



Development of Cartoon Animation Styles for Preservation of Guangxi Opera
Performance

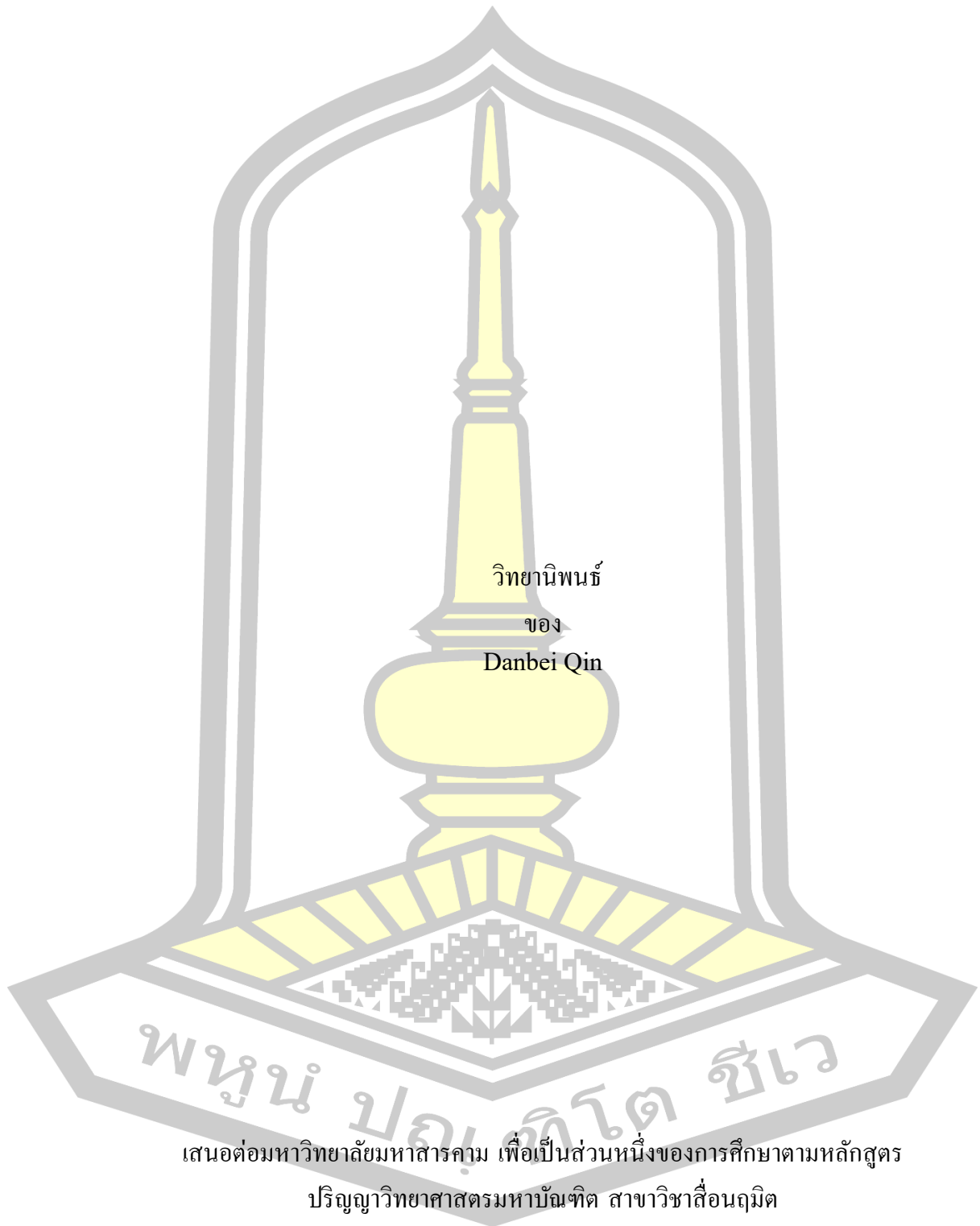
Danbei Qin

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Master of Science in Creative Media

December 2023

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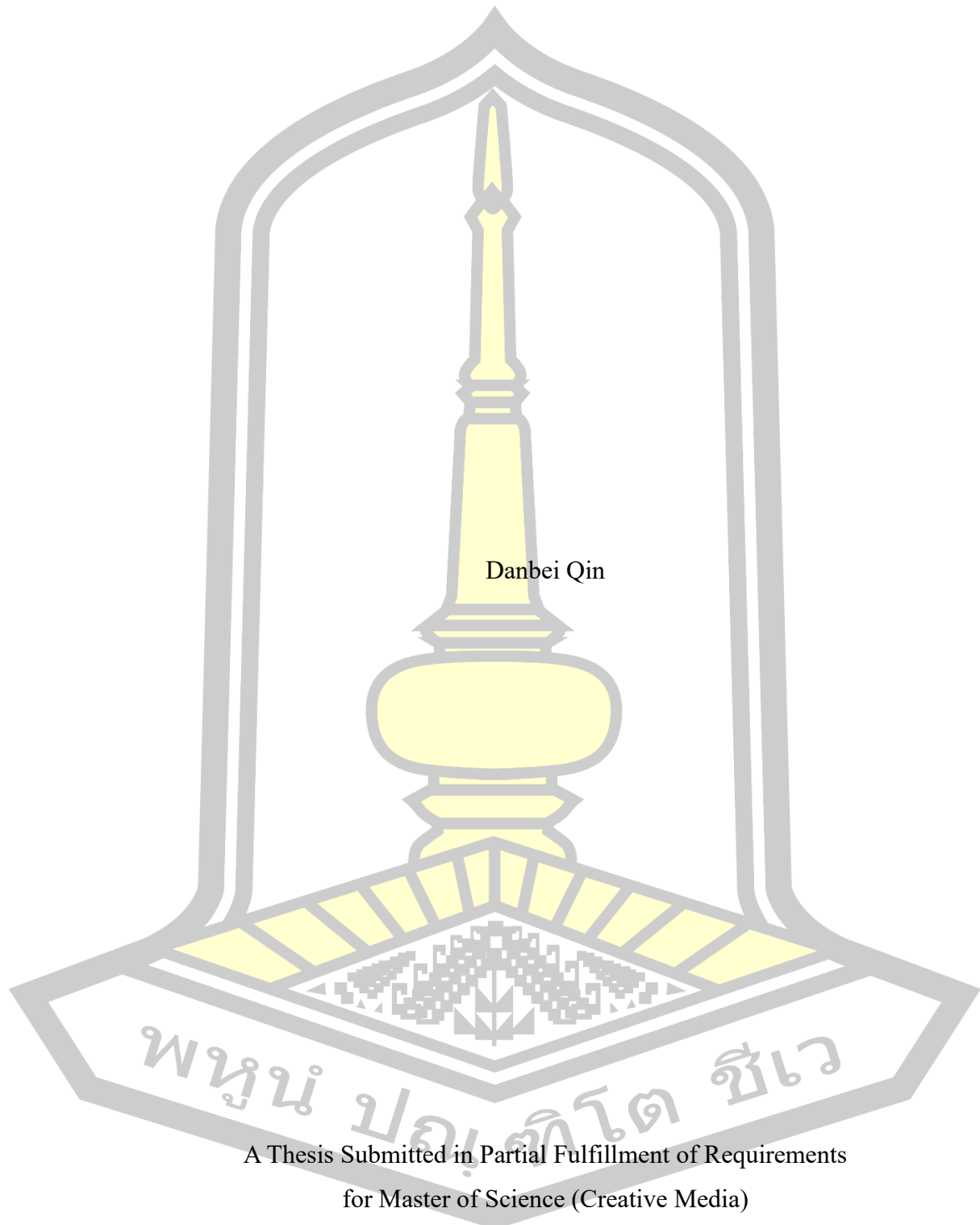


เสนอต่อมหาวิทยาลัยมหาสารคาม เพื่อเป็นส่วนหนึ่งของการศึกษาตามหลักสูตร
ปริญญาวิทยาศาสตรมหาบัณฑิต สาขาวิชาสื่ออนิเมิต

ธันวาคม 2566

ลิขสิทธิ์เป็นของมหาวิทยาลัยมหาสารคาม

Development of Cartoon Animation Styles for Preservation of Guangxi Opera
Performance



Danbei Qin

A Thesis Submitted in Partial Fulfillment of Requirements
for Master of Science (Creative Media)

December 2023

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DEGREE	Master of Science	MAJOR	Creative Media
UNIVERSITY	Maharakham University	YEAR	2023

ABSTRACT

Guangxi opera is one of the main local operas in Guangxi, commonly known as Guangxi opera. It is mainly popular in Guilin, Liuzhou, and Hechi. As early year 2006, Guangxi opera was included in the first batch of national intangible cultural heritage lists. Due to the rapid changes of the times and the transformation of society, the ecological environment of Guangxi opera has deteriorated unprecedentedly, and the art of Guangxi opera is on the verge of extinction, resulting in fewer and fewer people studying and watching opera. This research aimed (1) To study the uniqueness of the performance of Guangxi opera and make it acceptable to the public, (2) To design and develop animation according to the unique achievements of Guangxi opera performance, and (3) To evaluate the acceptance and effect of the developed animation. This research was mixed methods that consisted of expert interviewing and questionnaire surveying from 100 students of Guangxi Modern Polytechnic College. Statistics used for data analysis include content analysis, mean, standard deviation, and t-test.

The results found that:(1)54% of college students understand Chinese traditional culture through the Internet and other channels, and 21% of college students understand Chinese traditional culture through books and magazines. Some students are exposed to traditional culture through visits and exhibitions. The uniqueness of Guangxi opera performance makes it accepted by young students, and it needs to be spread through new media means. (2) Through interviews, find valuable local stories and adapt them into scripts, conduct a detailed analysis of characters, classify characters that can embody role shaping, create new characters according to different parts, and finally determine the animation style through character comparison and difference analysis. In a survey of animation styles, 79% chose ink style, scene design, and post-animation effects production to set the tone of the style. (3)Animation development and quality satisfaction evaluation. 20% of the young people think that the overall impression of Guangxi opera animation is most satisfied, 41% think it is satisfied, and 39% think it is normal.

Keyword : Opera animation, Intangible cultural heritage, Chinses Culture Preservation

ACKNOWLEDGEMENTS

I am about to complete my graduate thesis, which also heralds the end of my graduate studies. This study journey is of great significance to me. I want to take this opportunity to express my best wishes to all those who have supported, encouraged, and helped me, Heartfelt thanks.

First, I would like to sincerely thank my supervisor, Professor Suwich Tirakoat, for his endless guidance and support during my research process. I have benefited greatly from Professor Suwich Tirakoat professional knowledge and in-depth understanding of the research field. Whether selecting research projects or designing practical methods, he always patiently discusses with me, guiding me to discover problems and propose solutions. My supervisor's rigorous academic attitude and excellent research ability have become a role model for my academic pursuit.

Secondly, I would like to thank animator Huang Weiping and her team for their participation. With unique artistic feelings and innovative thinking, it combines traditional elements of Guangxi opera with modern animation technology. With our joint efforts, we have created a unique Guangxi opera animation. The entire animated character is full of storytelling and enjoyment.

Finally, I would like to thank the inheritors of intangible cultural heritage for their contribution to Guangxi opera animation. They are the guardians of the inheritance and protection of Guangxi opera ensuring that the artistic style and performance skills of Guangxi opera animation are accurately transmitted so that we can have a deeper understanding of the performing art of Guangxi opera giving animation more cultural heritage.

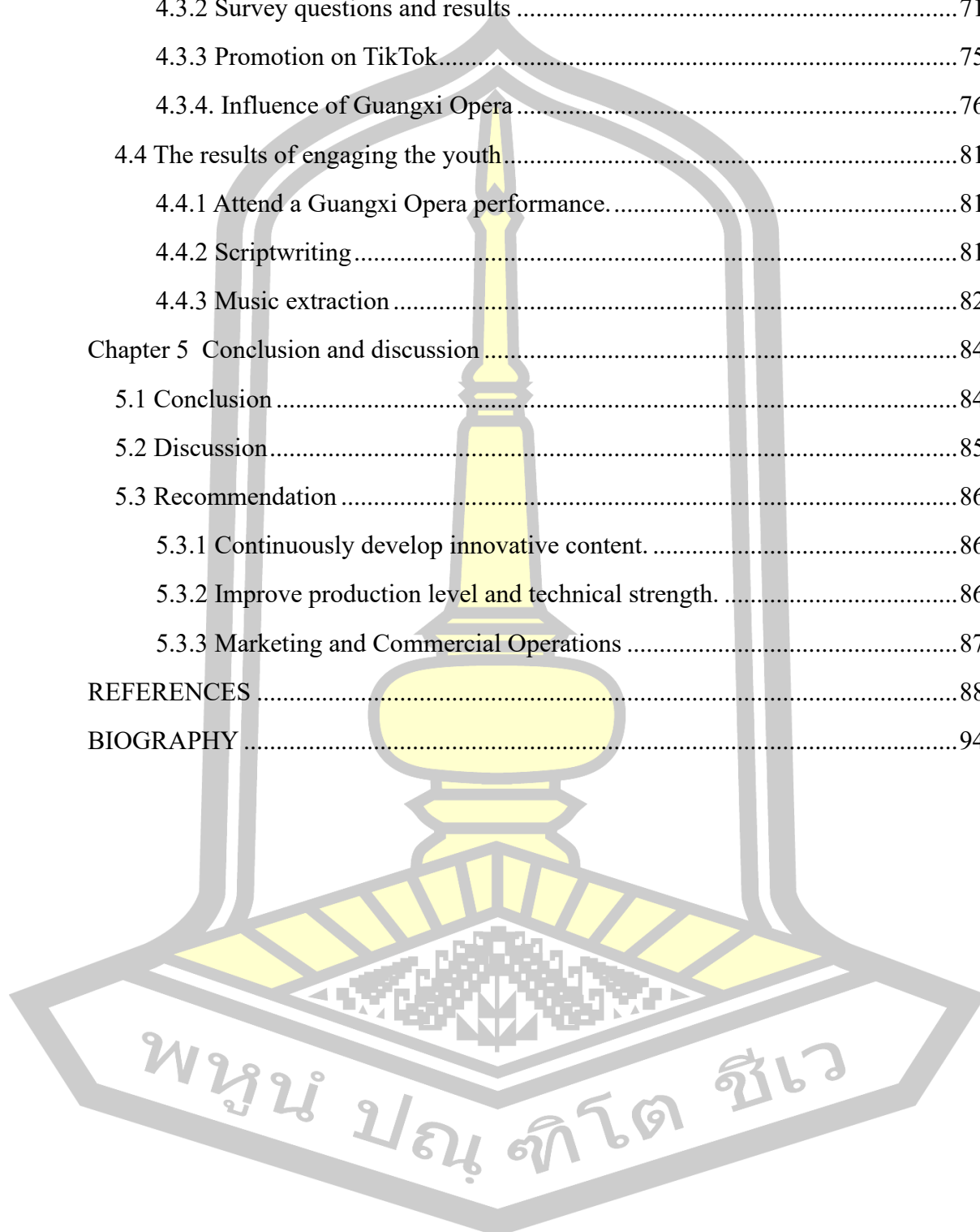
Danbei Qin

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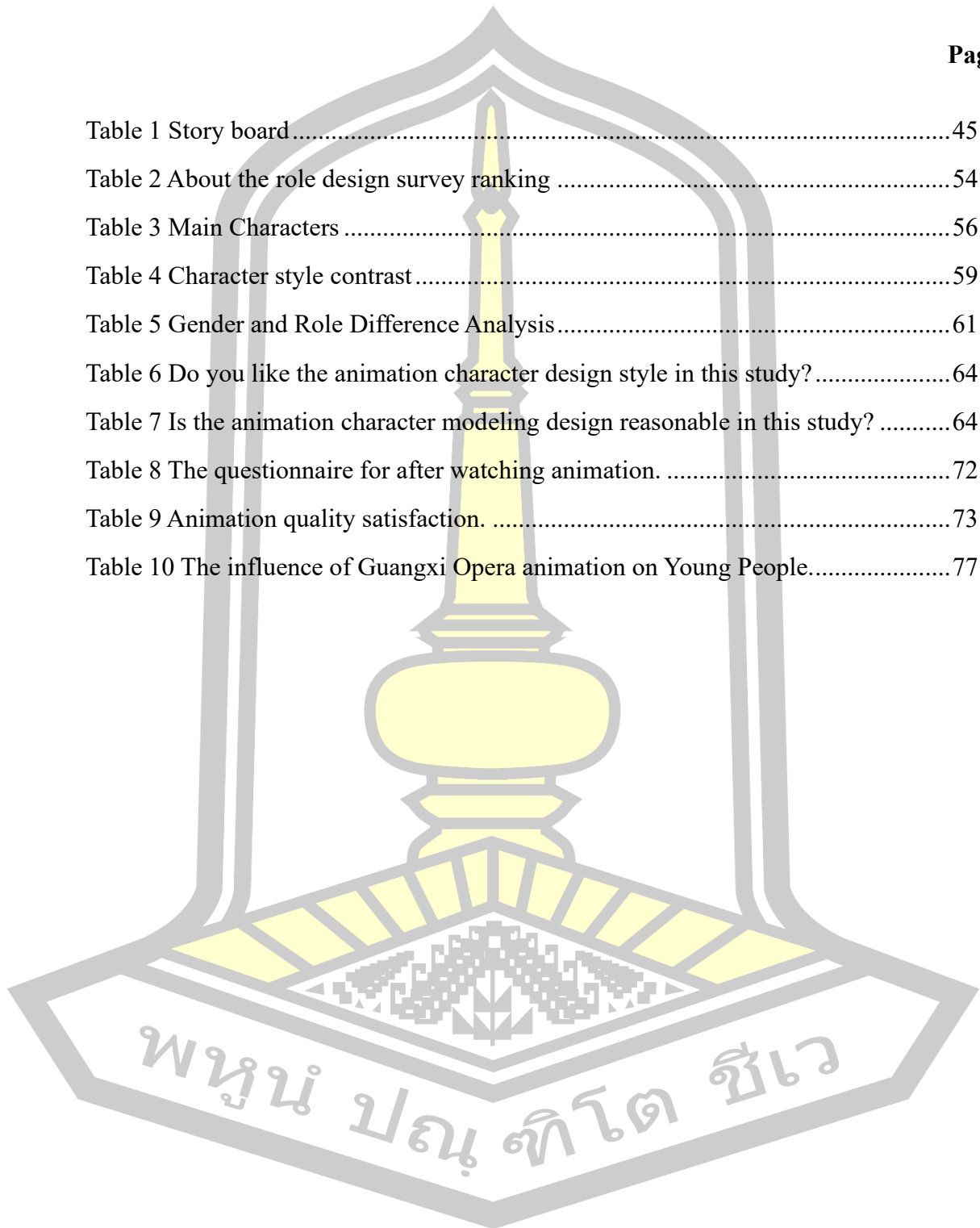
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Chapter 1

Introduction

1.1 Background of the Research

Guangxi opera is an important type of opera in Guangxi the Zhuang Autonomous Region of China. It originated in the Ming Dynasty and has a long history and profound cultural heritage. Guangxi opera appeared for the first time in the form of performance in folk temple fairs and marriage ceremonies, and later gradually developed into a special opera art form, which was widely spread in Guangxi and became a favorite art form of local people. Guangxi opera is famous for its beautiful singing, exquisite performance skills, and unique musical accompaniment, and is known as "the landscape is the best in the world, Guangxi opera is sealed and auspicious". With time, Guangxi opera has undergone many reforms and evolvments and formed a unique performance style and art form. Guangxi opera began absorbing and integrating elements of other local operas and gradually formed a unique performance style.

The performance form of Guangxi opera is relatively simple, mainly singing and dancing, accompanied by part of the action and movement, there is no fixed script and role play. Guangxi performance characteristics and artistic forms of Guangxi opera pay attention to the performers' performance skills and body language and emphasize the beauty and precision of movements and gestures. The actors show the emotional and psychological changes of the characters through delicate physical performances. The music of Guangxi opera has a unique rhythm, melodious, graceful, and moving, and is often accompanied by wonderful singing performances so that the audience can enjoy the aesthetic. The makeup and costume styles of Guangxi opera are unique, and the colorful characters of the actors are matched with gorgeous costumes to fully show the identity and personality of the characters. The performance props are elaborately made and delicate. These characteristics enable the audience to better immerse themselves in the world of drama through visual and auditory enjoyment.

Traditional Chinese opera originated from the farming age in ancient China, and it is the main way for people to enjoy themselves in their leisure time. Because of

the lack of rich cultural life, it takes a long time to produce a drama. Under the background of the new media era, people's life is fast, which leads to the inability to adapt to the slowness and dispersion of traditional Chinese opera. As an art itself, the characteristics of Guangxi opera are not prominent enough, the essence is being lost, its singing method is gradually assimilated by Mandarin, and the content of the repertoire is divorced from modern aesthetic interests. Under the impact of emerging art forms such as television and movies, the market of Guangxi opera is shrinking and becoming increasingly marginalized.(Du Yu,2019) From the perspective of Guangxi opera inheritors, the development of Guangxi opera presents a basic situation of the talent gap, and the lack of follow-up talents makes the inheritance of Guangxi opera fall into a vicious circle of threat. In addition, the audience is fragmented, single, and concentrated in the elderly, research institutions and professional troupes are isolated from the local audience, and the government pays insufficient attention to and supports them from time to time. All kinds of unfavorable situations jointly caused serious obstacles to the survival, inheritance, and development of Guangxi opera in the new era.

However, despite its important place in the Chinese cultural tradition, Guangxi opera is not popular with young students. Modern young people have a unique aesthetic tendency towards art and entertainment forms. They prefer modern popular forms of entertainment such as animation and movies and are less interested in traditional opera performances. (Chen,2023) The performance form and language expression of Guangxi opera are different from the habits and tastes of young people. To promote Guangxi opera culture better, we should deeply consider the characteristics of fragmented communication under new media technology, spread Guangxi opera in the form of animation, stimulate the interest of young people to learn Guangxi opera, and better understand Guangxi opera. To further promote the spread and development of Guangxi opera and gain greater social influence.

In order to better meet the requirements of opera appreciation of the majority of opera lovers, we should deeply think about the characteristics of fragmented communication under new media technology and promote Guangxi opera culture through new media. Practitioners of Guangxi opera can spread the opera through animation or micro-video, while lovers of Guangxi opera can enjoy the works of famous operas through

new media to meet the needs of the times and promote the spread and development of Guangxi opera. (Du Juan,2021) Under the background of new media, the spread and development of drama animation is grim, and it can only be spread and developed well through continuous exploration. Under the background of new media, drama animation must be changed, no longer copying traditional plots, no more education and less entertainment, paying attention to the spread and development of drama animation according to different age levels and communication platforms, and applying new media technology to the production of drama animation, to make the special effects of drama animation more real, the plot more attractive, enhance the artistry of drama animation and pay attention to people. Guangxi opera animation is a form of expressing China opera culture, and we must actively use new media technology to establish China's animation brand.

1.2 Objective

This research has the following objectives.

- 1) To study the uniqueness of the performance of Guangxi opera and make it acceptable to the public.
- 2) To design and develop animation according to the unique achievements of Guangxi opera performance.
- 3) To evaluate the acceptance and effect of the developed animation.

1.3 Research Scope

1.3.1 Research objects

The research focuses on a cohort of over 400 students pursuing a design major at higher vocational colleges. The design program encompasses courses in illustration and film post-production. The research data is representative, providing insights into the students' comprehension of Guangxi opera culture and their fondness for Guangxi opera animation.

1.3.2 Research sample

This study aims to analyze the perception of Guangxi opera among over 400 young students, as well as the design and evaluation of animation within Guangxi opera.

The sample size for this research adopts a simple random sampling method, assigning uniform numbers (1, 2, 3...N) to all observation units in the target population. With adherence to the principle of randomness, a sample of 100 observation units is selected from the population.

1.3.3 Research contents

Through field research, a large number of pictures and video materials related to Guangxi opera performances are collected, and through reading relevant literature on Guangxi opera, the origin of the development of Guangxi opera and the characteristics of Guangxi opera performance are understood. To study the main technical characteristics of Guangxi opera and record the relevant information of drama animation.

Interview the non-genetic inheritors of Guangxi opera to understand the uniqueness of Guangxi opera performance. By interviewing Wei Yude, Li Linglin, and Ou Guomin, the non-genetic inheritors of Guangxi opera, Learned to understand the skills and characteristics of Guangxi opera performance. The above three non-genetic inheritors of Guangxi opera have rich experience in Guangxi opera performance, which lays a foundation for the later animation production. By recording and sorting out the dialogue between the inheritors of the intangible cultural heritage, the representative scripts with ideological and political significance are selected, and the essence of Guangxi opera performance skills is extracted.

As a unique art form, Guangxi drama animation has rich historical and cultural connotations and unique expression modes. Through the research of the creation concept and style of Guangxi opera animation, the common characteristics of Guangxi opera and animation are analyzed to form a unique creation style. To study how to integrate the classic script of Guangxi opera into the animation creation and tell fascinating stories. The Guangxi opera animation character image, scene design, and production of Guangxi opera animation reflect the unique charm of Guangxi opera.

1.3.4 Research district

This research area is Shiyu Village, Fuchuan, Hezhou City, Guangxi, which is the birthplace and an important heritage base of the Guangxi Opera House. As early as the late Ming Dynasty, the ancestors of the Yao nationality began to sing

Guangxi opera art in the Fuchuan area. After hundreds of years of development, Shiyu Village in Guangxi has become a symbol of local culture, attracting many audiences and learners. The inheritance and performance of Guangxi opera have a deep historical origin in Shiyu Village, which has played a positive role in promoting the spread and development of local culture in Guangxi.

1.3.5 Research limitations

1) Data limitation. The difficulty of obtaining information on Guangxi opera and the particularity of the way of inheritance of Guangxi opera led to the limited preservation of relevant information, especially some ancient opera books, audio, and video. At the same time, due to the relative lack of data related to the Guangxi opera animation, it is a challenging task to obtain sufficient and accurate Guangxi opera animation data.

2) Technical limitations. Although Guangxi opera animation has its unique features in traditional cultural arts and painting, there is still a certain lag when it comes to animation production technology and equipment.

1.4 Research Frameworks

According to the specific research content and existing conditions, aiming at the expected research objectives, the method of combining theory and practice is adopted to carry out the research step by step. The overall research block diagram is as follows:

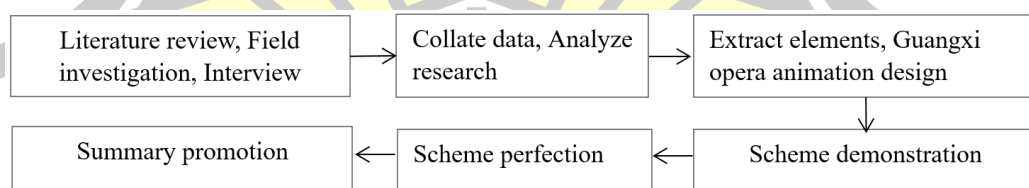


Figure 1 Research Frameworks

1.5 Importance and Benefit of Research

It is of great significance to develop a cartoon animation style to protect Guangxi opera, which is mainly reflected in the following aspects:

1.5.1 Create a unique Guangxi Opera animation

Through animation, more people contact and understand Guangxi opera, and promote its inheritance and development. Animation works can show the classic opera, singing, and performance skills vividly so that the audience can feel the charm of opera more directly. Especially for young people, through animation, they can more easily understand the opera, which helps to strengthen people's sense of identity and interest in traditional culture.

1.5.2 Know the acceptance of the sample on the animated with the unique Guangxi Opera

Guangxi opera animation is a unique art form, that combines the traditional Guangxi opera elements and animation technology, not only retains the classic elements and artistic style of Guangxi opera but also has a vivid animation effect. By studying the acceptance degree of Guangxi opera animation, further exploring the attitude and perception of this unique form, and analyzing the feedback and views of the young people, a more comprehensive conclusion can be drawn, which can provide a reference for the promotion and dissemination of Guangxi opera animation.

1.5.3 Know the effect of the sample on the animated cartoon with the unique Guangxi Opera

The investigation of young students can help us to better promote and inherit the culture of Guangxi opera. Through the sample, it reflects the interest and cognitive level of young students in Guangxi opera animation, and then develops more accurate and targeted publicity strategies. It reveals the role of Guangxi opera animation in the cultural education and value cultivation of young students and provides valuable opinions and suggestions for optimizing and improving Guangxi opera animation.

1.6 Definition of Terms

“Guangxi Opera Performance” is the main local drama in Guangxi, which is distributed in the jurisdictions of Guilin, Liuzhou, Hezhou, Hechi, and Wuzhou, as well as nearly 60 cities and counties in southern Hunan. This study focuses on the development history of Guangxi opera and how to spread it, comments on the cultural

phenomena of Guangxi opera, introduces the artistic achievements of drama animation performance, and discusses how to enhance the love of Guangxi opera among young students from both theoretical and practical perspectives, and spreads it through daily life or teaching activities.

“Character design” refers to the process of conceiving and designing character images in Guangxi opera animation. In Guangxi opera animation, character design needs to consider the character's appearance, clothing style, facial expressions, etc. to ensure that the character image matches the style and temperament of Guangxi opera and can accurately convey the character's personality and emotions.

“Guangxi Opera” is one of the major local operas in Guangxi. In the Ming and Qing Dynasties, there were different local accent characteristics and localization gradually formed in Guilin and other places. In history, through the reform of three playwrights and educators, Tang Jingsong, Ma Junwu, and Ou Yangyuqian, the basic appearance of the art of Guangxi opera has been laid out (Du Juan, 2021). As early as 2006, Guangxi opera was included in the first batch of the national intangible cultural heritage list, but this did not promote the inheritance and protection of Guangxi opera.

"Animation style" refers to the unique aesthetic expression and artistic style used in animation production. Animation as a visual medium conveys the story, emotion, and thoughts through the movement and transformation of images. The choice and presentation of animation style can not only affect the audience's feeling and understanding of the work but also show the creator's personal style and aesthetic pursuit.

"Animation protection" refers to the implementation of measures aimed at safeguarding the rights, interests, and values of animation works. Being a significant form of cultural and artistic expression as well as a creative industry, animation plays a crucial role in social life. Animation works serve not only as a medium to preserve and exhibit the distinctive cultural elements of a nation or region but also contribute to the advancement of creative industries.

Chapter 2

Literature Review

2.1 Guangxi Opera and the Current Situations

2.1.1 Introduction to Guangxi Opera

Guangxi opera, also known as Guiban opera, is one of the local operas in Guangxi Zhuang Autonomous Region, China. It is world-famous for its unique performance style and artistic features. Guangxi opera focuses on physical performance and singing skills. The actors express the emotions and personalities of the characters through exquisite movements, dance postures, and vocals. During the performance, actors need to accurately master the combination of language, movement, music, and other artistic elements to convey the storyline and shape the characters.

The development process of Guangxi opera was initially dominated by single performances, with actors playing various roles and performing alone. Over time, Guangxi opera gradually developed into a form of multi-person cooperation. In a multi-person Guangxi opera performance, the actors work together to play different roles, and the teamwork makes the play more vivid. This form of multi-person cooperation enriches the expression form of Guangxi opera and enables the audience to experience the richer artistic charm of opera.

1) Guangxi Opera performance characteristics

Guangxi opera originated in the Ming Dynasty and gradually formed a unique artistic style after hundreds of years of development. Role-playing is a major feature of Guangxi opera. Guangxi opera roles are divided into “Sheng, Dan, Jing, Mo, Chou”, “Sheng” the performance was very steady and generous, natural and handsome, elegant and heroic. “Dan” the performance is more dexterous and dignified. “Jing” the performance was very irascible. “Chou” the performance is very funny and quite fun (He Xu, 2021). The actors focus on shaping the personality and characteristics of the characters through language, body, and manners, and skillfully use the Guangxi dialect to make the language of the characters closer to life and enhance the sense of reality of the scene.

The performance characteristics of Guangxi opera can be summarized as "three details": "Meticulous performance", that is, the actors' hand and foot performances must be meticulous, precise, and expressive; "Careful expression", the actors' mouthpieces, lips, and teeth must be delicate and vivid and can speak clearly and accurately to express emotions and artistic conception; and "Meticulous singing", the actors' voices must be delicate, full and rich in variety, and able to accurately convey the plot and the psychological changes of the characters. In addition, the actors also put a lot of effort into their makeup and costumes. Different characters require different make-up and costumes to show their identities, statuses, and emotional states. Through the actors' exquisite acting skills and delicate expressions, the audience can deeply understand and feel the inner world of the characters, thus enhancing the artistic appeal of the drama.



Figure 2 Theater performance
(The author shoots)

In terms of music, Guangxi opera is accompanied by traditional instruments such as dulcimer, banhu, and erhu, with a soft and melodious melody. The singing part adopts the singing style of cadence and changeable intonation so that the audience can feel the deep emotional expression. In the form of performance, it pays attention to the exquisite technical performance, through body movements, facial expressions, voice changes, and other means, to express the character's personality characteristics and emotional changes (Fang Wenting,2023). The singing of Guangxi opera is accompanied by dials, with soft and melodious timbre, full of local characteristics in the south. When singing, the actors should not only pay attention to the mastery of timbre but also pay attention to the expression of the emotional and

personality characteristics of the characters, so that the audience can more truly feel the inner world and emotional changes of the characters in the play. Through superb acting skills and delicate emotional expression, Guangxi opera can move the hearts of the audience and arouse resonance.

2) Guangxi opera repertoire

The repertoire of Guangxi opera has rich and diverse themes, including traditional historical stories, local folklore, and realistic themes in Guangxi. Among them, common historical stories cover various levels of characters such as ancient emperors, literati, and heroes. For example, "Doing Articles" describes Prince Xu Ziyuan who does not study hard, does not learn, and spends all day having fun. His parents try to teach him a lesson by acting out different roles, including two ugly characters, and creating many jokes. "The Biography of Liu Yi" depicts the story of a brave and kind-hearted young man delivering letters, and so on.

Although the repertoire of Guangxi opera has a wide variety of themes and themes, no matter what type of repertoire it is, Guangxi opera presents the audience with a unique performance style and superb acting skills. When actors play a role, they focus on shaping the character's personality through words, deeds, facial expressions, and body language to make it lifelike; at the same time, the performance style of Guangxi opera also pays more attention to the smooth coordination of movements and delicate emotional expression, with dance postures. The beautiful and melodious singing voice conveys the emotions and inner world of the characters.



Figure 3 Performance by the inheritors of Guangxi Opera
(The author shoots)

2.1.2 The Current Situations of Guangxi Opera

With the continuous development of society and the change in audience tastes, Guangxi opera faces some challenges and difficulties in contemporary times. The dissolution of the troupe and the gradual disappearance of opera are common, making fewer people learn and watch opera. The reasons for the gradual disappearance of Guangxi opera are mainly reflected in the following aspects:

Take the professional "Guangxi Opera" team in Guangxi as an example. At the peak, there were more than 100 teams, but with the decrease in related performance opportunities and income, many teams had to choose to dissolve. In the process of inheritance, Guangxi opera has not achieved rapid development, and the number of performance venues and audiences of related troupes is rapidly decreasing. In addition, the poor operation of some troupes has made many actors lose confidence in the future, resulting in the psychology of changing careers or treating them negatively, which has hindered the development of troupes (Zhu Jiangyong, 2021).

Guangxi opera market economy plunged. Under the background of the market economy, Guangxi opera has the inevitable commodity attribute, and its performance is very limited, which leads to the decline of the box office. From the previous full-seat delivery of tickets, the number of audiences dropped sharply, which not only affected the actors' income, but suppressed their enthusiasm dedicated to the art of opera, but also brought much restrictive repertoire and arrangement of innovation. Many groups and individuals who supported the development of the opera were hit, lost confidence, reduced support, and even did not support it. Many troupes are facing bankruptcy, and the development of Guangxi opera faces difficulties.

Audience loss, the lack of successors. At present, Guangxi opera is facing the impact and challenge of diversified entertainment culture in modern society. People have gone from a single opera appreciation to a multifaceted choice. People are busy with work and study, often ignoring the traditional old-fashioned entertainment life, replaced by the Internet age of TV and computers. To cope with these challenges, Guangxi opera needs to actively explore and innovate, and adjust the form of artistic expression with The Times. New media technology can be combined

to exchange and integrate the art forms of Guangxi opera to create more novel works and attract the attention of more audiences.

2.1.3 Youth and Guangxi Opera Performance

Young people pay less attention to Guangxi opera. Due to the imperfection of the contemporary drama education system, the training of the younger generation of drama talents can't keep up, leading to problems such as the lack of successors and the aging of cast members. (Chen Xiangjun, 2023). With the rapid development of science and technology in today's society, cultural development is becoming increasingly diversified. Teenagers are in a critical period of learning and exploration, facing the diversity of cultural types and wandering in the cultural ocean. If the youth groups lack the necessary guidance, they can pay little attention to the culture of Guangxi opera. In addition, the traditional atmosphere of opera culture is strong, which can't keep up with the characteristics of teenagers seeking novelty and knowledge quickly. They often have a rustic impression of opera culture and feel they can't keep up with the times and trends. Therefore, if effective measures are not taken, it will be difficult for precious Guangxi opera to be opened among teenagers, and it will be difficult for it to become an active inheritor. Then, how to infiltrate the culture of Guangxi opera among youth groups and strengthen the spread and development of Guangxi opera culture?

Rich elements of traditional Chinese opera culture are added to the teaching for young people, making it one of the main channels of traditional Chinese opera inheritance (Liu Ye, 2021). Young people's understanding of traditional opera culture is relatively simple, and they are unfamiliar with the performance forms of Guangxi opera, lacking the interest and motivation to stimulate and explore Guangxi opera. Therefore, if the animation content of Guangxi opera is purposefully integrated into the teaching and life of teenagers so that every teenager can know the form of Guangxi opera, make them walk into the art of Guangxi opera, understand the culture of Guangxi opera, and perform plays, and provide a suitable environment for the development of Guangxi opera culture among teenagers, which is conducive to the vigorous inheritance of Guangxi opera culture among teenagers.

Although Guangxi opera plays an important role in Chinese cultural tradition, it is not popular among young people. This may be due to factors. First of

all, the publicity and promotion of Guangxi opera is not sufficient. Among students, the knowledge and understanding of Guangxi opera is very limited. The relevant advertising and publicity mechanism did not reach students, resulting in low interest in Guangxi opera. At the same time, school education also lacks measures to incorporate Guangxi opera into teaching content, and students have few opportunities to be exposed to the art form of Guangxi opera.

Secondly, the relatively old themes and forms are also an important reason why Guangxi opera is not popular among young people. Modern young people pursue novel and youthful art forms and cultural expressions, and the themes and storylines of Guangxi opera are often far from students' life experiences. This makes more students maintain a relatively alienated attitude towards Guangxi opera, making it difficult for them to resonate and be interested. The low level of attention paid to Guangxi opera among young people is an increasingly prominent problem.

Finally, due to the lack of education and publicity of traditional opera, many young people's understanding of Guangxi opera is limited to one-sided impressions or no understanding at all. The society also lacks related activities that provide opportunities for young people to come into contact with and appreciate Guangxi opera. With the rise of social media and digital entertainment, young people are more inclined to online entertainment and social activities instead of traditional watching and participating in Guangxi opera performances. Guangxi opera's competitiveness has declined in the digital entertainment era, and it lacks freshness and innovative elements to attract young audiences.

It is necessary to purposefully integrate the animation of Guangxi opera into the teaching and life of young people. It provides a suitable environment for the development of Guangxi opera culture among young people and is conducive to the vigorous inheritance of Guangxi opera culture among young people.

2.2 The Concepts of Cartoon Animation

2.2.1 Introduction to Cartoon Animation

Animation refers to a form of film and television production in which a series of different still images are captured frame by frame, gradually changing and giving the illusion of movement. Animation is not merely a "moving painting," but

rather a distinct artistic medium used to portray motion. Among its key components, "artificial frame-by-frame design," "dynamic imagery," and "illusion of motion" are three essential elements that contribute to creating dynamic cartoons, making them indispensable.

Animation is a comprehensive art form that integrates painting, film, digital media, photography, music, literature, and other artistic disciplines. Since its early development, Chinese animation has naturally incorporated elements of traditional opera culture and gradually evolved into Traditional Chinese opera Animation, which has become a distinctive theme within the realm of Chinese film and television. Now, however, new media technology has penetrated every aspect of our lives, especially the new film and television media, such as TV series, movies, videos, and advertising.

In the development of the animation industry in China for nearly a hundred years, the national style has always been the spiritual core of animation creation and development in China, witnessing the rise and fall of the national animation industry. Traditional Chinese opera plays an important role in it. The relationship between China animation and traditional Chinese opera has a long history. As early as 1942, *Princess Iron Fan*, China's first animated feature film, blended many elements of China opera with a unique China theme, forming a unique national feature, that had a strong response in the international animation industry. As a local traditional art with a long history in Guangxi, Guangxi opera has its unique aesthetic value in recent decades, which provides material support and artistic support for the emergence and development of China animation. Drama animation takes drama stories as deductive content and takes character modeling, action form, singing, and music as creative elements (Li Guangsuo, 2021).

"Uproar in Heaven" is a masterpiece of the Chinese animation film industry and a symbol of the nationalization and maturity of Chinese animation films. The film combines the characteristics of Chinese painting, temple art, folk New Year painting, and the exquisite performance skills of traditional Chinese opera, successfully shaping the well-known image of the Monkey King, and making traditional Chinese animation art reach a high-quality aesthetic level. The significance of its success lies not only in the integration of the narrative system of film and the performance system of opera

but also in its ability to be smoothly enjoyed by audiences who may not have a deep understanding of the language of opera. This is the strongest evidence that the film can be loved by young people. In terms of subject matter, character design, and character expression, opera animation draws on the animation of traditional Chinese opera resources. It is a successful example of dramatic animation.

2.2.2 The Various Cartoon Animation Styles

The artistic style of China's animation originated in the 1920s, based on the works of some original historical story writers, a few cartoons, games, and novel adaptations, which emphasized the content's cultural significance. China's animation showcases the rich tradition of Chinese culture, and its form is not restricted to a single pattern. With a history spanning five thousand years, China's civilization has laid the foundation for the flourishing of its animation industry.

China's domestic animation is rooted in the essence of the nation. Chinese animation artists have consistently drawn inspiration from traditional culture and art, fully integrating these elements into their works, thereby forging a distinctive animation style in China. Domestic animation in China primarily draws on folk art expressions and elements from popular folklore. Traditional Chinese opera, with its long-standing cultural history, represents one of the most prominent traditional art forms. Consequently, traditional Chinese opera exerts a profound influence on Chinese animated films. Traditional Chinese opera is an independent art form, seamlessly blending visual and auditory expressions. In this traditional art form, the storyline, costume design, stage presentation, and musical rhythm are meticulously crafted.

The traditional Chinese opera animation has also absorbed many characteristics of traditional Chinese opera, and successfully grafted the performance form of traditional Chinese opera into the role portrayal of animation. We have to admit that early animation effectively promoted the development of the animation industry at that time by adding drama elements. In the form of expression, Has tried paper-cutting, shadow play, puppet shows, and so on, forming unique artistic charm. From 1961 to 1964, the large-scale cartoon "Make a Scene in Heaven" absorbed nutrition from traditional Chinese opera art in terms of artistic style, action design, and music elements, which showed China's unique aesthetic charm and achieved

impressive results (Huang Yujiao,2023). In this process, China's animation developed and experienced a transformation from imitating another style to exploring a unique aesthetic style. Therefore, the theatrical performance style in China's domestic animation has continued to this day, and it has become the most important performance form now and has made many classic animations works.

In ancient times, traditional Chinese opera was in a prosperous period, and people's entertainment projects were mainly based on it; In today's era, traditional Chinese opera has gradually declined, and it has long lost its former glory. To reproduce the brilliance of traditional Chinese opera art, artists and creators must work together to make traditional Chinese opera animation recognized by more audiences. Therefore, in the study of Guangxi opera animation, how to use animation thinking to show the charm of opera without losing the flexibility and vividness of animation art is the main concern of today's creators (Cai Wei & Shi Jun,2016).

The diversity of cartoon animation styles is of great significance to the contemporary animation industry. Cartoon animation, as an art form with a wide audience, has become an indispensable part of people's daily lives. Its various styles bring new visual experiences and emotional resonance to the audience through its unique artistic expression and creative methods. The emergence of traditional hand-drawn cartoon animation, CGI cartoon animation, black and white line style, and bright color style has enriched the creative field of cartoon animation and provided a wider range of choices for movies, TV, online media, etc. By exploring the characteristics and advantages of these different styles, the diversity of cartoon animation can be better appreciated and understood.

1) Animation style introduction

1.1) Traditional hand-drawn cartoon animation

As an ancient and classic art form, it has rich and diverse styles. Through manual drawing and frame-by-frame shooting, traditional hand-drawn cartoon animation can present unique visual effects and charm. Compared with modern computer-generated animation, traditional hand-drawn cartoon animation pays more attention to the artist's creativity and skills, and every frame embodies the author's hard work. In this outline, we will explore the diversity of traditional hand-drawn cartoon animation styles, from comic style to fantasy style

to classical painting style. These different styles give the work a unique personality and charm. The diversity of traditional hand-drawn cartoon animation is not only reflected in style but also affects the expression of storylines. It is also closely related to the development and integration of contemporary hand-drawn cartoon animation. Let us deeply explore the diverse styles of traditional hand-drawn cartoon animation and appreciate the artistic beauty within it.

1.2) CGI cartoon animation

CGI cartoon animation is an animation style that uses computer-generated images to present itself. Its diversity is one of its unique features. The development of CGI cartoon animation has evolved into various styles, each style has its unique characteristics and charm and can attract different types of audiences. This diversity brings greater creativity and expression to cartoon animation, while also enriching the audience's viewing experience. Whether it is traditional cartoon style, realistic style, or flat design style, each one plays a unique role in the field of CGI cartoon animation. By exploring and using different styles, animators can create more diverse and engaging worlds that satisfy the needs of their audiences.

CGI cartoon animation is famous for its unique style. From traditional cartoon style to realistic style and flat design style, the diversity makes each work unique. Traditional cartoon style usually uses simple lines and bright colors, and the character expressions and movements are exaggerated and interesting, giving people a feeling of joy and relaxation. The realistic style pursues realism and detailed textures, creating realistic characters and scenes through fine light and shadow effects. The flat design style emphasizes contrasting colors and simple shapes, with a flat and unique appearance. It is often used for humorous plots and character displays.

Different styles have their advantages and expressiveness in the application. The traditional cartoon style is suitable for creating exaggerated and humorous characters and plots to inspire laughter and love from the audience; the realistic style conveys the emotions of the characters and the depth of the story through fine details and realism; the flat design style is usually used to express relaxation and liveliness. The atmosphere makes the audience feel happy and relaxed during the appreciation process.



Figure 4 2D animation style research
(The author shoots)

3) Reasons for the diversity of 2D animation styles

2.1) Each animation creator has his or her own unique aesthetics and artistic pursuits and chooses a style suitable for expressing the story based on his or her preferences and experience. For example, creators who like fine lines and pastel colors may gravitate toward a hand-drawn style; while creators who prefer a retro feel and simple shapes may choose a pixel art style.

2.2) The requirements of the target audience and story content will also affect the choice of 2D animation style. Different types of stories and audiences of different ages have different needs for aesthetics and emotional expression. Some animation works need to use a dark fantasy style to create a thriller and mysterious atmosphere, while some educational animations may be more suitable to use a simple and intuitive whiteboard animation style.

2.3) The development of technology and the improvement of software tools also provide conditions for the diversity of 2D animation styles. With the advancement of computer graphics technology, animation production software, and tools are becoming more and more powerful and diverse, allowing creators to use their imagination more freely and try various novel two-dimensional animation expressions. This technological advancement not only expands the creative

possibilities of creators but also brings a more colorful viewing experience to audiences.

2.4) Different styles have their advantages and expressiveness in the application. The traditional cartoon style is suitable for creating exaggerated and humorous characters and plots to inspire laughter and love from the audience; the realistic style conveys the emotions of the characters and the depth of the story through fine details and realism; the flat design style is usually used to express relaxation and liveliness. The atmosphere makes the audience feel happy and relaxed during the appreciation process.

2.2.3 The Production of Cartoon Animation

Two-dimensional animation is a form of animation presented from a flat perspective, which is widely used in film, television, network platforms, and other media fields. It originated from the early hand-drawn animation technology, with time, two-dimensional animation has gradually developed a variety of technologies and processes, making the animation more vivid and delicate. The development of two-dimensional animation is influenced by digital technology. The application of emerging software and tools gives two-dimensional animation greater creative freedom. The rise of animation on social media and network platforms also brings new market trends and opportunities to it.

1) Advantages of 2D animation

The main creation mode of this research is mainly two-dimensional animation. 2D animation refers to the use of a two-dimensional plane to present the animation effect of a technology. Compared with 3D animation, 2D animation pays more attention to the artistic effect and creative expression of the plane.

The most obvious difference between 2D animation and other types of animation is its flatness and hand-drawn style. Compared with the three-dimensional and realistic sense of three-dimensional animation, 2D animation puts more emphasis on the composition of the plane and the use of color. By drawing each keyframe and then playing it quickly at a certain speed, the dynamic effect is formed in the eyes of the audience. This kind of flat presentation can express the imagination and creativity of the creator more flexibly and give people a unique art viewing

experience. It is a visual media form favored by the audience and is widely used in the fields of movies, TV programs, advertising, and network media in modern society. With the progress of science and technology and the improvement of creative techniques, the production of two-dimensional cartoon animation is more exquisite and delicate.

1.1) It has the characteristics of high efficiency, strong interactivity, and small file size. Many companies now choose the two-dimensional comic production method. One of the main reasons is that it is very efficient.

1.2) In the process of making cartoons, we can easily make cartoons without spending too much time, and when using animated videos for publicity, we can attract more attention, to achieve better publicity effect. Therefore, this method can effectively improve the efficiency of animation publicity.

1.3) Two-dimensional animation allows the audience to determine the progress and results of the animation through simple body movements and button selections, which can better meet needs and realize the advantage of interactivity. In network communication, smaller sizes are easier to spread and achieve publicity effects. The animation files generated by 2D animation technology are very small and can be played in a short time.

1.4) The simple, clear lines and color design appeal to audiences of all ages. Whether it's children, teenagers, or adults, the simple style and bright colors of 2D animation can capture their attention. This makes it possible for 2D animation to be widely used in fields such as education, entertainment, and advertising.

1.5) Able to present rich storylines and themes to meet the preferences and needs of different groups of people. Through skillful plot construction and character creation, 2D animation can convey rich emotions, thoughts, and values. It can easily immerse the audience into the animated world, creating resonance and emotional connection. Whether it is joy, sadness, surprise, or inspiration, 2D animation can bring different levels of spiritual touch to the audience.

2) 2D animation production software

Two-dimensional animation software is a tool for making two-dimensional animation. In animation production, 2D animation software plays a crucial role. They provide a variety of features and tools to create beautiful 2D animation works. Through the use of this software, users can draw and edit characters, scenes, and actions, and transform still images into smooth animations. 2D animation software is not only suitable for the production of traditional animation but also can be used in TV, movies, games, and other media forms. Therefore, animators need to choose the right 2D animation software. This research mainly uses PS, SAI, PR, AE, and other drawing software for drawing design and output.

2.1) The digital tablet is a common drawing tool in 2D cartoon animation. It can achieve hand-painted effects and can be connected to a computer for digital processing. A digital tablet is an electronic device that provides a more natural writing and drawing experience, close to the feel of paper and pen. It usually consists of a dedicated touch panel and a matching electronic pen. Through the digital board, users can draw or write the content displayed on the computer screen in real-time, convenient display and sharing. At the same time, the digital board also has the functions of modifying, editing, saving, etc., which makes the creation more flexible and efficient. Digital tablets not only have a wide range of applications in the field of art and design, but also play a role in education, business, and office. With digital tablets, animators can more accurately express the lines and details of characters.

2.2) Adobe Photoshop is a powerful image-processing tool that is widely used in graphic design, photo editing, and digital art. As one of the industry standards, PS Drawing software provides a wealth of drawing tools and editing capabilities to help users create beautiful images. Whether it is a professional designer or an ordinary user, you can realize various design needs through PS drawing software. Through its intuitive interface and flexible operation mode, users can easily adjust the color, change the shape of the graphic, add text, etc., to achieve the desired effect. At the same time, PS drawing software also supports the import and export of a variety of image formats, which is convenient for users to carry out cross-platform applications and sharing. It provides rich painting tools and color adjustment functions, which can better complete the design and drawing of cartoon images. In

addition, there are some specially designed digital paintings software, such as Clip Studio Paint, Paint Tool SAI, etc., which provide more functions and special effects suitable for animation production.

2.3) Adobe After Effects is a powerful image processing and animation software, which is widely used in a variety of film and television, advertising, animation, and other fields. With rich special effects and animation effects functions, AE can achieve complex graphic motion and visual effects, so it plays an important role in two-dimensional animation production. First of all, AE software provides a rich variety of tools and preset effects to make animation easier and more efficient. Second, AE software supports a variety of import formats, including pictures, video, and audio, providing more material options for animation production. In addition, AE software also has powerful adjustment and editing functions, which can accurately control and adjust each element of the animation to achieve the desired animation effect.

3) 2D animation design principles

Two-dimensional animation design plays an extremely important role in today's field of digital media. Whether in the fields of film, television, games, or advertising, two-dimensional animation design can bring a visual feast and immersive experience to the audience. A successful two-dimensional animation work not only needs exquisite illustrations and excellent animation technology but also requires proper design and presentation.

3.1) Emphasizing form simplification and exaggeration is the key to showing the unique style of two-dimensional cartoon animation. By simplifying the form and exaggerated characteristics, it can capture the attention of the audience and show the personality of the characters.

3.2) Use bright colors to shape the city and characters, showing different atmospheres and emotions. For example, use warm colors to create warm scenes, and use cool colors to show tense or scary scenes.

3.3) Highlight the necessity of dynamic performance, through the use of posture, action, and speed to express the character characteristics and plot development, so that the audience can resonate with the character.

3.4) With carefully designed details and a rich background, it can provide more layers and depth to the storyline and enhance the audience's immersion.

2.3 The Principles of Acceptance

Guangxi opera animation plays an important role in the inheritance and development. However, with the changes in The Times and the needs of the audience, the production and dissemination of Guangxi opera animation face many challenges. To protect the artistic quality and traditional characteristics of Guangxi opera animation, as well as enhance its ornamental and educational value, the acceptance principle of Guangxi opera animation came into being.

1) Ensure plot and costume design are accurate

Displaying the art of Guangxi opera fully demonstrates the cultural connotation of opera, including music, singing, body posture, facial makeup, and other characteristic elements. Through careful selection of music and sound effects, precise action design, and artistic shaping of characters, the audience can feel the depth of regional culture, historical heritage, and characters' emotions while enjoying the animation. Paying special attention to the costume design, the classic Guangxi opera characters are presented, including costumes, etc. to ensure that the audience can immediately identify the characteristics of Guangxi opera.

2) Maintain the accuracy of Guangxi Opera characteristics in the character image

The character styling should be designed according to the requirements of traditional Guangxi opera, such as short hair, square scarves for male characters, and updos for female characters. Carry out in-depth characterization of the main characters and faithfully express their personality traits and emotional changes. Through animation image design and character creation, the rich and diverse personality characteristics of Guangxi opera characters are shown, including strength, depth, tenderness, etc. For example, on the stage of landscape painting, the characteristics of characters can be highlighted through clothing, makeup, and performance techniques. Pay special attention to capturing expressions and facial features to accurately reproduce the wonderful performances of Guangxi opera actors.

3) Use classic Guangxi Opera music as background music

Background music plays an important role in the Guangxi opera animation story. It not only provides a backdrop for the scene, enhances the emotion of the characters and the expressiveness of the story, but also retains and inherits the art of Guangxi opera and adds a unique cultural charm to the animated story. The soundtrack should select classic Guangxi opera music to enhance the atmosphere of Guangxi opera in the animation. Try to keep the music and plot in sync so that the audience can feel the role of Guangxi opera music in setting off the story. (Fang ,2023)

2.4 Research Related

Du Juan (2021) In the article "Research on the Digital Animation Inheritance of the Intangible Cultural Heritage "Guangxi opera" conducted, he believed that digital animation emerged in the context of the continuous development of digital technology and has become an important part of the inheritance of some drama-type intangible cultural heritage. Way. The use of digital animation can make the inheritance of Guangxi opera more in line with the trend of the times and achieve better results. First, it will help expand the audience of "Guangxi opera". Second, it will help control the cost of inheritance of "Guangxi opera" Third, it contributes to the standardized inheritance of "Guangxi opera".

Tian Suna(2021) In the article "Research on Using Animation to Present and Disseminate the Beauty of opera" , Tian Suna believed that opera animation is not a simple superposition of opera and animation, but a pioneering artistic creation. It skillfully applies character creation, performance forms, music, dance, and costumes in opera art to animation, and uses modern animation production technology and expression techniques to interpret and present the beauty of traditional opera .

Li Xin (2011) In article "Research on the Design of opera Animation Characters and the Grasp and Application of opera Elements", Li Xin believed that the organic integration of opera art elements and animation technology is a powerful way to spread our country's national art culture. The form of opera animation can better inherit the opera culture. Opera animation is a highly comprehensive emerging art. Animation creators need to properly use and organize opera elements to be

expressed in animation to achieve both physical and spiritual effects. Consolidating the artistic image of opera requires a process of re-creation, which requires continuous practice and exploration.

In Li Guangsuo (2021) article "Animated Character Design", animated character design is considered to be the performer and carrier of animated stories. Animated characters are performers and carriers of animated stories. Animated character modeling design is the overall design of animated character images, including character modeling, clothing, props, accessories, expressions typical dynamics, etc. Character modeling design needs to conform to the style of the film, and character modeling design is also an important factor in the style of animated films.

Arief Agung Suwasono (2016) in "Pengantar Animasi 2D: Metode Dasar Perancangan Animasi Tradisional" believes that although animation is developing very rapidly now, especially in the technical field, as an understanding of how animation rules can be visualized, the basic principles of animation have indeed not yet evolved from Released from traditional animation. Be part of the creative industry, one of the leading industries in the entertainment business and trade.

The expression of Chinese opera is unique, and the character design in the animation takes traditional opera elements as the carrier, which not only inherits and protects the traditional opera culture but also innovates the inheritance form. The animation film of drama element is the fusion of traditional art subject matter and animation expression, which is the new product of perfect combination with modern science and technology. In two-dimensional animation, character design that draws opera elements defines the artistic style of the whole animation in terms of character shape and line, character appearance and expression, animation costume color, and pattern, and also shows the unique charm of Chinese opera and the artistic aesthetic style of animation creators, thus providing new opportunities and multiple choices, thus promoting the development of animation art style.

Chapter 3

Research Method

3.1 Population and sample

3.1.1 Population

The population of this study was students who are from Guangxi Modern Polytechnic College majoring in Advertising Design. There were 400 students. The object of this study is the students majoring in advertising design at Guangxi Modern Polytechnic College. The students majoring in advertising design offer courses in illustration and film post-production. The study is representative. Through this study, students' understanding of Guangxi opera culture and daily teaching can be reflected.

3.1.2 Sample

Simple random sampling was used to select 100 students from the population.

The sample size of this article is mainly based on the simple random sampling method. Simple random sampling is a method of randomly selecting individuals as a sample. Each individual has an equal probability of being selected for the sample, which can avoid the effects of subjectivity and bias. All observation units in the population are uniformly numbered: 1, 2, 3...N. Following the random principle, 100 observation units are selected from the population to form a sample. During the sampling process, any random number is selected as the starting number, and random numbers are read in any direction starting from the selected starting number until 100 samples are extracted.

3.2 Research variables

Variables are concepts or attributes that can change in quality or quantity. The variables in this study are mainly the cognitive level of young people, the animation style, the comparison of animation character design, and the related evaluation of animation development.

3.3 Research Scope

The scope of this study is to first explore the adolescents' understanding of Guangxi opera, then analyze the influence of Guangxi opera animation on teenagers' cultural identity and emotional expression, design and develop Guangxi opera animation according to teenagers' preferences, and finally evaluate the development satisfaction of the animation.

3.4 Research Instruments

The research method of thesis writing mainly adopts the mixed research method. Guangxi opera animation combines traditional opera and modern animation, which has unique artistic charm and cultural value. To better understand the production and development of Guangxi animation, the hybrid research method can provide more comprehensive and diversified research data and analysis results, which can conduct in-depth research from different angles and levels and provide scientific support for its innovation and promotion.

1) Questionnaire survey

To observe the audience's needs and preferences of Guangxi opera animation, as well as collect the audience's opinions and suggestions on Guangxi opera animation, to improve and promote the form. Through the questionnaire, understand the characteristics and preferences of the audience group of Guangxi opera animation, including their understanding of Guangxi opera animation, interest in Guangxi opera animation, favorite elements, and content. At the same time, we also hope to listen to the audience's comments and suggestions on Guangxi opera animation, to continuously improve the quality of Guangxi opera animation and meet the needs of the audience. The questionnaire includes several aspects:

Understand the audience's understanding of Guangxi opera, including whether they have relevant knowledge, whether they have watched Guangxi opera, etc. Through these questions, we can understand the audience's understanding of the opera and its familiarity.

Conduct a style and satisfaction survey on the designed Guangxi opera animation characters to understand whether the audience likes the animation style and character modeling.

Explore the audience's interest in and acceptance of Guangxi opera animation. By investigating the audience's preference and willingness to watch Guangxi opera animation, we can obtain information about their interest and acceptance of Guangxi opera animation.

Through the investigation of the influence of Guangxi opera animation on young people, we find out the influence of Guangxi opera animation on young people's values and outlook on life, and whether young people want to participate in Guangxi opera performances, etc. Through the investigation of Guangxi opera animation, we can find the existing problems and potential room for improvement, to further improve the quality of Guangxi opera animation and audience satisfaction.

2) Interview question guideline

The main interviewees in this study are the non-genetic bearers of Guangxi opera. Through the interviews with the non-genetic bearers, we can understand the origin and performance skills of Guangxi opera, as well as the influence of Guangxi opera on young people and how to promote it. It mainly involves the following aspects:

- a. Do a background check to understand the relevant information of the interviewee
- b. Have something to say, focus, and design questions according to the interview content
- c. Conduct face-to-face interviews and arrange the time and place reasonably
- d. Transfer the interview video materials into text manuscripts
- e. Filter and screen, delete redundant content, and retain the essence
- f. Organizational structure, so that the interview content has a sense of hierarchy and logic

3.5 Instrument Development

The questionnaire survey is mainly based on the online questionnaire survey platform of Questionnaires, and specific information can be obtained through the background data of Questionnaires. The platform provides users with powerful and humanized online design questionnaires, data collection, customized reports, survey results analysis, and other services. Compared with traditional survey methods and other survey websites or systems, Questionnaires have obvious advantages of being quick, easy to use, and low cost, and have been widely used by a large number of enterprises and individuals.

A questionnaire survey questionnaire is a kind of structured survey with a fixed expression form, question order, and answer method. Based on the online questionnaire survey platform, specific information can be obtained through the background data of the questionnaire. The platform is powerful and user-friendly and can be used for online questionnaire design, data collection, and so on. A questionnaire survey has obvious advantages such as being fast, simple, and low-cost. Through the analysis of relevant statistical data, the satisfaction and effect of teenagers watching animation can be evaluated. The contents of the questionnaire are as follows:

- a. Your age is:
- b. Your gender is:
- c. The major is:
- d. Where did you know anything about the theatrical culture?
 1. Network, TV, and live broadcast 2. Books and magazines
 3. Know through school 4. Tourism, exhibition
- e. Do you know what Guangxi opera is?
 1. Know 2. Know a little 3. Don't know
- f. How many Guangxi opera plays do you know?
 1. Less than 10 2. More than 10 3. know nothing at all
- g. In what form is Guangxi opera more attractive?
 1. Animation 2. Video 3. Pictures
- H. What are the advantages of Guangxi opera animation?

1. Rich pictures 2. Easy to understand 3. High communication

I. What animation style do you like?

1. Ink style 2. Flat style

3. Abstract style 4. Surreal style 5. Narrative style

J. What you have gained by watching the animation of Guangxi opera is:

3.6 Research Design

Processes to develop the cartoon animation styles for the preservation of the Guangxi opera Performance are as follows:

3.6.1 Selection of Guangxi Opera Animation Script

As one of the important traditional operas in China, Guangxi opera has a long history and unique artistic style. It has a unique charm in music, singing, dancing, performance, and so on, and is deeply loved and recognized by the audience. Choosing the right script is very important for the development and inheritance of Guangxi opera. In the process of selecting the topic, it is necessary to comprehensively consider audience preferences, value transmission, and social concerns, and combine contemporary needs to create. It is necessary to choose a representative classic play or wonderful story, and then adapt it into a script suitable for animation. The script should be written according to the characteristics of animation, and pay attention to rhythm and picture transformation, to guide the audience into the story. The specific work of selecting the script needs to be carried out by certain principles and methods, including respecting tradition and paying attention to social reality. Through careful selection of scripts and subsequent review, adaptation, and production, more wonderful Guangxi opera works can be brought to the audience. The importance of choosing a screenplay is reflected in the following aspects:

First of all, choosing a subject matter that fits the audience's preferences is one of the keys to success. Guangxi opera is an ancient and popular opera form in the Guangxi Zhuang Autonomous Region. The audience's choice of operas is often closely related to their emotional needs and aesthetic preferences. Therefore, it is necessary to fully consider the tastes and interests of the audience

when selecting the topic and choose the subject matter that can attract the audience and trigger resonance.

Secondly, the selection of the script should promote positive energy and pass on positive values. As a public art form, drama bears social responsibility and cultural mission. The script selection of Guangxi drama should pay attention to the expression of justice, friendship, struggle, and other positive themes, through the wonderful plot and character creation, stimulate the audience's thinking and emotional resonance, and then enhance the social civilization.

Finally, the topic of the play also needs to pay attention to contemporary social issues to trigger thinking and discussion. Society is changing rapidly, and people's concerns are constantly evolving. By choosing themes closely related to The Times, Guangxi opera can present the characteristics of The Times while inheriting the classics, trigger the audience's thinking on social issues, and promote social progress and development.

3.6.2 Animation character design

Animation character design is crucial to a successful animation work. Before designing animated characters, it is first necessary to clarify who the target audience of this animated work is. According to the audience group, determine the style and characteristics of the character design, as well as the adaptability of the storyline.

Character design and modeling. The character design in Guangxi opera animation should consider the retention of traditional character images, while also innovating according to specific storylines. By drawing the line drawing styles and colors of each character, as well as specific expressions and action designs, the audience can better understand and resonate emotionally, thereby enhancing the appeal of the animation work. The main goal is to serve the story by creating unique, easily recognizable characters that enable the audience to establish an emotional connection with the characters. When it comes to character design, there are a few principles to follow. First of all, the character design must be in line with the setting and emotional needs of the story. The appearance, characteristics, and behavior of the characters should match the background, theme, and plot of the story to enhance the

authenticity and credibility of the story. Secondly, the character design should have a unique personality and distinct characteristics, so that it can be distinguished from other characters, and let the audience empathize with and emotional investment in it.

To express a character's emotions, a variety of techniques can be employed. First, posture and facial expressions are very effective forms of expression. By designing the character's body movements and facial expressions, it can directly show the character's emotions at the moment, such as happiness, sadness, anger, etc. Secondly, movement is also an important means to convey emotion. By designing the actions of the character, it can show the character's personality characteristics and emotional state, such as lively, calm, nervous, and so on. At the same time, sound effects and voices can enhance the expression of the character's emotions. Appropriate choice of background music or sound effects, matched with the voice performance suitable for the role, can better convey the emotional connotation of the role. The animation character design process is as follows:

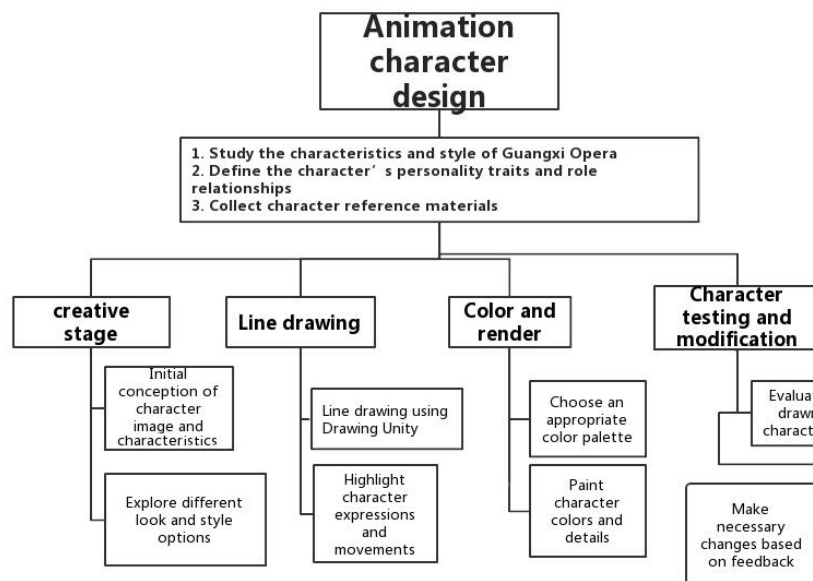


Figure 5 Animation role design flow chart

3.6.3 Art design and scene construction

1) Art design

Art design plays an important role in Guangxi opera animation production, which directly affects the visual effects and artistic appeal of the work. In

art design, color theory and color matching are very important factors. By understanding the meaning and emotional expression of different colors, designers can choose hues and color combinations that fit the scene and create the desired mood and atmosphere. Spatial composition and perspective are also factors that must be considered in art design. Designers need to create a sense of hierarchy and depth through appropriate layout methods so that viewers can have an immersive experience.

Animation art design is the art of creating, conceiving, and realizing visual images in animation works. It not only provides aesthetic value for animation, but also endows animation works with vitality and emotion through character design, background design, and color design. Through carefully designed images and scenes, animation art design can bring a pleasant experience to the audience visually.

2) Scene construction

It is necessary to design suitable background scenes according to the story background and plot needs and create a unique artistic style through delicate painting expression, appropriate tone light, and shadow processing. Color tonality and style selection the color tonality of the animation scene directly affects the audience's feelings and emotions. According to the atmosphere and plot needs of the story, choose the appropriate tone and color combination to convey the emotion and theme to be expressed. The color and style of the scene should be in harmony with the story's overall atmosphere and plot needs. For example, vivid and bright colors can be used in scenes depicting joy, while dull cool tones can be used in tense and suspenseful scenes to create a sense of depression.

In setting the background and layout structure the background setting of the animation scene should conform to the setting and needs of the story. At the same time, rationally arrange the elements in the scene, such as buildings, roads, plants, etc., to make the scene more realistic and easier to understand. In scene construction, it is necessary to determine which elements are important in the story, to highlight their performance, and to simplify the processing of minor elements. This helps highlight the point and allows the audience to better understand the story.

By using the correct perspective and proportion relationship, you can bring a sense of three-dimensional and spatial sense to the scene, making it more vivid. Careful handling allows the viewer to feel the changes in distance and depth. Reasonable selection of photography angles to highlight the key points, according to the needs of the story and the expression of the emotions of the characters, choose a suitable Angle, can better highlight the important elements and plots, and enhance the visual impact of the audience.

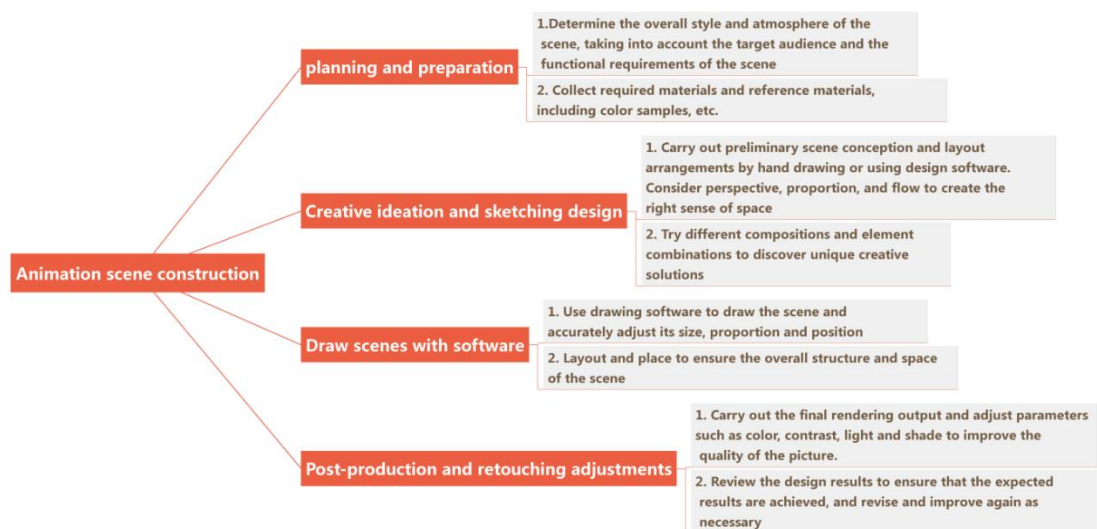


Figure 6 Scene design process

3.6.4 Score and sound design

Guangxi opera animation sound extraction involves a series of technologies and methods to ensure the quality of the audio and conform to the style of Guangxi opera performance. In Guangxi opera animation, sound plays a very important role. It can enhance the emotional expression of the characters and the effect of the scene, and help the audience better understand and experience the story. To effectively extract Guangxi opera animation sounds, it is necessary to rely on video interception, natural recording, and music production.

Music and sound effects in Guangxi opera animation are crucial to creating atmosphere and promoting plot development. It is necessary to select suitable musical elements based on different scenes and character characteristics, such as the

soundtrack of Guangxi opera and the use of traditional musical instruments, to further highlight the cultural characteristics of the work.

3.6.5 Animation production and post-synthesis

Animation production and post-synthesis are extremely important technologies in the entertainment industry today, which transform static images and audio into lively animation works. Animation is a creative and technical work, which involves many steps such as script creation, character design, scene construction, and action drawing. Post-synthesis is to improve the quality and appreciation of animation by editing video, adding special effects, and optimizing sound. Through the organic combination of these two links, we can create wonderful and dazzling animation works.

Post-animation synthesis refers to the fusion and processing of different elements (including images, videos, special effects, etc.) in the later stage to create the final animation work. It is a crucial part of the animation production process, which can improve the quality of the animation, enhance the viewing effect, and repair possible defects. Through post-synthesis, the material can be edited, color correction, particle effects, light and shadow effects, and audio processing. The sequence of these steps and the use of techniques have an important impact on the final animation. Software commonly used for post-animation synthesis includes Adobe After Effects, Nuke, and Fusion. Post-production technology plays an important role in all kinds of animation production fields, such as movies, TV plays, advertisements, and games.

In animation production, it is necessary to use professional technical means to dynamically express characters and backgrounds, switch scenes, and integrate music and sound effects. Through smooth movements and rich special effects, the audience can experience the unique charm of Guangxi opera.

3.7 Data Collection

Literature review method, by reading a large number of books, documents, newspapers, and periodicals, we can obtain relevant historical allusions, development status, and other data information of Guangxi opera. Collect relevant literature on popular science animation creation, animation creation, and script creation, and obtain

research information. By consulting the relevant literature at home and abroad, we can understand the research progress of popular science animation creation at home and abroad, compare the research results, find out the problems, and put forward suggestions.

Interview survey method, by interviewing performers of Guangxi opera, we can understand the relevant information about Guangxi opera, distribute questionnaires to teenagers, collect questionnaires, and understand teenagers' views on Guangxi opera.

3.8 Data Analysis

3.8.1 The analysis of the uniqueness of Guangxi opera

As a traditional opera form in Guangxi, Guangxi opera has unique characteristics and charm. First of all, Guangxi opera is based on Guangxi dialect singing and is closely related to Guangxi's profound regional culture. This singing feature not only allows actors to better express the emotions of the characters but also enhances the audience's sense of regional identity. Secondly, the facial makeup and costumes in Guangxi opera are also unique. The actors put on exquisite facial makeup and gorgeous costumes to highlight the identities and characteristics of their characters. Such a unique shape combined with the stage scenery brings visual shock to the audience. In addition, Guangxi opera is also extremely delicate and beautiful in its emotional expression. The actors showed the inner emotions of the characters through singing, acting, and dancing, arousing the resonance of the audience. Finally, the stage movements and choreography of Guangxi opera also have unique characteristics. The movements in the play are graceful and stretched, combined with the music and singing, making the whole performance more rhythmic and artistic.

Guangxi opera is world-famous for its unique performance style and gorgeous costumes and props. As an intangible cultural heritage of the Chinese nation, Guangxi opera occupies an important position in traditional Chinese opera and has a profound impact on inheriting Chinese culture and promoting local culture. Guangxi opera is characterized by elegance, delicacy, and touching. It skillfully combines music, dance, performance rap, and other art forms, bringing an audio-visual feast to the audience. Guangxi opera is the pride of Guangxi. Many people have worked hard

and sweat to inherit Guangxi opera. Through interviews with the inheritors of Guangxi opera, we can have a deeper understanding of the uniqueness and advantages of Guangxi opera. The interview format is as follows:

Interview time: February 2023

Interviewee: Guangxi Opera Troupe Inheritor

Interviewer: Danbei Qin

Interview questions:

1. What is the current situation of Guangxi opera?
2. Which Guangxi opera plays are more popular?
3. What form of communication is better for Guangxi opera?
4. Can the animation of Guangxi opera make young students understand and like Guangxi opera?
5. The performance skills of Guangxi opera?

3.8.2 The analysis of acceptance and effect of the developed animation

Two-dimensional animation has great development potential. With the continuous progress of modern science and technology, two-dimensional animation technology plays an important role in the history of animation creation and is the necessary foundation for the development of the animation industry. The surreal expression in two-dimensional animation broadens people's horizons. After a long period of development, two-dimensional animation has also become a new art form, showing fresh development potential and has been integrated into people's lives.

How to analyze the questionnaire. First of all, we should make clear the purpose of our investigation, analyze the main questions with purpose in the whole process, and make statistics on the answers to the main questions according to the investigation results. Through these data, Can intuitively see the cognitive level of the investigators and their psychological state in this survey; After sorting out and

analyzing a series of collected data, the situation reflected by the obtained data is the expected result of the questionnaire release.

The questionnaire is mainly based on qualitative analysis, aiming to have a deeper understanding of problem-oriented and start-up. According to the number of selected samples, this paper analyzes the influence on the animation effect of Guangxi opera through the data of a questionnaire survey.

3.9 Statistics for Data Analysis

3.9.1 Questionnaire

The questionnaire mainly uses the questionnaire survey platform to collect statistical data and conducts SPSS analysis in the context of the questionnaire platform. First, conduct data cleaning to ensure the accuracy of the data; then use statistical analysis methods, Statistics can be viewed in the background, or exported to Excel tables, etc. such as mean, standard deviation, and other indicators, to make descriptive statistics; then conduct a comparative analysis, and find out the rules and trends; finally, use data visualization technology, such as charts, images, and other forms to show the results of data analysis.

3.9.2 Interview

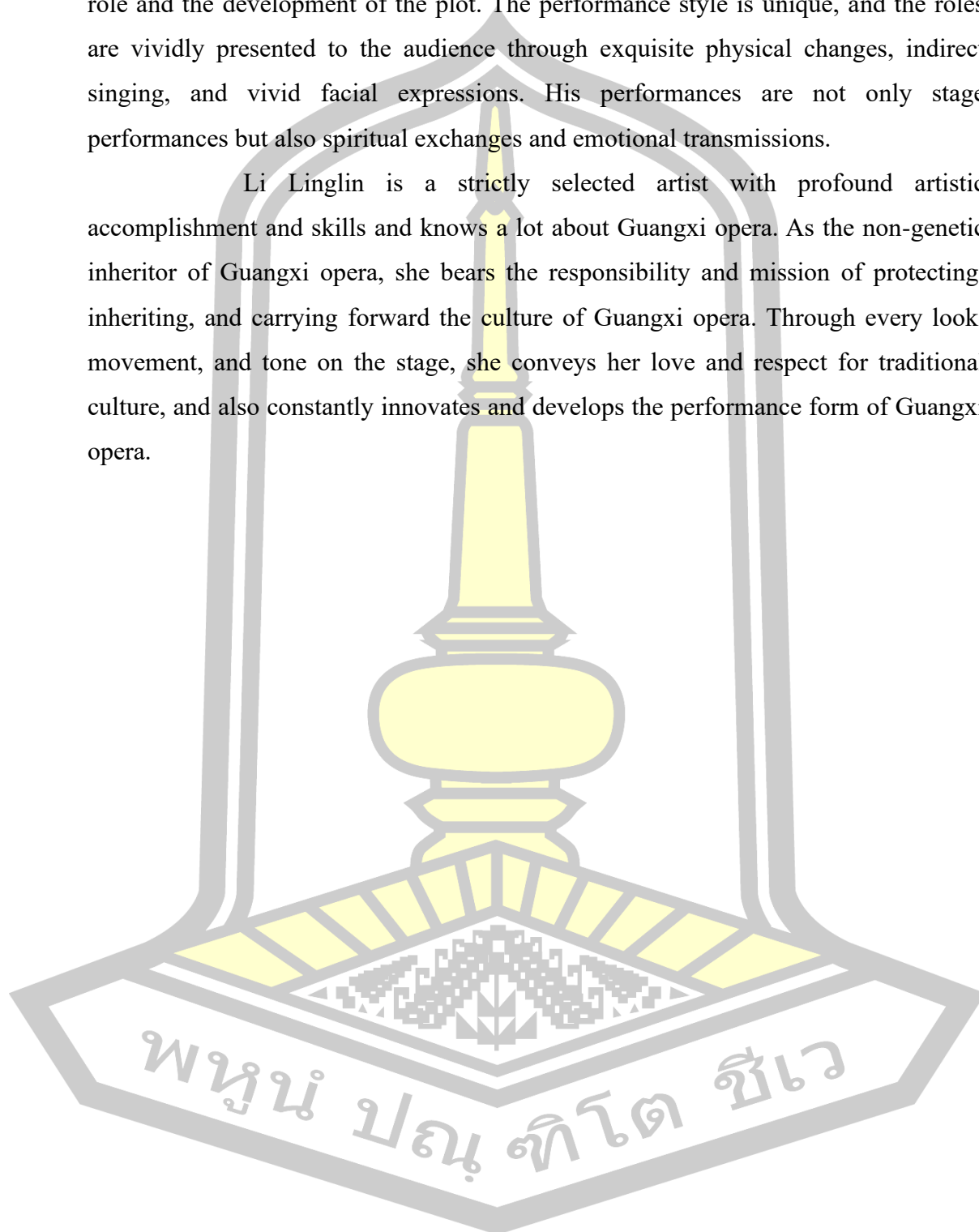
Interview three Guangxi Opera experts to obtain relevant information about the performance of Guangxi opera:

Wei Yu de is a non-genetic inheritor of Guangxi opera. Since he was young, he has been studying Guangxi opera, receiving professional training and education, and deeply studying the performance skills and singing art of Guangxi opera. He loves Guangxi opera and has a deep understanding of this art form. It has its uniqueness in performance form, music rhythm, and plot development, and has in-depth thinking on the shaping of the characters in the play, and has a unique grasp of the personality characteristics, emotional expression, and stage image of the characters.

Ou Guomin is a non-genetic inheritor of Guangxi opera. He is committed to the protection, inheritance, and promotion of Guangxi opera. Through continuous practice and efforts, he has gradually accumulated rich stage experience and achieved significant accomplishments. He has profound artistic accomplishment

and excellent performance skills and can accurately grasp the characteristics of the role and the development of the plot. The performance style is unique, and the roles are vividly presented to the audience through exquisite physical changes, indirect singing, and vivid facial expressions. His performances are not only stage performances but also spiritual exchanges and emotional transmissions.

Li Linglin is a strictly selected artist with profound artistic accomplishment and skills and knows a lot about Guangxi opera. As the non-genetic inheritor of Guangxi opera, she bears the responsibility and mission of protecting, inheriting, and carrying forward the culture of Guangxi opera. Through every look, movement, and tone on the stage, she conveys her love and respect for traditional culture, and also constantly innovates and develops the performance form of Guangxi opera.



Chapter 4

Results

4.1 The results of Guangxi Opera and the youth

4.1.1 Students understand the ways and cognitive results of Guangxi Opera

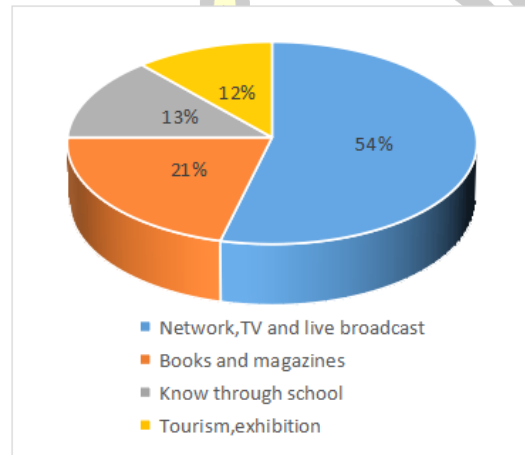


Figure 7 Understand the cultural channels of drama

The results of the survey of 100 students found that students are between the ages of 18-22 and belong to the youth stage. The research subjects are students majoring in design. The male-to-female ratio is 33:67, According to the results of the survey, 54 % of college students learn about traditional Chinese culture through the Internet and other channels, and 21 % get such knowledge through books and magazines. Some students contact traditional culture through tourism, visits, and exhibitions. In the era of rapid development of information technology, college students have more diversified sources to receive information. In addition to traditional media materials such as newspapers and magazines, there are also emerging information transmission media such as the Internet and TV, and the new power of the Internet has gradually become the dominant force of confident communication.

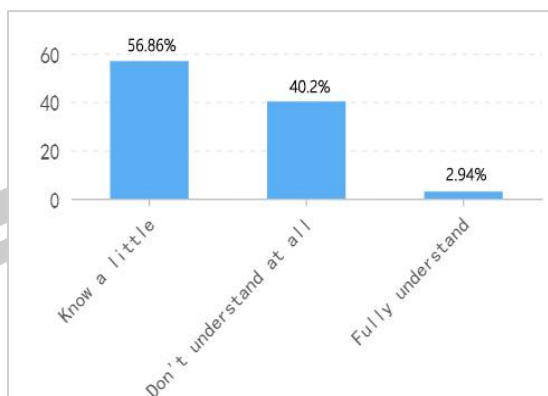


Figure 8 Students know about Guangxi opera

According to Figure 8 the answer to the question “Do you know Guangxi opera?” 56.86% of the students know a little about Guangxi opera; 40.20% of the students don’t understand Guangxi opera at all, and 2.94% of the students know it completely.

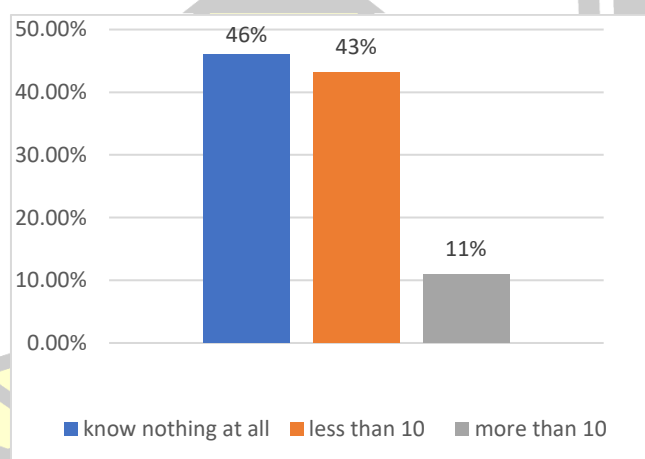


Figure 9 Know how many Guangxi opera plays

The question about how many repertoires were used for Guangxi opera. The result found that 46% of students know nothing about Guangxi opera. 43% of students know less than 10 repertoires and 11% of students know more than 10 Guangxi opera repertoires. In the survey results about opinions about animation production, 81.37%

of students think that Guangxi opera will be more attractive in the form of animation, and 91.18% of students think that animation has rich graphics.

From the survey results, we can see that students have heard of Guangxi opera, but they do not know much about the repertoire of Guangxi opera. Due to the diversity of culture, the audience is a large number of diversions. Drama has been a little marginalized in the past ten or two decades. Young people, in particular, are reluctant to accept drama. On the stage where various modern art forms are competing to develop, the traditional drama seems to have been neglected to a certain extent.

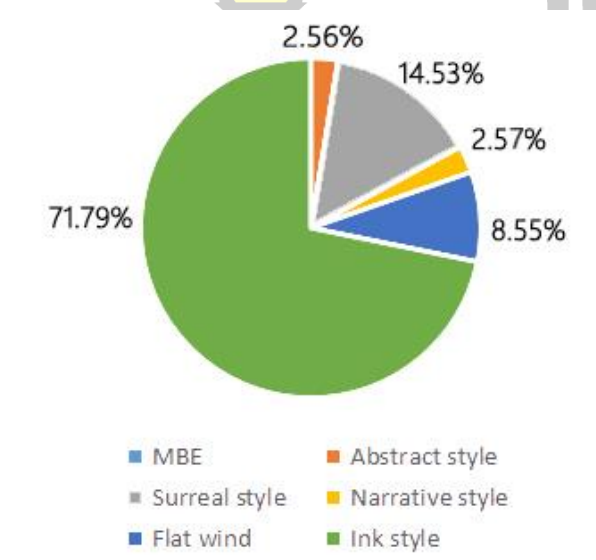


Figure 10 Preference for the style of characters in animation

Among the 100 samples, 71.79% chose the ink style, 2.56% chose the narrative style, 14.53% chose the surreal style, 2.57% chose the abstract style, and 8.55% chose the flat style, as shown in Figure 10. According to the survey results, most people chose the ink style. The ink painting style is a unique Chinese style of art. In the later stage of animation character design, the character style is designed to match the character's ink style.

4.2 Results of the evolution of the quality of animation cartoon from experts

4.2.1 The Scripts

1) Research on Shiyu Village

Guangxi opera is a unique type of traditional Chinese opera, famous for its unique singing, dancing, and performance methods. Shiyu Village in Fu Chuan, Guangxi is located in Fu Chuan Yao Autonomous County, Guilin City, Guangxi. It is one of the important birthplaces of Guangxi opera. Shiyu Village is a typical Yao village with a long history and rich national culture. Since the 1940s, Shiyu Village has gradually formed a Guangxi opera art team and has actively inherited performance skills and script creation.

Through field research in Shiyu Village, Fu Chuan Town, Guangxi, and an interview with Li Ling Lin, the inheritor of intangible cultural heritage, we learned that there is a story of benevolence, justice, and morality circulating in the village. According to rumors, during the Zheng de period of the Ming Dynasty, a Duan sheng from He Zhou County went to the capital to take the exam. When passing the Xiu Feng Dong Jiang Bridge in Fu Chuan, he left in a hurry to find a place to stay because it was getting late. Unexpectedly, in his hurry, he forgot the package and three hundred taels worth of silver on the Dong Jiang Bridge. Fortunately, these things were discovered by farmer Mao Jing who returned to the fields. Mao Jing was not greedy.

He returned all the items to Duan Sheng without hesitation, without leaving a penny. Later, Duan Sheng took the exam in the capital, successfully won the title of No. 1 Scholar, and was named the Grand Administrator of Guilin.

Duan Sheng reported Mr. Mao Jing's act of collecting gold without hesitation to the emperor. The emperor greatly appreciated his kindness and rewarded him with three hundred taels of silver. He also personally inscribed a gold plaque with the title "Virtuous and Righteous Man" and gave it to Mao Jing as a reward. This incident has become a legend and will be forever recorded in the annals of history to show respect and praise for Mr. Mao Jing's noble character.

This story is based on information provided by Mao Xing Zhu, a villager in Shiyu Village, Xiu Shui, Chao Dong. Fu Chuan Xing Xin Art Troupe once adapted and performed the play collectively. However, due to the death of the older

generation of artists, the show had difficulties in touring and faced the situation of being lost.

2) Animation production value

"The Moral and Righteous Man" The Guangxi opera story has attracted people's attention for its unique charm. The Guangxi opera story of the moral and righteous man has inspired social thinking and triggered thoughts on historical memory and cultural resonance. The play mainly focuses on historical patriotism and ideological and political elements. By watching the animation of Guangxi opera, you can understand Guangxi opera and spread positive values.

Guangxi opera animation combines traditional culture and modern technology to present Guangxi opera elements to the audience, which not only retains the traditional artistic charm but also attracts a wider audience, especially the younger generation of viewers. Determining the Guangxi opera animation script is crucial to creating an attractive story with Guangxi opera characteristics.



Figure 11 Shiyu Village drama Stage
(The author shoots)

4.2.2 The Storyboard

1) Storyboard script settings

Storyboards are an indispensable part of the animation production process. They describe the content and animation effects of each shot in detail in the form of text and images.

Through the storyboard, can clearly understand the concept and design of each shot, ensuring that the animation work has a unified style and smooth expression.



Figure 12 Animation script discussion
(The author shoots)

Through sorting out related stories, we can conclude that there are six main characters in the play, mainly Duan Sheng's father, Duan Sheng, Duan Yu Huan, Mao Jing, Mao Jing's wife, and the emperor. There are five related scenes organized according to the story situation: Duan Sheng's home, Mao Jing's home, the street, the bridge, palace.

Through seminars, we communicated with experts and sorted out the stories. The final script is as follows:

Table 1 Story board

Field	lens	Dialogue	Action	Scenes	Time
1	Title	Guangxi opera The Virtue and the Righteous	The boat was floating on the river	Rivers mountains	7-second clock
		Duan Sheng's father: I don't want to talk about anything else today, so go to the exam quickly.	YuHuan supported Duan Sheng's father,		37-second clock

Field	lens	Dialogue	Action	Scenes	Time
2	Medium shot	Duan Sheng: I'm going to Beijing to take an exam today. I hope I can pass the exam and go home in my beautiful clothes to repay my father's kindness.	Duan Sheng and Duan Sheng's father sang a duet	At home	24-second clock
3	Zoom in	It was a sunny day today and I was going out to the long street. I found a place to wait for the opportunity. I used a barbaric knife to bully people.	Ah San followed carefully	Street	20-second clock
4	Vision	Mao Jing: Tonight when I came back from farm work, I picked up a bag of silver on the Dongjiang Bridge, but I couldn't find anyone, so I asked you to come and discuss it.	Go home and talk	Returns home	36-second clock
5	Medium shot	Mao Jing's wife: we can't find anyone now, so we must stay. Mao Jing: We must return the silver to its owner.	Walk around and talk at home	At home	36-second clock
	Medium	Duan Sheng: I woke up late at night and hurriedly searched for the store. Only when I arrived at the store did I realize that a bag of grained silver had been lost. I had no way forward or retreat, and was filled with sadness and anger.	Duan Sheng was anxious to jump off the bridge	On the bridge	45-second clock

Field	lens	Dialogue	Action	Scenes	Time
6	shot to close-up	Mao Jing: There is indeed a bag of silver here. I happened to pick it up yesterday. I wonder if you lost it.	Take out the baggage		14-second clock
		Duan Sheng: The life-saving grace will be remembered in my heart.	Duan Sheng clenched his hands and thanked		10-second clock
		Mao Jing: You go to the exam and hope to be famous.	Pointing into the distance		11-second clock
	Medium shot	Duan Sheng: See Your Majesty.	Kneeling to see the emperor		
		The emperor: Stand up, Really young and promising, this instant fame, seal you for the chief magistrate of Guilin.	The emperor speaks		
		Duan Sheng: Thank you, Your Majesty. There's something I want to tell you	Kneel and thank you		
		Emperor: You say.	The emperor speaks		

Field	lens	Dialogue	Action	Scenes	Time
7	close up switch	Duan Sheng: Thank you, Your Majesty. I remember that when I went to Beijing to take the exam, I passed by the Dong Giang Bridge in Lu Cun. I had been on the road for several days, I was sleepy. I passed by the head of Lu Cun Bridge and rested for a while. When I woke up, I was so tired because of walking. I was in a hurry and dropped a bag of silver on the pier of the Dong Giang River. When I was filled with grief and anger, villager Mao Jing, my great benefactor, saved my life and returned the dropped silver to me without taking any money. A man of great kindness and virtue, please ask the emperor for a reward.	Scene reenactment	Royal palace	110- second clock
8	Medium shot	The emperor: There is such a wise man in this world. He must be rewarded. Come, give him three hundred silvers. A plaque with the words "virtuous and righteous" written on it, as an example, announces the world.	Nod		

Field	lens	Dialogue	Action	Scenes	Time
9	Medium shot	Mao Jing holds the plaque.	Finish		

4.2.3 Cartoon Characters

To better let young students understand Guangxi opera culture, Ms. Huang Weiping and I formed a Guangxi opera animation research team to conduct in-depth research on Guangxi opera performing arts. Ms. Huang Weiping participated in the design of many cartoons such as "The Legend of the Stone Demon". Starting in 2022, Ms. Huang Weiping and I began to study Guangxi opera through field visits and surveys. To make the animated characters of Guangxi opera better show the performance characteristics of Guangxi opera, we collected relevant performance data through interviews and questionnaires, learned about the origin and performance techniques of Guangxi opera from the intangible inheritors of Guangxi opera, and regularly visited Guangxi opera Watch the performing arts of Guangxi opera actors at the theater. Through the integration of various materials, the performing art of Guangxi opera is displayed through animation, so that young students can understand the performing art of Guangxi opera and promote the spread and development of Guangxi opera.

1) Ming Dynasty clothing and headwear

Ming Dynasty Clothing (1368-1644) was an important dynasty in Chinese history, with significant achievements and changes in politics, economy, culture, and other fields. During the Ming Dynasty, clothing was not only a necessity in people's daily lives but also reflected social status, identity, and cultural values. Ming Dynasty clothing is famous for its rich variety, exquisiteness, and exquisiteness.

Ming Dynasty society was divided into four major classes: hereditary scholars, farmers, industry, and commerce. Each class had corresponding clothing regulations to show the difference in identity and status. Scholars usually wore gorgeous and colorful silk robes to highlight their noble social status. Farmers often wore simple cotton and linen clothing, while wealthy merchants and craftsmen used more elaborate and luxurious clothing to show wealth and success.

Scholars pay special attention to details and quality in their clothing. They usually wear wide robes, long sleeves, and silk robes of various colors tied with belts, embroidered with auspicious patterns such as dragons, phoenixes, and unicorns (Li Zihao,2022). These clothes reflect their knowledge and cultural accomplishments. Farmers' clothing is mainly practical, often using simple black and blue fabrics without much decoration. Wealthy businessmen often wear exquisite silk robes to show their wealth and status.

Ming Dynasty headdress: It is an important part of ancient Chinese clothing culture, with rich and diverse design styles and unique symbolic meaning. In Ming Dynasty society, headwear was not only a decoration but also an important symbol reflecting a person's social status and identity. From the crowns worn by emperors and their relatives to the crowns and hats worn by officials with different official titles, to the specific buns and headscarves worn by children and women, the Ming Dynasty costume headwear, with its exquisite craftsmanship and delicate design, played an important role in ancient society. occupies an important position.

Men's clothing and headwear

Officials: robes, girdles, crowns, etc.

Civilians: robes, headscarves, hair accessories, etc.

Women's clothing and headwear

Palace concubines: silk robe, bun, gold hairpin

Noble women: brocade robes, double skirts, garlands, etc.

Commoner women: floral clothes, headscarves, hair accessories, etc.



Figure 13 Research on Costumes of Guangxi Opera Animation
(The author shoots)

Ming Dynasty headwear was not only a reflection of social status and identity but also an important expression of culture and art. The design styles and decorative elements of headwear are rich and diverse, representing the pursuit of beauty and the embodiment of aesthetic concepts in society at that time. The headdresses of the Ming Dynasty were made with exquisite craftsmanship, paying attention to detailed carvings, embroidery, and the application of gold and silver threads, which made the headdresses full of artistic and gorgeous feeling, and became the object of people's appreciation and study.

Some classic headdress elements such as mother-in-law crowns and skirts are still retained and loved in traditional culture, and their shadows can even be seen in modern weddings and other occasions. The cultural inheritance and evolution of headwear in the Ming Dynasty not only continued the excellent traditions of the Ming Dynasty but also enriched the cultural heritage of later generations and became an important part of our country's history and culture.

2) Analysis of the main characters

Duan Sheng's father: Duan Sheng's father is a kind man and respects others as his criterion. Whether he is getting along with family or friends, he shows a high degree of respect and care. He often listens to other people's views and opinions and never easily interrupts or ridicules other people's ideas. He treated everyone as equals and treated them with respect, regardless of their background or status. Duan Sheng's father's respectful attitude brought many positive results. First of all, this kind of respect effectively promotes harmonious relationships between each other. His family life was filled with mutual respect and understanding in his interactions with his children.

Duan Yu Huan: Duan Yu Huan not only looks beautiful but also behaves well and has a noble and calm attitude. She walks gracefully and her movements reveal heart-warming elegance. Her temperament exudes confidence and gentleness, giving people a demure feel. Pay attention to elegance and splendor in dress. She liked to wear gorgeous silk clothes, often choosing outfits characterized by bright colors and intricate embroidery. Her clothes reflect her noble status and excellent taste, giving people a stunning sense of beauty.

Duan Sheng: Duan Sheng is handsome, dignified in appearance, and slender in stature. He showed tenacity and hard work, which made him more determined and perseverant in pursuing his goals. His tenacity and hard work served as a test for him. The first prize laid the foundation. He is talented and repays his kindness, but he is a bit hasty and forgets things easily.

Mao Jing: The image of a farmer, kind, friendly, and not greedy for petty gains. Whether working in boring fields or harsh environments, they show tenacious vitality and confidence in the future. They know how to face difficulties with solid actions and courage, thereby achieving harvest and success.

Mao Jing's wife: Mao Jing's wife is respected and loved for her kindness and friendliness. No matter what kind of difficulties she encounters, she always faces them with a smile and never complains or gives up. Her strength is shown in the face of wind and rain. She never succumbs to difficulties but faces them bravely and works hard to overcome them.

Emperor: The emperor needs to have excellent wisdom and decision-making power, be able to correctly grasp the overall situation of the country and make wise decisions, be good at thinking about problems, have extensive knowledge reserves, understand the overall situation, consider the safety of the people, and be considerate of the people's sentiments.

4.2.4 The Production

1) Tools and software preparation

Before we started drawing, we installed and properly set up the Photoshop software. Some basic software configurations can be made based on personal preference to better suit the needs of painting. In addition, choosing the right drawing tool is also very important. For digital drawing, using a tablet with the right pen type can provide more precise and natural brush performance.

2) Line drawing material preparation

Before we start drawing cartoon character lines, we need to find a suitable reference image or drawing material. These materials can be ready-made character designs or similar-style pictures, which help to improve the accuracy and quality of the painting. Import the selected material into the Photoshop software.

Material can be loaded onto the canvas by drag and drop or import. Make sure the material corresponds to the scale and position of the drawing line.



Figure 14 Stills (Network data)

3) Create a base layer

Create a new layer and set it as the base layer: In Photoshop, click the "New Layer" button to set the layer as the base layer. This is the most basic drawing layer and is used to outline the overall shape and outline of the cartoon character. We can use the Brush Tool or the Path Tool to draw basic lines.

4) Draw in layers

PS animation layering refers to the technique of flexibly using layers to separate and control elements when using Adobe Photoshop software to create animations. By rationally using layering techniques, you can easily manage and edit each animated character's eyes, head, and joint elements, and achieve more precise and complex animation effects. As an important design tool, PS is widely used in graphic design, UI design, and other fields. In these fields, the use of layering techniques can not only improve the designer's work efficiency but also increase the visualization and interactivity of animation, making the work more vivid and attractive.

พหุ ประยุกต์ ชีว

Table 2 About the role design survey ranking

Name	First place	Runner-up	Third place	Fourth place	Fifth place
Duan Sheng's father	clothes	hat	mustache	facial features	shoes
Duan Sheng	scale	clothes	hat	facial features	shoes
Duan Yuhuan	clothes	hairstyle	Headwear	facial features	shoes
Emperor	clothes	facial features	hat	motion	mustache
Mao Jing	motion	clothes	hat	mustache	shoes
Mao Jing's wife	hairstyle	Headwear	Facial features	clothes	shoes

According to the survey, In designing the role of Duan Sheng's father, 40% of the students thought that the costume ranked first, 25% of the students thought that the hat could reflect the character, ranked second, 15% of the students chose beard, ranked third, 12% of the students chose facial features and ranked fourth.8% of the students chose shoes and ranked fifth.

In the design of the Duan Sheng character, 38% believe that the height ratio can reflect the character characteristics of the character, ranked first.20% thought that the clothes could reflect the character, ranking second, and 18% of the students chose the hat ranked third.14%of the students chose facial features, ranked fourth.10% chose shoes and ranked fifth.

In the character design of Duan Yuhuan, 30% believed that the clothes could reflect the character characteristics of the character, and ranked first.28%thought the hairstyle reflected the character, ranking second, while 18%chose the headdresses ranked third.13%of the students chose the facial features, ranking fourth.11 %chose shoes, ranking fifth.

In the design of the emperor role, 40% of students think that clothing the most can reflect the characteristics of the character ranked first, 25% of students think that the facial features can reflect the character role, ranked second, 15% of students chose hat, ranked third, 12% of students chose posture, ranked fourth. 8% of the students chose the beard and ranked fifth.

In the character design of Mao Jing, 42% of the students think that the action can reflect the characteristics of the character, 20% think that the clothes can reflect the characteristics of the character, ranking second, and 18% of the students choose the hat, ranking third. Eleven percent of the students chose a beard, ranked fourth, and 9% chose shoes, ranked fifth.

In the design of Lady Mao Jing, 36% of the students thought the hairstyle could reflect the character, 25% thought the headdress could reflect the character, ranking second, and 20% chose the hat third 15% of the students chose facial features, ranked fourth, and 4 %t chose shoes, ranked fifth.

Create new layers according to different parts of the character: According to the structure and characteristics of the cartoon character, we can place the head, body, arms, legs, and other parts on different layers. This can make subsequent operations more flexible and precise.

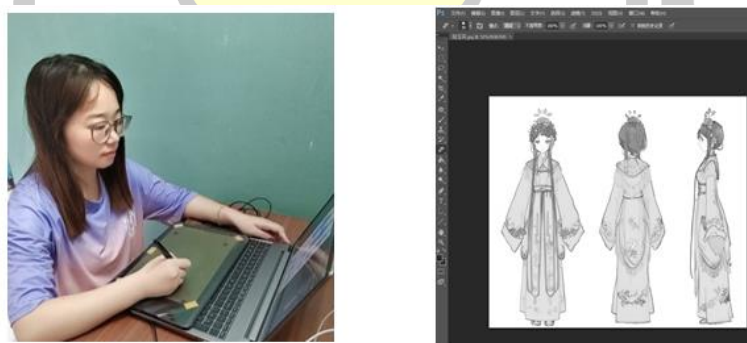


Figure 15 PS layered diagram



(The author shoots)





5) Make adjustment based on reference materials and original line drawings

By comparing the reference material with the original line drawing, you can discover the differences and deficiencies and make necessary

adjustments. Through comparison and observation, the accuracy and realism of cartoon character line drawings can be improved. Refining and retouching each layer. Select each layer one by one and work on it. Use various drawing tools and techniques, such as detail tracing, etc., to improve the expression and details of cartoon characters. Through constant adjustments and comparisons, the final draft is as follows:

Table 3 Main Characters

Name	Describe	Name	Describe
 Duan Sheng's father	When designing the characters, we start from the story's background and understand that the story takes place in the Ming Dynasty. Duan Sheng's father was a Ming Dynasty official. In designing the costume, the focus is on the unique clothing and totems of the Ming Dynasty, which symbolize wealth and good luck, and the slightly longer sleeves bring a dramatic atmosphere.	 Duan Sheng	Duan Sheng is an elegant scholar. His costume design is mainly based on the costumes of the Ming Dynasty. The color of the clothes is mainly blue, giving people a clean and refreshing feeling. In terms of pattern design, flowers are mainly used, and the hat is in the shape of the Ming Dynasty.

 <p>Duan Yu Huan</p>	<p>Duan Yu Huan has a cheerful personality and the color of her clothes is mainly red, symbolizing enthusiasm and unrestrained. The clothes are designed Concerning traditional opera costumes. The dress has a cape and shoulder strap, and the headdress is mainly decorated with red flowers.</p>	 <p>Emperor</p>	<p>The Ming emperors mainly wore yellow robes, symbolizing glory and splendor. The headwear is based on the good crown on Taizu's wings, and the totem on his clothes is based on the dragon pattern.</p>
 <p>Mao Jing</p>	<p>A typical image of a farmer, kind and friendly, with simple clothes, initially determined to be gray, brown.</p>	 <p>Mao Jing's wife</p>	<p>Mao Jing's wife is lively and dressed. The color is mainly green, which represents health, and the headdress is simple.</p>

6) Coloring and rendering

Coloring and blending PS line drawings are commonly used technical methods in the field of digital painting. By adding appropriate colors and gradient effects to line drawings, the artistic expression and visual appeal of the work can be improved. Coloring can inject vivid colors into the line drawing, making it more three-dimensional and layered; while blooming can create a soft, warm, or mysterious atmosphere by softening edges and transitioning colors. Mastering the

skills of coloring and blending PS line drawings will play an important role in digital painting creation.

First, determine the style and color scheme of the work, and choose a suitable style, The survey shows that the young people like the ink style, based on the theme of the work or the emotion expressed. Develop a clear color scheme that identifies the basic hues to be used and the range and limits of possible color variations.

Secondly, collect relevant reference materials and color samples. Collect reference materials that are consistent with the theme work by searching the Internet, consulting picture albums, observing the surrounding environment, etc. At the same time, collecting some color samples can help us better understand and grasp the techniques and effects of color application.

Finally, preparing appropriate PS software and related tools is a prerequisite for coloring and blending line drawings. Make sure the version of Photoshop used meets the requirements of the job, and be familiar with commonly used coloring and blending tools, such as fill tools, selection tools, gradient tools, liquefy tools, etc. Proficiency in using these tools will have a positive impact on subsequent operations.



Figure 16 Hierarchical color

6.1) Line drawing blending

Create a new layer and set the blending mode: To preserve the integrity of the original line art, you can create a blank layer in the Layers panel and set it to Multiply Color Burn, or another appropriate Blend mode. This way Can add color without destroying the line art. Select appropriate special





brushes in PS software, such as watercolor brushes, charcoal brushes, etc., to blend the line drawings.









By adjusting the transparency and flow of the brush, and selecting appropriate colors for blending, the shadows and highlights of the line art can be made more realistic. When choosing colors, consider the overall color layering and balance. Use colors with different shades and saturations to highlight the subject, and pay attention to the transition effect between colors to make the work look more natural. By using the above techniques, Can add vivid colors to PS line drawings, enhance the expressiveness of work, and create a richer visual experience for the audience. Use the gradient tool to create smooth transitions between different parts of your line drawing, adding detail and depth.

6.2) Use filters and adjustment layers appropriately

Use the built-in filter effects of PS software, such as blurring, sharpening, etc., to adjust the overall blooming effect. Adjust the layer's transparency, hue/saturation, brightness/contrast, and other parameters to further optimize the color and light and shadow effects of the line drawing. Use the Liquify tool to fine-tune specific areas to change the shape and performance of line art.

Table 4 Character style contrast





Character Name	Role 1	Role 2	Character Name	Role 1	Role 2
Duan Sheng's father			Duan Sheng		



Duan Yuhuan			Emperor		
Mao Jing			Mao Jing's wife		

Through the comparative survey of role styles, it can be found that in the character style design of Duan Sheng's father, 51% of the students chose the first character style, and 49% chose the second character style. In Duan Sheng, the character modeling design, 48% of the students chose character 1, and 52% chose character 2. In the character design of Duan Yuhuan, 45% of students chose character 1, and 55% chose character 2. For the emperor role style design, 53% of students chose character 1, and 47% chose character 2. For Mao Jing's modeling design, 42% of students chose character one, and 58% chose character 2. For the role style design of Mao Jing's wife, 55% of the students chose character 1, and 45% chose character 2.

พหุ ประถมศึกษา

Table 5 Gender and Role Difference Analysis

Role Name	Gender (mean \pm standard deviation)		t	P-value
	female	male		
 Duan Sheng's father	1.49 \pm 0.50	1.48 \pm 0.51	0.005	0.943
 Duan Sheng	1.57 \pm 0.50	1.42 \pm 0.50	1.806	0.182
 Duan Yuhuan	1.58 \pm 0.50	1.48 \pm 0.51	0.835	0.363
 Emperor	1.51 \pm 0.50	1.39 \pm 0.50	1.134	0.29

 <p>Mao Jing</p>	1.61±0.49	1.52±0.51	0.84	0.362
 <p>Mao Jing's wife</p>	1.49±0.50	1.36±0.49	1.477	0.227

The analysis of variance was used to study the gender differences in choosing the roles of Duan Sheng's father, Duan Yuhuan, Emperor, Mao Jing, and Mao Jing's wife. The above table shows that: ($p > 0.05$) different gender samples show consistency in the study of the roles of father, Yuhuan, Emperor, Mao Jing, and Mao Jing's wife, but there is no difference. Through the research, it can correctly reflect the young students' choice of favorite animation roles and take the highly selective role as the animation follow-up role.

6.3) Pay attention to the direction and intensity of the light source to make the picture more three-dimensional

Observe the direction of the light source of the line drawing so that the color changes and shadow casting are more consistent with the rules of perspective. According to the relationship between the objects in the picture and the background, set the intensity to blend the line drawing and the background naturally and have a three-dimensional feel. Pay attention to smooth transitions between parts to avoid obvious breaks or color inconsistencies.



Figure 17 Character Coloring

The sample students selected through this survey are students majoring in art and design at a university in Guangxi. They are random and representative and conform to statistical laws. The sample size is 100. Regarding the setting of the questionnaire, the initial survey was about the awareness and media of Guangxi opera, and the final survey was about the recognition of the animation character design. The whole process is step-by-step, and the results show that using multimedia to promote Guangxi opera is the best situation. There are many benefits to incorporating animated characters into Guangxi opera elements. First, this integration can increase the cultural heritage and uniqueness of the work. By integrating elements of Guangxi opera into animated characters, the work can be more characteristic of Chinese culture, adding a sense of history and regional characteristics.

Table 6 Do you like the animation character design style in this study?

Option	Number	Percentage
Like	73	73.00%
General	25	25.00%
dislike	2	2.00%

Animation character design plays a very important role in animation works and is the bridge between the audience and the animation world. A well-designed character resonates with and likes the audience, making them more involved in the story. The cartoon characters designed this time are mainly in the style of ink illustration. 73% of the group like this style, 25% think it is average, and 2% don't like it very much. The overall evaluation is good. After in-depth research on two classmates who didn't like it, I learned that both groups liked the surreal style.

Table 7 Is the animation character modeling design reasonable in this study?

Option	Number	Percentage
Reasonable	77	77.00%
General	23	23.00%
Unreasonable	0	0.00%

Reasonable animation character design can make it easier for the audience to resonate and resonate emotionally, thereby enhancing their attraction and participation in the animation work. A character's appearance design, personality shaping, ability setting, and relationship to the plot are all key factors in designing a reasonable character. Through this survey, 77 people thought the character design was reasonable, and 23 people thought it was average.

Character designs attract people's attention and love because these styles are unique, personal, cute, humorous, colorful, and visually appealing. To sum up, there are many reasons why anime character design style is popular. They stimulate the audience's emotions and interest, making animation works more attractive.

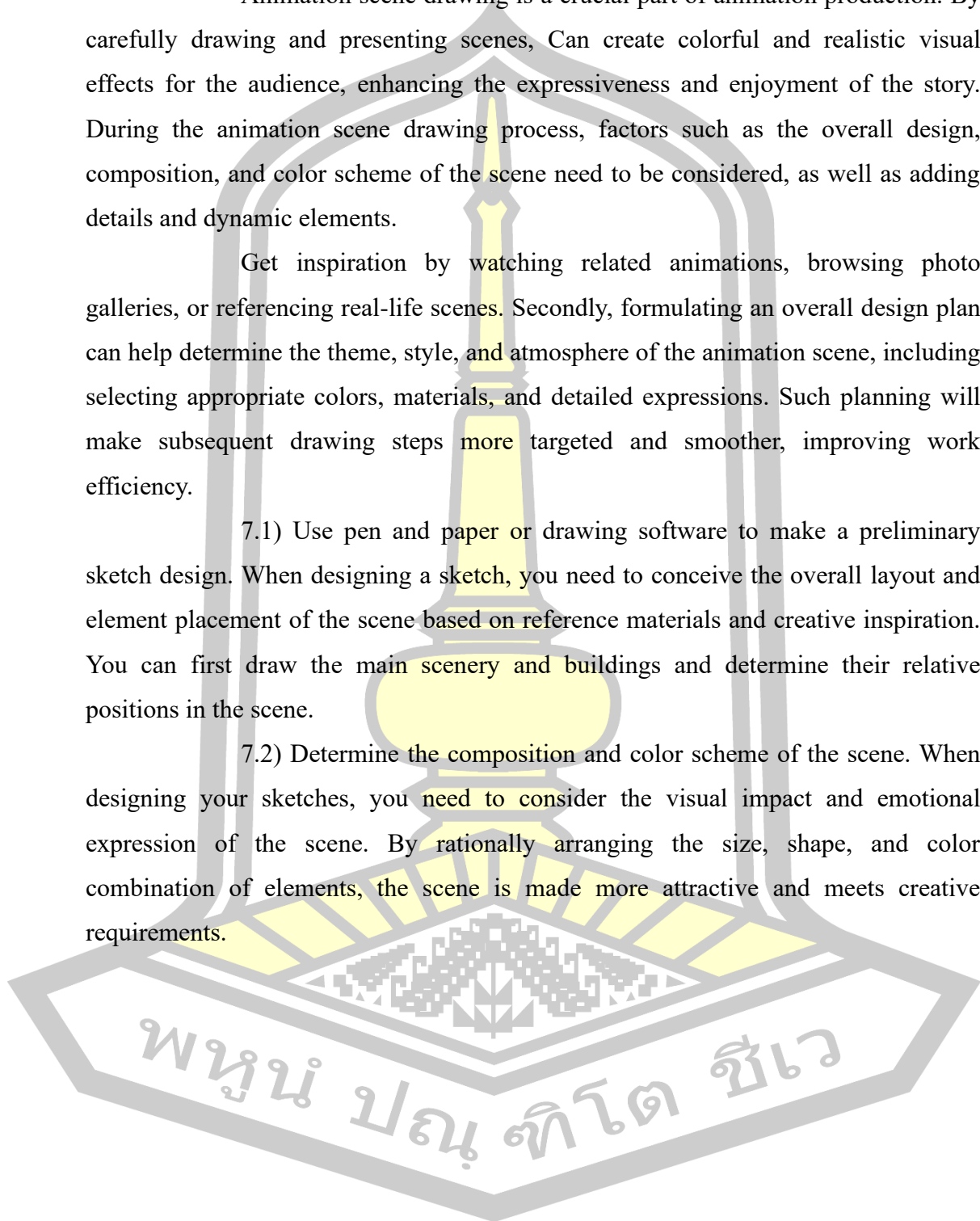
7) Scene Drawing

Animation scene drawing is a crucial part of animation production. By carefully drawing and presenting scenes, Can create colorful and realistic visual effects for the audience, enhancing the expressiveness and enjoyment of the story. During the animation scene drawing process, factors such as the overall design, composition, and color scheme of the scene need to be considered, as well as adding details and dynamic elements.

Get inspiration by watching related animations, browsing photo galleries, or referencing real-life scenes. Secondly, formulating an overall design plan can help determine the theme, style, and atmosphere of the animation scene, including selecting appropriate colors, materials, and detailed expressions. Such planning will make subsequent drawing steps more targeted and smoother, improving work efficiency.

7.1) Use pen and paper or drawing software to make a preliminary sketch design. When designing a sketch, you need to conceive the overall layout and element placement of the scene based on reference materials and creative inspiration. You can first draw the main scenery and buildings and determine their relative positions in the scene.

7.2) Determine the composition and color scheme of the scene. When designing your sketches, you need to consider the visual impact and emotional expression of the scene. By rationally arranging the size, shape, and color combination of elements, the scene is made more attractive and meets creative requirements.



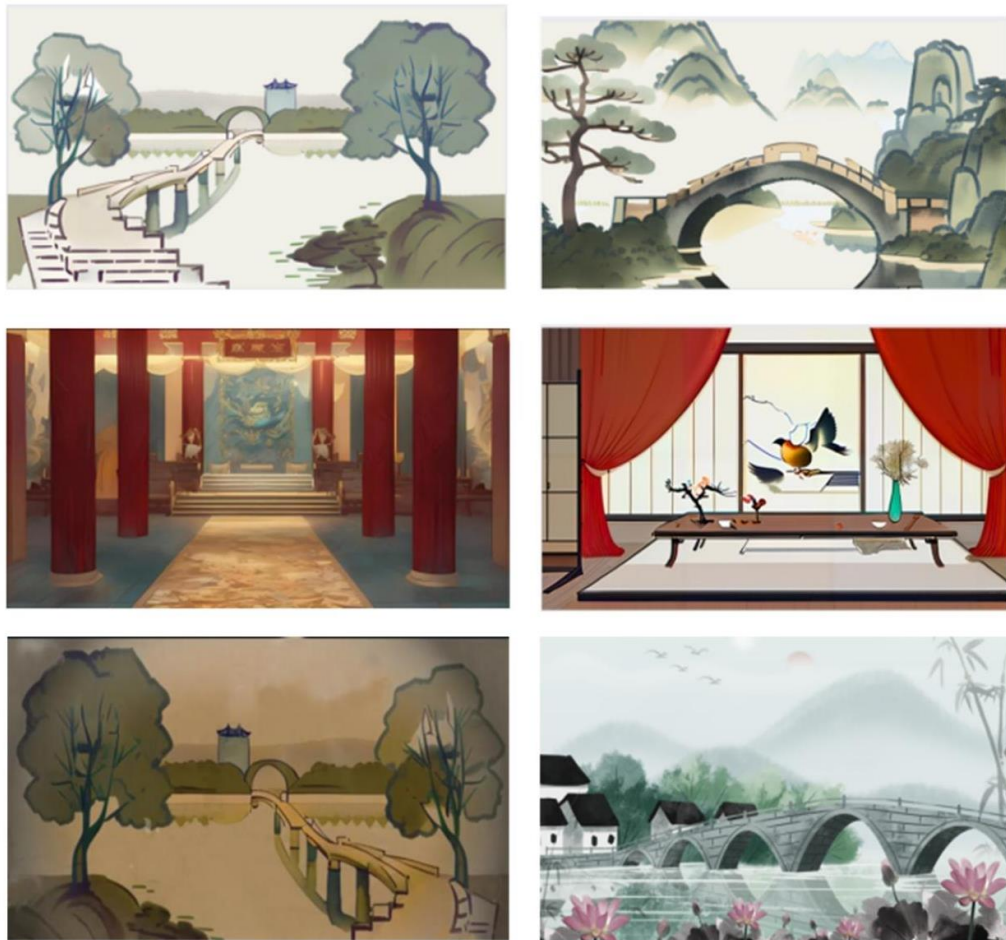


Figure 18 Scene graph

8) Sound extraction

8.1) Integrating local languages into animation methods

By recording the live performance voices of non-genetic inheritors in Shiyu Village, Fuchuan, and Guangxi Hezhou City, the local language is integrated into Guangxi opera animation in many ways.

First of all, on the one hand, local languages can be used to express character lines. By using local dialects, the character's personality can be visually shaped, making the character more three-dimensional and vivid. In addition, local languages can also increase the authenticity and vividness of the characters' emotional expressions, allowing the audience to better understand and feel the characters' inner world.

On the other hand, regional languages can be used in plot settings. In setting the background of the plot, local languages can be cleverly used to

show the characteristics of regional culture and the history, customs, and customs of a specific region can be integrated into the story to enrich the cultural connotation of the work. In addition, injecting local language elements can also stimulate the audience's cultural identity, making it easier for them to resonate and emotionally connect.

In addition to dialogue and plot, regional languages can also be used for music and singing. We combine the characteristics of local languages to design tunes and rhythms to fit the storyline and enhance the musical appeal of the work. At the same time, exploring local language expressions in singing can enrich the sound and musical diversity of the work, making it more attractive. Two important features of Guangxi opera animation sound:

(1) Music

Guangxi opera animations often use traditional Guangxi opera music as background music. This music is rich in Chinese folk characteristics and is mainly performed on drums, music, and other musical instruments.

The music of Guangxi opera is characterized by melodious and melodious melodies, varied rhythms, and the ability to highlight elements of performance and emotion. For example, when a performance climaxes, the music increases in intensity and speed to enhance the audience's emotional experience.

(2) Sound effects

Sound effects in Guangxi opera animation are mainly used to enhance the effect of the scene and highlight the characters' movements and emotions.

Through the reasonable use of sound effects techniques, the audience can better experience the scenes depicted in the Guangxi opera animation, thus increasing the enjoyment of viewing. For example, when a character jumps punches, or kicks, can add appropriate body collision sounds and combat sound effects to enhance the realism of the scene.

In short, the application of local languages in Guangxi opera animation can enhance the uniqueness and appreciation of the work, making it more nationally distinctive and regional. By making reasonable use of local languages, Guangxi opera animation can not only inherit and protect local cultural heritage but also enrich the artistic connotation of the works and bring a deeper cultural experience to the audience.

8.2) The significance and value of integrating local language into Guangxi opera animation

(1) Local language is an important part of regional culture. Integrating Guangxi opera animation can increase the national characteristics and regional sense of the work. Through the use of local dialects, the audience can more directly and deeply feel the unique customs and cultural characteristics of the place, and further enhance their understanding and recognition of the region.

(2) The use of local languages is unique and lively in artistic expression and can enrich the artistic connotation of Guangxi opera animation. Regarding music, the singing and vocalization methods of local languages are different from traditional Peking opera singing. By rationally using local language elements, the singing skills and forms can be expanded, and the diversity and expressiveness of music can be increased. In terms of character performance, the use of local languages can better shape the character's personality, make the character image more three-dimensional and closer to life, and increase the emotional resonance between the audience and the work.

(3) The application of local languages in Guangxi opera animation is also the inheritance and development of traditional culture. As one of China's rich and diverse regional cultures, the integration of local languages into Guangxi opera animation is not only the protection and inheritance of regional culture but also a process of innovation and exploration. It can make Guangxi opera animation truly an art form that integrates tradition and modernity, classics and innovation, and showcase the unique charm and vitality of Chinese traditional culture.

9) Animation synthesis

Adobe After Effects is a powerful video editing and special effects production software that is very suitable for producing various types of animation, including 2D animation. Two-dimensional animation refers to creating animation effects by moving and transforming graphic elements on a two-dimensional plane. The layered diagram is one of the key tools for making 2D animations in AE. It places different graphic elements in independent layers, and each layer can be easily controlled and edited. By using layered graphics, we can quickly and flexibly create beautiful 2D animation effects in AE.

9.1) First, we create a new layer, name and sort the layers, and then set the properties and special effects of the layer. After defining the animation keyframes, set the animation keyframes on the timeline, and adjust the properties and parameters of the keyframes.

9.2) Use AE's keyframe editing tools. Such as translation, rotation, scaling, etc., adjusting the position, size, and angle of the layer, use AE's special effects plug-ins and transition effects to add dynamic effects to the layer, and further fine-tune keyframes and attributes according to the needs of the animation effect.

9.3) Fine-tune and edit animation effects. Use AE's animation tools and special effects plug-ins to further adjust the properties and parameters of the layer, and adjust the position, size, rotation, and other properties of the layer to achieve the desired animation effect.

9.4) Add audio and transition effects. Synchronize audio and animation to work together, and design smooth transition effects to achieve smooth scene switching and animation transitions.

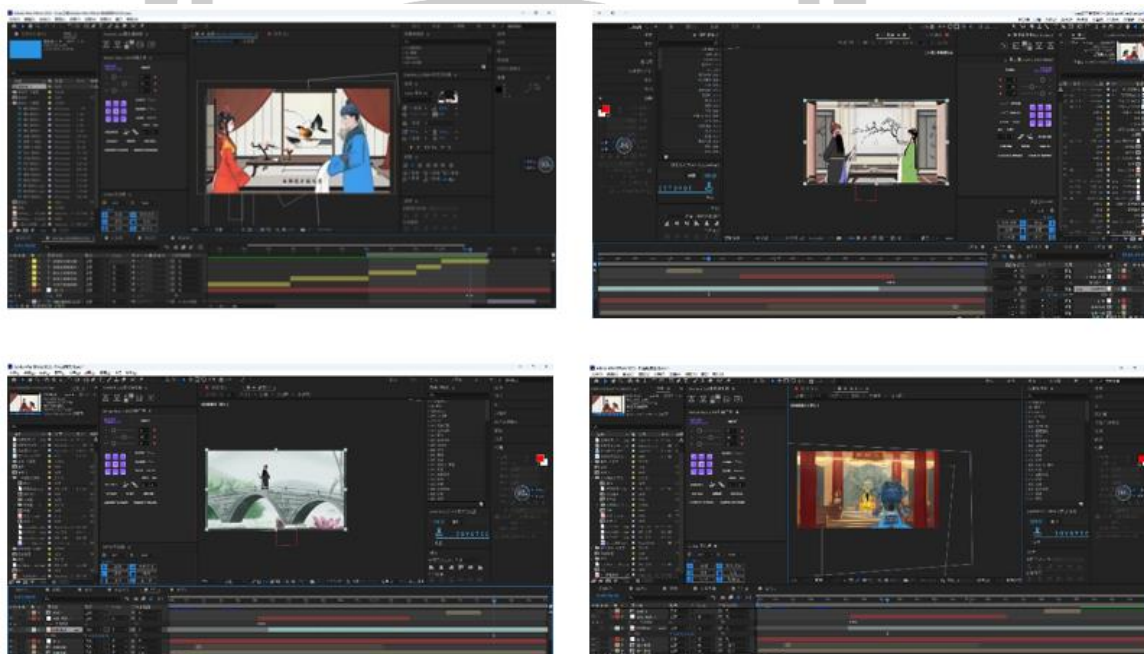


Figure 19 AE animation production diagram

9.5) Select the appropriate export format and settings

In 2D animation production, choosing the appropriate AE export format and settings is very important for the presentation of the final animation. When exporting 2D animation, we need to consider the purpose and playback platform of the animation, as well as the impact of the export format on animation quality. Proper export settings ensure that animations play smoothly and maintain high-quality image results. Therefore, choosing and setting the export format correctly is the key to making it work.

Common AE export formats include MOV format, MP4 format, and GIF format. The MOV format supports transparency channels, which can preserve the transparent background in animations while having high video compression quality. The MP4 format is a widely supported video format with relatively small file sizes suitable for playback and sharing on a variety of platforms. The GIF format is suitable for simple animation effects. It supports loop playback and can be used to create small, highly shareable animated images.

9.6) Save and export 2D animation files

Finally, check the completeness and correctness of the project and layering, click the export button, select the target location and file name, perform the export operation, and upload the exported 2D animation file to video sharing.

4.3 The Results of the Use of Animation for Promotion Guangxi Opera

4.3.1 Watch the animation of the Guangxi Opera

To deeply understand the importance of Guangxi opera culture and understand the effectiveness of Guangxi opera animation promotion, on the afternoon of December 21, 2022, students were organized to watch the Guangxi opera animation "Virtue and Justice". Guangxi opera animation has vivid plots and touching stories, combined with Guangxi opera's unique character style and Guangxi opera singing, and truly reproduces Mao Jing's spirit of helping others. It fully explains the excellent qualities of loyalty, responsibility and not being greedy for cheap.



Figure 20 Watch the animation of the Guangxi opera
(The author shoots)

4.3.2 Survey questions and results

The purpose of this survey is to understand the respondents' satisfaction with the design animation of Guangxi opera and to collect opinions and suggestions to help improve and enhance the quality of the design animation of Guangxi opera. Through this survey, we can obtain the audience's cognition degree, overall satisfaction, and evaluation of various elements of the design animation of Guangxi opera.

To ensure the effectiveness and accuracy of the survey, the questionnaire survey was adopted, and the respondents were selected by random sampling. The questionnaire will use a combination of open and closed questions to fully understand the respondents' views on the design animation of Guangxi opera. In addition, quantitative analysis and statistics will be performed on the data to form an objective assessment and comprehensive analysis of the results. Then a questionnaire survey was conducted among about 100 students. The main questions were as follows:

Table 8 The questionnaire for after watching animation.

Number	Detail
1	The overall impression of Guangxi opera animation? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
2	Whether the visual style of Guangxi opera animation is satisfactory? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
3	Whether the story of Guangxi opera animation is satisfactory? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
4	Whether the Guangxi opera animation character shaping satisfied? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
5	Whether the effect of the Guangxi opera animation scene satisfactory? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
6	Is the sound effect of the Guangxi opera animation satisfactory? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
7	Are you satisfied with the Guangxi opera animation stage design? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
8	Whether the animation action performance of Guangxi opera is satisfactory? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
9	Whether the subtitle typesetting of Guangxi opera animation is satisfactory? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy
10	Is it satisfactory to integrate the Guangxi local language into Guangxi opera animation? a. Most Satisfied b. Satisfied c. Normal d.Dissatisfy

Survey result:

Table 9 Animation quality satisfaction.

Number	Detail	The Percentage of Animation quality satisfaction (%)			
		Most Satisfied	Satisfied	Normal	Dissatisfy
1	The overall impression of Guangxi opera animation	20	41	39	0
2	Whether the visual style of Guangxi opera animation is satisfactory?	16	42	41	1
3	Whether the story of Guangxi opera animation is satisfactory?	14	44	39	3
4	Whether the Guangxi opera animation character shaping is satisfied?	12	48	38	2
5	Whether the effect of Guangxi opera animation scene is satisfactory?	25	34	38	3
6	Is the sound effect of Guangxi opera animation satisfactory?	13	40	45	2
7	Are you satisfied with the Guangxi opera animation stage design?	15	45	36	4

8	Whether the animation action performance of Guangxi opera is satisfactory?	11	38	46	5
9	Whether the subtitle typesetting of Guangxi opera animation is satisfactory?	38	34	28	0
10	Is it satisfactory to integrate the Guangxi local language into Guangxi opera animation?	40	38	22	0

20% of the young people think that the overall impression of Guangxi opera animation is most satisfied, 41% think it is satisfied, 39% think it is normal; As for the visual style of Guangxi opera, 16% are most satisfied, 42% think it is satisfied, 41% think it is normal, and 1% are dissatisfied; 14% are most satisfied with the animation story, 44% think it is satisfied, 39% think it is normal, 3% are dissatisfied; Guangxi opera animation character creation 12% think most satisfied, 48% think satisfied, 38% think normal, 2% think dissatisfied; On the effect of animation scenes, 25% think most satisfied, 34% think satisfied, 38% think normal, 3% dissatisfied; In terms of the sound effect of Guangxi opera animation, 13% are most satisfied, 40% think it is satisfied, 45% think it is normal, 2% are dissatisfied; On the stage design of Guangxi opera, 15% think it is most satisfied, 45% think it is satisfied, 36% think it is normal, 4% are dissatisfied; Whether the animation action performance of Guangxi opera is satisfactory, 11% think it is most satisfied, 38% think it is satisfied, 46% think it is normal, 5% are dissatisfied; On the subtitle layout of the drama, 38% think it is most satisfied, 34% think it is satisfied, 28% think it is normal; Is it satisfactory to

integrate the Guangxi local language into Guangxi opera animation?, 40% think it is most satisfied, 38% think it is satisfied, 22% think it is normal.

According to the survey results, the vast majority of respondents are satisfied with the technical performance of Guangxi opera animation. In terms of visual effects, it is generally appreciated that the traditional Chinese art style adopted by Guangxi opera animation can better show the charm of traditional culture. In terms of animation quality, it is believed that Guangxi opera culture can be learned from Guangxi opera animation. Each detail of Guangxi opera animation is carefully polished, so that the character actions are smooth and natural, and the scene drawing is exquisite and realistic, which is impressive. In terms of sound design, the interviewees praised the excellent production of sound effects and music in the Guangxi opera animation. The sound effects are highly compatible with the picture, and the music can set off the plot atmosphere, and they are willing to recommend it to their friends.

Although some interviewees mentioned that they hoped to add some modern elements, overall, the technical performance of Guangxi opera animation has reached the audience's expectation level. By watching the Guangxi opera animation, the traditional Guangxi opera image and story plot are presented to the audience, which not only retains the characteristics of traditional culture but also has modern viewing and entertainment. This form of innovation makes the opera can be better inherited and promoted, and then affect a wider audience.

4.3.3 Promotion on TikTok

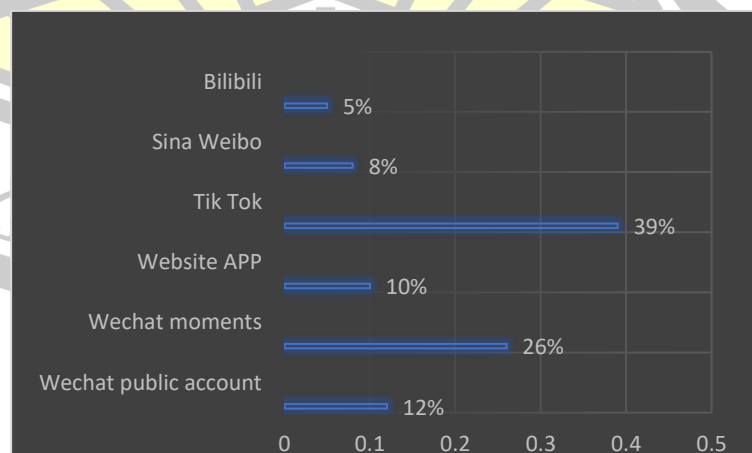


Figure 21 Animation information channel.

According to the investigation, TikTok is a popular social media app that provides a short video platform, and its audience characteristics are mainly focused on young people, especially those born in the 1990s and 2000s. These young users show a high interest in fresh and interesting content, and they are used to obtaining information, entertainment, and communication in the form of short videos, which makes TikTok a promotion platform with great potential. The animation of the Guangxi opera "The Virtue and the Righteous" is promoted on TikTok. Currently, it has 2,935 views and 99 comments. The public feels generally good about it. The pictures are beautiful, and they can feel the unique charm of Tik Tok opera.



Figure 22 TikTok

4.3.4. Influence of Guangxi Opera

A questionnaire survey was conducted to investigate the influence of Guangxi opera animation on teenagers, The survey contents are as follows:

Table 10 The influence of Guangxi Opera animation on Young People.

Number	Detail	The percentage of the influence of Guangxi Opera animation on Young People (%)			
		Every day	Once a week	Once every two weeks	Don't see
1	How often do you usually watch Guangxi opera animation?				
		25	38	30	7
2	How do you usually watch Guangxi opera animation?	Television	Network	School	Other
		0	45	43	12
3	What did you feel when watching the Guangxi opera animation?	Happy	Fear	Nervous	Can't read
		92	0	2	6
4	The role of Guangxi opera animation in daily life?	Indispensable	Take part in	Dispensable	Have no effect at all
		30	53	15	2
5	Do you think Guangxi opera animation promotes your understanding and recognition of Guangxi opera?	Complete promotion	Promote	Normal	None
		24	56	20	0

6	What do you gain after watching the Guangxi opera animation?	Learn about Guangxi opera culture	Feel the charm of Guangxi opera singing	Learn the spirit of helping others	Experience Guangxi opera performance skills
		32	23	25	20
7	After watching the Guangxi opera animation, do you want to participate in the Guangxi opera performance?	Will try	Want to try	Generally,	Don't want to try
		52	27	16	5
8	What areas can be improved in Guangxi opera animation?	Introduce modern elements	Focus on action design	Sound quality screen	Introduce advanced technology
		35	20	19	26

25% of young people watch Guangxi opera animation once a day, 38% watch it once a week, 30% watch it once every two weeks, and 7% of young people do not like to watch it. 45% of young people mainly watch Guangxi opera animation through the Internet, 43% watch Guangxi opera animation through school, 12% of young people mainly watch Guangxi opera animation through other channels, and 92% of young students watch Guangxi opera animation. They are happy when the drama is animated, 2% feel nervous, 6% cannot understand it, 30% of young people

think that the animation of Guangxi opera is indispensable, 53% think it occupies a small part, and 15% think it is dispensable. 2% think it has no impact at all; 24% think that Guangxi opera animation has completely promoted the recognition of Guangxi opera performance, 56% think it has promoted Guangxi opera performance, 20% think it is average; 32% think that Guangxi opera animation can understand Guangxi opera Culture, 23% think they can feel the charm of Guangxi opera singing, 25% think they have learned the spirit of helping others, and 20% think they can feel the performance skills; 52% of students will participate in Guangxi opera performances after watching Guangxi opera animation and 27% want to participate 16% think Guangxi opera performance is average, 5% don't want to try it; 35% think Guangxi opera animation can introduce modern elements, 20% think the action design can be improved, 19% think the sound quality and picture can be improved, 26% I think it can be improved technically.

Through watching Guangxi opera animation, young respondents' appreciation of traditional art forms has been improved, and they have developed an interest and love for elegant and gorgeous performance methods and unique voice expressions. The survey found that Guangxi opera animation had a positive impact on the youth's cultural identity. By depicting scenes and storylines of traditional Chinese culture, the Guangxi opera animation inspires young interviewees' enthusiasm for their cultural inheritance and deepens their understanding and identification of traditional Chinese culture. In addition, the Guangxi opera animation also has a certain impact on the values of young people, social behavior, and communication methods. By portraying positive, courageous, and upright characters, the Guangxi opera animation guides young interviewees to establish correct values and encourages them to face difficulties and challenges with a positive attitude in real life. At the same time, due to the special performance style of Guangxi opera animation, the interviewees also began to try to use the performance skills and ways of Guangxi opera in social communication and improve their own expression and communication skills. The influence of Guangxi opera animation is mainly reported in the following aspects:

1) Preserve the classic repertoire of Guangxi Opera

As A new form of performance, a two-dimensional animation of Guangxi opera has many advantages. First of all, it actively inherits and protects this important cultural heritage of Guangxi opera. By producing a two-dimensional animation of Guangxi opera, we can preserve the classic repertoire, script, and performance of Guangxi opera, so that more people have the opportunity to contact and understand this traditional art form. Especially for young audiences, may not have the opportunity to see the performance in person, but through the two-dimensional animation form, they can more easily contact this cultural treasure and increase their interest and understanding of the opera.

2) Enhance the scenes and special effects of Guangxi Opera

The two-dimensional animation of Guangxi opera provides a new form of expression, enriching the original static performance of Guangxi opera. Through animation technology, we can give the characters more abundant actions and expressions, making the characters more vivid and three-dimensional, and enhancing the audience's sense of immersion and representation. In addition, through the use of animation technology, it can also enhance the scene and special effects of Guangxi opera, so that the entire work has more visual impact and artistic appeal. This new form of expression not only injects fashionable and modern elements into the traditional opera but also attracts the attention and appreciation of more young audiences.

3) Expanded audience

The two-dimensional animation of Guangxi opera expands the audience group of Guangxi opera. Traditional Guangxi opera performances are often limited by the number of venues and actors and cannot cover all regions and people. Through two-dimensional animation, regardless of time and space, it can spread the works of Guangxi opera to more domestic and foreign audiences, so that they can feel the charm of Guangxi opera. In addition, the production and dissemination of two-dimensional animation of Guangxi opera can also deepen the emotional bond between people and Guangxi opera, and stimulate the love and protection consciousness of this traditional art.

4.4 The results of engaging the youth

4.4.1 Attend a Guangxi Opera performance.

At the 2022 New Year's Day Party, young students from Ying Meng Animation Club presented a performance with the theme of "Promoting Excellent Traditional Culture and Promoting the Revitalization and Development of Opera". All teachers and students attended the performance.

This performance was mainly based on the Guangxi opera. At the performance site, young students performed a wonderful play "Virtue and Justice" to kick off the performance. The humorous performance made the audience laugh again and again. The humorous performance portrayed the characters vividly and made the audience. The eyes light up and the characters are vividly created. The wonderful performance received warm applause from teachers and students.

During the performance, the young students also explained the origin, artistic characteristics, and cultural value of the Guangxi opera. They also taught techniques such as handkerchiefs and fan flowers on the spot and learned related knowledge and skills such as Guangxi opera performance techniques, laying a solid foundation for future creations.



Figure 23 Young people participate in the Guangxi opera performance
(The author shoots)

4.4.2 Scriptwriting

By adding content related to Guangxi opera courses in teaching, young students can not only use their talents and imagination by participating in script creation discussions but also inspire young students to actively participate in the script creation of Guangxi opera animation, providing information on storylines, character settings, etc. own creativity and ideas. By drawing on traditional Guangxi opera

scripts and adding modern and innovative elements, the animation is more in line with the needs of the times and the tastes of the audience.



Figure 24 Young students discuss the script
(The author shoots)

4.4.3 Music extraction

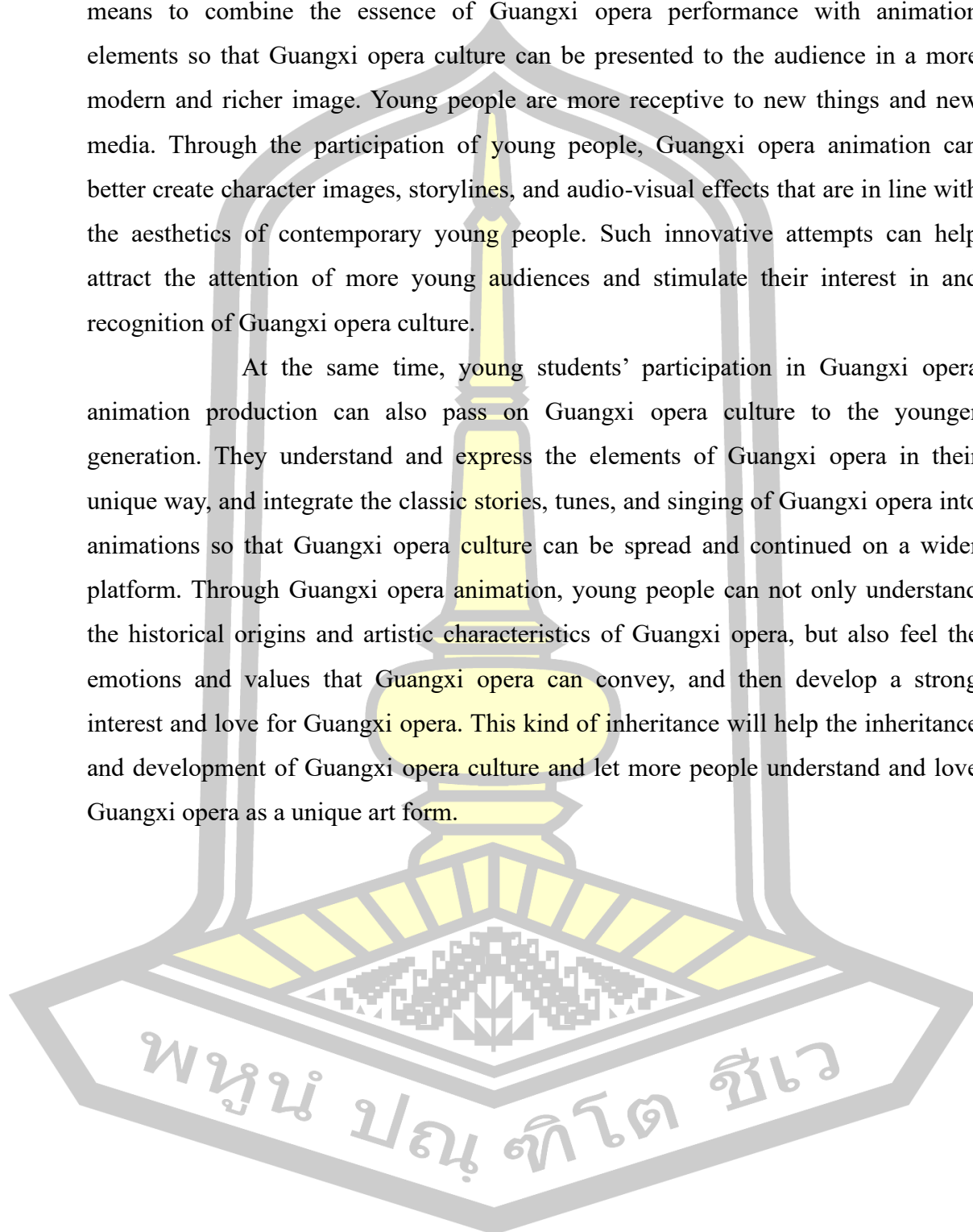
In Guangxi opera animation, young students can be responsible for the production of post-production sound effects. They can use the musical elements of traditional Guangxi opera to enhance the artistic expression of Guangxi opera animation and inject vitality and emotion into Guangxi opera animation.

The ideas and perspectives of young people can inject fresh vitality into Guangxi opera animation. Young students participate in Guangxi opera animation production, and their unique perspectives and ways of thinking can bring new ideas to storylines and character designs. (Liu Ye,2021) Their understanding of contemporary society and culture may also make Guangxi opera animation more realistic and resonate with the audience. In addition, young people usually have a keener sense of fashion and fashion trends. They have an innovative attitude and the courage to try new things, which will promote Guangxi opera animation to inject more avant-garde elements and attract a wider audience. Through the participation of young people, Guangxi opera animation can break away from the constraints of tradition and show a new look and style.

The active participation of young students in the animation production of Guangxi opera will help broaden the scope of Guangxi opera's dissemination. As one of China's important traditional cultural and art forms, traditional Guangxi opera may not attract the interest of the younger generation if it only relies on traditional

stage performances. Guangxi opera animation works can use modern technological means to combine the essence of Guangxi opera performance with animation elements so that Guangxi opera culture can be presented to the audience in a more modern and richer image. Young people are more receptive to new things and new media. Through the participation of young people, Guangxi opera animation can better create character images, storylines, and audio-visual effects that are in line with the aesthetics of contemporary young people. Such innovative attempts can help attract the attention of more young audiences and stimulate their interest in and recognition of Guangxi opera culture.

At the same time, young students' participation in Guangxi opera animation production can also pass on Guangxi opera culture to the younger generation. They understand and express the elements of Guangxi opera in their unique way, and integrate the classic stories, tunes, and singing of Guangxi opera into animations so that Guangxi opera culture can be spread and continued on a wider platform. Through Guangxi opera animation, young people can not only understand the historical origins and artistic characteristics of Guangxi opera, but also feel the emotions and values that Guangxi opera can convey, and then develop a strong interest and love for Guangxi opera. This kind of inheritance will help the inheritance and development of Guangxi opera culture and let more people understand and love Guangxi opera as a unique art form.



Chapter 5

Conclusion and discussion

5.1 Conclusion

The sample students selected for this survey are design major students in higher vocational colleges. They are random and representative and conform to statistical laws. The sample size is 100. Regarding the setting of the questionnaire, the initial survey was about the awareness and media of Guangxi opera, and the final survey was about the recognition of the animation character design. The whole process is step-by-step, and the results show that using multimedia to promote Guangxi opera is the best situation. There are many benefits to incorporating animated characters into Guangxi opera elements. First, this integration can increase the cultural heritage and uniqueness of the work. By integrating elements of Guangxi opera into animated characters, the work can be more characteristic of Chinese culture, adding a sense of history and regional characteristics.

Through conversations with the inheritors of intangible cultural heritage, we learned that the Guangxi Opera story of "The Virtue and the Righteous " has attracted people's attention for its unique charm. The Guangxi opera story of the Virtue and the Righteous has inspired social thinking and triggered thoughts on historical memory and cultural resonance. The play mainly focuses on historical patriotism and ideological and political elements. By watching the animation of Guangxi opera, you can understand Guangxi opera and spread positive values. As an excellent traditional art form, Guangxi opera has a certain audience base and influence. Introducing elements of Guangxi opera into animation works can attract people who are interested in traditional culture, and at the same time, it can also allow more young people to understand and love Guangxi opera, thereby expanding the influence of the work.

5.2 Discussion

The animation character design mainly includes the appearance design and character design of the character, which needs to match the overall style of the animation. The character's distinctive character will impress the audience (Jin, 2021) Guangxi opera animation combines traditional culture and modern technology to present Guangxi opera elements to the audience, which not only retains the traditional artistic charm but also attracts a wider audience, especially the younger generation of viewers. Determining the Guangxi opera animation script is crucial to creating an attractive story with Guangxi opera characteristics. This research designed characters for use in animation production according to factors affecting animation cartoons of youth that were the identity design of cartoon characters consists of unique and charming postures, defining the character's role to stand out, and coloring and sizing (Mongkhonsin, & et al., 2019) with consisted of 3D cartoon design for students by Ladakul, & Punya (2018) found that the unrealistic proportions of 1:3 and 1:4 character and scene designs are intriguing to students.

Through interviews, we can understand the performance skills of Guangxi Opera. On the stage, there are three lines: scenes, pipe boxes, and actors. Each scene is divided into right field, left field, departure, and departure. The pipe box is divided into trunk box, trunk box, and helmet box. For actors, the performance characteristic platforms mainly include jumping and time traveling. These understandings are integrated animated character elements can also enhance the appeal of the story which is also found in Du Juan (2021) and Li Xin (2011). Guangxi Opera is famous for its wonderful performances and rich story scripts, which contain rich emotional elements such as joys and sorrows, family, and friendship which is similar to the findings and recommendations of Tian Suna (2021). Integrating these elements into the storyline of animated characters can make them livelier and more interesting, make the audience more involved, and increase the viewing value and influence of the work.

5.3 Recommendation

Although Guangxi opera animation has achieved certain results in its development, there are still some problems that need to be solved urgently, mainly reflected in the following aspects:

5.3.1 Continuously develop innovative content.

Continuous research and development of innovative content is the key to the development of 2D Guangxi opera animation. It can attract a wider audience by developing more vivid and interesting Guangxi opera characters and storylines. The integration of include and modern elements meets the aesthetic needs of young people and conveys more concerns and values of modern society.

Different painting styles and animation forms will be promoted, such as cartoon, realistic, abstract, etc., to provide audiences with more diverse choices. In addition, animation production can also integrate different media elements, such as music, dance, etc., to create more artistically expressive and innovative works. This diverse creative style and form can not only meet the needs of different audience groups but also help promote the development and breakthrough of animation art.

5.3.2 Improve production level and technical strength.

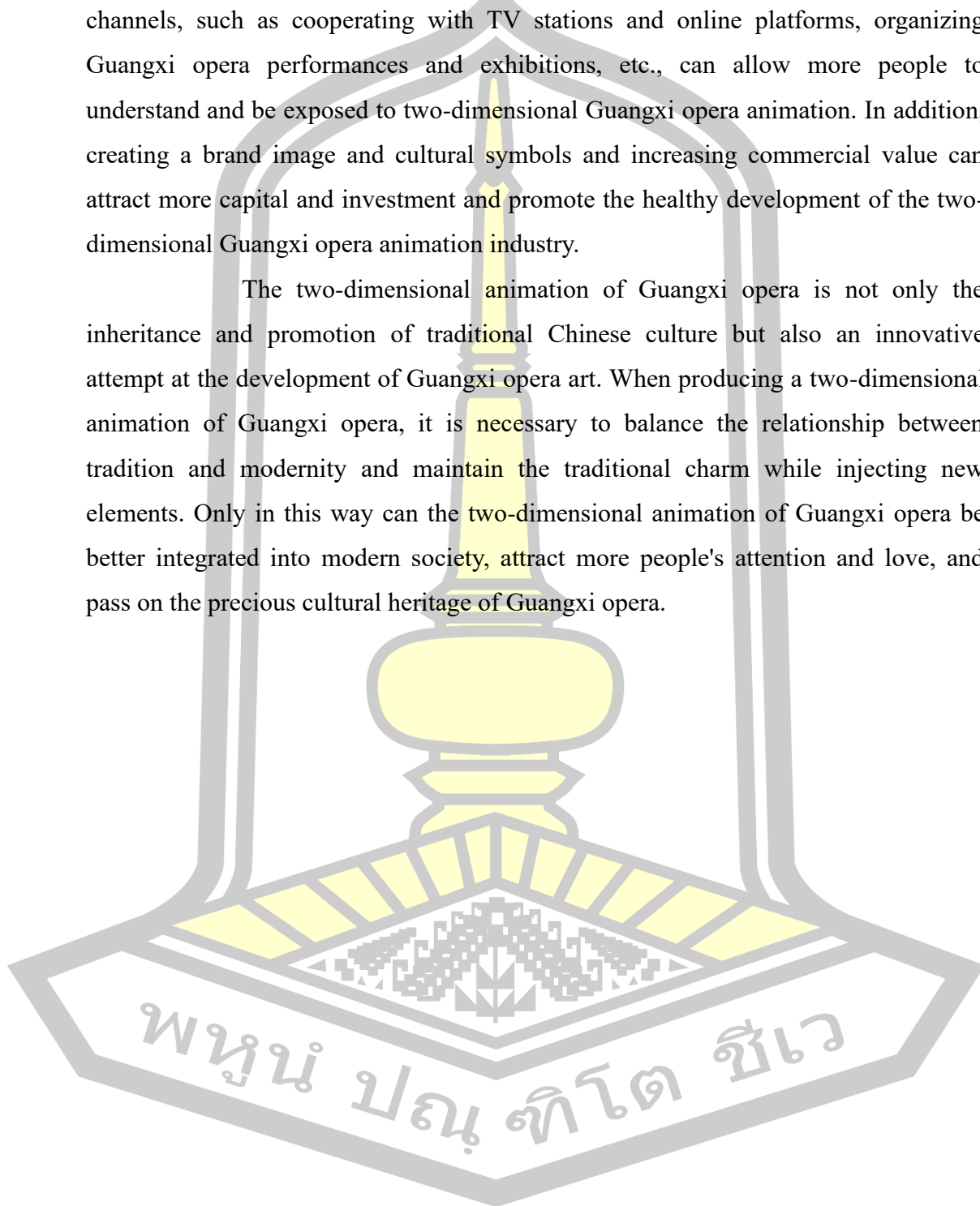
It is necessary to constantly explore new animation production methods and techniques, such as unique art styles, precise character expressions action design, etc., which can enhance the charm of two-dimensional Guangxi opera animation. At the same time, the introduction of advanced digital technology and strengthened cooperation will bring more creative inspiration and technical support to the 2D Guangxi opera animation and further improve the production quality.

As computer graphics and special effects technology continue to advance, animation production has become more realistic and precise. In the future, we can expect more advanced technologies to be used in animation production, including more complex model details, more realistic light and shadow effects, and smoother animation movements. In addition, new technologies such as virtual reality and augmented reality will also bring new possibilities for animation production, allowing the audience to fully immerse themselves in the animation world and obtain a more immersive experience.

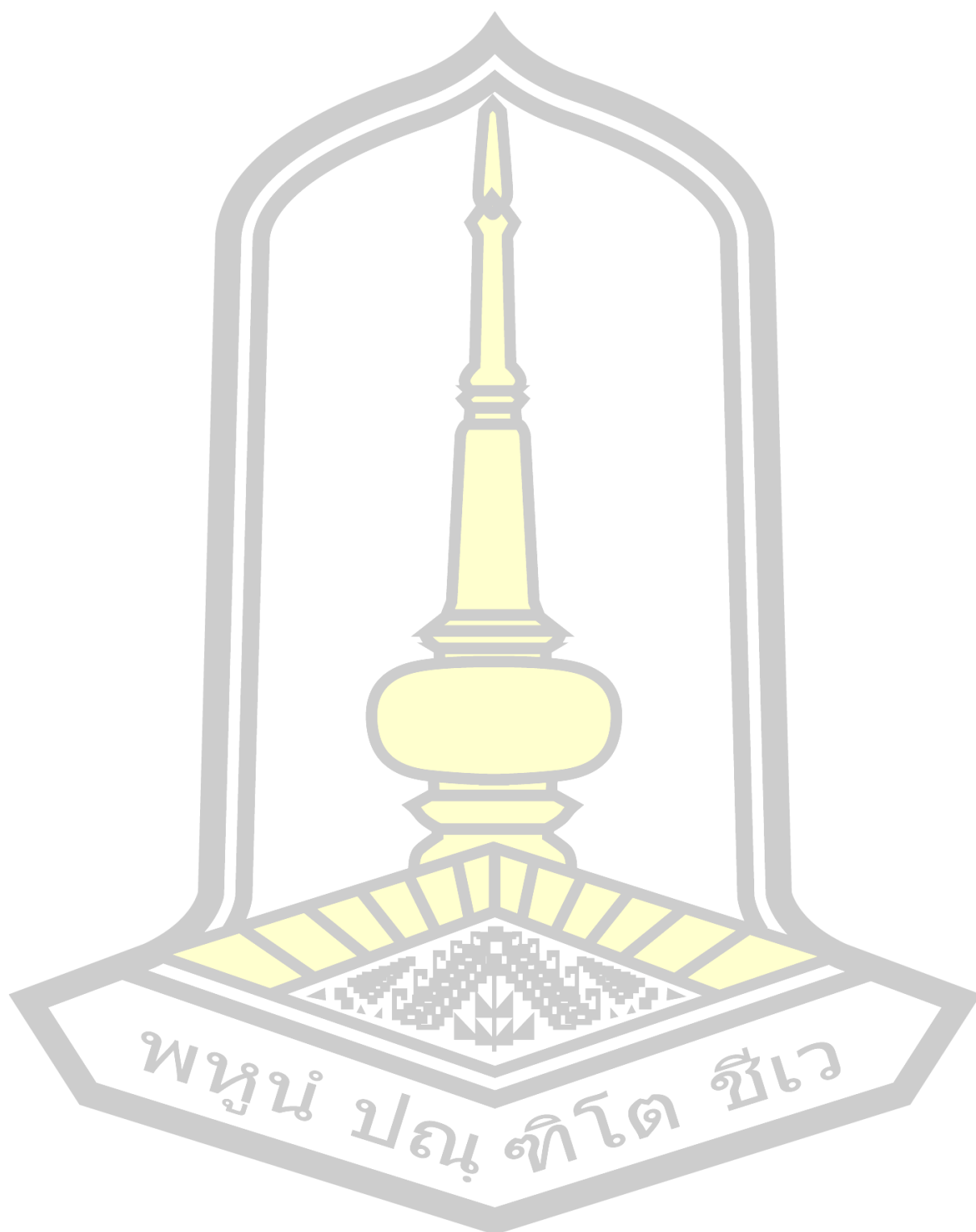
5.3.3 Marketing and Commercial Operations

Strengthening marketing strategies and broadening marketing channels, such as cooperating with TV stations and online platforms, organizing Guangxi opera performances and exhibitions, etc., can allow more people to understand and be exposed to two-dimensional Guangxi opera animation. In addition, creating a brand image and cultural symbols and increasing commercial value can attract more capital and investment and promote the healthy development of the two-dimensional Guangxi opera animation industry.

The two-dimensional animation of Guangxi opera is not only the inheritance and promotion of traditional Chinese culture but also an innovative attempt at the development of Guangxi opera art. When producing a two-dimensional animation of Guangxi opera, it is necessary to balance the relationship between tradition and modernity and maintain the traditional charm while injecting new elements. Only in this way can the two-dimensional animation of Guangxi opera be better integrated into modern society, attract more people's attention and love, and pass on the precious cultural heritage of Guangxi opera.



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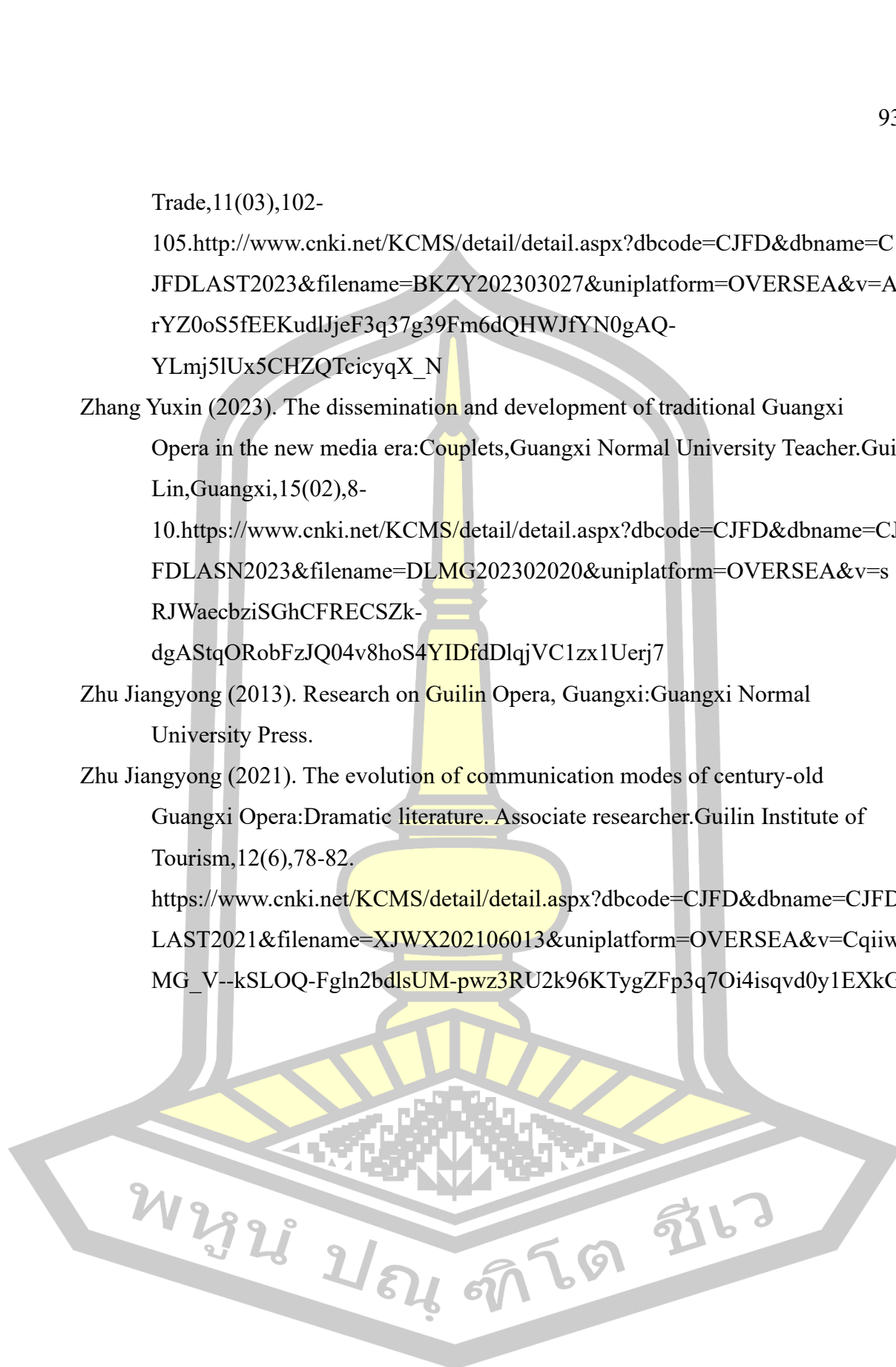
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