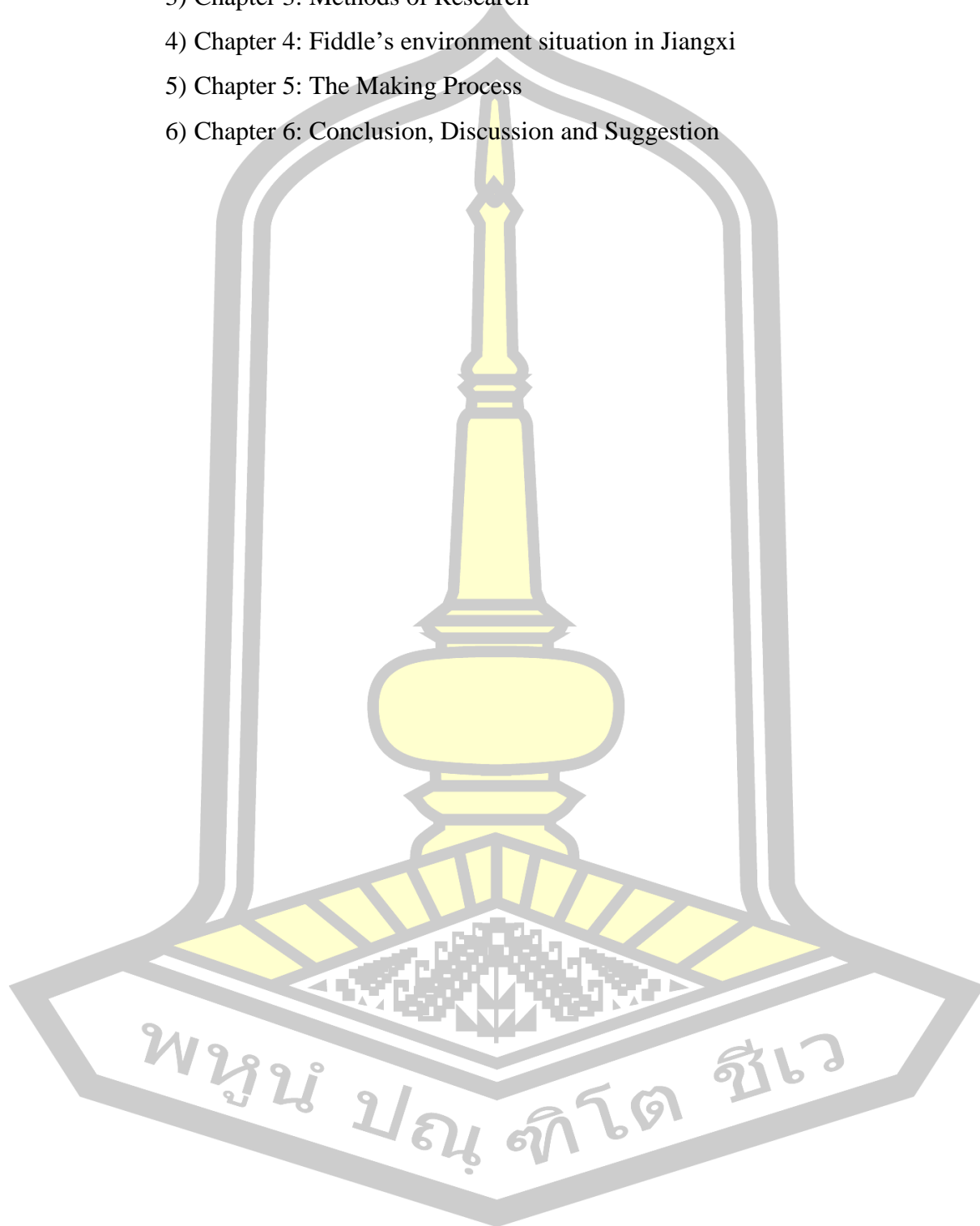
- 1) The researcher selected three fiddle performers, both of whom have contributed to the development of Jiangxi fiddle Music.
- 2) They were all born in Jiangxi Province, China, and have a certain understanding of Jiangxi folk culture. Finally, The research and analysis methods of musicology and ethnomusicology, organized and summarized the collected documents and interviews to investigated and studied the music characteristics of Jiangxi fiddle Music, explored the relationship between Jiangxi fiddle Music and geography, history, and other cultures.

3.2.7 Data Presentation

In this dissertation, the researcher presented on 6 chapters:

- 1) Chapter 1: Introduction

- 2) Chapter 2: Review Literature
- 3) Chapter 3: Methods of Research
- 4) Chapter 4: Fiddle's environment situation in Jiangxi
- 5) Chapter 5: The Making Process
- 6) Chapter 6: Conclusion, Discussion and Suggestion



CHAPTER IV

The Fiddle'S Environment Situation in Jiangxi

This chapter first introduces the environment situation in Jiujiang Fiddle and detailed information about the other seven types of Fiddle, so that readers can have a preliminary understanding.

4.1 Fiddle's environment situation in Jiujiang City

4.1.1 The Forms of Erhu in Jiujiang City

4.1.2 The Forms of Zhonghu in Jiujiang City

4.2 Fiddle's environment situation in Shangrao City

4.2.1 The Forms of Banhu in Shangrao City

4.2.2 The Forms of GaoHu in Shangrao City

4.3 Fiddle's environment situation in Ganzhou City

4.3.1 The Forms of Goutong in Ganzhou City

4.1 Fiddle's Environment Situation in Jiujiang City

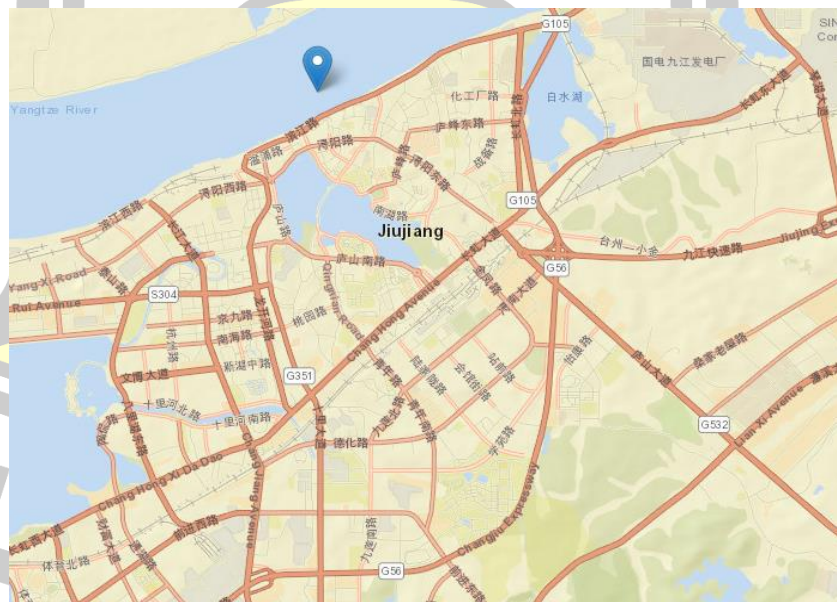


Figure 9. Jiujiang City

Source: www.baidu.com

Jiujiang is the northernmost city in Jiangxi Province, the second largest economic city in Jiangxi Province, close to the provincial capital Nanchang. It is a cultural city in Jiangxi Province and has significant historical significance. The most representative fiddle in Jiujiang City include fiddle and Zhonghu

4.1.1 The Forms of Erhu in Jiujiang City

Through the interrelation between fiddle and other artistic forms in Jiujiang, such as silk and bamboo music, tea picking opera, and religious music, combined with the improvement and practice of ethnic musicians in fiddle notation and performance techniques, and the music creation method using traditional music as the creation material, this article explores various issues in the development of the artistic noumenon of fiddle in Jiujiang

Fiddle was introduced into Jiangnan from the north in the Ming Dynasty(1368-1644). After hundreds of years of development, it was widely spread in Jiujiang area and gradually developed and expanded. At the end of the last century, the craft and performance of fiddle gradually became localized due to regional and economic influences.

Before the formation of modern fiddle art, the existing folk music talents, environment, audience, crafts, and forms in Jiujiang provided an opportunity for fiddle, originally played in silk and bamboo music, tea picking operas, and religious music, to quickly mature and perform independently.1)name: silk and bamboo music 2)name :Private class club 3)name: religious music

4.1.1.1 Jiangnan music

In the pre-Qin period, people divided traditional Chinese ethnic musical instruments into eight categories according to their production materials: gold, stone, earth, leather, silk, wood, bamboo, and bamboo, collectively known as Eight Tones. The Jiangnan in the eight tones is a general term for string instruments and bamboo wind instruments. Silk refers to stringed instruments, including fiddle, sanxian, pipa, etc; Bamboo refers to wind instruments, including flute, xiao, sheng, etc.

Jiangxi is mainly made of bamboo and wood, and is mostly used for festivals, entertainment, or court banquets. Its music style is lighter and its arrangement is more flexible. Since the Ming and Qing dynasties, Jiangnan music has spread to varying degrees in various regions of China, and each region's Jiangnan

music also presents different regional characteristics, as well as different forms of infiltration with other cultures and arts. The more representative types of Jiangnan music mainly include Fujian Nanyin, Sichuan Qingyin, Guangdong music, and Jiangnan (gradually becoming a musical genre in the late Qing and early Republic of China, later collectively referred to as Jiangnan) in Jiangsu and Zhejiang regions (Table 1).

Table 1. Types of Jiangnan Music

Types of Jiangnan Music	A period of prosperity	Common accompaniment instruments	
		Jiangnan musical instruments	Percussion instrument
Fujian Nanyin (Figure 10)	the ming dynasty	Erhu Pipa Sanxian Dongxiao	Ban
Sichuan qinying (Figure 11)	Qing Dynasty	Erhu Zhonghu Yueqin Pipa	Shanban Zhujiegu
Guangdong music (Figure 12)	Late Qing Dynasty and Early Republic of China	Gaohu Pipa Yangqin Dongxiao	Muyu Ling
Jiangnan Silk Bamboo (Figure 13)	Late Qing Dynasty and Early Republic of China	Erhu Pipa Dizi Sheng Xiao	Gu Ban Yangqin

(Organized by Researcher)



Figure 10. Fujian Nanyin

Source: History of Erhu Art Chenwei (2007)



Figure 11. Sichuan qinying

Source: History of Erhu Art Chenwei (2007)

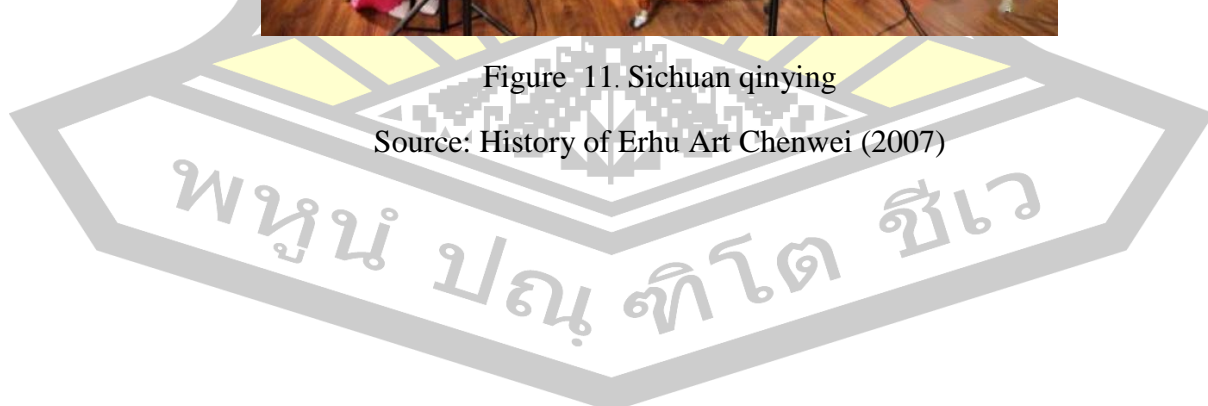




Figure 12. Gangdong music

Source: History of Erhu Art Chenwei (2007)



Figure 13. Jiangnan Silk Bamboo

Source: History of Erhu Art Chenwei (2007)

As an important component of Jiangnan music, fiddle has always existed with the development of Jiangnan music, and the evolution of Jiangnan music has also led to the increasingly rich expression forms of fiddle.

As shown in Table 1, since the Ming and Qing dynasties, various types of Jiangnan music in different regions have, to varying degrees, continued the traditional Jiangnan musical instrument programming mode, with silk strings and bamboo wind instruments as the dominant instruments.

Although the various types of Jiangnan music in various regions have different artistic characteristics and aesthetic orientations, the fiddle is a stringed instrument that has been included in the arrangement, with different positioning and expression techniques in various regions.

Table 2. Comparison of arrangement methods of stringed instruments such as fiddle among representative types of Jiangnan music

Types of Jiangnan Music	The arrangement of stringed instruments such as Erhu	Is there a man voice
Fujian Nanyin (Its a name types of Jiangnan music)	It adopts two strings with the same pulse and similar shape as the Erhu. The performance technique is more primitive and elegant, and it is played together with the wind instrument Dongxiao, the plucked instrument Pipa or Sanxian, as well as the percussion instrument Ban, Muyu (Duo), Double Bell, Four Treasures, and Flat Drum.	The band's center clapped and sang
Sichuan qinying (Its a name types of Jiangnan music)	The performer sits on both sides, left: Pipa, Yueqin, and Sanxian. Right: Erhu. Among them, the pipa and lute are the core instruments, and the Erhu is an accessory accompaniment instrument, which can be replaced by a middle or high hu according to performance needs.	The singer sits in the center of the band and sings, with his left hand hitting the sandalwood board and his right hand hitting the bamboo drum
Gangdong music (Its a name types of Jiangnan music)	The GaoHu evolved from the Erhu as the main instrument, supplemented by the Yangqin and Pipa (or Qin qin), known as the Three Frame Head or Soft Bow; If combined with the Dongxiao and Banhu,	There is pure music without a human voice, and it can also be sung by singers

Jiangnan music)		it is called the Five Frame Head or Five Frame Head with Soft Bow	accompanied by a band.
Jiangnan Bamboo (Its a name types of Jiangnan music)	Silk	There is no distinction between main theme and sub theme in the arrangement of musical instruments, and very little emphasis is placed on special timbre. Instead, emphasis is placed on highlighting the balance and harmony between the vocal parts of various musical instruments. As a conventional musical instrument, the Erhu not only serves as the string part of most Jiangnan works, but also plays in equal and harmonious coordination with other musical instruments	There is usually no voice. Through the comparison and contrast of performance techniques, a cheerful and clear performance effect is created.

(Researcher)

As can be seen from Table 2, compared to other regions' Jiangnan music, the Jiangnan Jiangnan music, which also uses the fiddle as a string accompaniment, uses the fiddle as a regular musical instrument. The fiddle not only serves as the string vocal part of most Jiangnan works, but also can perfectly cooperate with other musical instruments. In this process, the performance techniques and expressive force of the fiddle have been maximized and improved. The musical instruments and orchestra arrangement techniques used in the modern and modern Jiangnan Jiangnan Orchestra are the inheritance and expansion of the combination methods of the Jiangnan Orchestra in various artistic forms such as Shifan Drum, opera, and folk songs and dances that were popular in the Jiangnan region during the Ming and Qing dynasties. Although the combination and arrangement methods of Jiangnan musical instruments vary depending on the purpose and occasion of the performance, the use and combination methods of conventional musical instruments exhibit an overall convergence in the flexible and varied combination styles. The four most common

musical instruments are bamboo flute, fiddle, sanxian, and ban, which correspond to the four types of musical instrument playing techniques of blowing, pulling, playing, and playing.. The fiddle, which plays the part of the string music, is characterized by its continuous and smooth musical flavor, giving a delicate and gentle feeling. Relying on the changes in the strength of the bow movement, it forms an olive shaped rhythm and undulation. In addition, compared to the Jiangnan music of other regions, Jiangnan Jiangnan has no distinction between main position and sub position in the compilation of the Zhanjiang musical instruments, and it rarely emphasizes special timbres. It focuses more on highlighting the balance and harmony between the vocal parts of the various Zhanjiang musical instruments. With the exception of a few works, various musical instruments generally lead or take turns as the main player, creating a lively and clear performance effect through the comparison and support of performance techniques. This flexible and changeable combination of Gan Han musical instruments has become one of the important reasons why Jiangnan Jiangnan are deeply loved by the people.

The formation of this artistic form of Jiangnan Jiangnan is inseparable from its cultural atmosphere and rhythm of life. Before the Tang and Song Dynasties, the Jiangnan region was vast and sparsely populated. After the Tang and Song dynasties, the cultural center of the north moved southward several times, and a large number of famous poets lived here. The advanced ideas they brought effectively improved the cultural level of the people in the south of the Yangtze River. Since ancient times, there has been a social atmosphere in Jiujiang that advocates reading and learning the language, which has quickly developed Jiujiang into a highly developed region with a large number of cultural and artistic celebrities emerging. At the same time, the development of Jiujiang culture is also based on a prosperous economy. Jiujiang is not only located in the south of the Yangtze River, but also in the Poyang Lake basin in northern Jiujiang. It has been a well-known land of fish and rice since ancient times. The dense road network and dense river channels provided convenience for storage and transportation, attracting merchants from various provinces, making Jiujiang the top of the four major rice markets in China during the Qing Dynasty. In a traditional farming society, this rich living condition makes Jiujiang people pay more attention to the creation of a cultural atmosphere. According to records, as early as the 12th year

of the Tongzhi reign of the Qing Dynasty (1873), commercial entertainment venues were established in Jiujiang. Not only are there theaters of various sizes in downtown areas such as Donglin Temple, but also there are many teahouses with theatres in rural market towns. Jiujiang local operas such as the tea picking opera, Gan opera, and Gan opera are performed here every day. They have cultivated a large number of famous rappers and instrument accompanists, and Gan opera has also promoted the widespread dissemination of traditional opera and music among the people. In addition, as a pastime after tea and dinner, people also spontaneously organize Jiangnan groups. This elegant and comfortable rhythm of life also endows Jiangnan Jiangnan with the gentle and delicate artistic characteristics. Due to the gentle and long tone of fiddle, which meets the aesthetic needs of Jiujiang people for warmth and tranquility, fiddle has always existed with the development of Jiangnan Silk Bamboo.

4.1.1.2 Private class club

Jiale club

In addition to Jiangnan music, there were many different types of music clubs in the area around the Taihu Lake in the south of the Yangtze River during the Ming and Qing Dynasties. Such organizations are commonly referred to as music clubs or music classes, and are often distinguished from official educational institutions and professional opera classes (referred to as drama classes) in their makeup stage performances. Their activities focus on public participation and self-entertainment, and their contents and forms include opera recitals, song and dance performances, and instrumental music performances. Such organizations are widely spread among the cultural students in Jiangnan and have become the cradle of Jiangnan music such as Jiangnan Jiangnan music and percussion music. Among them, the Jiale club, which is one of the representative organizations of the music club, is the most widely used.

The term family music class refers to a self-entertainment folk art or dance group formed by folk organizations and professional performers with private funding. This form, commonly seen in the prosperous Poyang region during the Ming and Qing dynasties, was established around literary and artistic celebrities, squires, and wealthy merchants. From the perspective of music classification, the performance of Jiujiang Family Music Class mainly includes two types: drum and wind music and

Jiangnan music. Before the Ming Dynasty, drum and wind music was mostly used for outdoor ceremonial occasions, and even indoors, it was only used for specific occasions such as opera performances. Coupled with the strict class restrictions of feudal society, the popularity of drum and percussion music has been greatly hampered by the fact that it is commonly used by officials and dignitaries. In contrast, Jiangnan music has not been specifically restricted, and because it is suitable for the aesthetic tastes of all levels, it is used for the enjoyment of various places. Therefore, during the Ming and Qing dynasties, the private music storage of the gentry and wealthy merchants in the Poyang River Basin was also naturally dominated by the configuration of Jiangnan music. Some investors even used the performance level and instrument configuration scale of Jiangnan music as one of the standards for climbing the ladder to compare wealth and displaying elegance. It is believed that a tasteful and cultured family should be accompanied by Jiangnan instruments and music in garden life to form a picture. Enter a beautiful music scene that can make the viewer's soul disappear. In this context, numerous family music classes have become an important carrier for the dissemination of folk music in Jiujiang, and have also created a good public foundation for the rapid development and widespread dissemination of fiddle in Jiujiang.

4.1.1.3 Celebration and Religious music

Up to now, Taoism (Figure 14) has been circulating in Jiujiang area for more than 1400 years. Since then, Taoist activities in the Tang and Song dynasties have been particularly prosperous, with a large number of palaces and temples built for worshipping gods and praying for blessings. The most active and artistic music activity in the Taoist music class is Zhan Fan. This phenomenon is due, on the one hand, to the close relationship between Taoist rituals and local customs in Jiujiang Province, and on the other hand, to its music, which combines folk tunes such as Jiangnan Jiangnan, Tanhuang, and Wuge Minor. It has both traditional Taoist music characteristics and strong Jiangnan local characteristics, and is deeply loved by the people.



Figure 14. Taoist Music

Source: Book History of Erhu Art

From the perspective of instrument arrangement, Jiujiang Taoist music initially followed the arrangement of magic instruments in traditional Taoist music, with percussion music such as the bell, drum, and chime as the center. Since the Song Dynasty, stringed instruments such as the fiddle and wind instruments such as the ganzhou flute and xiao have gradually been added to the Taoist music in Jiujiang, which is different from the addition of wind instruments such as the suona, flute, and sheng in the north, and the practice of percussion instruments has been strengthened from the perspective of music form, the content of Jiujiang Taoist music can be roughly divided into three categories. The instruments commonly used in Jiujiang Taoist music mainly fall into four categories: plucked stringed instruments (fiddle, tuoyin Erhu, zhanghu, etc.), wind instruments (flutes, xiao, etc.), plucked stringed instruments (pipa, sanxian, etc.), and percussion instruments (clapper, cloud gong, and panyu, etc.). Each type of musical instrument will be appropriately adjusted according to the needs of the performance occasion and content to produce a distinctive sound and color (Figure 14). During this period, the fiddle, as a stringed musical instrument, needs to bear the main melody and voice parts, so the fan is a conventional musical instrument.

During the Ming and Qing dynasties, Jiujiang Taoist music was recorded using Gongchi score M, and its music was simple and elegant, with a unique flavor of Chinese classical religion and folk music. In the song Chaotianzi, the various vocal

parts of the band are marked out in detail. Among them, the fiddle vocal part is composed in a six-tone mode, and more octaves and sixteenth notes are used, which forms a significant contrast to the soothing rhythm of the second beat of the entire piece, making the music extremely tense.

The Taoism in Jiujiang area belongs to the Zhengyi Taoism School and is enshrined in the Zhengyi Classic. This is very different from the Quanzhen Taoism School, which believes in the Tao Te Ching and advocates the integration of Buddhism, Taoism, and Confucianism. The rules and regulations of the Zhengyi Taoist School are more relaxed, and Taoists can live in Taoist temples without becoming monks, and have their own families. Overall, apart from a small number of professional Taoists, most Taoists in the area of Gan Tan Jiujiang come from rural areas, and are divided into two categories: one is to do waiting for recruitment (also known as the name of the temple) during the slack season of farming, and the other is to study Taoist scriptures at Gan Tan, become Taoists during the fasting ceremony, and play music for the practices of the Dharma Master; The other type is the one who has learned to practice sutras, and when they are free, they go to Zhengyi Taoist Temple or Taoist Academy to become guest teachers. This type is called Fu Ying Taoist. In addition to attending palace and temple ceremonies, these Taoists who have entered the secular world often live in rural areas and are widely exposed to various types of folk music, such as Jiangnan music, Tanhuang minor, and rap music. They fully integrate various musical materials and techniques into the process of creating and performing Daoist music, making the tedious and low Daoist music for thousands of years more artistic in Jiujiang. At the same time, the Jiujiang Taoist Music Festival is partly non-religious folk music, with various types of ritual ceremonies and class associations, which have improved the overall performance level of various ethnic musical instruments, including the fiddle, and led to the emergence of the Taoist music master Hua Yanjun (A Bing) and others. Mr. Yang Yinliu, a music expert, once pointed out that A Bing's musical cultivation was primarily based on Taoist music. Although A Bing was born as a Taoist, he extensively drew on various types of folk music materials in his music creation, conveying the hardships of the people at the bottom of the river through exquisite musical emotions. It can be said that being based on the folk and rich in changes is the creative characteristic of Jiujiang Taoist music.

Fiddle in Buddhist Music (Figure 15)



Figure 15. Buddhist Music

Source: Book History of Erhu Art

Among them, the double stage Xuanjuan is a more traditional form of performance, with two people sitting opposite each other on the east and west sides of the table, where the east side is the master (commonly known as Mr. Xuanjuan), and in front of it are props such as wooden fish (the main musical instrument), Zhan Fan, and Xingmu; On the west side is the Xiashou (commonly known as Hejuan), who holds a chime or rings a bell. When chanting, the chant is usually spoken and sung by the upper hand according to the script of the chant, while the lower hand is accompanied by percussion instruments, and the two characters after the most beautiful chant of each lyric in the upper hand are orally echoed, followed by the chant of Namo Amitabha Buddha. The Silk String Xuanjuan is based on the double-file Xuanjuan, continuously absorbing and learning from the repertoire and singing styles of such rap and singing operas as Gannan minor, Xi opera, and Su opera. The form of performance basically follows the paradigm of a double stage Tantan scroll, but the number of people has increased. Another three to six people sit behind their hands and play stringed instruments such as fiddle, pipa, and bamboo flute as accompaniment. Some will use two or more fiddle instruments to replace other instruments. Therefore, the Xuanjuan is often referred to as the Silk String Xuanjuan. This form of propaganda and singing enhances the musicality of the Xuanjuan, further diluting the ritual attributes of the traditional Xuanjuan belief, while gradually evolving it into a folk entertainment rap art. The chanting of one sentence and one harmony is mostly a form of expression, forming a repetitive structure of the upper

and lower sentences. The falling tones of the two sentences are mostly 2 and 1 (C major). Among them, the rhythm of the beginning of the singing sentence of the Buddha's head is relatively free, but the rhythm of the end of the sentence tends to be regular, and during this period, it is timely set off by the Erfan and other accompanying instruments to serve as a melody filling. In addition, Jiujiang Xuanjuan also has the singing method of Two Sentences and One Harmony, which is expressed in the form of the Buddha's head leading the singing, and then instruments such as the fiddle are held by the person who accompanies the chant within the octave range. Sometimes, the chant needs to be changed in response to changes in the singing tone of the Buddha's head during the performance process.

To sum up, although fiddle was mostly attached to other traditional artistic forms by accompaniment during the Ming and Qing dynasties, the diverse folk cultural resources and strong artistic atmosphere in the Gan Fan region of Jiujiang enriched the artistic expression of fiddle. During the Ming and Qing dynasties, almost all of the folk songs and opera tunes in Ganzhou were originated and disseminated through folk music activities in local towns. They directly absorbed power from the emotional life of secular society. On this basis, fiddle has achieved faster development in Jiujiang than in other regions, and its application fields have also expanded. More importantly, this rich artistic atmosphere has also created a group of ethnic artists who are skilled and dare to practice. They have played a key role in the transformation of fiddle from accompaniment to solo.

4.1.2 The Forms of Zhonghu in Jiujiang City

Zhonghu, short for Zhongyin fiddle. The Zhonghu was reformed from the fiddle, with a longer rod and thicker strings than the fiddle. The Zhonghu is an important Chinese musical instrument of the fiddle ethnic group in the folk band, which is reformed and made on the basis of the fiddle. The barrel is larger than the fiddle, the rod is slightly longer than the fiddle, the strings are thicker than the fiddle, and the tone is rich. It is an indispensable instrument for national orchestras, often playing the baritone part, as well as solo or ensemble.

As early as the 1930s, the Shanghai Datong Music Club, a famous Chinese folk music association, created a mid-tone plucked stringed instrument, the Gonghu, which imitated the form of the ancient Chinese violin instrument and adopted a

method of hanging and plucking like the fiddle, but failed to survive. At the same time, Mr. Zhou Rongting (1907-1975), a famous Chinese national musical instrument producer, took Zhou Shaomei, a famous Jiangnan Jiangnan teacher, as his teacher, and carefully studied the performance of the fiddle and pipa. He also participated in the Wu Pingguo Orchestra organized by famous national musicians Xiang Xuechen and Jiang Shouliang. During this period, in order to enhance the expressive power of the mid-range music, he developed a mid-range plucked stringed instrument based on the fiddle - today's Zhonghu. The form and structure of the Zhonghu are the same as those of the fiddle, except that each component is larger than the fiddle, with the setting being four or five degrees lower than the fiddle, and the tone is thick. It is often used in ensemble, accompaniment, or solo, and is a medium musical instrument in national bands to fill the gap between the high and low notes, making the entire band sound full.



Figure 16. Performance of Zhonghu

Source: Researcher

4.2 Fiddle's environment situation in Shangrao City

Shangrao (Figure 17) is located in the eastern part of Jiangxi, adjacent to Zhejiang Province, and only 3 hours away from Wuxi, the hometown of fiddle in China. So, the types of fiddle in Shangrao are very rich, and this article introduces the characteristic Banhu, Gaohu, and Gehu.

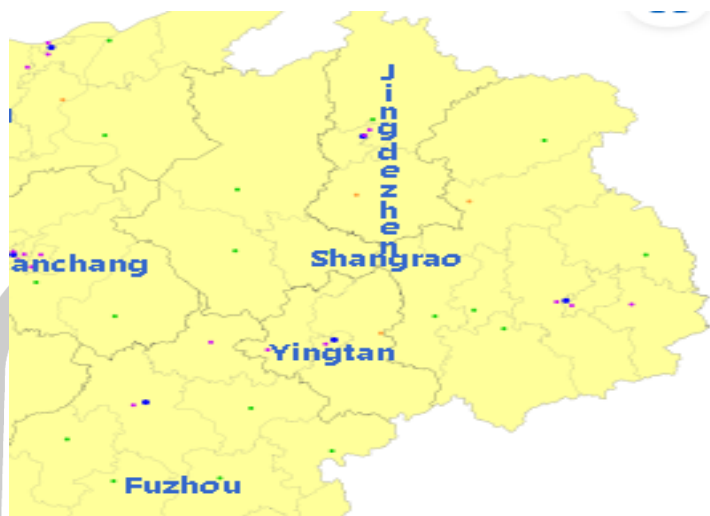


Figure 17. Shuangrao City

Source: www.baidu.com/research/11034768 (2022)

Huang Haihui changed Shuangrao's fiddle

In 1935, Huang Haihui was born in Zhangsongyan Temple, Wuguan Lane, Pingxiang City. He lost his father when he was young, and his family was poor. Huang Haihui has been fond of drama since he was 5 years old, and is particularly obsessed with music. He often goes to the theater to watch, listen to music, and learn Hu Qin. The fortune-teller who meets the fiddle player in the street will follow him, often getting lost in order to listen to music and not knowing to return.



Figure 18. Huang haihui

Source: History of Erhu Art Chenwei (2007)

In 1959, Huang Haihuai created the fiddle solo *Horse Race*. *Horse Racing* is an fiddle solo that depicts the people of Inner Mongolia prairie racing horses during the festival. Using a simple ethnic instrument such as the fiddle and various playing techniques, it represents the spectacular scene of galloping horses and getting the sound of their hooves during horse racing. It sounds as if one is in the midst of thousands of horses galloping on the grassland, which makes one feel overwhelmed with the rhythm of the dance and infinite fascination with the vast and mysterious Inner Mongolia grassland. In this piece, Huang Haihuai plays a whole piece of music using plucking techniques, making the style of the piece unique and unique, making it an immortal fiddle masterpiece.

The famous fiddle songs *Horse Racing* and *River Water* have been widely spread throughout China, and can be said to be household names, known to all ages. However, people may not know much about the author Huang Haihuai. Huang Haihuai, a native of Shangrao City, was born in 1935. He has been fond of music since childhood and has become obsessed with various ethnic musical instruments. In 1955, Huang Haihuai was admitted to Hubei Academy of Arts (the predecessor of Wuhan Conservatory of Music) and studied Hu Qin performance. His performance was exquisite, soft, and unique in charm, especially his bow movement, which was like Tai Chi Long Boxing, beautiful and continuous. Famous fiddle performers such as Min Huifen and Wang Guotong have great admiration for the capital of Huanghai and Huaidu. In the late 1950s, during a visit to Wuhan by the Soviet violin master Ostrach, he listened to Huang Haihuai's fiddle solo. He repeatedly studied the Qin in Huang Haihuai's hand and said, 'It's so beautiful that two strings can make such a beautiful sound.' To buy this fiddle, the school had to give Huang Haihuai's Qin as a gift to Soviet guests. . Huang Haihuai's artistic creativity is more directly reflected in his representative works *Horse Race* and *River Water*. The creation of *Horse Racing* can be described as a masterpiece. The material is taken from a popular Mongolian folk song *Red Flag Song*. In fact, Huang Haihuai has never been to the Inner Mongolia prairie or participated in horse racing. His understanding of the lives of herders is limited to books and on the screen.

However, he obtained creative inspiration from this folk song and once conceived this piece of music as a large-scale work with difficult skills. Later,

considering the factors of popularization to the public, he modified the music to be exquisite and easy to play. He used a flexible short bow in the front and back sections, and a long bow in the middle section. The graceful and comfortable Mongolian songs not only enhance the contrast between fast and slow music, but also depict the heroic character of grassland herdsmen, rendering the horse racing scene heartily and vividly. Especially the plucked passages give a refreshing feeling. The creative motivation for River Water began in 1962 when he participated in the first Yangcheng Flower Festival held in Guangzhou. Mr. Gu Xinshan from the northeast played the double pipe music River Water, which fascinated him very much. After returning to school, he recorded scores based on recordings, tried repeatedly on the fiddle, revised his bow and fingering techniques several times, and finalized the draft. The content of River Water comes from folk legends.

With the establishment of New China, the hierarchical management system of culture and art, various levels of art education, and various forms of art performances have all gained new opportunities. Therefore, after entering the contemporary era, the art of fiddle in Shangrao has continued to flourish. Not only has the fiddle music become unique and renowned at home and abroad, but also a large number of outstanding fiddle performers, educators, and composers have emerged, forming a professional education and creative model.

After the founding of the People's Republic of China, China has successively established a number of institutions of higher learning with majors in music performance and music education. Among them, the most representative Central Conservatory of Music in the province has one of the first batch of fiddle instructors, Wang Liangsheng (Figure19), Li yan ning. (Figure20)

พหุบัณฑิต ชีวะ



Figure 19. Wang Liangsheng

Source: Researcher



Figure 20. Li yan ning

Source: Researcher

Wang Liangsheng graduated from the Central Conservatory of Music in July 1991, majoring in fiddle. After joining the work, he successively served as a performer of Xingguo Drama Troupe, a solo performer of Gannan Song and Dance Troupe, and a solo performer of S Song and Dance Troupe. Among them, he majored in fiddle in the Department of Folk Music of the Central Conservatory of Music since 1987. After more than 30 years of artistic career, he has acquired high performance skills and artistic attainments, formed his own unique performance style, and enjoyed

a reputation both inside and outside the province. In April 1982, he won the performance award awarded by the Ministry of Culture in the national instrumental solo performance; In November 1985, he won the first prize for performance at the Jiangxi Music Festival; In October 1990, he won the first prize for performance and the second prize for instrumental music creation at the Jiangxi Music and Dance Art Festival; In August 1993, the production and performance of the fiddle solo Mountain Song by MTV was exhibited on national and overseas television stations; In April 1994, the production of fiddle solo Ode to the River was shown on MTV national television stations; In September 1995, the fiddle solo Turtle Dove Tune, which was compiled and coached, won the silver medal of the fifth National Stars Award; In September 1998, the independently created fiddle solo Mountain Song was included in the National fiddle Performance (Amateur) Grading Examination Works Collection published and released by the People's Music Publishing House; In October 1999, the fiddle solo Hometown Tour won the first prize for performance and the second prize for creation at the fourth Jiangxi Music and Dance Art Festival. In October 1991, at the invitation of the Ministry of Culture, he participated in the Jinjing performance of The Love of Ganjiang River in Jiangxi Province to commemorate the 60th anniversary of the founding of the Central Revolutionary Base, serving as a solo player; On June 5, 1991, 12 organizations, including the Performing Arts Committee of the China Music Association, the Central People's Radio Station, and the Central Conservatory of Music, jointly hosted the Wang Liangsheng fiddle Solo Concert at the Beijing Concert Hall, which was highly praised by experts and audiences. CCTV and provincial TV stations have respectively made special news reports and broadcast the concert live. More than a dozen newspapers, including the People's Daily and Guangming Daily, have made special reports and concert reviews both at home and abroad. In December 1994, he accompanied the provincial Peking Opera troupe to Beijing to commemorate the 100th anniversary of the birthdays of Mei Lanfang and Zhou Xinfang, serving as the chief fiddle; In November 1995, he joined the provincial Peking Opera troupe to participate in the first China Peking Opera Art Festival and served as the chief fiddle; From September to October 2000, dispatched by the Ministry of Culture, he visited six countries such as South Africa on behalf of the Chinese government for cultural exchange performances and acted as a solo. From

October 5th to 23rd, 2002, I was dispatched by the Ministry of Culture to represent the Chinese government to Belarus and Armenia for cultural exchange performances and served as a solo.

Although such works can condense the ideological and emotional themes of the entire piece into a title, they will in turn provide a certain guidance for the performer or audience on how to understand the music. In contrast, the interpretation or understanding of music by others, in addition to knowing the basic creative background, is no longer constrained by the situation preset by the composer, thereby achieving a freer feeling of the emotional style of the music. Generally speaking, it is composed according to the music styles of different regions in China, including southwest, central south, western region, and northwest styles. The composer's in-depth research and artistic processing of folk music in various regions allows listeners to freely imagine while also appreciating the distinctive regional characteristics of the work itself. This kind of creative method, based on Chinese national music, is a new breakthrough in the creation of fiddle music in Shangrao

4.2.1 The Forms of Banhu in Shangrao City

Banhu (Figure 21) is a stringed instrument with a history of over 300 years in China. The timbre is high, solid, and has a strong penetrating force. It is a major accompaniment instrument for northern opera and rap, and can also be used for ensemble and solo.



Figure 21. Banhu

Source: Researcher

There are many types of Banhu, including those used for solo and ensemble performances, as well as those used in various local operas. They differ significantly in the size of the barrel, the thickness of the rod, the length of the chord shaft, and the use of the strings. According to the different characteristics of local music, Banhu can be used in different sizes, such as in northern Shanxi, where Banhu is used for music, with a slightly larger barrel; In Hebei and Northeast China, Banhu is used for music, with smaller pipes. Banhu in the south of the Yangtze River has a longer and smaller barrel. Figure 22 shows the Banhu popular in Shaorao. That is a treble Banhu. (Figure 22)



Figure 22. Treble Banhu in Shaorao
Source: Researcher

As can be seen from the figure, the differences between Banhu and fiddle are as follows: 1. The material used for making the barrel of fiddle is mostly precious wood, while the barrel of Banhu is generally in a relatively smooth shape, mostly coconut shell or copper wood; 2. The brackets are different. fiddle brackets mainly serve to control the strings, and Banhu brackets are mostly made of precious wood; 3. In terms of usage, the fiddle has a high degree of timbre coordination and adaptability, while the Banhu has a sharper timbre.



Figure 23. How to put Banhu

Source: Researcher

At first, Banhu was mainly popular in northern China. Many local operas and quyi, such as Henan Opera, Hebei Bangzi, Pingju, Qin Opera, used Banhu as the main accompaniment instrument. Due to the deep relationship between Banhu and Chinese opera and quyi, it is best able to exert its own strengths when performing opera and quyi music. In the accompaniment of local opera and quyi, Banhu from various regions is good at expressing their own different styles and is rich in unique local colors.

After the founding of New China, with the efforts of musicians and instrument makers, the production technology of Banhu has also greatly developed, leading to the addition of many new varieties to the Banhu family. Among them, there are baritone Banhu, treble Banhu, sanxian Banhu, bamboo tube Banhu, Qin Opera Banhu, etc., all of which are new members of the Banhu family. With the development of the form and system of Banhu, the performance skills of Banhu in Shangrao City have also been continuously improved, and the expressive force has become more colorful. It has become an indispensable characteristic instrument in national bands and a solo instrument with strong local characteristics, and is accompanied by national opera, national song and dance, and vocal music.

According to the pronunciation level and scope of use of Banhu, it can be roughly divided into the following three types:

1) High pitched Banhu (commonly known as Bangzi Hu, Daxian or Piao) is mostly used in northeast and north China operas such as Hebei Bangzi, Pingju, Henan Opera, Shandong Bangzi, Lvju, Errenzhuan, and other operas, as well as song and dance, singing, solo, and ensemble. This type of Banhu is most widely used.

2) The baritone Banhu is mostly used for accompaniment, ensemble and solo of Qin Opera, Puju Opera, Meili Opera, Longju Opera, Northern Shaanxi Daoqing Opera, Lanzhou Guzi and other Shanxi and Northwest operas. The speaker is larger than the soprano Banhu, with a semicircular shape, a gold flower hole on the back, and a longer fiddle rod. The tuning is five degrees lower than the soprano Banhu, with a rich and soft tone. (Figure 24)

3) The secondary baritone Banhu (commonly known as coconut hu) is mostly used in Jin opera and Shangdang bangzi. The speaker is slightly larger than the mezzo panel beard and is also carved with a money flower hole. The setting is a third or fourth lower than the tenor Banhu. The tone is rich and loud, suitable for playing slow and deep tunes.



Figure 24. The secondary baritone Banhu in Shaorao

Source: Researcher



Figure 25. The baritone Banhu in Shangrao

Source: Researcher

Banhu is the main accompaniment instrument for various operas such as Bangzi Tune and Luantan Tune, and is also used for accompaniment of folk music, such as Lanzhou Drum Festival and Daoqing. Banhu is a musical instrument produced on the basis of Hu Qin during the late Ming and early Qing dynasties, accompanied by the emergence of opera Bangzi Tune.

Banhu has a bright and high-pitched tone, and is often used in solos, ensembles, or as a accompaniment to local operas and rap. It is a stringed instrument that is deeply loved by the Chinese people. For hundreds of years, Banhu has been popular in the northeast, north and northwest of China, and has been absorbed by many local operas and quyi. It plays a major role in Hebei Bangzi, Pingju, Henan Opera, Shandong Laiwu Bangzi, Lvju, Jin Opera, Meili Opera, Qin Opera, Puju Opera, Lanzhou Guzi, and Shaanxi Daoqing, among which Shaanxi, Gansu, Shanxi and other provinces are the most common.

Nowadays, Banhu has spread throughout the country and become an indispensable characteristic instrument in ethnic bands, as well as a solo instrument with a strong ethnic style, and is accompanied by opera, ethnic song and dance, and

vocal music. In the accompaniment of local operas and quyi, Banhu from various regions are also good at expressing their different styles, rich in unique local colors.

The solo or ensemble Banhu used in Shangrao folk music has a particularly clear and loud pronunciation. Suitable for playing lively and cheerful tunes. Banhu plays an important role in national orchestras. It is often the leading string of various accompaniment instruments, serving as the highest pitch in string music. Due to its loud volume, clear and clear pronunciation, it is best at expressing high pitched, passionate, passionate, and explosive emotions, as well as expressing deep, beautiful, and delicate emotions. The timbre is warm, bold, and full of local flavor. The baritone Banhu is sometimes used in folk music. ShangRao Banhu Solos include Lantern Festival, On the Road, and Beauty of a Big Girl.



Figure 26. Performance

Source: Researcher

4.2.2 The Forms of Gaohu in Shangrao City

Gaohu (Figure 27) is a high-pitched stringed instrument. In an orchestra, Gaohu records music according to the actual pitch, and its setting is a pure fifth or a pure fourth degree higher than fiddle, that is, a (1), e (2), or g (1), d (2). The commonly used range is a₁ (g₁) to b₃ (a₃), and sounds above b₃ (a₃) are tense and sharp, and should not be used frequently. In the commonly used range, its timbre is clear and clear, suitable for playing beautiful, lyrical, beautiful, lively tunes, and often forms octaves with the fiddle.



Figure 27. Gaohu
Source: Researcher

Gaohu is a general term for Gaoyin fiddle, which is restructured on the basis of fiddle. The emergence of Gaohu is closely related to Guangdong music, a Chinese folk music genre. It is also closely related to Cantonese opera in Guangdong, and was once the main accompaniment instrument of Cantonese opera. Therefore, Gaohu is often referred to as Yuehu.

Guangdong Music is a popular form of folk instrumental music performance in Guangdong, China, which originated from local drama and folk music. Before the 1920s, there was no such instrument as Gaohu in Guangdong music. Before and after the 1920s, Mr. Lv Wencheng, a composer and performer of Guangdong Music, boldly reformed the fiddle. He changed the traditional silk string of the fiddle into a steel wire string, increased the setting, and played it with two legs holding the barrel. This clear and bright tone of the high-pitched fiddle was known as Gaohu, it quickly became the soul instrument in Guangdong music and spread throughout Shangrao in the 19th century, merging with local instruments in Shangrao.



Figure 28. Performance posture

Source: Reseacher

When playing Gao hu, the performer tightens the barrel with both legs to control the volume and reduce noise (Figure 29). Gao Hu's timbre is crisp and resonant, originally used to accompany Guangdong operas and perform Guangdong melodies, but also for ensemble and solo performances. In modern large-scale folk bands, Gao Hu is often used as a high musical instrument.



Figure 29. Performance posture

Source: Reseacher

When playing, people usually use both knees to hold the fiddle barrel to help eliminate noise. If you install a bamboo sound shield under the fiddle code, place a thick cloth type control pad inside the shield, and add a soft wooden block about one-third below the back mouth, you can also obtain good sound quality. Gao Hu is good at playing lyrical, lively, and gorgeous tunes. It is a major instrument for playing Cantonese music, Chaozhou music, and accompanying Cantonese and Chaozhou operas. In national bands, it belongs to a high-pitched stringed instrument, especially suitable for playing decorative colorful passages. The solos created in modern times include Double Voices Hate, Rain Beats Banana, Birds Throw into the Forest, Autumn Moon on Pinghu Lake, and so on. The solos created after the founding of the People's Republic of China include Love of the Pearl River, Evening Wish, Hometown Scenes, Spring to the Fields, etc.

Gao Hu is suitable for playing lyrical and gorgeous melodies. In bands, the original melody is often decorated according to emotional needs in a colorful way, with rich expressive power.

4.3 Fiddle's environment situation in Ganzhou City

Ganzhou City is a waterfront city in Jiangxi Province that preserves cultural relics and historical sites, especially the most cultural relics from the Song Dynasty. It is located in the southern part of Jiangxi Province and is the birthplace of the Hakka people and one of the main settlements of the Hakka people. The Hakka population in the city accounts for over 90%, and is known as the "cradle of the Hakka people". So, the music is mainly Hakka music, and the more distinctive fiddle in Ganzhou are mainly Goutong.

พหุ ประถมศึกษา



Figure 30. Ganzhou City

Source: www.baidu.com

4.3.1 The Forms of Goutong in Ganzhou City

The earliest appearance of the Goutong can be traced back to the Ming Dynasty. It is a kind of fiddle native to Jiangxi. It is a folk stringed musical instrument made by the Hakka people during their leisure and recreational activities. It is the crystallization of the Hakka people's labor and wisdom. There is a folk song circulating in the Hakka area, which sings, when you pull the Goutong (Figure 31) , you will be happy. Ten li old timepieces (meaning hometown in Hakka dialect) will come together, and you will pull me and control her to sing. Gou barrel sings out love and affection. This shows that Gou barrel is deeply sought after by the Hakka people. With the passage of time and the gradual emergence of tea picking operas, the hook drum gradually developed from its original location throughout the countryside into an essential main instrument on the stage of tea picking operas in southern Jiangxi. As early as the reign of Qianlong in the Qing Dynasty, there was a record of picking tea with noisy strings singing accompanied by a tea picking opera with a hook drum. To this day, the accompaniment of Gannan Tea Picking Opera is still dominated by Goutongs, which is also an indispensable factor in forming the strong local flavor and unique local style of this opera



Figure 31. Check intonation of Goutong

Source: Reseacher

The shape is roughly similar to the Erhu, but it has a different timbre and structure from the fiddle. The hook barrel has a flat head and a round barrel. Compared to the fiddle, the overall volume of the hook barrel is larger. The tube, rod, shaft, code, and bow of the hook tube are all made of bamboo. The inner diameter of the tube is 8 centimeters, and the tube length is 14 centimeters. One side of the tube is covered with chicken skin (i.e. frog skin); The rod has a diameter of 2 centimeters and a length of about 70 centimeters; The length of the bow is short and its curvature is large, and its hair is thick and loose. Originally made of brown silk, it was replaced by a horsetail to pull the strings. The figure shows the shape of the hook cylinder newly modified by Mr. Hu Dachun:Figure 32

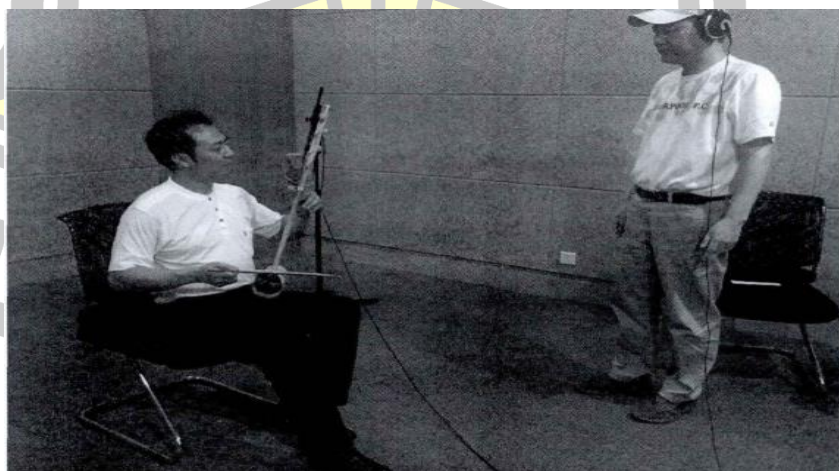


Figure 32. GouTong and Hu Dachunu

Source: Reseacher

In the accompaniment of Gannan Tea Picking Opera, two hook drums are usually played simultaneously. The hook cylinder I is the main chord, the inner chord of the fixed chord is D, and the outer chord is A, which is called a sine; The hook barrel II is a chord arrangement, with the inner chord of the fixed chord being C and the outer chord being G, which is called a reverse chord. This has formed the unique form of playing the positive and negative strings of the hook barrel. In terms of timbre characteristics, hook barrel I has a high chord setting, so it presents a high and bright timbre characteristics:

The hook barrel II has a low second chord, so it has a deep and rich timbre characteristic. The two hook barrels are combined with each other during accompaniment and played along with the tune. Attached is a hook cylinder tuning table, as shown in the

Table 3. (Provided by Liu rongsheng)

Name	tune a stringed	gamut
GoutongI	Central D to A	2--3octave
GoutongII	Central C to G	1--2octave

The accompaniment of Gannan Tea Picking Opera usually involves the simultaneous accompaniment of two hook barrels, known as positive and negative string accompaniment, which is a very distinctive accompaniment form of Gannan Tea Picking Opera. The two hook barrels are divided into sine (hook barrel I' chord D-A) and inverse chord (hook barrel II' chord C-G). In other local operas in China, there are also cases where two stringed instruments are accompanied simultaneously, such as the Peking Hu and the Peking fiddle in Peking Opera. The tuning difference between the Jinghu and the Jingfiddle is eight degrees, and the music they play is completely consistent, basically accompanied by tunes. The hook barrels are different. First, the difference in the chords of the two hook barrels is two degrees; Secondly, the two hook barrels do not play the same melody, and their division of labor is clear. The hook barrel I, which is a sine wave, is accompanied by the melody, and the melody follows the actor's singing style. The hook barrel II, which is a reverse chord,

is mainly accompanied by floral accompaniment, which is to fill and polish the singing melody based on the melody played by the hook barrel I according to the music processing and the emotional needs of the actor's singing. This feature is similar to the performance form of Jiangnan Jiangnan.

The common feature of both positive and negative strings when playing is that they are all played in a single bit of range. Sine follows the actor's chanting of the chant, using different performance techniques to express changes in musical mood; The counter string is played in a fourth or fifth degree floral arrangement around the main tone of the mode. For example, in Farewell to Lang, the reverse chord is a rotation between the fourth degree chord C-G and the fifth degree chord D-A, closely surrounding the internal string of the mode in C. The use of bow technique is also very important when performing forward and reverse string accompaniment. Most of the time, the anti string bow technique is the same as the sine bow technique, but when play special rhythm, the bow technique of long lifting and short trembling is often used to cater to the bow technique of the positive string, while also making the melody sound staggered and coherent. Therefore, the three aspects of singing, sine, and anti string maintain a close relationship that is independent, complete, and interdependent.

The accompaniment of the positive and negative strings is not simply performed according to the spectrum. From the perspective of spectrum, the continuous melody of the positive and negative strings seems to lack cadence, and there is not much contrast. In fact, it is not the case. It requires experienced performers to play the pros and cons to achieve their subtlety. When playing melodies, it is necessary to use the unique beating, sliding, and rubbing of the hook strings of the hook drum, combined with the orderly bowing technique of dividing and connecting, as well as the mutual conversion of high and low pitches within the sound zone, and to grasp the main tone, the fourth and fifth pitches, and the various counter strings and flowers of the seventh pitches, in order to play the light, weight, urgency, and density of traditional Chinese opera music.

Conclusions

Table 4. Fiddle's environment situation Jiangxi(Made by Researcher)

City	Types of musical instruments	Starting Dynasty	Typical Representative(name)
Jiujiang	Erhu zhonghu	the ming dynasty (1368-1644)	Fujian Nanyin Sichuan qinying Guangdong music
Shangrao	Banhu Gaohu	the qing dynasty (1636-1912)	Jianghe shui Saima Huanghaihuai
Ganzhou	Goutong	the qing dynasty (1636-1912)	Yeshenchen Xipi Erhuang

Benefiting from the rich and diverse traditional folk art in Jiangxi region, the erhu, which was introduced from the north, quickly penetrated into various forms of traditional art. This not only fully explores its advantages as a string instrument, but also makes the expression forms of erhu art more diverse.

The rich traditional art in Jiangxi region not only provides fertile ground for the growth of erhu, but also cultivates a group of skilled ethnic artists. In addition to the liberation trend of New China, the inheritance and reform of erhu by Jiangxi ethnic artists such as Huang Haihuai, Wang Liangsheng, and Li Yanning have led to the growing development of erhu. It can be seen that the rich artistic atmosphere and practical artists in Jiangxi have played an important role in promoting it.

CHAPTER V

The Making Process of Fiddle in Jiangxi

- 5.1 General Tools for Fiddle Introduction
- 5.2 The making process of Erhu in Jiujiang
 - 5.2.1 Tools for Erhu Production
 - 5.2.2 The production materials and processes
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- 5.3 The making process of Zhonghu in Jiujiang
 - 5.3.1 Tools for Zhonghu Production
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 - 5.6.3 Finished product verification and evaluation

พหุ ประถมศึกษา

5.1 General Tools for Fiddle Production

1) Saw



Figure 33. Saw

Source: Researcher

Saws are essential tools for making musical instruments. Saws are tools that cut objects through sawteeth, which can help us cut wooden boards or bamboo pieces into the desired shapes, such as the tubes and rods of fiddle.

2) Bit



Figure 34. Bit

Source: Researcher

A drill bit is a tool that can drill holes into objects, helping us create parts with sound holes, such as fiddle poles and windows.

3) Hand drill



Figure 35. Hand drill

Source: Researcher

A hand drill is a manually operated drilling tool that can help us accurately drill holes when it is not convenient to use an electric drill. Traditional fiddle production retains many aspects of using a hand drill instead of an electric drill, as it is more conducive to controlling the production details. For example, the interface of fiddle.

4) File



Figure 36. File

Source: Researcher

A file is a tool used for cutting and polishing metal and wood. A file can help us polish and correct the completed part, making it smoother and more aesthetically

pleasing. In areas where files are commonly used, such as the splicing of fiddle shafts and barrels.

5) Knife

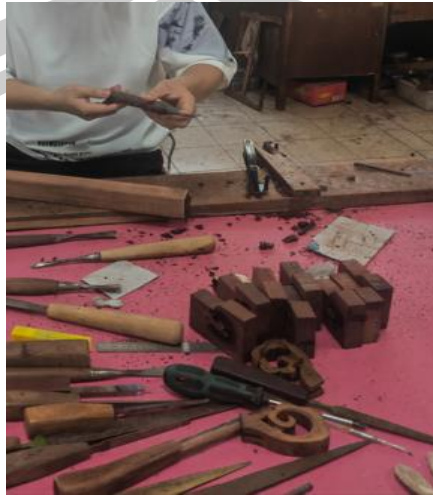


Figure 37. Knife

Source: Researcher

The Knife is a pointed cutting tool that can help us cut and carve various parts of the fiddle, such as the head of the fiddle often carved into a dragon head or phoenix head, and the characters on the qin body of the fiddle.

6) Board saw



Figure 38. Board saw

Source: Researcher

Board saw is an electric tool that can help us quickly and accurately cut templates or bamboo pieces, such as the length of the rod or board.

7) Screwdriver



Figure 39. Screwdriver

Source: Researcher

A screwdriver is a tool used to tighten and disassemble screws and nuts, which can help us assemble and repair various parts produced, such as the installation of the fiddle base and the installation of the fiddle strings.

8) Glue board



Figure 40. Glue

Source: Researcher

Glue board is a type of adhesive material that can help us bond various components and parts of fiddle together. Glue board, as a commonly used tool in daily life, also accounts for a large proportion in fiddle production. However, professional wood glue is generally used. For example, the decoration of the piano shaft and the layering of the piano board require glue board.

9) Paint spray:



Figure 41. Paint spray

Source: Researcher

Paint spray is a tool that can spray paint on the surface of objects. It can help us to color and paint the fiddle. Generally, transparent paint or colors similar to wood materials are used.

The above are some general tools for producing fiddle, which may vary depending on the type of production and the producer. We will discuss the specific differences in future articles.

5.2 The making process of Erhu in Jiujiang

5.2.1 Tools for Erhu Production

In the former Film Machinery Factory in Xunyang District, Jiujiang City, Jiangxi Province, there is an inconspicuous enterprise. But few people know that the head of this enterprise, Mr. Gu Cunxiong, is one of the only eight Erhu masters in the country. The Dragon Rhythm Erhu, which he leads, has won many awards in all the national Erhu production competitions since 2004. He has won awards for all of his works. In 2012, Dragon Rhythm Erhu (Figure 38) was selected as the only supplier of Erhu to the Oriental Dance Company.



Figure 42. Paint spray

Source: Researcher

After the process of sanding, scraping, painting, air drying, roller, pulling and bottoming, a new Erhu is completed. This is a technical work, the wood air-drying degree has a delicate, masking snake skin is also very delicate. Master Gu, who is in his seventies, used to play the violin and is a lover of art. Thirty years ago, he went to the sea to open a Erhu company, and later engaged himself in the production of Erhu, and now mainly produces and sells Erhu, guzheng, pipa and other folk music equipment. After several years of immersion, Dragon Rhythm has become a famous folk music brand in China, and its products have been sold to Taiwan, Singapore, Japan, Germany, Canada, Indonesia and other markets at home and abroad, and this year it has successfully declared the fourth batch of cultural industry demonstration bases in Jiangxi Province. Their company has become the national symbol of the whole Erhu production base.

Popularizing erhu is made of hard mixed wood (Figure 43.), including beech wood, tokyo wood, kundian wood, and colored wood, with smooth and straight textures. However, those with slight knots can also be used. Hard mixed wood is the most common erhu, suitable for students' basic practice and general performance, and the price is also the most convenient, ranging from a few tens to two hundred yuan.



Figure 43. Material warehouse

Source: Researcher

The selection of materials for professional Erhu is quite meticulous, using expensive mahogany and high-quality python skin. The production techniques are different, and many techniques are handmade. This type of Erhu has certain requirements for sound quality and color. Redwood actually refers to colored wood species, so there are many types of wood called redwood, and its range is also very wide. Distributed in tropical and subtropical regions, the main producing areas are India, Thailand, Myanmar, Vietnam, Cambodia, Laos, Brazil, Madagascar, and other countries. Redwood sapwood is light yellow brown or grayish yellow brown with a hint of red, while heartwood is purple red brown or dark brown, and the wood is glossy; The wood has finer rays, oblique or interlaced textures, and a dense and uniform structure. The wood is deep and hard. The log has a long storage time and can turn into a deep reddish-brown color (Figure 44.).



Figure 44. Brown color wood

Source: Researcher

Under climate change conditions, it has less elasticity and is one of the best wood materials for producing professional Erhu. The mahogany used to make Erhu occupies a small part of the mahogany, and the most important consideration for different furniture materials and musical instrument materials is the pronunciation of the wood itself. Wood that is too tight or too loose is unfavorable for pronunciation. We can understand that the sound of an instrument comes from vibration, which produces audio. The rosewood we usually use can be roughly classified into fragrant rosewood, rosewood, sour branch wood, chicken wing wood, and Thai red according to traditional classification. Among them, there are also Qinghua pear, Honghua pear, Purple flower pear, White sour branch, Qingsour branch, Red sour branch, Black sour branch, etc., as well as purple sandalwood and blood sandalwood. The materials for the professional Erhu of mahogany are usually divided into fragrant mahogany, rosewood, sour branch wood, and Thai red (Thai sour branch, also known as Thai mahogany). Redwood sapwood is yellow brown or grayish yellow brown with a hint of cyan, while heartwood is purple red brown or dark brown, and the wood is glossy; The wood has finer rays, oblique or interlaced textures, and a dense and uniform structure. The wood is deep and hard. The log has a long storage time and can turn into a deep reddish-brown color. Under climate change conditions, it has less elasticity and is one of the best wood materials for producing professional Erhu.

According to different requirements for material selection and timbre levels, it can be divided into levels such as first, third, and fifth. The higher the level, the better the craftsmanship and timbre, and it can adapt to various levels of performance and learning. The Erhu made from ebony belongs to the professional refined category, with ebony sapwood having a light color and black heartwood with a glossy appearance; The texture is oblique and the wood lines are very fine; The structure is fine and uniform, with a texture that is second in hardness to mahogany and a heavy body. Wood is prone to cracking and shrinkage when dried. Wood performance is not as stable as mahogany.

5.2.2 The production materials and processes

5.2.2.1 make the rod.

The length of the rod is generally around 800 millimeters, divided into three parts: upper, middle, and lower. The lower part is a round rod, the middle part is a square rod, and the upper part is a round rod. The production process of the pole includes straight pole, planing pole, cutting pole, marking and punching, head making, foot making, shoulder frame making, and eliminating scratches.

1) Straight rod. A straight rod is a bent piano rod material that is heated and baked thoroughly on a stove until it is even, and then pried straight while baking. This program can be repeated several times to ensure sufficient stability of the piano rod material, which is beneficial for the finished product to maintain straightness during use.

2) Planing rod. (Figure 45) Saw the selected rod material according to the size and machining allowance to create a blank, and plane both ends of the rod blank to form a square shape with a larger end of 21mm and a smaller end of 18mm. Then draw the upper and lower shoulder frames at the specified size, and use a flat chisel to cut the two shoulder frames into a 20.5mm square shape without any holes, forming a slightly curved surface, commonly known as the "crucian carp back".



Figure 45. Planing rod

Source: Researcher

3) Cutting rod. (Figure 46) This process is crucial, and after the process, the piano rod has already been formed. The lower shoulder line should be measured down to 225 mm based on the end of the piano head (large head), and the upper shoulder line should be set at 70 mm. The current popular style of the pole is an elliptical diameter pole, which means that on the basis of the ellipse, a plane with a diameter of 4mm is cut out on the front of the pole (with small holes), and inclined planes are cut out on both sides of the plane to naturally combine with the ellipse behind the pole.



Figure 46. Cutting rod

Source: Researcher

4) Scribe and punch. (Figure 47) Mark the centerline of the piano rod eye at a distance of 110 mm and 185 mm from the flat head (upper end of the rod). The distance between the centers of the two Qin Zhen eyes is 75 mm. Use a conical drill bit to drill two Qin Zhen eyes separately, and then use a strip to burn the eyes. Due to the fact that the piano bar has a taper of 1:12 and one end is thick and the other end is thin, the iron rod with a diameter of 1.5 centimeters can be used to make the soldering eye strip. The part of the soldering eye should be made into a taper of 1:12, which means that within a length of 2 centimeters, the thin end diameter is 10 millimeters and the thick end diameter is 12 millimeters. This design of the angle of the piano bar is conducive to the fixation of the strings, and the more forward the piano bar is, the tighter it becomes.



Figure 47. Scribe and punch

Source: Researcher

Head production. (Figure 48) Taking the lunar elbow as an example, it is made of milk white material or cow bone slices, with red and white inlays in the middle. The red inlay is made of mahogany, and the white inlay is made of cow bone to form a three-color inlay, which is cut into an inclined plane and glued to the piano rod. When gluing the piano head and the piano stem, the gluing surface must be heated on the stove and evenly coated with adhesive. When the adhesive is hot, align it with the two gluing surfaces, so that the inlay head, crescent bend, and piano stem form a straight line. After the gluing is firm, the piano head can be processed. If you

need to make faucets, embossing heads, etc., you must stick enough material that can be carved, and after the glue dries, you can proceed with carving.



Figure 48. Head production.

Source: Researcher

5.2.2.2: Make the tube.

1) Plate making and stacking. (Figure 49) The shape of the Erhu qin tube is mostly hexagonal, taking the hexagonal qin tube as an example: the six plates are required to be consistent in length, width, and thickness. Each board is 131 millimeters long, with a width of 51.9 millimeters on the outer edge of the front opening, 41.6 millimeters on the inner edge of the front opening, 46.2 millimeters on the outer edge of the rear opening, and 35.8 millimeters on the inner edge of the rear opening, all of which have a thickness of 9 millimeters. In this way, the six boards can be combined to form a regular hexagonal shape, with each board being planned at an angle of 60 degrees on both sides. In order to meet the above requirements, the wood must first be sawn into 10mm thick boards, with a width equal to the length of the piano tube. In this way, the six boards of the piano tube are taken from the same piece of wood, with the same texture and density. The quality of the six boards is also the same, and the width of the six boards taken should be greater than the width of the outer edge of the front mouth, which prevents insufficient dimensions during processing. The six boards of the piano tube are processed according to the specifications and dimensions, and the key part is the angle of the planing board, which must reach 60 degrees, otherwise it will not form a hexagonal shape after splicing. The angle of the planing board should be made using a large (approximately

one and a half feet) woodworking plane, so that the gaps are tight. When gluing the piano tube, the swim bladder should be evenly coated and tied tightly with ropes. It is important to ensure that the tube is square and then baked on a low fire to melt the glue and ensure firm adhesion. In addition, there are also octagonal and circular pipes. The angle of the octagonal tube plate is 45 degrees, while the circular tube is first stacked into an octagonal shape and then made into a circle.



Figure 49. Plate making and stacking

Source: Researcher

2) Indentation. (Figure 50) After the piano tube is glued, a concave shape (commonly known as a concave shape) should be filed in the middle. You can first use a shoulder shovel to shovel out the concave shape or use a large pointed wooden file to make the concave shape. Then, use a semicircular smooth file to file the surface smooth, and use sandcloth to polish it smooth.

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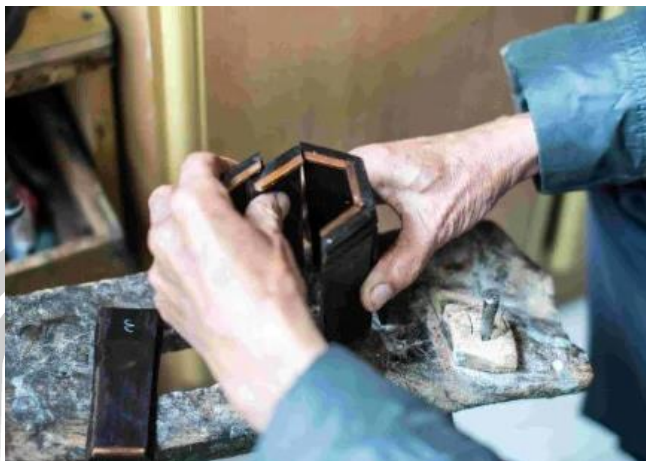


Figure 50. Indentation

Source: Researcher

3) Starting line. (Figure 51) The starting line at the back of the barrel can be marked with a pencil first, and then cut out with a small saw. If the inside of the piano tube is uneven, you can use a tooth file also known as a horse tooth file, which is made of annealed steel files to file it flat and smooth.



Figure 51. Starting line

Source: Researcher

4) Flat mouth. (Figure 52) The front opening of the tube is the part of the skin membrane that is closely related to pronunciation. The front opening of the cylinder should be flat, as unevenness can mask the skin film. At the same time, hard edges on all sides should be filed off to avoid damaging the skin film.



Figure 52. Flat mouth

Source: Researcher

5.2.2.3 support the production.

The bracket (Figure 53) is made by assembling three board heads, and small long wooden strips are glued on the left and right sides as well as the bottom of the bracket. After the glue dries, the shape of the bracket is extended according to the shape of the cylinder, and the shape is similar to that of the cylinder. The stability of the center of gravity of the Erhu is usually achieved by adding lead or iron blocks to the Erhu. The stability of the center of gravity is beneficial for the stability of the Erhu's transposition during performance.



Figure 53. The bracket

Source: Researcher

5.2.2.4: Production of Zhen. (Figure 54)



Figure 54. Production of Zhen

Source: Researcher

Saw the selected material into small segments, after rounding, rotate the coarse end into a rough billet, and the fine end into a taper of 1:12. Then, carve or mill out the petal pattern on the coarse end according to the straight petal shape, and then use a small pointed smooth wooden file to clean the groove one by one. Finally, it is polished.

5.2.2.5: Installation of the bar and pole. (Figure 55)



Figure 55. Installation of the bar and pole

Source: Researcher

The taper of the Zhen must match the taper of the shaft hole of the rod. The upper and lower Zhen must be on the same line, and the Zhen eye must be closely

combined with the Zhen to prevent the Zhen from slipping. The Erhu string will not loosen during use, which is extremely crucial in performance.

5.2.2.6: Install the rod and cylinder. (Figure 56)



Figure 56. Install the rod and cylinder

Source: Researcher

After all the major components of the Erhu are completed, the overall installation of the Erhu wooden shell is completed. Firstly, drill upper and lower holes on the cylinder at a distance of 37 to 38 millimeters from the front edge (including the vibration film) as the center. After the lower holes are drilled, they are burned square. The upper mouth of the cylinder is commonly known as the "horse eye". According to the thickness of the rod, adjust the size of the "horse eye" on the cylinder and the hole below the bottom of the cylinder. The upper rod must be tightly pressed. The shape of the opening is consistent with the cross-sectional shape of the rod.

5.2.2.7 Skin (Figure 57)



Figure 57. Skin

Source: Researcher

After the production of the Erhu wooden shell is completed, the next step is another crucial step - making the skin. The skinning method of Erhu is exactly the same as that of jinghu. The size of the skin must leave enough space for sewing small bamboo sticks. Firstly, the cut python skin or snake skin should be soaked in cold water to soften and soak thoroughly. The soaking time should be determined based on the thickness of the skin film, but it should not be soaked too long, otherwise the skin will be soaked badly and lose its use value. After soaking the skin, scrape off the oil and meat inside to make the skin even. After the skin dries slightly, cover it again. Before skinning, glue should be applied around the front opening and end face of the cylinder, and the glue should be evenly applied before the film can be adhered. The small bamboo sticks used for the skin are longer and slightly thicker than those of the Mongolian Jinghu, and the two octagonal wooden boards used are also larger than the qin tube. When smashing the skin, one should use a hot soldering iron or iron sheet while smashing the wedge to completely tighten the adhesive area of the skin. However, when smashing, one should pay attention to using even force to avoid excessive force and the formation of detachment (detachment refers to the small bamboo stick sewn on the edge of the skin falling off), which may cause the local skin film to become loose.

5.2.2.8: Sound window production. (Figure 58)

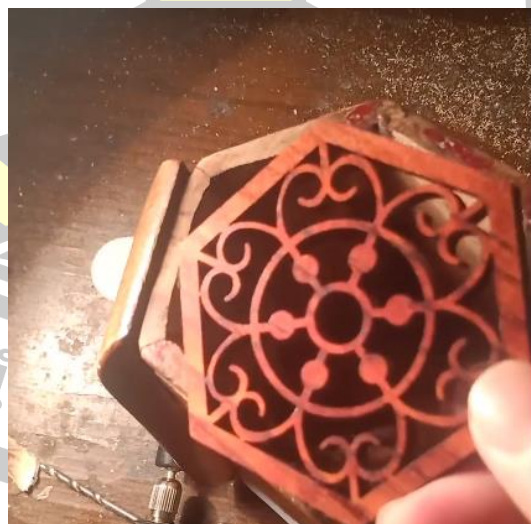


Figure 58. Skin

Source: Researcher

The production of a piano tube sound window involves planing the selected material, pasting yellow poplar wood on top, pasting various patterns of sound window patterns onto the wooden board, using a wire saw to pull out the patterns, and then cutting the front lines to make the yellow poplar on the surface transparent. The cut lines have a strong three-dimensional sense, and are then polished with sandpaper.

5.2.2.9 Complete the combination. (Figure 59)



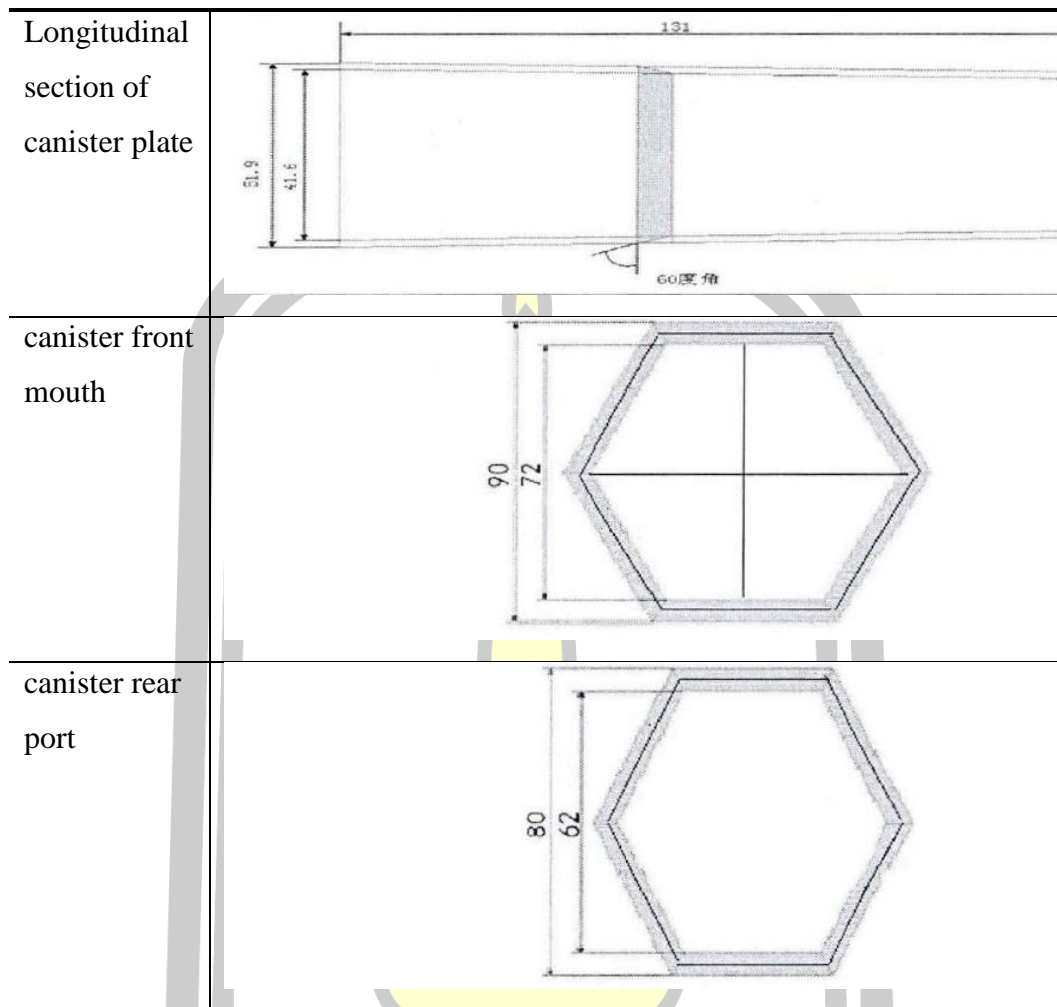
Figure 59. Scribe and punch

Source: Researcher

After the Erhu is finished, the entire piano needs to be polished and polished by a painter. Finally, the various components are assembled again, and a finished Erhu is presented in front of us. The completed Erhu is paired with strings, horses, and bows, and after debugging, it becomes an Erhu that can play beautiful sounds.

Table 5. Erhu canister cutout diagram

Parts	Size (mm)
Location	
canister plate cross-section	



Source: Gu Cunxiong (2022)

5.2.3 Finished product verification and evaluation

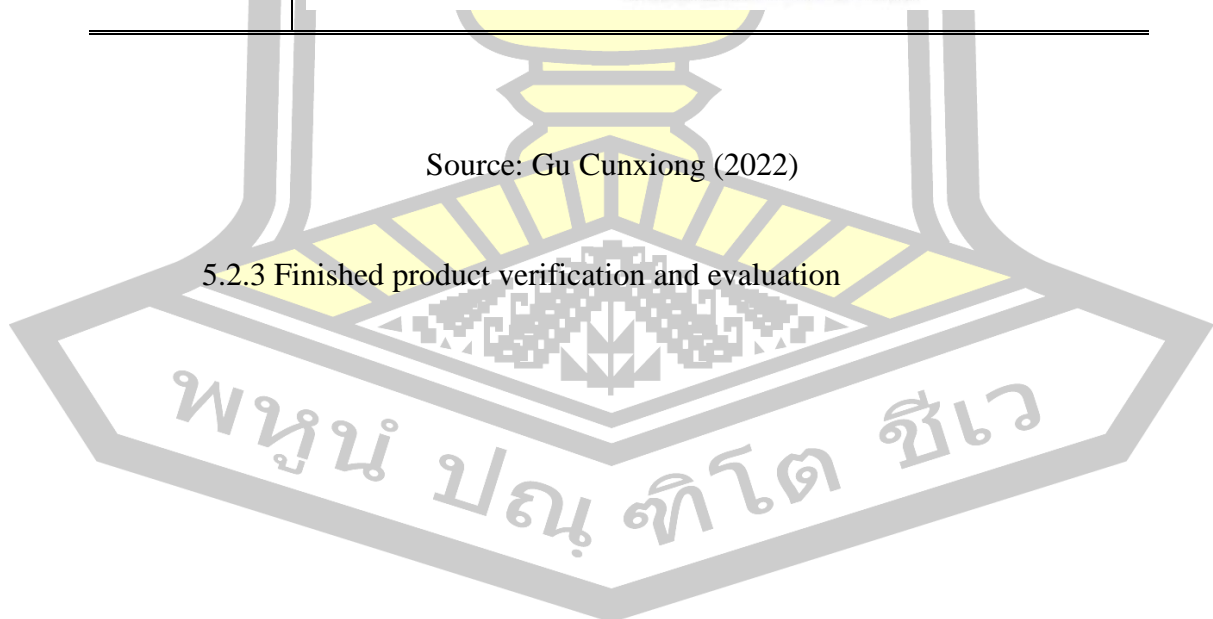


Table 6. Erhu Scoring Standards

project	Performer's feelings	Audience experience score	Comprehensive score
timbre	Is it Warm	1-5	1-5
high pitch	Is it bright	1-5	1-5
bass	Strong and powerful	1-5	1-5
baritone	Full and elastic	1-5	1-5
Musicality	Music connotation	1-5	1-5
Resolution	Without losing fluency	1-5	1-5
Musical Expressiveness	Will not interrupt music	1-5	1-5
Within string	Full and elastic	1-5	1-5
External string	Clear and elegant	1-5	1-5
Handling	Easy to control	1-5	1-5
Resisting the impact of climate change	Not easily affected	1-5	1-5

Source: Gu Cunxiong (2022)

The comprehensive average score is based on the pricing of finished products according to different production materials. A full score of 5 points, below 3 points is considered a low-end Erhu, which can be used for beginners, practicing the piano, and performing songs with low difficulty. The price ranges from 300 to 1500RMB. A score of 3 to 4 is a mid-range piano that can be used for grading and competitions, with prices ranging from 1500-4500RMB. 4 to 5 points are classified as high-end pianos, usually used for performances and music academies, with prices ranging from 4500 to 9000. The highest grade is custom-made for individuals, and

will be handmade by masters who personally select materials. The price is above 10000 RMB.

5.3 The making process of Zhonghu in Jiujiang

5.3.1 Tools for Zhonghu Production

The production tools of Zhonghu are the same as those of Erhu, please refer to



Figure 60. Tools

Source: Researcher

5.3.2 The production materials and processes

The production materials and processes of the Zhonghu are basically similar to those of the Erhu, but some details need to be noted.

5.3.2.1 Trim height. Grind the top and bottom of the code alternately with fine sandpaper to keep the small round hole in the center position until the height is suitable.

5.3.2.2 Entire hole. If the pronunciation of the Erhu itself is relatively dull, a small round file can be used to enlarge the code hole. If the pronunciation of the Erhu itself is sharp and bright, you should choose a code with a large bottom hole and a small hole.

5.3.2.3 Grind the bottom. Place a dozen layers of cloth under the fine sandpaper, and then grind the bottom surface of the code into a slightly convex shape on the sandpaper to make it better in close contact with the leather surface.

5.3.2.4 Open chord grooves. Install the code on the Erhu, adjust to the appropriate chord pitch, and then press the steel string on the code with your hand to

leave two indentation marks on the code. Then take it off and carve two V shaped chord grooves with a knife.

5.3.2.5 Positioning. Carefully observe the code, using the higher side as the inner chord side, and use a pen to dot (mark) a small dot. In future use, the dotted side is permanently fixed as the inner chord side.

5.3.2.6 Control pad

It is best to choose thick overcoat fabric, cut into rectangular pieces that are about 6cm long and 3.5cm wide, and fold them in half to cushion them under the horse. If the piano horse is high and the control pad is not thick enough, you can cut one or two small strips and clip them in the upper part of the two layers to make them thicker on the top and thinner on the bottom. When adjusting, it can be moved up and down, so as not to affect the normal vibration of the instrument, but also to effectively control the wolf sound. If foamed plastics, sponges and other materials are used as control pads, they can also play a role, but the effect is worse.

5.3.2.7 Qianjin

The Qianjin is one of the most important and easily overlooked components, and the reason for many Erhu tunes is that the Qianjin is too simple. Using the copper hook developed by the Beijing National Musical Instrument Factory to fix the weight can effectively prevent the movement of the weight during performance from causing noise, and can flexibly adjust the height and width. When using, a small soft pad, such as a small rubber, should be placed on the hook to beautify the sound quality and prevent damage to the string skin. The wire winding jack still commonly used by Erhu enthusiasts is cut with a tape about 0.5 cm wide and stuck around the piano rod, then the wire is wound on the tape to make the jack. Pay attention to first winding the piano rod once, then winding the string five times, and finally winding the piano rod once, tying the knot and cutting off the remaining threads.. This winding method can avoid running sounds caused by the movement of the weight from side to side.

5.3.2.8 Chordal axis

The string axis of Zhonghu is divided into mechanical axis and wooden axis. Mechanical shafts are divided into worm gear and screw type, each with its own advantages. For worm gear type chord shafts, a few drops of engine oil can be

dropped from the winding wheel and the shaft handle rotated for a few weeks each time the chord is changed, which can prevent the gear from being worn due to repeated stress on local parts. If it is a lead screw type chord shaft, it should be loosened and pulled out when changing the string, and an appropriate amount of engine oil should be applied to the lead screw. When winding, do not pull to the same degree of tightness every time. Sometimes, tighten it a bit, and sometimes loosen it. Let the screw threads on the screw rod bear alternating forces to avoid local wear. If the wooden shaft often loosens, sprinkle some rosin powder in the shaft hole to ensure the necessary friction force; If it is too tight, sprinkle some talcum powder into the shaft hole to rotate freely.

5.3.2.9 bow



Figure 61. Bow

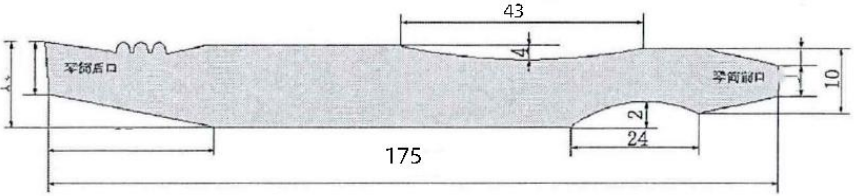
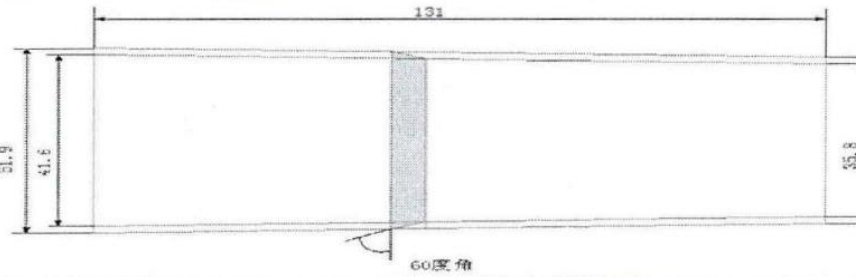
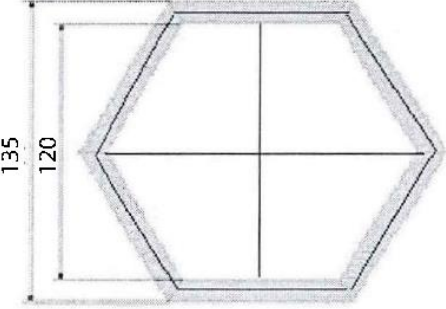
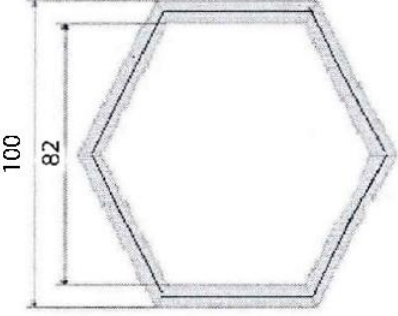
Source: Researcher

If the curvature of the bow rod is not comfortable, you can remove the hair from one end of the bow rod, and turn the bow rod on a smokeless surface while baking. Be sure to evenly heat it and not scorch it. When the bamboo becomes soft, it can be bent into a suitable shape. After bending, immediately cool it with cold water to shape it.

When broken hair is found on the bow, it should not be removed by hand, but should be cut off completely with small scissors. Because it is easy to remove other bow hairs by pulling them with your hands, making them uneven in tension and elasticity; If pulled out by root, it will also loosen the knot and cause the arch hairs to gradually come out. If some of the hairs on the bow are too loose and you cannot bear

to cut them off, you can smoke them with a burning cigarette end to tighten them. However, it is important to note that the cigarette end should not be too close to the bow hair to avoid burning it off.

Table 7. Zhonghu canister cutout diagram

Parts	Size (mm)
Location	
canister plate cross-section	
Longitudinal section of canister plate	
canister front mouth	
canister rear port	

Source: Gu Cunxiong (2022)

5.3.3 Finished product verification and evaluation

Table 8. Zhonghu Scoring Standards

project	Performer's feelings	Audience experience score	Comprehensive score
timbre	Neutral	1-5	1-5
high pitch	Not harsh to the ear	1-5	1-5
bass	Sensitive	1-5	1-5
baritone	Full and elastic	1-5	1-5
Musicality	Music connotation	1-5	1-5
Resolution	Without losing fluency	1-5	1-5
Musical Expressiveness	Will not interrupt music	1-5	1-5
Within string	Full and elastic	1-5	1-5
External string	Clear and elegant	1-5	1-5
Handling	Easy to control	1-5	1-5
Resisting the impact of climate change	Not easily affected	1-5	1-5

Source: Gu Cunxiong (2022)


 พหุ ประถมศึกษา

5.4 The making process of Banhu in Shangrao

5.4.1 Tools for Banhu Production



Figure 62. Tools

Source: Researcher

The materials used to make Banhu include: main materials, including hardwood and softwood. Hardwood is used to make parts such as the neck, bottom support, and saddle of the board, and is divided into ordinary and high-end products according to the material and price. The ordinary products mainly include rosewood, ebony, and sour wood, while the high-end products include rosewood, old rosewood, and so on; Cork is used to make the sound tube and sound board of Banhu, preferably the paulownia wood produced by Henan Lankao Institute and Hainan coconut shell.

Auxiliary materials, mainly including buffalo horn, bamboo pole, ox bone, acrylic, horse tail, mechanical shaft, movable screw, etc., are mainly used for the production of auxiliary parts such as string shaft, pressing code, movable waist code, support code, Erhu code, and the production of bow.

Tools for making Banhu mainly include band saws, hand saws, electric drills, burrs, smooth files, chisels, centipede planers, sandpaper, etc

5.4.2 The production materials and processes

The manufacturing process of Banhu directly determines its final quality, so its process is relatively complex and requires high technological requirements. Generally speaking, the main production process of Banhu is divided into several parts: material selection, barrel production, neck production, overall assembly, and decoration. Each part is divided into several steps.

5.4.2.1 Material selection

The rod of red sandalwood is generally made of hardwood such as old mahogany and red sandalwood. The rod made of these wood materials is heavy, stable, and has a delicate feel, which is conducive to playing. In addition, the grain is also relatively beautiful.

The Erhu barrel is made of Hainan coconut shell, which requires a round and substantial appearance, thick inner wall, and is not easily broken. The large (outer) shell is 10.5-0.8cm, and the small (inner) shell is 7.5cm.

The panel wood shall be paulownia produced in Lankao, Henan Province, with uniform texture. The bow is made of bamboo rods with a round shape, uniform thickness, and good elasticity. The Erhu string is made of steel wire, with good tensile force. The materials used for string shafts, Erhu codes, etc. are generally the same as those used for Erhu frames and rods.

5.4.2.2 make



Figure 63. Banhu making

Source: Researcher

1) Integral molding. Use a band saw or hand saw to cut a square shaped blank 72 centimeters long and 2.5 to 2.6 centimeters wide according to the shape template of the musical instrument. First, use a plane to polish the stubble, then use a burr file and a smooth file to shape it, then use a centipede plane to polish it, and finally use a 50-600 sandpaper to polish it four or five times.

2) Organize the upper part (elbow). First, use a plane to scrape out a shape such as a 20cm long upper elbow or a Ruyi shape, then use a burr file or a smooth file to shape it, then use a centipede plane to polish it, sandpaper to polish it, and finally

press the head (adhesive bovine bone decoration). (3) Organize the next circle. First use a plane to scrape out a 50cm long flat round Erhu rod, then use a rough file and a smooth file to form it, then use a centipede plane to smooth it, and then use sandpaper to polish it smooth.

4) Open the chord shaft slot hole. First use an electric drill to drill holes, then pick them with a chisel, and finally trim them into shape

5.4.2.3 Erhu tube production

1) Coconut shell production. First, shape it with a hand saw and a knife, and then polish it with sandpaper.

2) Glue the panel. According to experience, choose a 5-6mm (5mm if the material is hard, 6mm if it is soft) paulownia board. First, use a plane to plane the front and back sides, and then use latex to glue the panel to the coconut shell (large). After cooling for 5-6 hours, use a hand saw to cut off the corners and form the panel.

3) Open the rod hole. Use an electric drill to drill holes in the coconut shell (first large, then small). After drilling a round hole with an electric drill, use a file to file the triangular hole on the top and the square hole on the bottom. When opening the rod hole, make sure that the panel is 1.5 to 1.4 centimeters away from the rod, and do not touch it, otherwise it will not vibrate.

4) Bottom bracket and saddle fabrication. Using hardwood, separate the base and saddle, and then glue them together with latex to cool for 5 to 6 hours.. When making a bottom bracket, after sawing out the coconut shell according to its approximate shape, use a round head digging knife to dig it out bit by bit (coconut shells vary in size and shape, with one Erhu barrel and one bottom bracket). The gap between the bottom bracket and the coconut shell is 2mm, and then open a string hole on the bottom bracket, install a string peg, and fix a sound shield screw.

5.4.2.4 Qin bow production

1) Bow rod molding. First bake with fire, straighten the bow rod, then bend it at the bow tip and tail, and then polish it smooth.

2) Make a bow tail fish. According to the grade of the bow, it is handmade using bone, wood, and plastic.

3) Install a horsetail. After combing the horsetail evenly, fix the tip of the bow, and then wrap a plastic tube to fasten the rest of the horsetail and hang it on the horsetail fish.

4) Install the elastic bolt. Use an elastic bow according to personal habits.

5.4.2.5 Auxiliary parts production

1) Press code, support code, waist code production. Handmade buffalo horn.

2) Activity track. Choose wood that matches the neck to maintain a uniform appearance.

5.4.2.6 Overall assembly

1) Installation of Erhu rod and barrel. Coconut shell installation starts with large size and ends with small size.

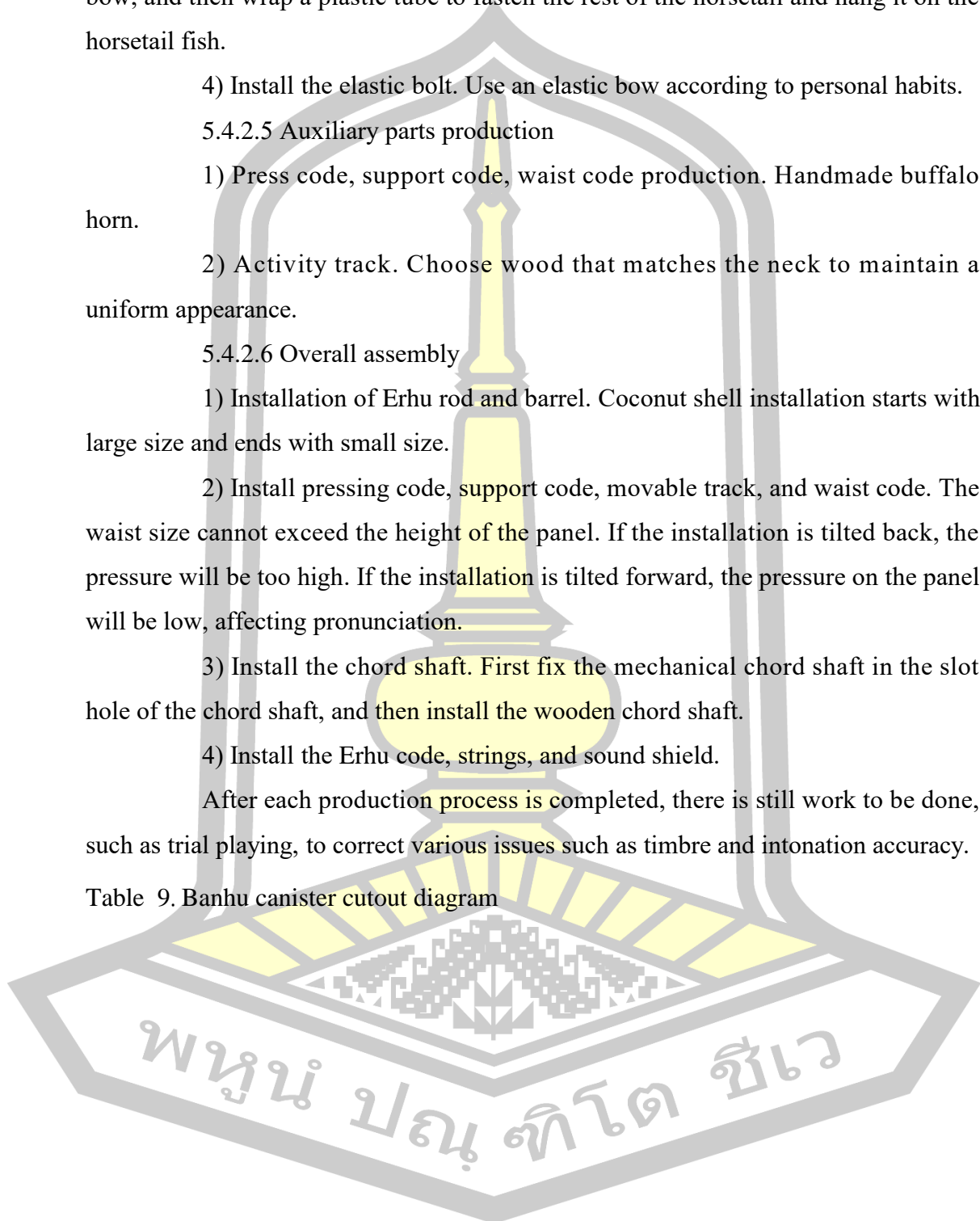
2) Install pressing code, support code, movable track, and waist code. The waist size cannot exceed the height of the panel. If the installation is tilted back, the pressure will be too high. If the installation is tilted forward, the pressure on the panel will be low, affecting pronunciation.

3) Install the chord shaft. First fix the mechanical chord shaft in the slot hole of the chord shaft, and then install the wooden chord shaft.

4) Install the Erhu code, strings, and sound shield.

After each production process is completed, there is still work to be done, such as trial playing, to correct various issues such as timbre and intonation accuracy.

Table 9. Banhu canister cutout diagram



板胡 BANHU

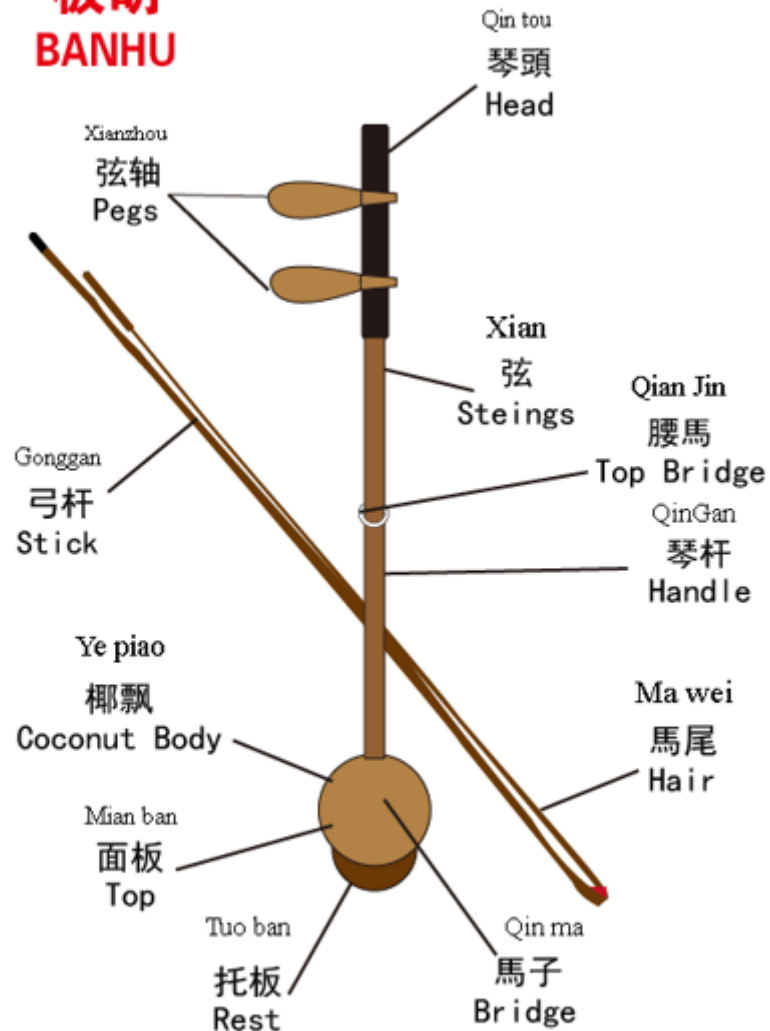


Figure 64. Banhu diagram

Source : Researcher (2022)

5.4.3 Finished product verification and evaluation

A good banhu should have a clear, bright, and full tone. You need to play different notes and scales to ensure that the sound quality and intonation of

Banhu are very good. If you have other instruments, you can play them with a banhu to test its sound quality and harmony.

Banhu is not mass-produced like other erhu. Due to the small social demand, it is usually customized by a master, and the quality depends on the details controlled by the producer. Generally speaking, a smooth and transparent sound is of superior quality. The general price range is between 1000rmb and 2000rmb.

5.5 The making process of Gaohu in Shangrao

The production process of Gaohu is roughly divided into the selection of wood and snake skin materials, the production of Gaohu components, the treatment of snake skin, and the final assembly and debugging.

5.5.1 Tools for Gaohu Production

The wood used to produce Gaohu is mahogany, and the main types of mahogany commonly used in the production of Gaohu are red sandalwood, black sandalwood, and sour branch wood. The three types of wood have a fine and uniform structure, are not easy to rot, have strong durability, and have high hardness and strength.



Figure 65. Gaohu Tools

Source: Researcher

5.5.2 The production materials and processes

The Gaohu tube is mainly made in a circular format in two main ways. One is to use the entire wood to empty and polish from the middle. The Gaohu produced by this method has high cost and large wood loss. As the main body of musical

instrument pronunciation, the Erhu barrel has high requirements for wood. However, when the entire wood is hollowed out, there is no way to control the density of wood in each direction, and it is unable to adjust the timbre. Therefore, the timbre of Gaohu produced by the entire wood is uncertain; The most common and most tested zither maker craft on the market is Gao Hu, which is made from a splicing panel. First, select the wood, cut it into eight equal parts, then use glue to splice it, and polish it to a cylindrical shape. Select wood blocks of different densities and splice them together to achieve the most perfect resonance, thereby eliminating the noise of Hu Qin. You can also make corresponding adjustments according to the preferences and requirements of the demand person to achieve the desired timbre, which greatly tests the craftsmanship of the violinist.



Figure 66. Gaohu making

Source: Researcher

5.5.2.1 Handling snake skin

Snake skin treatment is the most critical step in the production process of Gaohu, as the selection, production, and skin covering of python skin all play a decisive role in the timbre of Gaohu. There are no prescribed indicators for this technology, and it needs to rely entirely on the experience, hearing, and hand feel of the violinist.

An adult python is about five meters long, cut open from the middle of the snake's belly and use the skin on its back. The elasticity, thickness, and texture of snake skin vary from part to part. Generally, the scales on the head and tail are smaller, and the scales on the middle waist are larger. The most ideal and high-quality python skin comes from the tail of a snake, above the anus. Generally, only a few

pieces of skin can be selected to make a high beard. When pythons eat, the passage of food often causes the skin on their head and waist to be stretched, resulting in the thinnest and least dense skin on their heads, which leads to poorer quality. Therefore, the tail, which is not affected by the food eaten by pythons, has a beautiful cortex, high elastic tension, and is rare, making it particularly valuable.

After the python skin has separated from the snake body, it needs to be air dried for storage. When it is necessary to skin the Erhu tube, take out the python skin and soak it, commonly known as draft. The purpose is to allow the dried python skin to absorb moisture and avoid uneven extension resulting in uneven skin vibration and noise. The length of immersion time for python skin depends on the experience of the zither maker, the thickness of the python skin, the dryness and wetness of the weather, and the level of temperature. If the soaking time is too long, the python skin will become soft and rotten. The thickness of the python skin is also a big concern. Generally, the skin of the Gaohu zither is thinner than that of the Erhu zither, because the sound of the Gaohu zither is too thick to be heard. Therefore, a zither maker will, based on experience, shovel the python skin to a suitable thickness before skinning it.

The skin part is the most important and the most test of craftsmanship. Each pianist's handling of the skin and requirements for timbre are different. This requires the pianist to experience over time, explore, and try, and finally form their own style. It also depends on the requirements of Gaohu users for Gaohu. Before skinning, it is necessary to first determine the density of the wooden materials used in the Erhu and the shape of the Erhu barrel, and then select the appropriate thickness to match them to achieve the best effect. It is very important to grasp the tightness of the skin. The pianist will determine the tightness of the skin based on the elasticity of the python skin. If the skin is loose, the tone tends to become dull and unresponsive; Conversely, if the mask is too tight, the timbre will become very sharp, causing some anxious effects, which will destroy the original beautiful, delicate, and rounded characteristics of Gaohu.

During the process of skinning, the pianist will repeatedly tap the center of the surface of the Erhu to hear the feedback sound. When the tightness of the python skin mask meets the requirements, it will produce a clean and bright resonance due to the uniform stress on the python skin. At this point, it indicates that the expansion and

balance of the python skin have been basically completed, and then the zither maker will make some small adjustments based on the specific gravity of the wood, the thickness of the python skin, and the timbre of the Gaohu user. Finally, after shaping, place the covered high Hu Erhu tube in a ventilated position and allow it to dry naturally for more than 24 hours before removing the hemp rope, and then cut off the excess Erhu skin.

5.5.2.2 Assembly and commissioning of Gaohu

After the selection of materials for Gao Hu's core and the production of the Erhu barrel are completed, some of them are handed over to the carving master to make shell sculptures, and finally returned to the hands of the Erhu maker, who selects the Erhu code, weight, shaft, and other components for Gao Hu's assembly. The entire production of Gaohu is like an assembly line, which greatly improves the output of Gaohu, and the specialized technology industry further improves the quality of Gaohu. After all the steps are completed, it does not mean that a Gaohu has been made into a finished product, and not every component can be pieced together to achieve the optimal state of Gaohu. Gaohu needs to be selected and worn in after splicing. The resulting sound effects will also vary greatly.

5.5.2.3. Qianjin

Qianjin is located at a point in the effective chord length of Gaohu. The effective chord length of Gaohu is 38~40cm, and specific adjustments should be made based on the length of the user's finger.

There are two common types of kilos: fixed and bundled. Fixed type, generally made of metal products, but a few use wooden ones. The timbre of wooden kilos is somewhat stronger. Currently, fixed types of kilos are still used in northern Qin, but they account for a small amount; Binding type, most of the heavy weights used for Hu Qin are mainly tied, because the binding type of heavy weights can make the rod and string more stable together, allowing resonance to be effectively played out. Currently, the most commonly used materials are cotton, hemp, and silk. These materials have a high flexibility and relatively good vibration guiding effect, making the tone of Gao Hu sound rounded and soft. Generally, the number of loops for binding a kilo is 5 to 7, and the thread ends are threaded from both ends of the head and tail.

5.5.2.4 Qin ma

In the past, there was a very straightforward common name for the Erhu code, which was called top ring. It meant that when the strings were pushed up, they could make a sound, whereas if they were not pushed up, there would be no sound. The Erhu code is mainly based on selection. After the pianist completes the production of Gaohu, he selects the appropriate Erhu code based on the wood used by Gaohu, the shape of the Erhu barrel, and the sound production effect.

A small Erhu code also has a great deal of attention. It is mainly divided into three parts: the base, the guide hole, and the string bridge. There are different sizes of Erhu codes. Different sizes of Erhu codes have different weights and contact surfaces, so the pressure is also different. When the pressure increases, Gao Hu's tone will be relatively rich, while when the pressure decreases, the tone will be bright.

Of course, in addition to the size of the contact surface, the weight of the Erhu code is also learned, which directly affects the resonance relationship between the Erhu skin, the Erhu code, and the strings. When the Erhu code is located at the resonance point, it will maximize the frequency amplitude and minimize high-frequency overtones, resulting in a dry and unpleasant sound. By appropriately selecting the weight of the Erhu code so that the resonance frequency is not within the commonly used frequency band, it can effectively prevent the generation of wolf sound.

The height of the Erhu code determines the pressure. When the tension of the strings is constant, the increase in the Erhu code will increase the pressure on the Erhu skin, thereby affecting the vibration frequency of the Erhu skin. Every 1mm increase in the Erhu code increases the pressure by four times. As the Erhu code increases, the pressure increases, and the vibration frequency also increases, producing a dull sound. As the Erhu code decreases, the pressure decreases, the vibration frequency decreases, and the sound becomes dull. The Erhu code is just like the strings, which are too tight or too loose to produce a harmonious sound. Only at an appropriate height and pressure can there be a beautiful sound. Finally, when the strings are installed, the tension is forward, so the Erhu code will also slightly tilt forward. There are a wide variety of materials used for Huqin codes, including

bamboo, pine, pine knots, ivory, ox horns, and so on. Gao Hu chose bamboo as the Erhu code.

Table 10. Gao hu canister cutout diagram

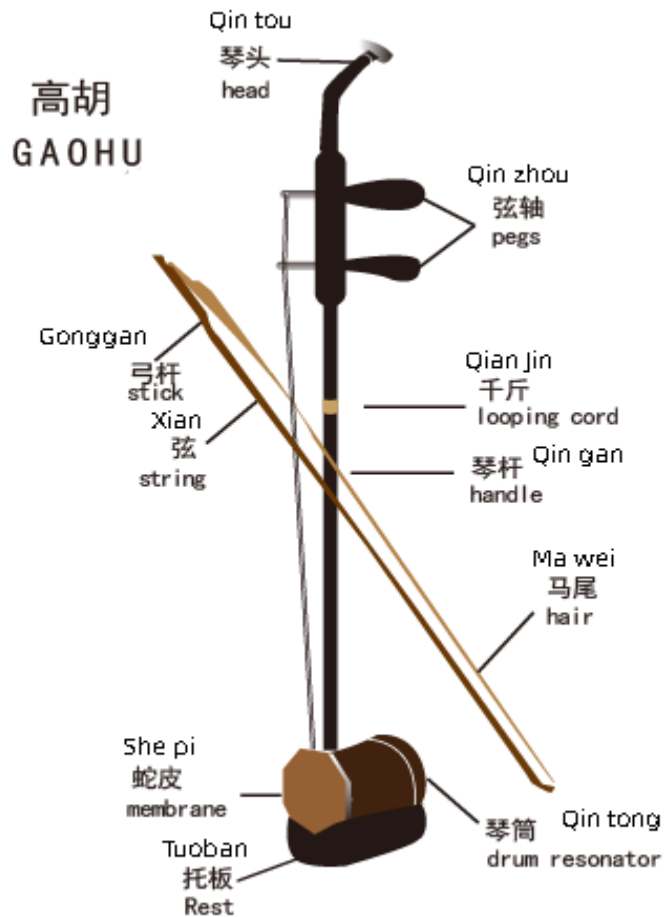


Figure 67. Gao hu diagram

Source: Researcher

5.5.3 Finished product verification and evaluation

Ordinary grade products require a high volume, with no excessive noise in the first and second handlebars; Intermediate grade requires a brighter pronunciation and a relatively average upper and lower positions; Advanced products require strong sensitivity in pronunciation in various sound regions, a loud voice, and the ability to

maintain relative balance in each region. Strong sound resonance and good remote transmission effect.

The timbre is round, the high pitched sound is bright, the low pitched sound is rich, and there is no obvious noise. The quality of sound is distinguished by auditory perception.

The skin film on the GaoHu tube is made of python skin, with bright and distinct colors, uniform scales, smooth and oily texture, and moderate thickness as the top grade. The thickness and tightness of the python skin have a significant impact on the tone of the GaoHu. If it is too thick, the vibration will be slow, while if it is too thin, the sound will be weak and prone to noise; If the cover is too tight, the sound will be sharp and hard, while if the cover is too loose, the sound will be slow and prone to collapse. Generally speaking, it is better to use a new python Pimeng tube that is slightly tighter.

5.6 The making process of Goutong in Ganzhou

The main reason why this local musical instrument has gone through a period of loss is the lack of professional lute makers. Most traditional Goutong are made locally by folk artists, and there is no standard measure of the materials used. As a result, the quality of finished musical instruments varies between good and bad. We can only learn about some popular production techniques from a few folk artists now. I interviewed a folk zither maker in Ganzhou, Jiangxi Province. His name is Liu Rongsheng, and his family can make Goutong.

5.6.1 Tools for Goutong Production

The manufacturing tool (Figure 66) for the Goutong is very simple, without a large flow line machine, and it is still basically relying on purely manual methods.

พหุ ประถมศึกษา



Figure 68. Tools

Source: Researcher

5.6.2 The production materials and processes

Liu Rongsheng said that the production of the Goutong is very simple, and compared to the Erhu, there are not so many complex materials. You only need to create the tube and rod parts separately, and then splice them together to hang the strings.



Figure 69. Speaker section of Goutong

Source: Researcher



Figure 70. Treatment of the connecting part of the Goutong

Source: Researcher



Figure 71. A completed Goutong

Source: Researcher

Comparison of appearance, material, and timbre between Goutong drum and Erhu

Goutong does not have a fixed size, he will change the size and shape according to the producer's performance. The Goutong and the Erhu belong to the same category of musical instruments as the hu qin, and are roughly the same in appearance. The Goutong barrel is slightly larger than the Erhu, but there are also differences in some details in the area: taking the traditional Goutong barrel as an example, the head of the Goutong barrel is mostly in the shape of a flat head. Today, after the design and transformation of the craftsman's technique, there is a bow shaped head shaped like a phoenix head.; In contrast, there are many types of Erhu head shapes, most of which are in the shape of a curved neck. There are also many artistic forms such as dragon heads, phoenix heads, lotus flowers, and lotus flowers, which add a lot of color to the overall artistic image of Erhu. The diameter of the rod of the Goutong barrel is about 2 centimeters, which is slightly thicker than the rod of the Erhu; The piano rod of the Erhu (here, take the high-level professional performance of the Erhu as an example) is about 1.75 to 1.85 centimeters. The piano tube of the Goutong tube is made of bamboo, so due to the limitations of its production materials, the shape of the piano tube is circular; The common shapes of Erhu pipes include hexagonal and octagonal pipes, while some Erhu pipes have circular or complementary shapes. The difference between the materials used for making the Goutong barrel and the Erhu is that bamboo is used as the material for making the Goutong barrel, from the body to the bow. The earliest Goutong barrel was even made

of bamboo, and now the Goutong barrel's piano code is also made of selected wood; The body of the Erhu is all made of wood, and can be divided into mahogany Erhu, red sandalwood Erhu, and Wuzhan lute Erhu based on different wood materials. The bow of the Erhu is made of bamboo, just like the Goutong tube bow.

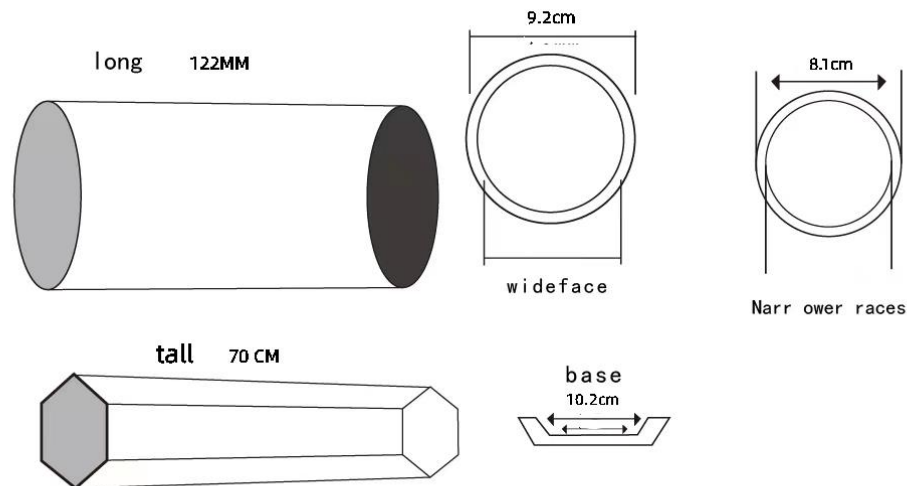


Figure 72. Goutong for reference purposes size

Source: Researcher

5.6.3 Finished product verification and evaluation

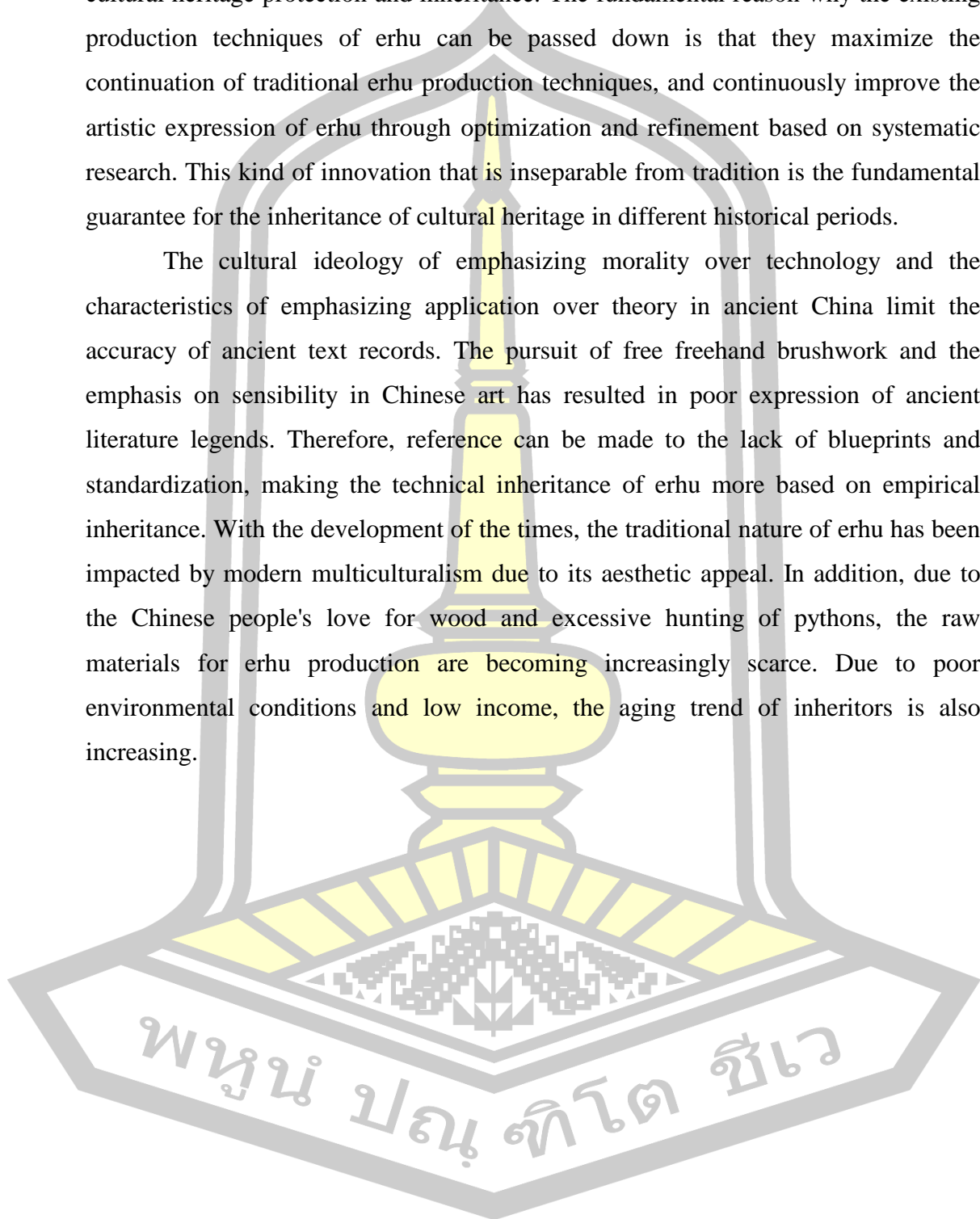
Due to the exact size of the production specifications and materials, the timbre of the Goutong drum and the Erhu are also different. The timbre of the Goutong drum is higher, brighter, and richer, with a strong penetrating power of the sound; The timbre of the Erhu is more delicate, soft, and mellow, with a high degree of fullness in the sound. Because it is a musical instrument made by folk artists and retains its original style, the timbre of the instrument has its original characteristics. Nowadays, the timbre is used to showcase its characteristics. Instruments with distinctive sounds are rated higher. Generally speaking, the sound should be warm and vigorous.

Conclusion

The inheritance of traditional handicraft skills cannot be separated from the foundation of tradition. Even if modern technology and aesthetics are added, its core

should still be based on traditional Chinese culture, which is also the foundation of cultural heritage protection and inheritance. The fundamental reason why the existing production techniques of erhu can be passed down is that they maximize the continuation of traditional erhu production techniques, and continuously improve the artistic expression of erhu through optimization and refinement based on systematic research. This kind of innovation that is inseparable from tradition is the fundamental guarantee for the inheritance of cultural heritage in different historical periods.

The cultural ideology of emphasizing morality over technology and the characteristics of emphasizing application over theory in ancient China limit the accuracy of ancient text records. The pursuit of free freehand brushwork and the emphasis on sensibility in Chinese art has resulted in poor expression of ancient literature legends. Therefore, reference can be made to the lack of blueprints and standardization, making the technical inheritance of erhu more based on empirical inheritance. With the development of the times, the traditional nature of erhu has been impacted by modern multiculturalism due to its aesthetic appeal. In addition, due to the Chinese people's love for wood and excessive hunting of pythons, the raw materials for erhu production are becoming increasingly scarce. Due to poor environmental conditions and low income, the aging trend of inheritors is also increasing.



CHAPTER VI

Conclusion, Discussion and Suggestion

This article takes Jiangxi fiddle as the research object, focusing on analyzing the existing musical instrument forms, instrument production processes, tools, and materials. Propose a plan for the inheritance and development of Jiangxi erhu.

6.1 Conclusion

6.2 Discussion

6.3 Suggestion

6.1 Conclusion

1)The fiddle's environment situation in Jiangxi

Benefiting from the rich and diverse traditional folk art in Jiangxi region, the erhu, which was introduced from the north, quickly penetrated into various forms of traditional art. This not only fully explores its advantages as a string instrument, but also makes the expression forms of erhu art more diverse.

The rich traditional art in Jiangxi region not only provides fertile ground for the growth of erhu, but also cultivates a group of skilled ethnic artists. In addition to the liberation trend of New China, the inheritance and reform of erhu by Jiangxi ethnic artists such as Huang Haihuai, Wang Liangsheng, and Li Yanning have led to the growing development of erhu. It can be seen that the rich artistic atmosphere and practical artists in Jiangxi have played an important role in promoting it.

2) The making process of fiddle in Jiangxi

The inheritance of traditional handicraft skills cannot be separated from the foundation of tradition. Even if modern technology and aesthetics are added, its core should still be based on traditional Chinese culture, which is also the foundation of cultural heritage protection and inheritance.

The cultural ideology of emphasizing morality over technology and the characteristics of emphasizing application over theory in ancient China limit the

accuracy of ancient text records. In addition, due to the Chinese people's love for wood and excessive hunting of pythons, the raw materials for erhu production are becoming increasingly scarce. Due to poor environmental conditions and low income, the aging trend of inheritors is also increasing.

6.2 Discussion

In the process of studying this topic, there are still some different perspectives on the production process in different regions. The main points are as follows:

6.2.1 Discussion on viewpoints of other erhu production articles

1) Guided by music style for production

This viewpoint holds that the fiddle is different from other objects, as fiddle violinists, composers, and performers have a closely connected interdependence and are indispensable. The composer's repertoire is completed through the performer's technique using the fiddle, so the fiddle must be able to reflect the artistic ideas of music, so that the pianist can learn as much music knowledge as possible to guide the production of the piano. Only in this way can we know what kind of fiddle timbre and timbre the performer and music repertoire need. The consistency between the pianist, performer, and composer is essential to achieve the mission of music art together(Wang Xiaojun 2008)

2) Guided by physics and acoustics to produce

This view suggests that the sound of fiddle comes from physics. That is to say, the changes in physics determine the changes in sound. Qin makers need to learn to deeply study the origin of sound, and the quality of the fiddle sound color depends on the conditions provided by physics. The selection of materials should be reasonable, and the size, angle, thickness, fiber, elasticity, and moisture content during the production process should be reasonable. The thickness of the snake skin should be reasonable, the processing of the snake skin should be uniform, and the tension and tension during skinning should be reasonable. The vibration of the entire fiddle set should be reasonable. Whether the fiddle is good or not is actually just two words "vibration"(Wan Jingyi2011).

3) Guided by the concept of "Tai Chi"

This viewpoint holds that there is a balance between yin and yang, and if there is an imbalance in all things in the world, it will lead to disease, such as the imbalance in human health, which poses a risk to life. If nature is unbalanced, there will be natural and man-made disasters, and if social and political imbalances occur, wars will occur. If the fiddle we make is imbalanced, it will not produce good sound, such as dull, muddy, sharp noise, wolf sound, and noise. Inside and outside, there is a lack of coordination between the top and bottom. This fiddle is just a piece of waste, at most it is a toy(Liu Debo 2011).

4) Guided by the characteristics of natural raw materials for production

This viewpoint holds that the fibers in the inner and outer layers, upper and lower segments of each tree are different, and the vibration of each board is also different. The fibers with different patterns lead to different vibrations. This is a contradiction. For example, the size, thickness, and fiber elasticity of each snake are different, and the vibration it is supposed to experience is also different, which is another contradiction. The sound color of fiddle comes from nature and is generated through the transformation of natural development laws, such as wind direction and sound direction, wind sound and qin sound, wind speed and sound speed, water spray and sound flower, and so on. The use of fiddle will produce good sound(Jin Hui).

I believe that we should constantly learn, innovate our abilities, and enhance the artistic value of fiddle. We should learn from excellent peers and pianists, compare our own differences, learn from music artists and performers, improve our musical awareness, learn from history, inherit tradition, and constantly research and innovate. Learn from nature, understand more scientific laws, and learn from society to follow the times. Strive to be a pioneer of the times.

6.2.2 Discussion on viewpoints on the production of other musical instruments

Famous Chinese Pipa production expert Man Ruixing believes that the mass production of Chinese ethnic musical instruments is limited by various conditions. The materials and shapes are different, and the performance also varies greatly. The materials and shapes are different, and the performance also varies greatly. It is a common phenomenon that each batch is 'non-standard'. Compared to the standardization of the world instrument industry, the degree of standardization of the

appearance and sound of ethnic instruments at that time reminded practitioners that there was a huge gap between the "natural" state of ethnic instruments and the "modernization" of society. The difficulty in standardizing Chinese and Western musical instruments is reflected in the issue of production materials, which has gradually made the instrument industry realize that the individuality and vocabulary of local instruments are naturally worth cherishing, but industrial development and application research require a "universal language" as a supplement (Song Enhui 2017).

The advocates leading these discussions include musicologists with high academic status, as well as frontline musicians in production, performance, and creativity. As early as 1954, the Institute of Ethnic Music at the Central Conservatory of Music was established. The first person in charge at that time, Li Yuanqing, published a series of articles guiding the development of Chinese musical instruments, proposing that scattered musical instrument workshops should produce instruments that meet the standards. Some preparatory work should be done to create standardized instruments.

Famous Chinese musicologist Xiao Youmei once put forward her own views on the improvement of old musical instruments. He said that whether an old musical instrument needs improvement depends on whether it has the value of improvement. Whether it is worth judging depends on the following points: firstly, the timbre of the instrument must be good; Secondly, the range of an instrument must be wide, preferably at least three octaves (Xiao Youmei, 1991). From Mr. Xiao Youmei's several standards, the Zhuang people's Zhu bronze pots, gourd pots, Jiao pots, and Tu pots all have shortcomings in terms of timbre and sound quality. But I think. The reason why these stringed instruments are still popular among the people indicates that they still have a certain degree of vitality. Their biggest advantages are low production costs, low prices, convenient production, and easy promotion in economically underdeveloped areas. On this basis, it is not impossible to improve the quality and performance of musical instruments through the advancement of modern technology.

Modern society has changed people's production methods, and has also led to fundamental changes in the past art forms and the aesthetic consciousness of the

people. This is mainly manifested in the gradual replacement of traditional individual production by collective production, and the performance form of traditional art has also shifted from folk self entertainment to dance stage art performance. As one of the representative forms of traditional Chinese art, the traditional form of fiddle art also reflects the intricate connection between the survival and development of traditional art and social development to a certain extent.

The development of fiddle in Jiangxi mainly benefited from the rich folk art of the region. Traditional Chinese opera and religious music not only provide fertile ground for the dissemination of fiddle art in Jiangxi region, but also enrich and enhance its expressive power. However, with the rapid advancement of urbanization, traditional folk art has gradually faded out of people's vision, and opera and Taoist music have become intangible cultural heritage protection projects. In addition, the impact of various types of popular music has led to a decline in the living environment and audience of folk art. In this context, the fiddle art, which has been mainly rooted in the folk for thousands of years, has gradually integrated urban pop music elements into people's aesthetic shift. The production process of fiddle has also been adjusted according to the aesthetic and daily requirements of the public, as traditional individual production has gradually been replaced by collective production.

The fiddle art that the current public watches through media is mostly popular music used to set off the plot. It not only uses Western mode composition, but also uses the arrangement techniques of modern music for harmony and instrument combinations. This has gradually replaced the traditional nature of fiddle production and music creation with innovative modernity. It should be said that the reasons for the decline of the traditional nature of fiddle art, although different, are interrelated. Overall, the main reason is driven by both internal and external forces.

6.3 Suggestion

6.3.1 General suggestion

- 1) Protection of the Musician and Music maker.

The recognition department should go deep into the private sector, not only through paper review, but also appropriately increase the proportion of female inheritors.

2) Pay attention to the construction of the new generations team.

Translate the organizational income from the promotion activities into subsidies for inheritors, attracting more young people to invest in the construction of traditional culture.

3) Explore cultural and historical resources.

The art of fiddle in Jiangxi has a profound cultural and historical heritage. Relevant departments have showcased historical memories to future generations through the construction of cultural exhibition halls and the opening of former residences of celebrities, and have also used them as city cards for external promotion.

4) Enhance interaction among the public.

By promoting campus art education and organizing professional competitions, fiddle will be pushed into urban space, gathering new forces of fiddle, and strengthening its cultural foundation and public recognition in the Jiangxi region.

5) Adhere to traditional production techniques.

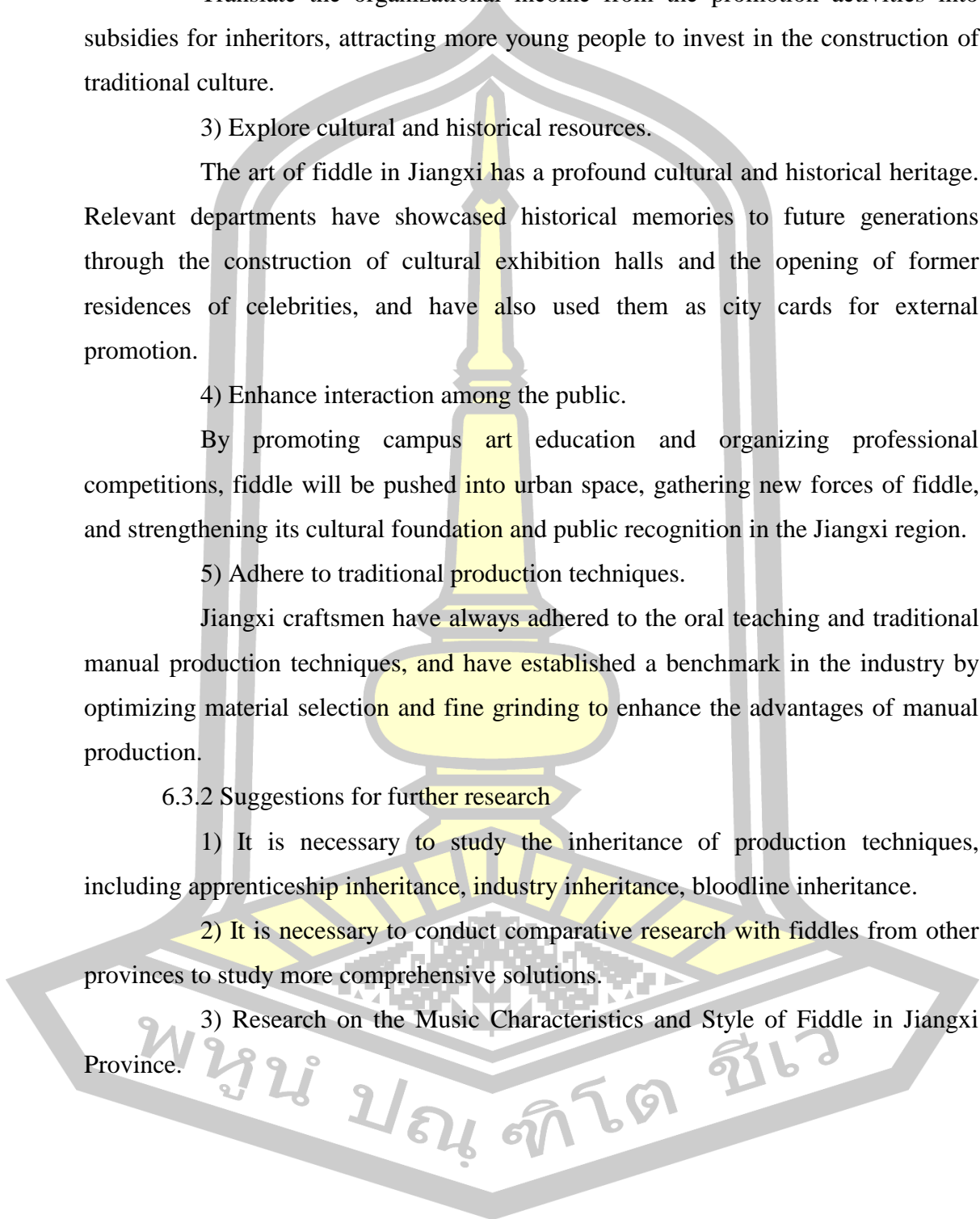
Jiangxi craftsmen have always adhered to the oral teaching and traditional manual production techniques, and have established a benchmark in the industry by optimizing material selection and fine grinding to enhance the advantages of manual production.

6.3.2 Suggestions for further research

1) It is necessary to study the inheritance of production techniques, including apprenticeship inheritance, industry inheritance, bloodline inheritance.

2) It is necessary to conduct comparative research with fiddles from other provinces to study more comprehensive solutions.

3) Research on the Music Characteristics and Style of Fiddle in Jiangxi Province.



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APPENDIX



Figure 73. Longyun Factory

Source : Researcher (2022)



Figure 74. Li mingquan and Researcher

Source : Researcher (2022)

พหุบัณฑิต ชีวะ



Figure 75. Tools Factory
Source : Researcher (2022)



Figure 76. Shangrao Factory
Source : Researcher (2022)

พหุ ประถมศึกษา ชีวะ



Figure 77. Celebrity photos
Source : Researcher (2022)



Figure 78. History of Erhu Art
Source : Researcher (2022)

พหุ ประถม โท ซีเว



Figure 79. Research on Banhu Art

Source : Researcher (2022)



Figure 80. National String instrument

Source : Researcher (2022)

พหุ ประถมศึกษา

中国民族乐器之拉弦乐



Figure 81. Chinese national String instrument

Source : Researcher (2022)

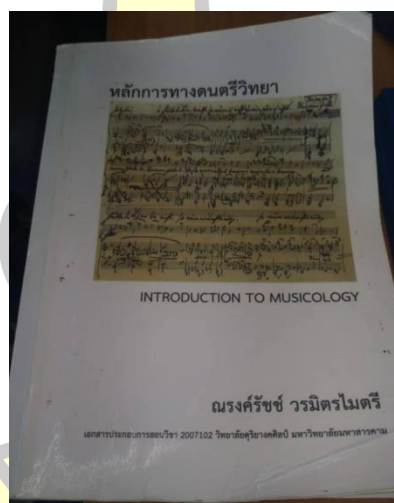
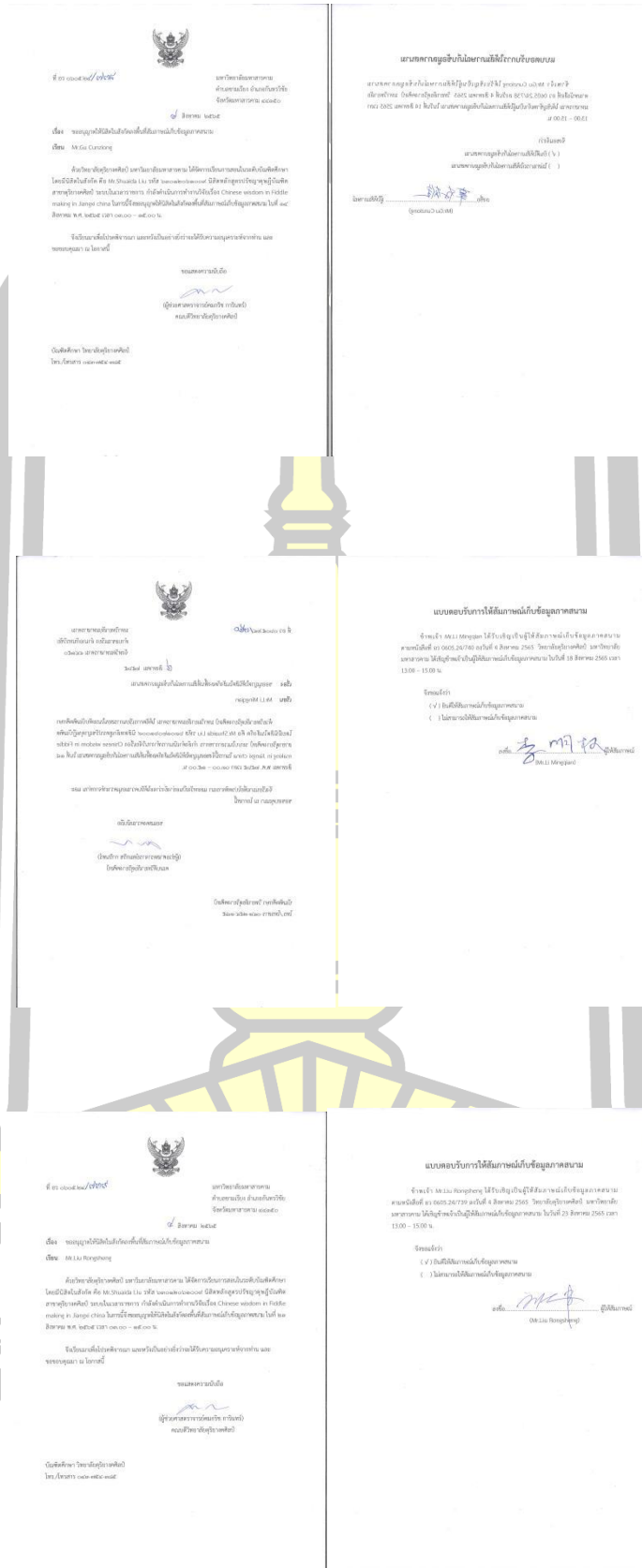


Figure 82. Introduction to musicology

Source : Researcher (2023)

พหุบัณฑิตศึกษา



Field survey authorization

BIOGRAPHY

NAME	Shuaida Liu
DATE OF BIRTH	27/02/1994
PLACE OF BIRTH	JiangXi Province
ADDRESS	JiangXi Province
POSITION	lecturer
PLACE OF WORK	JiuJiang University
EDUCATION	2012-2016 Bachelor's degree, Minzu University of China. 2016-2019 Master's degree, Central Conservatory of Music 2020-2023 (Ph.D.) Doctor of philosophy in music, Mahasarakham University

