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CONTENTS

Study On the Reform of the Curriculum System of Computer Major in Higher Vocational Colleges Adapting To "Internet+Education"

Chang'e Dong
Zibo Vocational Institute, Zibo, Shandong, China

Abstract: In recent years, under the background of the rapid development of information technology in China, many industries have gradually changed to information, intelligent and networked, and the education industry is also the same. Through the use of Internet, information technology and network technology, it can not only improve the overall teaching quality, but also create a good learning environment. This is of great significance to the learning of knowledge content of students in higher vocational colleges, so higher vocational colleges must pay more attention to the Internet, information technology and other aspects, and implement more scientific and effective teaching modes through the integration of the two. In this paper, the author analyzes the reform countermeasures of the curriculum system of computer major in higher vocational colleges through "Internet+education".

Keywords: Internet; Higher vocational education; Computer; Curriculum system; Reformation

1. INTRODUCTION

Internet+education refers to the combination of Internet technology and education to innovate education models and teaching methods to improve the efficiency, quality and fairness of education. Through Internet+education, learning is no longer limited by time and space, and students can access rich educational resources, including course materials, learning materials and online courses, anytime and anywhere through the Internet. Moreover, students can choose different learning contents and ways according to their own abilities and interests. Teachers and students can also share their own teaching resources and learning results through the Internet, participate in educational activities together, and promote cooperative learning and communication. Therefore, Internet+education brings more development directions to education and teaching.

2. THE USE OF NEW MEDIA PLATFORMS TO CARRY OUT COMPUTER COURSES

With the rapid development of the Internet, electronic equipment has become an indispensable tool for people and an important source for people to obtain information. the emergence of new media platforms has brought a new direction to computer teaching in higher vocational colleges at this stage. the combination of new media platform and higher vocational computer curriculum system can not only realize the rapidity and accuracy of computer teaching, but also cultivate students' professional ability and innovative thinking in the new media industry. This combination can enable students to better understand and apply computer technology, enhance their competitiveness and employability in the field of new media. First of all, by combining with the practical operation of the new media platform, students can increase their practical hands-on ability in computer projects. For example, students are organized to design and develop applications based on new media platforms, so that students can apply the computer knowledge they have learned to practical projects, and the quality of computer teaching has been greatly improved while practicing and learning.

In addition, the new media platform also contains a lot of image processing, video editing, animation and other content, which allows students to learn and master more multimedia technology, and apply it to the development and operation of new media platforms. Secondly, there are huge information data in the new media platform, which can be analyzed and mined to obtain valuable information. Integrating data analysis and mining technology into the computer curriculum system of higher vocational colleges can cultivate students' ability to process and analyze big data, and help students learn to use data analysis methods to solve practical problems. Finally, the use of MOOCs, microblogging and other ways to carry out teaching activities, teachers can teach through the mobile Internet platform, break the previous classroom teaching time and space restrictions, such as online examination, online homework correction, not only to improve the overall teaching quality, but also to create a new teaching method for students.

3. THE COMBINATION OF CLOUD COMPUTING, INTELLIGENT TERMINAL AND COMPUTER COURSE SYSTEM

Computer teaching in higher vocational colleges is a relatively complex and diverse course. In order to help students better learn knowledge content, a course content of Internet operation and maintenance can be created for students through the integration of cloud computing, intelligent terminal and computer courses. And use intelligent terminals to design courses about people's

user experience and related technologies under the background of mobile Internet. Secondly, the computer teaching materials of higher vocational colleges can also store course materials and learning materials in the cloud, and students can access and learn anytime and anywhere through intelligent terminals, and the cloud computing platform can provide powerful computing and storage capabilities, which can realize large-scale online learning and teaching.

In addition, using the cloud to build a virtual computing environment, students can use intelligent terminals to remotely access and operate these virtual environments, experiments and programming exercises. This can save hardware costs, and provide a more flexible and safe experimental environment, which greatly improves the practical operation ability of computer students. In addition, using the cloud computing platform and intelligent terminals, students and teachers can communicate online and carry out remote collaboration and communication through some computer software tools, such as sharing documents and video conferencing, which can not only promote the interaction between learning and teaching, but also break the restrictions of classroom learning [1]. Therefore, the integration of cloud computing, intelligent terminals and computer teaching can better complete the new talent training goals of the education sector.

4. IMPROVE THE COMPREHENSIVE QUALITY OF COMPUTER TEACHERS IN HIGHER VOCATIONAL COLLEGES

As the main person in charge of computer courses in higher vocational colleges, the comprehensive quality of teachers will directly affect the overall teaching quality. Moreover, in the context of the rapid development of the Times, various new teaching methods appear in everyone's vision, so it is very important to continuously improve the professional quality and teaching level of teachers. First of all, as a computer teacher should have a solid subject knowledge and technical ability, not only to master the core theory and the latest development of computer science, but also need to timely understand the industry's cutting-edge technology and application. Therefore, teachers should constantly learn and update their knowledge, and enhance their professional quality by participating in training and academic seminars.

Secondly, computer teachers should have clear teaching concepts and methods, and be able to design scientific and effective teaching activities according to the needs and characteristics of students. At the same time, they should also master more teaching methods and tools, such as case teaching, project practice, online learning platform, etc. They should not only impart theoretical knowledge content, but also carry out teaching. It is also necessary to focus on cultivating students' innovative thinking and practical operation ability. In addition, teachers also need to have a good teacher's ethics and style, to achieve the word and example. In the process of teaching, we should not only respect students, care about students' learning and growth, but also stimulate students' learning interest and potential. In addition, teachers should have certain teamwork and communication skills. They can not only carry out teaching and research activities together with the teaching and research team of the school, but also realize effective cooperation and communication between enterprises in the industry, and constantly participate in academic seminars, industry training and other activities to improve their teaching experience and teaching level [2]. Finally, vocational computer teachers in the new era should have a spirit of self-development and innovation. In the case of constantly improving their educational and teaching ability and professional level, they should actively participate in education and training projects, conduct scientific research and academic research, accumulate teaching experience and education and teaching results, and explore more knowledge about the Internet and computers. And create a new teaching experience for students.

5. CONCLUSION

To sum up, through the integration of the Internet and computer course teaching in higher vocational colleges, not only can greatly improve the learning quality of students, but also change the boring and boring situation in traditional teaching. Therefore, according to this situation, higher vocational colleges need to strengthen the emphasis on computer, Internet and information technology, and build a scientific and reasonable curriculum teaching system. In this paper, the author analyzes the implementation countermeasures of the "Internet+education" vocational computer curriculum system reform by using the new media platform to carry out the combination of computer curriculum, cloud computing, intelligent terminal and computer curriculum system, and improve the comprehensive quality of computer teachers in higher vocational colleges.

REFERENCES

[1] Yuan Huiqin. Research on Curriculum System Reform of Higher Vocational Computer majors from the perspective of "Internet+Education" [J]. Science and Technology Wind, 2019(05):54.

[2] Chen Ying, Fu Lin. Research on Curriculum System Reform of Computer Major in Higher Vocational Colleges under the background of "Internet+Education" [J]. Journal of Contemporary Teaching and Research, 2017(10):120.

Research On the Inheritance and Conservation of The Shanxi Yanbei Sheng and Pipe Music

Peng Feng
Shanxi University College of Music, Taiyuan City, Shanxi Province, China

Abstract: Shanxi Yanbei sheng and pipe music is one of the important elements of Shanxi drum and wind music, which has a long history of development and rich content. It is an important part of the construction of the Shanxi folk music and folk music system project. However, for a variety of reasons, the inheritance and development of the sheng and pipe music has been plagued by many problems, with some of the songs and original performance forms on the verge of extinction, and the lack of research and measures for the inheritance and protection of the sheng and pipe music. This paper will examine the heritage and conservation of the Shanxi Yanbei Sheng and Pipe Music from the following three perspectives In this paper, the following three aspects of the heritage and conservation of the Shanxi Yanbei sheng and pipe music are explained: the first part describes the distribution and survival environment of the Shanxi Yanbei sheng and pipe music; the second part focuses on the musical essence of the Shanxi Yanbei sheng and pipe music; the third part introduces the current status of the heritage of the Shanxi Yanbei sheng and pipe music and conservation measures, and puts forward constructive suggestions.

Keywords: Shanxi Yanbei; Sheng and Pipe Music; Heritage; Conservation

1. THE DISTRIBUTION AND SURVIVAL OF SHANXI YANBEI SHENG AND PIPE MUSIC

1.1 Introduction to the Yanbei Pianoforte

The Yanbei region refers to the area north of Yanmen Pass in Shanxi Province, and is the name of the administrative division that existed in this area from 1970 to 1993. These thirteen counties are known as the 'Thirteen Counties of Yanbei', the first seven belonging to Datong City and the last six to Shuozhou City. It is located at the junction of Shanxi, Hebei and Inner Mongolia provinces, and is rich in history and culture, mineral resources, and is an important transportation link in China because of the intersection of the Daqin Railway and the Beijing-Bao Railway.

Shanxi Yanbei Sheng and Pipe Music refers to the music of the "Zhengyi" school of Chinese Taoism and the music of the Shanxi folk drumming and blowing music groups that circulated in the Yanbei area. the music of the Daoist Sheng and Pipe Society is widely used in the Yanbei area, where the Daoist Sheng and Pipe Society is a sacred place of Chinese Daoist activity, and the Daoist music classes are relatively prosperous because Yanggao, Hunyuan, Yingxian and Daping counties in the Yanbei area are adjacent to Mount Heng; Yuyu and Zuoyun counties are farther away from Mount Heng, so the Daoist Sheng and Pipe Society is rare or even almost non-existent. the Yanbei sheng and pipe music is also widely used in the folk, mainly to play folk drum and blow music local opera, traditional ancient songs, this paper attributed to the folk drum and blow music class set.

1.2 The circulation of the YANBEI pianoforte music

The Yanbei sheng and pipe music is a general term that is mainly found in various counties in Datong and Shuozhou, such as the Yunzhong blowing and playing music in Datong, the Jinbei drumming in Yanggao, the "Hengshan Daoist music" in Datong, the temple music in Zuoyun, the big gongs and drums in Yungang, and the Shuozhou blowing and playing music, all of which have distinct cultural characteristics. Among them, the Yunzhong blowing and playing music is mainly found in the Datong area of Shanxi Province, Fengzhen and Jining in the Inner Mongolia Autonomous Region and Yang Yuan in Hebei Province.

1.3 Survival of the Yanbei pianoforte music

The Yanbei sheng and pipe music is a crystallisation of the history and culture of the Chinese people and the regional culture of Shanxi, reflecting not only the importance attached by the people of northern Jin to folk customs such as weddings and funerals, but also the cultural traditions of the Yanbei region. However, this ancient cultural treasure has suffered from a lack of inheritors, such as Yanggao Jinbei drumming, as early as 600 years ago, the Slip family to play suona "eight sets of songs" passed on to each other, forming a unique Jinbei folk drumming music class - Slip's Slip Yinshan drumming music It was listed as a provincial intangible cultural heritage in 2006 and as a national intangible cultural heritage in June 2008.

The "eight sets of songs" played by the Yanggao Jinbei Drum Blow are eight sets of classic music handed down by folk drum blow artists and have become one of the icons of the Datong area, with strong conservation value. the "eight sets" are played with the "big pole" as the main instrument, the "two poles" as the accompaniment instrument, and some percussion such as gongs, drums and cymbals used to set the mood, playing both blowing and beating. the performance of blowing and beating together, the text and martial arts together, forming an echo relationship, can be described as majestic, won the people's love, but unfortunately the slip Yinshan has died, at that time only he could play the "eight sets of songs" also tried to live notation, later because of the special nature of the skills of experts and scholars failed to get

success, so it seems, for Yanggao Jinbei drumming heritage is the "Hengshan Dao music" (also known as "Beiyue Dao music") of Datong City, with its elegant and witty tunes, has not only absorbed local folk music, folk opera, Buddhist music and other musical elements, but also absorbed music from other places. the Li family of Yanggao County is its representative and has been handed down for eight generations, but due to the way it was handed down by the old artists "from mouth to heart", there are no complete books on it and it is difficult to find the inheritors.

2. THE MUSICAL ONTOLOGY OF SHANXI YANBEI SHENG AND WIND MUSIC

Having said that, why is it necessary to make an introduction to the music proper in order to protect a non-heritage culture? Firstly, the necessary introduction to the object of study is the most fundamental aspect, and only by grasping the characteristics of the object of study can we have the inspiration to take appropriate conservation measures, which is of course only potentially significant. the historical value, social value, artistic value, etc. should be reflected in order to prove the reason for its preservation and transmission.

2.1 Instruments of the Shanxi Yanbei Sheng and Wind Music

Shanxi Yanbei Sheng and Pipe music generally uses conventional instruments, which can be roughly divided into two categories: wind instruments, mainly sheng, suona, pipes, flutes and dragon head horns, and percussion instruments such as drums, cymbals, gongs, wooden fish, chimes, bells and small clapboards to set the mood, which evolved from the ancient gold, stone, earth, leather, silk, wood, lagenaria and bamboo. Here we introduce the sheng, suona, pipes, cymbals, drums and small clapboard.

2.1.1 Wind instruments

The shang is one of the indispensable instruments in the YANBEI shang and pipe music, in which the shang used is the traditional 17-pipe shang, the mouthpiece is made of brass and the shape of the mouthpiece is a single pipe bend, which is locally called "phoenix beak" by shang masters and shang makers. According to local artists, there are two kinds of piths: the first is the "phoenix pith" with 17 pipes and the other is the "phoenix pith" with 19 pipes. "In the Song dynasty the two were used together, but in the Ming and Qing dynasties the use of the "phoenix pith" seems to have become commonplace. the use of "feng sheng" seems to have become the norm in the Ming and Qing dynasties.

The suona has a unique temperament and timbre, and was used in ancient times for accompaniment in songs and dances, operas, etc. the large suona has a thick, low tone, while the small suona has a high, loud and clear tone, and both large and small suona are widely used in folklore activities such as weddings and funerals, such as the Yanggao Jinbei drumming, where the suona is the main instrument.

The pipes are also known as 'wicker bamboos' and are divided into small pipes, large pipes and pairs of pipes. the small pipe is called the "seven-inch pipe", and the sound of the pipe is the word "H", but when some people use a hard whistle, the sound of the pipe becomes lower; the large pipe is called the "shakuji pipe", and the sound of the pipe is a small group of b's; the pair of pipes is less used, and it is characterised by the use of one pipe in each hand. Old artists say that the earliest pipes were made of bark, but later wood was used. the inner diameter of the small and large pipes is not a straight line pipe, but in ancient times was flared, the most common shape of the inner diameter and a feature that differs from modern times.

2.1.2 Percussion instruments

The drums are mostly flat and round, hollow in the middle and covered with leather on both sides. the sound is different between the middle of the drum and the rest of the drum, and people use them to boost morale both in ancient times and today. the drums command the beginning of the music, the end of the music and the change of tempo in the Yanbei Sheng and Wind Music, and all the instruments on stage follow the rhythm of the drums.

The cymbal is one of the Chinese folk percussion instruments, it has a mantle shape and is made of smelted copper, it is also divided into big cymbal, medium cymbal and small cymbal, the big cymbal is the lowest sound, followed by the medium cymbal; the small cymbal has a crisp and bright tone, it is mainly used to stabilize the speed of the whole song in the Yanbei folk music, hitting on the heavy beat and paying attention to the cooperation with other instruments, so a person with a strong sense of rhythm is often chosen to hit the small cymbal.

The small clapperboard is divided into two categories: the large clapperboard is usually nine pieces of mahogany, while the small clapperboard is six pieces. the clapperboard we have now is what Yang Chen calls the "small clapperboard", which was used more in ancient times, but was almost replaced by the small cymbal.

2.2 Commonly used tune for Yanbei Sheng and Wind Music

Yanbei sheng and pipe music has a wide range of cultural connotations, generally active in folk rituals, festivals and celebrations, weddings and funerals, etc., such as Shuozhou folk blowing music score is divided into five categories: white ceremony category, red ceremony category, rituals, temple festivals and other categories, the main representative works are "Dragon Lantern", "Boat Lantern", "Yangge Dance", "Kick Drum Yangge", etc.; Yanggao Jinbei drum blowing is generally 10 people, the instruments used include suona, sheng, the main representative repertoire is "Shui Long Yin", "Da Yan Fei", "Xiao Yan Fei", "Liu He Yin", "Da Ba Men", etc. the musical instruments played in Datong City are divided into two categories: "Set" and "Branch". the set includes "Pu'an Mantra", "Asking for Debts", "Big Walking Horse", "Zhumateng", etc. the "branch songs" include "General's Order", "The Year of Peace", "Silver New Silk" and "Drunken Peace". the main works played by the Taichung Windplay include "The New Year", "The Big Jujube" and "Congratulations on Your Fortune", and you can feel the passion of the Yunzhong.

2.3 Yanbei Piano Performance Format

Yanbei sheng and pipe music in a variety of performance forms, such as Datong Yunzhong blowing music, also known as Seibai drum rhyme blowing music, the most rare is blowing in the mama shouting, lama big horn, Seibei big pole and other instruments playing skills, the basic content for: (1) big blow: with two big pole, one blowing tip, one blowing collapse, the repertoire played by the "water dragon chanting" "look at the lantern meeting" "out of the pair" "on the small building" "willow leaves green", etc., (2) set (2) blowing: with two large poles plus a flute, three instruments interlaced, unique style, the main repertoire of "Liu Qingniang" "embroidered lotus bag" "mountain sheep" "climbing tiger", etc.; (3) small blow: a suona, shouting, pipe, plus sheng, bamboo flute accompaniment, to blow folk songs, often blowing repertoire of "big ten" "small ten" "planting foreign smoke", etc.; (4) theater blowing: with large and small suona, whistle, pipe (4) Opera blowing: the main blowing instrument is the suona, whistle, pipe, mahou, plus the stringed instrument of the banhu, erhu, large low beard, flute and sheng, as well as opera percussion as accompaniment, and the main repertoire includes "playing the golden branch", "Liang Zhu", "Golden Water Bridge", "buying vegetables", etc. with strong national cultural characteristics.

3. THE CURRENT STATUS OF THE INHERITANCE OF SHANXI YANBEI SHENG AND PIPE MUSIC AND MEASURES FOR ITS PRESERVATION

3.1 The current status of the transmission of the YANBEI pith and pipe music

Intangible cultural heritage is a showcase of national and ethnic cultural and historical achievements, embodying a unique spiritual civilisation, which has a close connection with the people and relies on the human spirit, style and other forms. With the development of society and the rapid changes in technology, the sheng and wind music class society has added modern musical instruments such as the electronic piano and the drum set, and popular songs have gradually appeared in the class, which are more in line with the aesthetic requirements of contemporary people, but because of this, some of the traditional repertoire has been lost more seriously, and the traditional elements have been impacted, which has had a certain impact on its inheritance and development, which is caused by the lack of talents and the lack of attention to it. In order to promote the traditional culture of the Chinese nation, the inheritor plays a non-negligible role in the protection of the intangible cultural heritage heritage, he shoulders the mission of passing on the excellent traditional culture, manifesting the spiritual outlook of a nation and the times, we must pay attention to the inheritance and protection of traditional Chinese music.

3.2 Measures to preserve the heritage of the Shanxi Yanbei Sheng and Pipe Music

Among the traditional drum and wind music in China, Shanxi Yanbei Sheng and Pipe Music is one of the best preserved so far. It is likely to be the legacy of the sound of Tang Yan music. Value is the primary condition for inheritance and preservation, and no one cares about something that is unimportant. the diversity of values has been one of the reasons for the preservation of the Yanbei sheng and pipe music in Shanxi, promoting the development and progress of society as a whole, for example: the long history of the Yanbei sheng and pipe music, some of its repertoire contains musical elements of Daoist culture, reflecting its historical value; it provides an important living reference for the study of the development of the origin of the sheng and pipe music in the Yanbei area, reflecting its academic value; the instruments used in the Yanbei sheng and pipe music It is worthy of our attention because of its social value, as it has long been active in folk rituals, weddings and

funerals, and is an inseparable musical art that has enriched the lives of the local people.

3.3 Promoting Yanbei music and organising folk events

In order to win people's attention and attract and encourage them to join in, the relevant authorities could organise folk events on the Yanbei Sheng and Pipe Music, with each village committee organising villagers to learn, firstly, to participate in the Sheng and Pipe Music Competition in the county, with the best teams being qualified to compete in the city, rewarding participants and winning artists with prizes, enhancing the enthusiasm of the artists to learn, while raising the cultural level and from the perspective of heritage and conservation the music of the Yanbei Sheng and Pipes has been given a certain amount of humanistic care from the perspective of heritage and conservation.

At present, there may still be some shortcomings in the YANBEISheng music, but we must admit that it is also improving. We believe that with the efforts of the people, it will definitely go to a higher stage.

3.4 Spreading Chinese Culture, Sheng and Wind Music in Schools

In today's society, many primary and secondary school students have a shallow understanding of the Yanbei sheng and pipe music, and after a survey, are even at the concept of "zero". It is important, then, to seize the music education of primary and secondary school students as the foundation for promoting music heritage, to cultivate students' interest in folk music from an early age and to establish the concept of heritage. Schools can gradually integrate the heritage and protection of Shanxi's Yanbei sheng and pipe music into primary and secondary school classes, so that students can learn more about it, which will greatly increase its popularity and influence, and may also influence children's lives and deepen their knowledge of traditional folk music in their hometowns. In the future, perhaps one of them will become the inheritor of Shanxi's Yanbei Sheng and Pipe Music, with far-reaching consequences.

3.5 Increasing academic research on Shanxi Yanbei's sheng and pipe music

Searching through the Chinese web site, there are very few articles on the Shanxi Yanbei sheng and wind music, almost no scholars have researched its characteristic playing techniques and styles, and no research reports have appeared. At present, the research on the Shanxi Yanbei sheng and pipe music is still relatively weak, and the less or later the information on the research, the more negative impact it will have on the inheritance of the Shanxi Yanbei sheng and pipe music, and the more academic research on the Shanxi sheng and pipe music, the more scholars of traditional folk music will be involved.

4. CONCLUDING REMARKS

The preservation and protection of drum and wind music is the responsibility and obligation of every musician, and is one of the important elements to enhance cultural confidence and strengthen the country; we have to inherit the national music culture well, protect the national intangible cultural heritage, and make the national music and national culture closely integrated. We hope that more and more people will learn the Yanbei sheng and wind music and be willing to inherit this music culture in the future.

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REFERENCE

[1] Li Yong, Zhou Tingting, Liu Advanced. Studies on the Art of Drumming and Blowing Music in Shandong [M]. Jinan: Shandong Wenyi Publishing House, 2019.11

[2] Gong Song Yang. A Study on the Heritage Protection of Changde Silk Strings [D]. Guizhou University, 2017

[3] Chen Kexiu. Investigation and Research on Yanbei's Sheng and Pipe Music [J]. Chinese Musicology (Quarterly). 1994. Issue 3:46-64

[4] Tian Fei. A Study on the Heritage Development of Xinzhou Bayin Society in Shanxi [D]. Shanxi Normal University, 2013.4

[5] Wang Chaoying. Investigation and Research on the Inheritors of Juggling Children in Yanbei, Shanxi [D]. Shanxi Normal University, 2015.11

An Analysis on the Innovative Path of Ideological and Political Education of College Students in the Context of New Media

Shan Jiang
Zibo Vocational Institute, Zibo, Shandong, China

Abstract: With the advent of the new media era, higher vocational colleges need to adhere to the principle of advancing with the Times when carrying out ideological and political education of college students, and constantly innovate the development path of ideological and political education of college students, so as to guide college students to establish correct values, thus broadening their knowledge horizon, so as to improve their ideological and political level. This paper will discuss the innovative path of ideological and political education of college students in the context of new media.
Keywords: New media era; Higher vocational colleges; Innovation path; Ideological and political education

1. INTRODUCTION

In the context of new media, the ideological and political education of college students has ushered in new development opportunities. In order to innovate this work path, it is necessary to give full play to the application advantages of new media technology, strengthen the guidance of ideological and political aspects of college students, so that they can resist negative information and overcome their negative emotions, so as to formulate a path suitable for the development of ideological and political education of college students.

2. THE CHARACTERISTICS OF NEW MEDIA CONTEXT

2.1 The nature of the Times

With the advent of the new media era, the ideological and political education work of college students in higher vocational colleges should follow the characteristics of the new media context, grasp the epochal nature of new media, timely innovate the form of education work, and integrate socialist thoughts with the spirit of the Times into practical work, so as to spread various cultural knowledge. It is helpful to improve the level of ideological and political work of higher vocational college students [1].

2.2 Openness

Under the background of new media, the limitation of traditional media can be broken, which can promote the openness of information release and acceptance, and its application to the ideological and political education of college students in vocational colleges will help connect the society with vocational colleges, promote more efficient and flexible information dissemination, and broaden the knowledge horizon of college students.

2.3 Diversity

At present, the speed of information dissemination is very fast, and information dissemination in higher vocational colleges is diversified in forms and rich in content. Obtaining socially dispersed information through various media technologies can meet the needs of college students for information, and college students can choose appropriate information according to their interests and hobbies, which can help them broaden their knowledge and enrich the knowledge base, and further improve their information discrimination ability.

2.4 Interactivity

New media technology has the characteristic of interactivity, which changes the situation of one-way communication of traditional media in the past, can disseminate information in real time, and promote the audience to get the opportunity to interact, so as to receive information and feedback information in time. In the context of new media, the ideological and political work of college students in higher vocational colleges is more interactive, which helps to unite all teachers and students.

3. THE INNOVATIVE PATH OF IDEOLOGICAL AND POLITICAL EDUCATION IN HIGHER VOCATIONAL COLLEGES IN THE CONTEXT OF NEW MEDIA

With the advent of the new media era, higher vocational colleges should attach importance to the application of new media technology, timely innovate the development path of ideological and political education of college students, and constantly design new ideological and political education activities to encourage college students to actively participate in them, so as to establish correct values and outlook on life. In this regard, this paper will put forward the following ways to innovate the ideological and political education of college students:

3.1 Innovating educational concepts

In order to better adapt to the new media era, higher vocational colleges need to innovate the idea of ideological and political education of college students, and effectively combine the two, so that college students can have the idea of using new media, strengthen the application of new media technology, and obtain more information. As an important place to train professional

talents, higher vocational colleges bear important educational responsibilities. the development of ideological and political education can guide college students to establish correct values and enable them to distinguish the true and false information, which is of great significance for college students to go to society in the future. In this regard, higher vocational colleges need to timely innovate educational concepts, constantly strengthen the responsibility of education, build an information platform in line with the context of new media, provide the whole school with an effective way to acquire knowledge, and ensure that college students can keep up with the pace of development of the Times, so as to meet their learning needs [2].

3.2 Innovating educational management mechanisms

In the process of ideological and political education of college students in higher vocational colleges, the establishment of educational management mechanism plays an important role. Through the educational management mechanism, it guides public opinion and ensures the correct use of new media on campus, so as to create a good campus environment and bring positive influence to the study and development of college students. Under the influence of the past management mechanism, the ideological and political work of college students has been hindered in many ways, which is not conducive to broadening the thinking of college students, resulting in students' learning needs can not be satisfied. In the context of new media, higher vocational colleges should innovate the educational management mechanism, skillfully use various new media platforms, build a top-down publicity pattern, ensure real-time dissemination of information, break the limitations of the original educational management mechanism, and thus carry out ideological and political education for college students in line with the needs of the new era.

3.3 Innovating educational content

The ideological and political education of college students in higher vocational colleges needs to innovate the educational content, give full play to the application advantages of new media in the context of new media, integrate more content that college students are interested in into the ideological and political education work, promote the ideological and political education to keep pace with the Times, attract college students to participate in educational activities, and then play a guiding effect on college students. the ideological and political education work of college students can be innovated from the following points: First, the use of new media technology to innovate educational forms, choose educational forms that meet the expectations of college students, and use the flexibility of new media technology to change the original single form of information transmission, so as to enable college students to obtain more information. Secondly, the content of ideological and political education is concise. In the context of new media, the speed of information dissemination is accelerated. If the most concise means of communication cannot be used, many college students will have resistance. the third is to consider the curiosity of college students, innovate the original single educational content, choose a suitable communication Angle, and use new media technology to enrich the educational content, which is conducive to satisfying the curiosity of college students, so as to effectively improve the quality of ideological and political education of college students.

3.4 Innovating educational methods

As an important part of college students' education in higher vocational colleges, ideological and political education needs to develop innovative educational methods. First of all, a new media platform can be established to spread ideological and political education contents in campus new media, which will help deepen students' learning impression, change the past single educational methods, such as using micro-classes, quality classes and other forms, and break the limitations of traditional educational forms. Students can also learn more ideological and political theories in their spare time, which is conducive to giving full play to the advantages of the use of new media technology, so as to improve their ideological and political literacy. Secondly, to give full play to the functions of campus new media, teachers should carefully design ideological and political education activities for college students, carry out diversified educational activities, such as social practice and voluntary service, and give students more opportunities to participate in practice, which will help enrich students' practical experience and improve their comprehensive ability in the practice process.

4. CONCLUSION

With the advent of the new media era, the ideological and political education of college students in higher vocational colleges should keep up with the pace of the development of the Times, timely innovate the form and content of education, seize the development opportunities brought by new media technology, in order to promote the innovation of ideological and political education of college students, so as to give play to the application value of new media technology. the new media era has the characteristics of openness and diversity, which should be fully taken into account when innovating ideological and political education of college students. New media technology should be combined with ideological and political education of college students to ensure that the educational model can be reformed, more college students can be attracted to participate in educational activities, and their ideological and political literacy can be continuously strengthened so that they can establish correct values. Lay a good foundation for future development.

REFERENCES

[1] Li Wenjia. An analysis on the Innovative Path of Ideological and Political Education in Higher Vocational

Colleges in the context of New Media [J]. New West, 2023(02):158-160.
[2] Liu Hui, Chen Pengtao. Research on Humanistic Literacy Education of Higher Vocational College students in the context of new media [J]. Theoretical Research and Practice of Innovation and Entrepreneurship, 2018, 1(12):19-20.

Ideological and Political Exploration of Electric Vehicle Fault Diagnosis Course in Higher Vocational Colleges

Jianwei Li
Zibo Vocational Institute, Zibo, Shandong, China

Abstract: In the current situation of energy resources shortage, electric vehicles in the continuous innovation and development, in the battery life, vehicle performance, charging technology and other aspects have been significantly improved, more and more people's attention. the rapid development of the electric vehicle industry has increased the demand for related electric vehicle maintenance professionals, and it is urgent for major vocational colleges to train high-quality, high-skill and high-level electric vehicle maintenance talents for society and enterprises. the course of fault diagnosis of electric vehicle is an important subject for the maintenance of electric vehicle, and the teaching quality of teachers will directly affect the development of students' comprehensive quality. the effective integration of ideological and political concepts of the course into classroom teaching can improve the comprehensive quality of students majoring in electric vehicle technology and provide enterprises with excellent talents in terms of technical ability and comprehensive quality. Based on the curriculum ideology and politics as the background, this paper studies the electric vehicle fault diagnosis course offered by higher vocational colleges, analyzes the ideological and political problems existing in the teaching process, and explores the practical strategy of integrating curriculum ideology and politics into the electric vehicle fault diagnosis course.

Keywords: Higher vocational colleges; Curriculum ideological and political; Electric vehicles; Fault diagnosis

1. INTRODUCTION

In the curriculum system of major higher vocational colleges, curriculum ideology and politics play a very important role in the teaching process. For the training of students majoring in electric vehicle technology, higher vocational colleges should put the cultivation of ideological and moral qualities and professional skills in the first place, implement the concept of cultivating souls into the process of talent training through classroom teaching, and efficiently integrate ideological and political elements into all aspects of classroom teaching during the course of teaching. Under the skillful guidance of teachers, Promote students' ideological and moral sublimation.

2. THE IDEOLOGICAL AND POLITICAL PROBLEMS EXISTING IN THE COURSE OF TEACHING

2.1 Single teaching team, lack of ideological and political teachers

As the key courses of electric vehicle technology major are taught by special teachers, these teachers are basically the backbone teachers of automotive technology major, who have rich experience in the teaching of electric vehicle technology, and can impart professional knowledge and technical ability to students in the electric vehicle fault diagnosis course. I do not understand the ideological and political ideas of the course and the related teaching content, and the rigid and mechanical classroom teaching effect will appear in the process of integrating the ideological and political ideas of the course into the teaching of professional courses. Therefore, it is necessary for teachers with professional knowledge of ideology and politics to participate in classroom teaching, cooperate with teachers of specialized courses, and start from various aspects, such as formulating talent training plans and teaching plans for specialized courses, so as to comprehensively and effectively impart the teaching content of ideological and political courses to students, and at the same time increase the scope of knowledge and teaching ability of teachers of specialized courses. To realize effective ideological and political ideas into the teaching activities of specialized courses.

2.2 The expansion of ideological and political elements is not enough

At present, most teachers of electric vehicle technology major will use industry model celebrities as the teaching background in fault diagnosis course teaching and describe their excellent moral character. This teaching mode is superficial in expanding the ideological and political elements of the course, and cannot make students truly feel the ideological and political concepts of the course. the form of ideological and political teaching in the classroom remains unchanged. Ideological and political teaching content lacks innovation. the school should organize more professional teachers to explore and study the ways and ideas of ideological and political elements development together, and timely carry out ideological and political professional training seminars to improve teachers' skills in the development of ideological and political elements.

2.3 The teacher lacks the concept of teamwork

During the communication with some teachers of specialized courses in higher vocational colleges, I found that each teacher serves as a substitute teacher for one specialized course, and some teachers even teach more than two specialized courses. Teachers can master the main teaching contents of specialized courses, but the degree of integration of ideological and political elements in curriculum teaching depends on personal experience and experience. the integration of ideological and political elements with electric vehicle fault diagnosis courses in major vocational colleges is not so stable. For teachers of specialized courses, the teaching and research room should be used as a communication platform to communicate more with other teachers of specialized courses, learn from each other and learn from the problems and difficulties encountered in ideological and political teaching of courses, and help each other to solve problems and overcome difficulties. At the same time, the local vocational colleges should strengthen the contact, the school or the same college should carry out more learning and exchanges, learn from the excellent teaching experience between different professional teachers, combined with their own teaching methods, and gradually improve the teaching ability of curriculum ideology and politics in the teaching of professional courses.

3. THE EXPLORATION AND PRACTICE OF CURRICULUM IDEOLOGY AND POLITICS

3.1 The application of curriculum ideology and politics in classroom teaching design

The teaching process of electric vehicle fault diagnosis course is divided into three parts: before class, during class and after class. Before class, the teacher will lead the students to review and reflect on the knowledge points learned in the last class, consolidate the knowledge points learned in the review process, and cultivate the quality of thinking of the students in the reflection. In the course, the teacher will teach the teaching content of this class, explain the professional knowledge points by using diversified teaching methods such as virtual animation, video and actual cases, and train students' practical ability and professional skills through practical operation. In this process, the ideological and political elements will be subtly introduced into the classroom teaching. Cultivate students' thinking ability and moral character. the two most important tasks in the teaching process are to cultivate students' knowledge and skills and to cultivate their ideological and moral qualities. Teachers should take classroom teaching as the main battlefield to cultivate their souls and give full play to the important position of ideological and political elements in classroom teaching. After class, teachers assign practical activities as homework, so that students can consolidate and deepen new knowledge points in practice, and promote the two-way development of students' comprehensive quality and professional skills.

3.2 Expansion of ideological and political elements in classroom teaching

Under the continuous discussion and study of professional teachers, the ideological and political elements of electric vehicle fault diagnosis course are comprehensively expanded and analyzed, and the ideological and political elements that can be reasonably and effectively used in professional courses are refined. For example, in the electric vehicle fault diagnosis course, the battery fault diagnosis section first explains the structure and principle of the battery. While teaching professional knowledge, students are brought into it, so that they can feel the important role of each component or each person in the overall team, so that students understand the significance of cooperation and sharing. Then in the teaching and practice of battery parts failure and detection content, the students are trained to be careful and careful in logical thinking, and to be serious and responsible, hard-working, confronting difficulties, and meticulous in their work attitude and style.

4. CONCLUSION

The integration of ideological and political elements into the electric vehicle fault diagnosis course can not only improve the technical ability of students, but also cultivate the positive development of students' ideological and moral qualities. Curriculum ideology and politics can make classroom teaching more interesting and improve the effectiveness of classroom teaching. Part of the ideological and political content is the case of outstanding model representatives of positions related to students, which can make students clear their employment goals, guide their employment direction, and formulate future career plans. As the main venue of teaching, classroom is not only a place for students to learn professional knowledge, but also a place for students to cultivate ideology, morality and good quality. the practical application of ideological and political elements in the electric vehicle fault diagnosis course will shape a rigorous work team and professional technical personnel for the society, and promote the technological development and economic progress of the electric vehicle industry.

REFERENCES

[1] LIU Min, Dang Hongyun, Liu Jiangang. Ideological and Political Exploration of New Energy Vehicle Maintenance and Fault Diagnosis Course [J]. Times Automobile, 2022(24):25-27.

[2] Yang Yang. Ideological and Political Exploration Practice of Electric Vehicle Fault Diagnosis Course in Higher vocational Colleges [J]. Automotive Maintenance and Repair, 2022(14):26-28.

[3] ZHU Jingjin, LI Qianqian, Wu Xin. Research on Ideological and political Integration Teaching of "Automobile Detection and Diagnosis Technology" course [J]. Science and Technology and Innovation, 2021(21):18-19.

The Relationship Between Mobile Phone Dependence and Family Parenting Style of College Students

Li Na[1, 2], Elna r. Lopez[1]
[1]Lyceum Of the Philippines University, Batangas, Philippines
[2]Shandong College of Traditional Chinese Medicine, Yantai, Shandong, China

Abstract: The study's major goal was to investigate the current situation of mobile phone dependence of college students and explored the relationship among mobile phone dependence and family parenting style. This study adopted the descriptive method of research using different standardized tools as main gathering instruments in obtaining quantitative responses from the respondents Five hundred and thirty (530) participants had been retrieved online by scanning the code through random sampling. the study used the Mobile Phone Dependence Scale for college students, the Family Parenting Style Scale to investigate the respondents.
Keywords: Mobile phone dependence; Family parenting styles

1. INTRODUCTION

China has become the largest mobile phone market worldwide and mobile phone use has increased dramatically in Chinese university students in recent years. College students are the mainstream group who use mobile phones, and it is common for college students in China to rely on mobile phones. According to a report released by China Internet Network Information Center (CNNIC) in February 2021, by December 2020, the number of Internet users in China reached 989 million, and the number of mobile Internet users reached 986 million, accounting for 99.7% of the total.

Mobile phone dependence is defined as the normal phenomenon of excessive use of mobile phone, that is, mobile phone dependence is an individual's excessive use of mobile phone, which has a negative impact on their mental and physical health and social functions. Studies have shown that students from cities and towns are significantly more dependent on mobile phones than rural students (Wang Jianbo, 2022). With the progress of society and the widespread use of mobile phones, the differences caused by the dependence of students on mobile phones will gradually decrease. Tang Huilin (2018) pointed out that mobile phone dependence is related to family education methods, and parents 'rude and rejected education methods will increase their children's mobile phone dependence. Miao Miao (2018) pointed out that children are in a growing environment with good family atmosphere, communicate with their parents, get their support, and easy to develop good habits of self-control, so as to reduce the use of mobile phones.

Emirtekin (2019) pointed out that children who experience neglect or emotional abuse from a young age are more likely to develop problems such as phone dependency when they grow up. Tian Yuejuan (2017) showd that parental rearing styles can positively predict adolescents' dependence on mobile phones

2. METHODS

This study adopts the direction of horizontal research as it investigated the general information of the respondents, and uses the college students' mobile phone dependence, Parenting Style Questionnaire.

3. PARTICIPANTS

Taking college students as the research object, 530 college students were surveyed online by random sampling method in Shandong college of Traditional Chinese Medicine. Students from different majors, different grades and different genders were selected for online questionnaire survey.

4. RESULTS AND DISCUSSION

Table 1: Relationship of the Respondents Mobile Dependence to Family Parenting Style n=530

	Mobile Dependence							
	Abstinence		*Prominence*		*Compulsion*		*Overall Mobile Phone Dependence*	
	rxy	*p-value*	*rxy*	*p-value*	*rxy*	*p-value*	*rxy*	*p-value*
Family Parenting Style								
Emotional Warmth Type	*. 013*	*. 772*	*. 170***	*. 000*	*. 295***	*. 000*	*. 186***	*. 000*
Coddling Type	*. 198***	*. 000*	*. 120***	*. 006*	*. 202***	*. 000*	*. 184***	*. 000*
Authoritarian Type	*. 383***	*. 000*	*. 365***	*. 000*	*. 383***	*. 000*	*. 418***	*. 000*
Neglect Type	*. 503***	*. 000*	*. 446***	*. 000*	*. 322***	*. 000*	*. 473***	*. 000*

Trust Encouragement	-. 038	. 377	. 035	. 417	. 194**	. 000	. 070		. 105

Table 1 indicates the relation between mobile phone dependence and family parenting style. For family parenting style, emotional warmth type all gained a p-value of. 000 in prominence, compulsion and overall MDP, which means it is significant in these items and showed a positive correlation with these items. Codding type all gained a p-value of. 000 in prominence, compulsion and overall MDP, which means it is significant in these items and showed a positive correlation with these items. Authoritarian type all gained a p-value of. 000 in abstinence, prominence, compulsion and overall MDP, which means it is significant in these items and showed a positive correlation with these items. Neglecting type all gained a p-value of. 000 in abstinence, prominence, compulsion and overall MDP, which means it is significant in these items and showed a positive correlation with these items. Trust encouragement type all gained a p-value of. 000 in abstinence, prominence, compulsion and overall MDP, which means it is significant in these items and showed a positive correlation with these items.

5. CONCLUSIONS

5.1 Results suggested that college students have the risks of developing mobile phone addiction, difficulty in mainlining healthy relationships and may be less able to cope with the stress and challenges of college life due to high mobile phone dependence.

5.2 The mobile phone dependence and family parenting style of the college students vary significantly in terms of their sex, grade, home address, only child, and daily mobile phone usage.

5.3 The correlation analysis shows the family parenting style has the positive relationship with mobile dependence and positive family-parenting style have the positive relationship with trust and communication while negative family-parenting styles are significant with alienation.

6. RECOMMENDATIONS

6.1 Parents or other family members, for the better growth of their children, may try their best to create a harmonious family atmosphere, and adopt appropriate parenting methods according to the natural temperament of their children.

6.2 Teachers may guide students to use tablet computers correctly that could improve students learning efficiency and form good study habits for tablet computers and other electronic devices as teaching tools to assist the classroom has become a new trend.

6.3 School administrators may clearly formulate rules and regulations and set restrictions for the use of campus mobile phones and educate them about the risks of mobile phone dependence such as addiction, distraction, and sleep deprivation that could affect their mental health condition

REFERENCES

[1] Wang Jianbo. (2022). Study on the relationship between family rearing style, parent-child attachment, psychological resilience and mobile phone dependence tendency of high school students. Harbin Normal University

[2] Tang Huilin, CAI Xiaolu. (2018). the relationship between mobile phone dependence and loneliness among Cross-Strait college students. Journal of Nanjing Xiaozhuang University, 34(01):89-91+123

[3] Miao Miao, Yang Yinan, Hu Xiaobin, Chen Yuan, Dawa Zhuoma, Ding Qian, Ma Lili. (2018). Study on the influence of family environment and parenting style on mobile phone dependence of college students in class. Chinese Journal of Medical Sciences, 32(02):81-84+86.

[4] Emirtekin, E., Balta, S., Sural, İ., Kircaburun, K., Griffiths, M. D., & Billieux, J. (2019). the role of childhood emotional maltreatment and body image dissatisfaction in problematic smartphone use among adolescents. Psychiatry research, 271, 634–639.

[5] Tian Yuejuan. (2017). the relationship between college students' dependence on mobile phone and their parents' parenting style and self-harmony [D]. Henan University.

Study On Carbon Markets and Green Bond Markets for the Transition and Development of Low-Carbon Economy

Min Liu
School Of Business, Chongqing College Of Humanities, Science And Technology, Chongqing, China

Abstract: Global warming has become a major environmental problem threatening mankind, and all countries are actively taking measures to deal with the environmental problems caused by carbon emissions. China has been continuously carrying out technological innovation, institutional innovation, industrial transformation, development of new energy sources, and other means to minimize carbon dioxide and other greenhouse gases to achieve the purpose of slowing down climate change. the study found that the carbon market and green bond market can promote the transformation of low-carbon economy.
Keywords: Carbon market; Green bond market; Low carbon economy

1. INTRODUCTION

Global warming has brought a series of climate disasters to mankind, constantly jeopardizing the safety of human lives and property, and in order to prevent further deterioration of the disasters, countries have made joint efforts and signed the Paris Agreement on Climate Change, a climate change agreement with 178 parties in April 2016, which is centered on the development of a green economy for sustainable development. China has actively responded to the call of the parties to the Paris Agreement for environmental protection, and General Secretary Xi Jinping, at the 75th session of the United Nations General Assembly in September 2020, pointed out that China wants to achieve carbon peaking by 2030 and carbon neutrality by 2060, and the proposal of this goal points out the way to the development of China's low carbon economy, and the development of a low carbon green economy is a sustainable development path to solve the problem of insufficient and unbalanced development under the situation of China's new normal. the development of low-carbon green economy is a sustainable development path to solve the problem of insufficient and unbalanced development in China's new normal situation.

Low-carbon economy refers to a form of economic development under the guidance of the concept of sustainable development, through technological innovation, institutional innovation, industrial transformation, new energy development and other means, as far as possible to reduce carbon dioxide and other greenhouse gas emissions, to achieve the purpose of delaying climate change, to achieve economic and social development and ecological and environmental protection win-win situation. From the traditional crude high energy consumption economic development mode to new energy, high efficiency, low carbon emissions of the low carbon economy requires a large amount of capital investment, which requires the development of green finance. 2016 March, building a green financial system formally included in the "13th Five-Year Plan", green bonds, an effective financing tool can raise a large amount of funds to promote the development of the green financial system. Promote the development of green financial system.

Green bonds are bond instruments that earmark the proceeds to refinance specific projects such as environmental protection, sustainable development or climate change mitigation and adaptation. Since China began to establish a green financial system in 2016, the Chinese labeled green bond market achieved its largest annual incremental growth in 2021: US$109.5 billion (approximately RMB 706.3 billion) of labeled green bonds were issued, a 140% year-on-year increase. China's total green bond issuance ranks second in the world. While the green bond market is growing rapidly, we should pay attention to the interactive response between the growth of the low-carbon economy and the development of the green bond market. the green bond market is an important financing channel, green bonds for enterprises to provide low-cost, sustainable financing channels, and the funds directed to low pollution, low emission intensity, and to achieve energy saving and emission reduction, improve the environment, and ultimately realize the human low-carbon production and lifestyle. the rapid development of the green bond market has played a positive role in accelerating the financing of capital, optimizing resource allocation, realizing low-carbon emissions, improving energy efficiency and promoting the development of low-carbon economic aspects of the green energy consumption system.

2. LITERATURE COMBING

As the theoretical community gradually realizes the important role of the carbon market and green bonds in promoting the development of a low-carbon economy. the original intention of the carbon market trading mechanism is to maximize the efficient reduction of carbon dioxide emissions without harming economic growth, and the establishment of the carbon trading market is an important practical exploration to achieve

the goal of carbon emission reduction and promote the transition to a low-carbon economy. As a market-based environmental regulation means, most scholars have found that the carbon market can effectively promote the reduction of carbon dioxide emissions and promote low-carbon economic transformation. Dong et al. (2019), based on the theory of the Porter's hypothesis and using the DID, DEA model, found that in the long run, China's carbon market has a good function of emission reduction and economic function, and it can realize the Porter's effect to achieve sustainable environmental development and economic dividends [1]. Han et al. (2019) found that China's carbon market has a significant positive impact on R&D intensity, which promotes the transition to a low-carbon economy to a certain extent [2]. Ren et al. (2021) concluded that the carbon market enhances industrial carbon productivity and reduces carbon emissions through environmental governance incentives, structural optimization, and technological innovation [3]. Labatt and Whitc (2003) argue that green bonds as a direct financing tool can provide sufficient financial support for environmental issues [4]. Mathcws and Kidney (2010) argue that the green bond market is a support for sustainable economic development, and that rationally promoting the development of green bonds can help to promote the development of green economy [5]. Tang Guohao (2015) for the whole Beijing-Tianjin-Hebei region's air pollution problem, short-term financial allocations cannot support the long-term coordinated development of air pollution control. Only through the issuance of green bonds can we sustainably provide an adequate supply of funds for energy conservation and emission reduction in the Beijing-Tianjin-Hebei region [6]. the investment of green bonds has significant environmental externalities, which can strengthen the construction of local ecological civilization and improve local carbon emissions [7] (Flammer, 2021). For this reason, the carbon market and green bonds, as its important tools, will expand rapidly in the future, constantly enriching the connotation of green finance and boosting the sustainable development of low-carbon economy.

In summary, the theory of the research mainly focuses on the development of green finance on energy saving and emission reduction, industrial transformation, governance of the environment, economic growth, less literature on the carbon market, green bond market on the impact of the low-carbon economy, the two markets as a new financing tool for the development of green financial market for the realization of the economic transformation, and to promote the sustainable development of the low-carbon economy will play an increasingly important role, so it is necessary to study the two markets on the role of low-carbon economic promotion.

3. THE ROLE OF CARBON MARKETS AND GREEN BOND MARKETS IN PROMOTING A LOW-CARBON ECONOMY

3.1 Carbon Market Promotes Low Carbon Economic Transformation

China's carbon dioxide emissions mainly come from fossil energy consumption in the industrial production process. Under the constraint of carbon emission right quota, there are three main ways for the carbon market to promote low-carbon economic transformation: firstly, reduce the burning of high-carbon fossil energy and increase the use of low-carbon clean energy (such as natural gas, hydropower and nuclear energy), so as to optimize the energy structure; secondly, improve the efficiency of energy use and reduce carbon emissions in order to achieve clean production and minimize the cost; and thirdly, carry out green technological innovation, whereby enterprises can achieve economic benefits from carbon emission reduction through carbon market carbon price changes effectively anticipate the economic benefits of technological innovation to achieve carbon emission reduction, thus forcing enterprises to strengthen their willingness to technological innovation, promoting enterprise technological innovation to achieve energy saving and emission reduction, and promoting the transition to a low-carbon economy.

3.2 Green bond market can promote the effective allocation of low-carbon economic resources

As a direct financing tool for enterprises, green bond financing tools, compared with green credit and other indirect financing tools, for environmentally friendly enterprises have the advantages of low financing costs and long financing periods, effectively reducing the borrowing costs of the green industry. the tool inhibits the scale of financing of polluting enterprises, and there is a significant financing penalty effect on polluting enterprises, which creates favorable conditions for the sustainable development of low-carbon economy. the flow of funds to the green industry encourages enterprises to pay attention to green protection in production, and prompts the transformation of the industrial structure of high energy consumption, high input, high pollution and low output to ecology. Green bonds can provide services for the prevention of environmental pollution, ecological protection, effective and rational allocation of resources and the sustainable development of low-carbon economy.

3.3 The green bond market can promote the technological progress of enterprises and boost the optimization and upgrading of low-carbon industries.

Enterprises financing through the green bond market is conducive to enterprises to build a green technology innovation system, to attract technical talents to devote themselves to the cause of environmental technology innovation. Green bonds focus more on energy saving and emission reduction technology, wind energy nuclear energy solar energy, renewable energy technology and other projects to reduce the energy consumption of the GDP unit, which can provide a solid backing and economic foundation for the technological innovation of the low-carbon economy, which will stimulate the power of enterprises to incorporate green concepts into their

R&D and innovation, and provide sufficient funds for the research and development of green industry technology, promote the advancement of green technology, and facilitate the ecological development of the industrial structure, and Provide power for low-carbon economic growth [7]. For example, the State Grid Corporation Limited 2021 The first issue of green medium-term notes (carbon neutral bonds) field raised funds to solve the financing needs of the State Grid Corporation three 800 kV ultra-high voltage DC transmission or AC transmission projects, a total of 412, 000 tons of standard coal savings, put into operation to reduce carbon emissions by about 770, 000 tons per year. the free flow of green bond financing capital in the money market and commodity market is conducive to improving the optimization and integration capacity of green industry in a wider scope, and is conducive to the concentration of advantageous resources among industries to cultivate advanced technological productivity. In short, the green bond market provides the prerequisites for technology research and development and innovation for the green industry, and the breakthroughs in green technology help optimize and upgrade the low-carbon industry and realize the sustainable development of low-carbon economy.

In summary, the development of carbon market and green bond market can promote the development of low-carbon economy and realize low-carbon lifestyle. Therefore, China should establish a corresponding policy mechanism to promote the stable and linked development mechanism of the carbon market and green bond market, so as to promote the contribution of the two markets to the low-carbon transformation of the economy.

4. SUGGESTION

4.1 Expanding the coverage of the carbon market and enriching carbon market players. While covering more high-carbon emitting enterprises, it will actively introduce more financial institutions and other market players, gradually develop carbon futures and other derivatives, enrich trading varieties, and increase the activity of the carbon market, as well as strengthen the supervision of the carbon market, improve the incentive and constraint mechanism of marketization, and raise the professional level of carbon market service institutions.

4.2 The green bond market, in promoting the implementation of China's dual-carbon strategy, should start from the fundamental goal of the low-carbon economic revolution, and should focus on long-term bonds to provide long-term financial support for low-carbon economic projects, non-fossil energy projects, and renewable energy projects in key core areas, so as to fully promote the low-carbon revolution. In terms of product design, the securities regulatory authorities should actively innovate products, such as zero-coupon bonds, carbon emission price index-linked bonds, new energy tariff index-linked bonds, etc., to give investors more choices, enrich the green bond market, and meet the diversified needs of the green economy. Regarding the use of green bonds, securities supervisory authorities should ensure that more than 95% of the funds are really used for low-carbon economy and green economy projects, so as to effectively support the realization of the goal of the dual-carbon strategy.

4.3 Investors, regulators, and the government consider the linkage between the two markets in designing products, risk control, and investment portfolios. At the same time, the green bond market and the carbon trading market should establish a linkage mechanism, share project trading information, and try to establish a futures and options model for bonds and carbon trading, so as to safeguard the returns of green bonds and maximize the returns of projects.

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REFERENCE

[1] DONG F, DAI Y, ZHANG S, et al. Can a carbon emission trading scheme generate the porter effect?evidence from pilot areas in China [J]. Science of the Total Environment, 2019, 653:565-577.

[2] HAN W, CHEN Z P, WU X Y, et al. Can a carbon trading system promote the transformation of a low-carbon economy under the framework of the porter hypothesis? Empirical analysis based on the PSM–DID method [J]. Energy Policy, 2019, 129:930-938.

[3] Ren Xiaosong, Ma Xi, Liu Yujia, et al. Impact of carbon trading policy on industrial carbon productivity and its transmission mechanism [J]. China Environmental Science, 2021, 41(11):5427-5437.

[4] Labatt S, White R Environmental finance: a guide to environmental risk assessment and financial products [M]. New York: John Wiley&Sons, 2003.

[5] Mathews J A, Kidney S. Climate bonds: mobilizing private financing for carbon management [J]. Carbon Management, 2010, 1(1):9-13.

[6] Tang Guohao. Issuance of green bonds to promote the synergistic management of Beijing-Tianjin-Hebei air pollution [J]Financial Economy, 2015, 3:13-15.

[7] Flammer. Corporate Green Bonds. Journal of Financial Economics, 2021, vol. 142(2), 499-516.

0-3 Years Old Infant Care Service: Current Situation, Use and Effect

Zhe Liu
Zibo Vocational Institute, Zibo, Shandong, China

Abstract: The early development of 0-3 years old infants and young children has aroused great attention from parents and society. As the level of social development continues to rise, the demographic dividend is gradually fading, and the demand for early development and care services for infants and young children is increasing, and many levels have begun to pay attention to the early development and care statistics of infants and young children. Therefore, infant care services are attracting attention and will be fully promoted in the near future. Therefore, this paper takes infants and young children aged 0-3 years as the research object, focuses on analyzing the current status of childcare services for infants and young children aged 0-3 years, carefully analyzes the direct causes of problems, and formulates corresponding optimization countermeasures to alleviate the current service contradictions as much as possible, thus achieving the expected use effect and laying the foundation for promoting the long-term development of infant and young children's childcare service industry.

Keywords: 0-3 years old infants and toddlers; Childcare services; Current situation; Use: effect

1. INTRODUCTION

With the development and progress of society, more parents attach great importance to the quality of childcare services and put forward higher service requirements. Early care services have targeted effects on infants' movement, language, cognition, emotion and sociality, and these effects will be maintained until adolescence and adulthood, and even have a certain impact on the overall development of individuals. the comprehensive "three-child" policy has been implemented for many years, but the average birth rate of newborns in each province in China has always been low, the fundamental reason is that the cost of raising children is too large, there is no care at home, especially the mother can not maintain a good family and career relationship, resulting in a continuous decline in fertility. Therefore, improving the 0-3 years old infant care service is a major measure to benefit the country and the people and realize the series of work of "children have education".

2. PRESENT SITUATION OF CHILDCARE SERVICES FOR INFANTS AND TODDLERS AGED 0-3 YEARS

2.1 The configuration of hardware facilities is not perfect

In recent years, although the number of childcare service institutions in China has continued to increase, the imperfect configuration of hardware facilities has always been a major solution to the problem. Through the field survey, it is found that different types of care centers have diversified consumer groups, and parents will choose the matching care service institutions according to their own economic ability. Although most parents are satisfied with the hardware, facilities and equipment of the institution, the display of infant exhibits in the institution is insufficient, so that very few teachers understand the contents related to infants and children, and gradually lose touch with the actual needs [1].

2.2 Weak teaching staff

The teacher strength of childcare service institutions is the focus of attention. If there are insufficient teachers, low pay for teachers, high work pressure, and lack of professional teachers, etc., it will inevitably affect the development of childcare service institutions and even hinder the development of the overall industry of childcare service. In addition, the professional ability of teachers in childcare service institutions is not strong, coupled with the few teachers with teacher certificates, it is difficult to guarantee the quality of childcare services.

2.3 Supervision is not perfect

The overall development of childcare services in China is in a preliminary state, coupled with the unclear division of responsibilities of various departments and the non-specific service standards of childcare service institutions, which seriously affect the social forces to support childcare services and inject impetus for development. According to the results of social research, the current supervision of childcare service agencies is not strong and imperfect, which mainly focuses on two aspects: on the one hand, the industry norms are incomplete, the childcare service agencies are highly market-oriented, and many unqualified service agencies are inadequate; On the other hand, it is difficult for all parents to accept the high cost of informal childcare services.

2.4 Difficulties in development

The development of the childcare service industry is faced with the phenomenon of large potential demand in the service market, but the development difficulties of childcare service institutions are endless. Through the survey and interview, it was found that many heads of childcare service agencies said: first, administrative approval involves a lot of content, which needs to be handled simultaneously by multiple departments, and it is difficult to apply. For example, it takes half a year at the fastest to handle certificates and rectification, which

will dampen the enthusiasm of park staff and increase the cost of park operation; Second, rent and personnel costs are high, operating pressure is high, cost recovery efficiency is low, and losses are very common. the profit period is about more than 5 years, and it is easy to close down once the operation is not good, so the establishment of childcare service agencies must have sufficient financial support, improve their flexibility and utilization rate; Thirdly, the development of the whole childcare service industry is not standardized at present, resulting in many parents' lack of trust in childcare service agencies, which greatly affects the number and stable operation of childcare service agencies, and thus faces numerous challenges [2].

3. THE USE OF 0-3 YEAR OLD CHILDCARE SERVICES

3.1 Overall use status

For married working women, they are more approved of childcare services, most of which are dominated by private educational institutions. However, according to the selection conditions, the preference is to choose the nursery institution close to home.

Families' choice of childcare services tends to be diversified, especially in terms of the length and form of use. Not only that, in the process of choosing childcare services, we will also consider economy and convenience.

3.2 Group differences in the use of childcare services

From the perspective of overall development, women in the period of high salary, high education and career advancement are the largest audience group of childcare services, because they face long-term family and career conflicts, and the demand for childcare services is gradually increasing. From the perspective of women's age, the use rate of childcare services will increase first and then decline with the age of women, especially in the 358-40 years old female families, the use rate of childcare services is high in this age stage.

3.3 Direct causes affecting the use of childcare services

According to the results of the survey, safety, institutional reputation and family care burden are the three direct reasons that affect the demand for family care services, and the more attention is paid to safety. Taking food, equipment environment, etc. as the "fuse" that causes safety accidents; Second is the quality, size and operation of the institution, and third is the enormous burden of personal or family care. In addition, the price, the form of service and the distance between institutions are also the fundamental factors affecting the use of family childcare services.

4. EVALUATION OF THE EFFECT OF 0-3 YEAR OLD CHILDCARE SERVICES

4.1 Characteristics of childcare services and willingness to continue childbearing

Improving the feasibility, convenience and quality of childcare services and reducing the price of childcare services attract the attention of many women, thereby increasing women's willingness to have children. According to relevant research, the desire of most married women for surrounding care institutions has shown a significant increase trend. With the continuous increase in the number of nearby care institutions, the proportion of women giving birth is also rising, which also means that the convenience of care services is proportional to the desire to give birth.

4.2 Childcare services and child development

The long-term and short-term effects of childcare services on child development can be clearly assessed in terms of children's physical and mental health, cognitive and non-cognitive abilities. Specific children's living ability, health status, cognitive ability and non-cognitive ability are taken as the evaluation contents of childcare service institutions. According to relevant conclusions, it is found that the use of childcare service has a positive impact on all aspects of children and helps their healthy development [3].

5. CONCLUSION

Based on the survey of 0-3 years old infant care data, this paper deeply studies the status quo, use status and development effect of China's childcare services, and finds many problems, such as the small number of childcare institutions, most of which are private; Married professional women have a great demand for childcare services, but safety, institutional reputation and family care are important factors that hinder their use of childcare services. To improve the feasibility of childcare services is particularly critical. For these situations, this paper focuses on increasing the feasibility of childcare services and reducing the cost of childcare services. To meet the diversified needs of family childcare services; To ensure the safety and health of children as the core, maximize the current status of childcare services, increase publicity and promotion efforts, improve the efficiency of use, inject impetus into the development of childcare services industry, and then achieve the expected results.

REFERENCES

[1] LI Jialieng, Fan Lishu, Chen Yi et al. Current situation and countermeasures of 0-3 year old infant care service in Ningbo under the background of "two-child policy" [J]. China Economic and Trade Guide (Middle), 2019(08):103-105.

[2] Cao Junmin, Fan Xiaoqin. Investigation on the demand of 0-3 year old infant's parents' childcare service in Wanzhou District of Chongqing [J]. Health Vocational Education, 202, 40(08):137-139.

[3] Li X F. Development of 0-3 year old infant care service in Guizhou Province under the background of "universal three-child" policy: current situation, dilemma and breakthrough [J]. Journal of Guizhou Institute of Socialism, 2021(04):73-79.

Theoretical Analysis of Chinese Language Learning Motivation of International Students

Ma Jia[1, 2]
[1]*Graduate School of Management, Management and Science University, Shah Alam, Selangor, Malaysia;*
[2]*Sanquan Medical College, Xinxiang, Henan, China*

Abstract: Learning motivation, as an essential factor influencing second language learning, has a crucial role in intercultural identity and communication. Considering the background of Chinese language learning among international students, this paper focuses on two learning motivations that significantly impact second language learning. One is integrative motivation and instrumental motivation; the other is intrinsic motivation and extrinsic motivation. By studying the definitions and factors of the two primary learning motivations and the relationship between different motivations, it is hoped to provide thinking and suggestions for international students' Chinese language learning and later teaching.
Keywords: International Students; Learning Motivation; Integrative Motivation; Instrumental Motivation; Intrinsic Motivation; Extrinsic Motivation

1. INTRODUCTION

Along with the development of economic globalization and the increasingly close cultural exchanges among countries, more and more international students choose to study in China. According to data from China's Ministry of Education, 492185 international students from 196 countries and regions came to study in China in 2018(Ministry of Education of the People's Republic of China, 2019). In cross-cultural adaptation, language becomes an essential medium for them to learn and communicate. Different motivations influence international students studying Chinese in the target language environment. Analyzing international students' motivation to learn Chinese can help target Chinese language teaching and enhance international students' motivation to learn Chinese.

2. LEARNING MOTIVATION ANALYSIS

Learning motivation is the emotional behavior produced spontaneously or passively by learners, which can stimulate students to generate interest, trigger and maintain students' learning behavior, and motivate students to achieve academic goals. Social psychologists, realizing the importance of society and culture to second language learning, were the first to begin studying language learning motivation. There are three prevalent theories of motivation: self-determination theory, attribution theory, and goal theory. (Keblawi, 2009)

There are various classifications regarding learning motivation from different perspectives. Two types of motivation used in this study currently have the most significant impact on second language learning. Gardner and Lambert proposed integrative motivation and instrumental motivation. Deci and his associates distinguish intrinsic and extrinsic motivations in self-determination theory (Keblawi, 2009).

2.1 Integrative Motivation and Instrumental Motivation

Gardner discusses integrative and instrumental motivation in his Socioeducational Model and highlights integrative motivation. Integrative motivation refers to the most influential concepts in Gardner's theory of motivation, including integration, attitudes toward the learning environment, and motivation to learn (Keblawi, 2009). Integrative motivation aims at communicating with the target language community, trying to integrate into the target language culture and living environment, and hoping to become a member of the target language community, such as joining the Chinese Corner to learn Chinese. Instrumental motivation refers to the use of language as a tool with the hope that it will be used to fulfill the needs of study, work, or life, such as accessing information, taking the HSK test, looking for a job, and so on.

2.2 Intrinsic Motivation and Extrinsic Motivation

Self-determination theory distinguishes between intrinsic and extrinsic motivations (Keblawi, 2009). Intrinsic motivation refers to an individual's motivation to participate in a specific activity because of pleasure and internal rewards that stem from the satisfaction of curiosity. Extrinsic motivation refers to an individual's need for external rewards, such as good grades or praise from others. Intrinsic motivation, as one of the three types, is the pleasure of knowing something new, the joy of accomplishing goals, and the pleasure sensed when doing the task. (Keblawi, 2009)

2.3 Other Learning Motivations

Biggs categorized learning motivation into surface and deep (Yuan, 2021). According to the role played by motivation in the activity, it can be divided into proximal and prospective motivation; according to the broadness of the object of motivational behavior, it can be distinguished into universal motivation and specific motivation; according to the significance of the motivation, it can be divided into reasonable motivation and unreasonable motivation.

3. INTERRELATIONS BETWEEN DIFFERENT MOTIVATIONS

3.1 Relationship between Integrative Motivation and Instrumental Motivation

Both integrative and instrumental motivation plays an essential role in the process of second language learning. Integrative motivation is about mastering the function of

the language itself, while instrumental motivation focuses on the benefits after getting the language. the learners with integrative motivation are fond of language with no apparent purpose and focus on active learning. the learners with instrumental motivation learn the language with clear goals, biased towards passive learning. Their learning behaviors are unstable, and their motivation levels are more variable, which is less conducive to gradual language learning in the long run. In second language learning, most people believe that learners with integrative motivation are more likely to acquire a second language than learners with instrumental motivation. Sometimes, learners with instrumental motivation are more likely to succeed (Chang, Wang, 2016). In the initial learning phase, linguists have found that "integrative motivation" plays an essential supporting role; "instrumental motivation" plays a more significant role in the later stages of learning to use the language. (Kou, 2017)

3.2 Relationship between Intrinsic Motivation and Extrinsic Motivation

In the 1990s, intrinsic and extrinsic motivation became hot topics in motivation research again (Zhang, &Guo, 2003). Intrinsic and extrinsic motivation are in a coexisting relationship, and extrinsic motivation may either undermine intrinsic motivation or have a facilitating effect on intrinsic motivation, depending on the type of extrinsic motivation (Zhang, & Guo, 2003). the impact of extrinsic motivation on intrinsic motivation is also conditional. For example, obtaining rewards for Chinese speech contests has less detrimental effects and a more facilitating impact on intrinsic motivation than prizes obtained just by attending. Unexpected rewards are more intrinsically motivating than rewards that can be met. Intangible extrinsic rewards can produce more facilitation than tangible extrinsic rewards.

3.3 Interrelationships between Different Motivations

Instrumental motivation and extrinsic reward refer to the fact that the outside world drives the individual. Integrative motivation and intrinsic motivation refer to enjoyment as well as internal fulfillment. (Keblawi, 2009) A learner may have multiple motivations or be influenced by different motivations simultaneously. For example, a learner's pursuit of high grades may involve instrumental, intrinsic, and achievement motivation at the same time. For learners, having multiple motivations is better than one motivation because different motivations can influence learners in different environments; moreover, motivation varies with changes in the external environment and the learner's thinking.

4. SUMMARY

Although learning motivation can be divided into different motivations from different perspectives or focuses, they all play a positive role in promoting second language learning. Specialized teachers engaged in teaching international students can take into account the different learning motivations of international students and carry out targeted teaching to improve the Chinese language proficiency of international students and help international students adapt to life in China as soon as possible; In addition, they can take into account the existing relatively weak learning motives of students and enhance the corresponding learning motivation of students.

REFERENCES

[1] Chang Jiaqi. & Wang Xiaojing. (2016) Analyzing the Effects of Integrative and Instrumental Motivation on English Language Learners' Language Acquisition. http://www. docin. com/p-1493065546. html

[2] Dewi, K. (2020). Learning Motivation of Chinese Language Department Students in Bunda Mulia University Indonesia. Jurnal Bahasa dan Budaya China, 8(1).

[3] Feng Guiyang. (2021). Cultural Identity and Motivation of Chinese Learning for Foreign Students (Master dissertation, BOHAI University).

[4] Keblawi, F. (2009). A review of language learning motivation theories. Jameea. (12), 23-57.

[5] Kou Xueliang. (2017). Integrative Motivation and Instrumental Motivation in Chinese Language Learning among International Students in Central Asia. A Study of Cognitive and Non-Cognitive Factors of Chinese Language Learners in Central Asia, 209.

[6] Ministry of Education of the People's Republic of China. (2019). the Statistics of Foreign Students Studying in China in 2018.

[7] Yuan Yu. (2021). Investigation and Research on the Motivation of Chinese Learning of African Students in Xi'an. (Master Dissertation, Northwest University)

[8] Zhang Jian, & Guo Dejun. (2003). the Relationship between Internal and External motivation (Doctoral dissertation).

Research On the Problems and Work Strategies of College Counselors in Psychological Health Education for College Students

Yuru Wang
Zibo Vocational Institute, Zibo, Shandong, China

Abstract: College counselors are the main implementers of mental health education for college students and play an irreplaceable role in mental health education. This paper analyzes the current situation of counselors' mental health education work and points out that the effectiveness of mental health education should be optimized and improved by focusing on prior prevention, strengthening theoretical learning, innovating the form of psychological activities and collaborating with multiple parties to educate people, so as to ensure the healthy growth of college students.
Keywords: College counselors; Mental health education; University students

I. INTRODUCTION

Mental health education for college students is an important part of ideological and political education in colleges and universities. As the group with the closest contact with students, college counselors play an important role in the mental health education of college students. the "Regulations on the Construction of Counselors' Teams in Ordinary Higher Schools" has clearly defined the role of counselors: counselors should strive to become life tutors and friends in the process of students' growth and success, which clearly defines that the ultimate goal of college counselors is to cultivate college students with sound personality, which is in line with the cultivation goal of college students' mental health education. However, some college college counselors have problems such as unclear positioning and lack of psychological expertise, resulting in some college students' mental health problems not being discovered and effectively solved in time, and even causing many irreversible consequences. Therefore, it is of great practical significance to explore the working path of counselors in the mental health education of college students, in order to cultivate good psychological quality and literacy of college students.

2. PROBLEMS OF COLLEGE COUNSELORS IN THE MENTAL HEALTH EDUCATION OF COLLEGE STUDENTS

2.1 The duties of counselors' positions are not clear

Some college counselors position themselves as managers of students' daily affairs and think that mental health education is the responsibility of school mental health centre and psychological teachers. Due to the ambiguity of their duties, college counselors neglect the prevention and intervention of students' mental health in the management of classes and students. This obviously violates the principle of "prevention-oriented" mental health education, and also frustrates the enthusiasm and initiative of the college counselors to carry out mental health education.

2.2 College counselors lack the necessary mental health expertise

At present, a common problem in colleges and universities is that most of the college counselors are non-psychology teachers, so they are unable to accurately determine whether a student has psychological problems and how serious the problems are. It is difficult to put theoretical knowledge and skills into practice when conducting mental health education, especially in the process of psychological communication and counselling. This lack of professionalism will lead to many initial psychological problems not being screened in time, and it is also difficult to grasp accurately in terms of conversation skills and conversation contents.

3. WORK STRATEGIES OF COLLEGE COUNSELORS IN THE MENTAL HEALTH EDUCATION OF COLLEGE STUDENTS

3.1 Pay attention to psychological screening, so that prevention is the main focus

Every year when the new students enter the university, the university will conduct a mental health survey, the purpose is to grasp the new students' mental health condition and provide a basis for the psychological crisis intervention work. Counselors should scientifically grasp the opportunity of the psychological survey, and do a good job of classification management for psychological warning students. Take the School of Accounting as an example, for the first level of psychological warning students, they should establish personal files one by one, focus on family, study and interpersonal aspects to do a good job of talking with students, record the content of each conversation with students, compare and analyze the psychological changes of students, and report to their superiors and university student mental health centre in time if abnormalities are found. For Level 2 psychological warning students, form a list management, closely follow and observe the students, and do a good job of withdrawing and transforming the list according to the situation. For Level 3 psychological warning students,

pay attention to them, rely on dormitory psychological observers, dynamically understand their behaviour and thoughts, regularly give feedback to the counsellor and make a good prognosis for the next step.

3.2 Strengthen professional theoretical learning and improve the practical ability of psychological education

college counselors should pay attention to the important position of mental health in the ideological and political education of college students, deeply understand the importance of mental health education for the growth of college students, and focus on strengthening their own study, research and practice in the field of mental health. Firstly, they should make use of the special training, lecture reports and exchange seminars organized by the school to make up for their own gaps and shortcomings in the psychology profession, master the key methods of identifying students with psychological abnormalities and master the essentials of handling psychological emergencies. Secondly, counselors should exercise their ability in psychological education, including conducting psychological knowledge presentations, analyzing psychological cases and teaching psychological health education courses, etc. When carrying out activities, they should not only pass on healthy and positive ideas to students, but also enhance students' experience and participation, and guide them to learn by doing and learn by doing. Finally, college counselors should also strengthen the accumulation of knowledge in employment guidance, learning and interpersonal relationships, because the psychological problems of college students are often concentrated in the above three aspects, and good theoretical and practical research in these aspects can greatly reduce the incidence of psychological abnormalities during school, improve the ability of college students to cope with setbacks, and enhance the effect of practical education.

3.3 Explore new forms of psychological activities and create a good psychological atmosphere

college counselors should make good use of key time points such as the month of mental health activities, before exams, before and after the start of the school year, and the graduation season to hold activities in various forms, rich in content and close to reality, so that college students can feel a good learning atmosphere and a positive attitude towards people in campus life. Take the School of Accounting as an example, in the daily mental health education, the school will hold special activities such as psychological speech, fun punch cards, group counselling and life observation to inspire and educate students to cherish their time, cherish themselves, actively seek help and learn to be grateful, etc. In addition, college counselors should give full play to the effect of nurturing people in the second classroom, and pay attention to the infiltration of mental health education in thematic class meetings, practical activities and publicity and education. Enhance students' sense of experience in cognition, emotion, will and behaviour, and educate and guide them to dare to face up to their own shortcomings, accept themselves, be pleased with themselves and continuously improve their self-efficacy. In continuous learning and preaching, it not only enriches the counsellor's own mental health knowledge reserve, but also creates a good psychological atmosphere in a subtle way, guiding students to form an optimistic psychology and a sunny and cheerful personality.

3.4 With the help of multiple forces, forming psychological education synergy

As the closest group to students in colleges and universities, college counselors have the natural advantage of psychological health education for college students, but the psychological health education for students is not only the responsibility of college counselors. On the one hand, the Regulations on the Construction of Counsellor Teams in Ordinary Higher Education Schools state that college counselors should assist school mental health education institutions to carry out mental health education, conduct preliminary screening and guidance of students' psychological problems, organize and carry out activities to popularize mental health knowledge, and cultivate a rational, calm, optimistic and healthy mindset among students. It is thus clear that college counselors should strengthen collaboration with mental health centers and psychological professional teachers to bring into play the availability of educational resources and form a synergy of nurturing and maximum protection of students' mental health. On the other hand, college counselors should establish a hierarchical management team for psychological education, form a four-level monitoring system of dormitory observers - psychological members - class leaders - college counselors, play the role of peer groups in psychological health education, understand the dynamics of class students through student cadres from time to time, pay attention to students' abnormal behaviors and thoughts at all times, achieve a comprehensive grasp and focus on tracking, so that no student is overlooked.

4. CONCLUSION

As an important participant in the mental health education of college students, the counselors in colleges and universities play a pivotal role. Although there are some practical problems for counselors to carry out mental health education in practice, counselors have become the backbone of mental health education for college students. Therefore, only by clearly positioning their duties, strengthening professional knowledge and making use of the combined efforts of multiple educators can they continuously improve the psychological quality of college students and cultivate a batch of rational, calm, healthy and qualified college students.

REFERENCES

[1] Regulations on the construction of counselors in ordinary higher education schools [J]. Bulletin of the

State Council of the People's Republic of China, 2017, (34):28-32.

[2] He Ting, Yi Lingzhi. the role orientation and enhancement path of college counselors in the mental health education of college students [J]. International Public Relations, 2023, No. 159(03):161-163.

[3] Zhang Shuning. the dilemma of mental health education for college counselors in the new era and the path to solve it [J]. Character-Classics, 2022(13):105-107.

Observation of therapeutic effect of psychological intervention on children with multiple TIC syndrome

Wu Yunchou, Elna. Lopez
Lyceum Of the Philippines University, Batangas, Philippines

Abstract: Objective: To explore and analyze the clinical effect of psychological intervention on children with multiple tourettes. Methods: In this study, 72 children diagnosed with TIC multiple syndromes were selected to participate in the study. the consent of the children's families was obtained before inclusion. At the same time, to achieve the purpose of the study, the children were divided into two groups, namely the control group and the observation group, and routine drug treatment, nursing and psychological intervention were administered to them respectively, and the specific effects of the two groups were compared. Results: the YGTSS scores of the two groups were evaluated by the Yale Tic Syndrome Severity Scale (YGTSS). the results showed that after intervention, the YGTSS scores of the observation group and the control group were (9.31±2.82) points and (14.14±3.28) points, respectively, and the observation group was significantly lower than the control group ($P < 0.05$). At the same time, the two groups of children were also evaluated, and the total effective rate of the observation group was significantly higher than that of the control group ($P < 0.05$). Conclusion: Psychological intervention has a good effect on children with multiple tourettes, and can quickly improve the condition of tourettes.

Keywords: Children; Multiple tourettes; Psychological intervention; Effect

1. INTRODUCTION

Multiple TIC syndrome is a chronic neuropsychiatric disorder, children suffering from multiple tic syndrome will be accompanied by obvious involuntary tic symptoms, the physical damage to children is very serious. It is reported that MS is caused by genetic factors, the treatment is difficult, and the specific cause is still unclear. At present, the disease is mainly treated by drugs, of which tiapride is one of the commonly used drugs. However, according to the actual situation, although drug treatment alone can improve the severity of tic disorder, it cannot effectively alleviate its psychological disorder. Therefore, it is necessary to strengthen psychological intervention and cooperate with drug treatment [1]. In view of this, the following studies will focus on the clinical effects of psychological intervention on MS.

2. DATA AND METHODS

2.1 General Information

This study was carried out from February 2022 to March 2023, and 72 subjects were selected, all of whom were children. After specialist diagnosis, she was diagnosed with multiple TIC syndrome. the consent of the family has been obtained, and all 72 children can participate in this experiment. According to the order of admission, 72 children were divided into control group and observation group, with 36 cases in each group. For example, in the control group, 19 males and 17 females were included, ranging in age from 2 to 11 years, with a mean of (6.2±1.0) years. In the observation group, the ratio of male to female children was 23∶13, and the age ranged from 2 to 10 years old, with an average age of (6.0±1.3) years. There was no significant difference in basic data between the two groups ($P > 0.05$).

2.2 Methods

2.2.1 Control Group

Conventional treatment and nursing will be administered in the control group. Thiopride hydrochloride tablet was selected for drug treatment, the drug license number is H2005632, produced by Shandong Renhetang Pharmaceutical, the specification is 100mg/ tablet, the initial treatment can guide the daily use of 150-300mg, in the morning, in the middle and in the evening, and then the daily dose can be gradually increased to 1500-300mg. At the same time, attention should be paid to the changes in the condition of children, strict medication guidance and health education for family members.

2.2.2 Observation group

Psychological intervention should be implemented in this group. the child was treated with Vistone, using the same method as tiapride, and then psychological intervention was given: ① sandplay therapy: the psychologist guided the child to play sandplay, and it was necessary to guide the child to touch and feel the sand with his hands, and guide the child to use the sand to make the works imagined in his heart according to his own feelings. At the same time, when children make sand works, psychologists should understand the meaning of relevant works in the hearts of children, so as to evaluate their psychological feelings and ideas. Sandplay therapy was performed once a week for 50 minutes each time for a total of 8 weeks.

② Psychological care: Due to the impact of multiple TIC syndrome, almost all children will have obvious psychological disorders, through the implementation of targeted psychological care to help improve

psychological disorders. First of all, the nursing staff should actively communicate with the families of the children, introduce the cause and mechanism of MS to them, so that the family can deepen the depth of cognition of the disease, correct wrong ideas, and answer the questions raised by the family in detail, so as to improve compliance; Secondly, during the whole treatment period, the nursing staff should actively build a good relationship with the children, such as encouraging, supporting and comforting the communication, and using encouraging language as much as possible; Thirdly, when communicating with children, they should also communicate according to the age of children, so that children can realize that their own disease symptoms are related to the disease, not their own hospital. For example, for older children, the disease content can be easily introduced, and the questions can be analyzed and answered from the perspective of the child to solve the doubts of the child. Finally, when talking with children, we should avoid talking about unhappy content, listen patiently to the children's complaints, and keep them happy as much as possible.

2.3 Observation Indicators

YGTSS score was used to evaluate the severity of tic syndrome. the score range was 0~25, the lower the score, the better. Secondly, efficacy was evaluated according to the improvement of YGTSS score after treatment [2].

2.4 Statistical Processing

SPSS21.0 was used for statistical processing during the experiment, and (x±s) was used to represent measurement data and passed the "t" test. For counting data, it can be represented by "%" and tested by "X2"; for cases that conform to normal analysis and have significant statistical significance between data, it can be represented as "$P < 0.05$".

3. RESULTS

3.1 Analysis of tic syndrome

After the YGTSS evaluation, the results showed that the TIC syndrome of children in both groups was improved after the nursing intervention, and the YGTSS score of children in the observation group was significantly lower than that in the control group after the intervention ($P < 0.05$).

Table 1 Comparison of YGTSS scores (score) (x±s)

Group	Examples	Pre-Intervention	Post-Intervention
Observation group	36	21.74±4.09	9.31±2.82
Control group	36	21.58±4.03	14.14±3.28
t- value		0.171	6.934
p-value		0.824	0.001

3.2 Curative effect analysis

From the curative effect analysis of the two groups, the total effective rate of the observation group was significantly higher than that of the control group ($P < 0.05$).

Table 2 Comparison of curative effect (%)

Group	Examples	Remarkable	Effective	In Vain	Total Effective Rate
Observation group	36	24	10	2	94.44%
Control group	36	20	9	7	80.56%
X^2 value					13.414
p-value					0.001

4. DISCUSSION

Tourette's syndrome is a serious neurological disorder in children, which has serious damage to their physical and mental health, and is easy to form psychological disorders in children. In this study, psychological intervention was implemented for the children, and specific use of sandplay and psychological nursing was used, which was helpful to gradually relieve symptoms and improve adverse psychology [3]. As shown in Table 1 and 2 of the results, after psychological intervention, the YGTSS score and efficacy of children in the observation group were better than those in the control group ($P < 0.05$).

According to the comprehensive analysis of this study, the implementation of psychological intervention treatment for children with multiple TIC syndrome can achieve good results, which is helpful to gradually reduce psychological disorders and improve curative effect.

REFERENCES

[1] Fan Jingjing, Song Shunyi, HAO Jie. Nursing measures and application of Chinese medicine in children with multiple TIC syndrome [J]. Journal of Practical Chinese Medicine Internal Medicine, 2022, 36(07):106-108. (in Chinese)

[2] GAO Yuanyuan, Han Bibo, Zhang Xueling. Effect of modified comprehensive behavior intervention on children with TIC disorder [J]. Heilongjiang Medical Science, 201, 44(06):175-177. (in Chinese)

[3] Li Q. the effect of early participatory health education intervention on children with multiple tourette syndrome [J]. Chinese and Foreign Medical Research, 2019, 18(28):171-172.

Inheritance And Innovation of Regional Culture in Environmental Art Design

Tianmin Xu
Suzhou Polytechnic Institute of Agriculture, Suzhou, Jiangsu, China

Abstract: Environmental art design is the key content of China's urbanization construction; it is related to the future development of cities to a certain extent. In the international cultural environment, China lacks unique environmental art design characteristics, although many relevant regional cultural elements are skillfully used, they are always contrary to reality, resulting in the promotion of regional culture always staying in place, which is unfavorable to the development of China's environmental art design industry. Therefore, how to protect regional culture and make it realize inheritance and inheritance in environmental art design needs in-depth analysis and discussion, which is briefly elaborated in this paper.
Keywords: Regional culture; Environmental art design; Inheritance; Innovation

1. INTRODUCTION

Regional culture is formed by the long-term influence of multiple factors such as geographical environment, climate change, cultural background and so on. It presents its characteristics in a special area and has a long history of cultural atmosphere, constantly edifying local residents. Due to the vast terrain of our country, each region has its own unique regional culture, its characteristics are concentrated in the human landscape, customs and architectural structure design. Therefore, through environmental art design, cities should not only realize regional cultural inheritance, but also adopt innovative ideas to help regional culture break through space restrictions, strive for integration with world culture, penetrate modern aesthetic orientation and artistic style. After repeated exploration and innovation, local environmental art design presents a new situation, which is of great significance for its promotion and dissemination. At the same time, improving the national aesthetic level is also a measure, the use of Chinese characteristics of art style and advanced design concepts, to further enhance national confidence, shape cultural confidence.

2. EXPLORE THE ESSENCE OF LOCAL HISTORY AND CULTURE

In order to ensure that environmental art design is more ideal, designers often integrate local traditional culture and environmental art design into each other, so as to provide protection for environmental art design. At the same time, the analysis and induction of regional culture is also an important condition for the smooth development of environmental art design. Among the relevant aspects, such as politics, geography, historical customs and customs, designers choose the essence of environmental art design according to the project requirements to ensure the stable design quality and level [1]. In addition, in order to ensure the improvement of the utilization rate of cultural elements, designers analyze, organize and summarize the collected cultural materials according to the conditions, and combine local regional culture with environmental art design, so as to fully reflect the rich cultural deposits and regional cultural characteristics involved in the design works, and better highlight the charm of regional culture. For example, when designing the park landscape in Inner Mongolia, local regional cultural elements are infiltrated into it. Taking the traditional patterns with Mongolian cultural characteristics as an example, the artistic design of the park is mainly based on the traditional cultural connotation, which is conducive to the masses in the process of appreciating the landscape art design, they can effectively experience the national cultural connotation and feel the charm of local culture. For another example, the Genghis Khan Memorial Square in Hohhot incorporates the image of Genghis Khan in the Yuan Dynasty and penetrates traditional historical, cultural and humanistic elements, which not only beauifies the park landscape, but also highlights the unique humanistic and cultural characteristics and historical connotation of the Mongolian people, constantly influencing the broad masses and truly forming regional characteristics. Common facilities such as seats, sculptures and street lights can be seen everywhere in the park. Art designers can also use traditional Mongolian decorative patterns, such as Mongolian flower patterns, curly grass patterns, water patterns and other unique artistic elements, to achieve innovation through artistic techniques such as reconstruction, showing innovative patterns and creating conditions for regional cultural inheritance.

3. THE INTEGRATION OF ENVIRONMENTAL ART DESIGN AND NATURAL ENVIRONMENT

In the process of specific environmental art design, designers should consider the reality, specifically focus on the regional environment and geographical characteristics, based on local history, culture and customs, give rich inspiration for environmental art design, flexibly use and innovate natural elements, create a warm and comfortable living environment for local residents, and constantly narrow the distance between people and nature. And then promote the harmonious

coexistence of man and nature, and jointly create a good social environment. In practice, designers should be full of reverence for the natural environment, deeply explore and excavate local historical and cultural characteristics and natural elements according to design requirements, conduct research on local customs and habits, and take this as the center to penetrate innovative ideas and create unique design works, which have a long-term impact on the life of local residents [2]. Therefore, in environmental art design, we adhere to the principles of nature, harmony and regionalization to ensure the common development of natural laws and regional characteristics with regional environment. the rapid changes of the Times have accelerated the pace of social development, so that more people begin to pay attention to the protection and yearning for the natural environment, and greatly enhance their awareness of the natural environment, so that in environmental art design, more and more designers gradually pursue nature and build a harmonious environment for the coordinated development of man and nature. To be specific, environmental art design is a carrier for people to express rich emotions. It always adheres to the law of natural development, optimizes art design on the basis of protecting the natural environment, enhances environmental awareness, shapes cultural cultivation, gradually penetrates human feelings into environmental art design, and produces strong emotional resonance with viewers. In addition, designers should also give vitality to the environment, learn to respect the objective environment, and know how to cherish natural life. In general, designers can also incorporate a large number of cultural and artistic elements in environmental art design, which plays a positive role in promoting the sustainable development of the environment, so as to create excellent works that fit the natural environment and express unique artistic ideas.

4. CLARIFY THE RELATIONSHIP BETWEEN TRADITIONAL CULTURE AND MODERN CIVILIZATION

The formation of regional culture needs to go through a long development and gradually form a process through the infiltration and reorganization of multi-cultural elements. From the whole point of view, the regional culture in different regions of our country has a great impact on the living habits, customs, thinking and personality of local people. As China is a multi-ethnic country, different regions have unique cultural characteristics. Therefore, in the context of the new era, the society has shown a state of efficient development, resulting in the gradual opening and diversification of cultures in different regions, and increasingly developing towards integration and innovation. In this way, the traditional culture of many regions began to combine with modern civilization, in-depth exploration of regional culture and historical culture, so that more people can understand the local cultural characteristics. Moreover, the combination of traditional culture and modern civilization has a profound impact on environmental art design, especially in specific design, designers fully realize that not all regional traditional culture has application value, so when extracting cultural essence, designers must have the ability to distinguish between right and wrong, and can distinguish whether regional culture has value at the first time. At the same time, it critically inherits regional culture, follows the principle of retaining the essence and eliminating the dross, and reasonably penetrates into environmental art design to create conditions for inheriting and innovating regional culture [3].

5. CONCLUSION

Because of the vast terrain of our country, different regions have unique regional cultures, fully reflecting the characteristics of multi-culture. With the rapid development of society in recent years, attention has gradually been paid to regional cultural inheritance and innovation. In order to realize the inheritance of traditional culture in a real sense, regional culture and excellent traditional culture can be integrated into environmental art design, greatly improve the level of environmental art design, and present a modern design effect. Therefore, in the specific process of environmental art design, designers should give full play to their imagination, make reasonable use of regional history and culture and regional characteristics, excavate the connotation of local culture and history, and lay the foundation for regional culture inheritance and innovation.

REFERENCES

[1] Wang Wei. Construction of Environmental Art Design curriculum System based on Hainan regional culture -- A case study of Qiongtai Normal University [J]. Modern Vocational Education, 2022(19):79-81.

[2] Liang Wei. Inheritance and Innovation of Regional Culture in Environmental Art Design -- Review of Chinese Traditional Aesthetics and Environmental Art Design [J]. Journal of Tropical Crops, 2013, 42(07):2186.

[3] Feng Zhen. Research on Teaching of Art Design Major based on Regional culture -- Review of Regional Characteristics: Teaching Achievements Collection of Architecture and Environmental Art Design Major (Part 1) [J]. Chinese Journal of Education, 2019(07):133.

Research On the Strategy of Implementing Accurate Ideological and Political Education in Higher Vocational Colleges

Feifei Yang
Zibo Vocational Institute, Zibo, Shandong, China

Abstract: With the increasing enrollment scale of higher vocational colleges, the development of ideological and political education has been attached importance. In order to accurately implement ideological and political education, it is necessary to analyze the current development of ideological and political education in higher vocational colleges, create a good education environment, and carry out high-quality ideological and political education for college students, so as to improve their ideological and political literacy. This paper will discuss the strategy of implementing accurate ideological and political education in higher vocational colleges.

Keywords: Higher vocational colleges; Ideological and political education; Implementation strategy

1. INTRODUCTION

As an important place to train social talents, higher vocational colleges shoulder important educational responsibilities. In order to train socialist successors who meet the current social needs, it is necessary to implement accurate ideological and political education, so as to break the traditional management model and guide college students to establish correct values and outlook on life, so as to effectively improve the ideological realm of college students. In this regard, higher vocational colleges should adhere to the principle of advancing with the Times, actively explore new education models, implement targeted and effective ideological and political education strategies, and ensure that the ideological and political education work in higher vocational colleges is more in line with the learning needs of college students.

2. CURRENT SITUATION OF IDEOLOGICAL AND POLITICAL EDUCATION OF STUDENTS IN HIGHER VOCATIONAL COLLEGES

At present, there are still some shortcomings in ideological and political education of students in higher vocational colleges. In order to accurately implement ideological and political education, it is necessary to effectively improve the level of ideological and political education and solve the existing problems in time.

2.1 Insufficient investment in ideological and political education

At present, there is insufficient investment in the ideological and political education of students in higher vocational colleges, which hinders the development of ideological and political education and makes it difficult to train technical personnel with high-quality ability, thus affecting the effective improvement of students' ideological and political literacy. In view of the insufficient investment in ideological and political education, it is necessary to increase the input of human, material and financial resources to ensure that it meets the requirements of current social development for vocational education.

2.2 The orientation of ideological and political education is not clear

For the education of college students in higher vocational colleges, ideological and political education plays a role in improving the quality and ability of college students. Through carrying out ideological and political education, students can be guided to establish correct values, so that they can master professional knowledge and have strong comprehensive quality, so as to bring positive influence to their future development. However, at present, ideological and political education lacks a clear orientation, and many students do not pay enough attention to ideological and political education, resulting in the ideological and political education work becoming a formality, unable to accurately control students' thoughts, and then losing the significance of ideological and political education work [1].

2.3 Impact caused by new media

With the advent of the new media era, the traditional mode of ideological and political education can no longer be applied to higher vocational college education in the new era. Students and teachers have access to a variety of ways to obtain information, and at the same time, they will be impacted by massive amounts of information. In the past, the monopoly position of higher vocational education workers has been broken, and it is difficult to take the initiative in ideological and political education. And it can not attract students to actively participate in ideological and political education, thus reducing the quality of ideological and political education in higher vocational colleges.

3. STRATEGIES FOR IMPLEMENTING IDEOLOGICAL AND POLITICAL EDUCATION ACCURATELY IN HIGHER VOCATIONAL COLLEGES

In order to improve the quality of ideological and political education in higher vocational colleges, it is necessary to implement accurate educational guidance to

meet the personalized development of college students, so as to enhance the effect of ideological and political education. In the new era, ideological and political education needs to incorporate new content, constantly innovate the form and content of education, and ensure that it can stimulate the enthusiasm of college students to participate, so as to improve their ideological and political literacy. In this regard, this paper will put forward the following implementation strategies:

3.1 Improving the ideological and political education system

In order to give full play to the value of ideological and political education, we should fully grasp the strategy of innovating educational forms, improve the system of ideological and political education, and further explore suitable ways to carry out ideological and political education, so as to implement diverse educational activities and better guide students. the ideological and political education work should be targeted, consider the individual differences of students, choose the ideological and political education suitable for the characteristics of students, and ensure that the education work can be imperceptibly implemented, and then achieve good educational results. Under the guidance of the ideological and political education system, students can learn the content of ideological and political education in a more standardized way, guide students to learn correctly and be full of positive energy, and finally bring into play the goal of ideological and political education work and implement the fundamental task of cultivating morality and people [2].

3.2 Enriching ideological and political education

In order to accurately implement ideological and political education work, it is necessary to further enrich the content of ideological and political education work, carry out diversified practical activities, constantly attract students' attention, encourage students to participate in it, accumulate rich learning experience from the practice process, so as to deeply understand the theory of ideological and political education. Teachers should design activities that can cultivate students' sentiment and enhance students' collective concept, so as to ensure that students can improve their own quality and ability, establish correct values, and lay a solid foundation for the future society.

In addition, teachers should enrich the forms of ideological and political education, use new media technology to build an internship platform, and provide students with corresponding practice opportunities, so that students can convert the theoretical knowledge into practical ability, so as to enhance their own post spirit. In order to improve the accuracy of ideological and political education, higher vocational colleges should formulate educational programs that meet the needs of school development based on their actual development, fully and deeply explore educational resources of ideological and political education, and then improve the pertinence of ideological and political education.

3.3 Optimize the campus cultural environment

For higher vocational colleges, the development of ideological and political education needs to create a good environment for students, enhance the propaganda effect of ideological and political education by optimizing the campus cultural environment, and encourage students to actively participate in the ideological and political education work and feel the atmosphere of campus culture, which is conducive to improving the ideological and moral quality of students, so as to play an effective propaganda effect. For the optimization of campus environment, higher vocational colleges can make use of new media technology to broaden the channels of ideological and political education by using various media means, such as wechat, Weibo, Douyin, etc., which is conducive to attracting students to actively learn ideological and political knowledge, enabling them to be subtly influenced, and deepening the communication between students and teachers. To encourage teachers to grasp students' learning and psychological conditions in time, so as to carry out targeted education work.

For example, higher vocational colleges can implement the online+offline education model, combine ideological and political education with the current hot spots, innovate the content of ideological and political education, promote students to have access to knowledge such as innovation and entrepreneurship, inspirational examples, and help students plan their career direction, so as to play an effective educational effect. Moreover, in the case of a good campus atmosphere, the majority of teachers and students more actively participate in ideological and political education activities, vocational colleges should also carry out some network sports and sports activities regularly, to lay a good foundation for the promotion of various excellent spiritual culture.

4. CONCLUSION

With the arrival of the new era, higher vocational colleges should pay attention to the development of ideological and political education of college students, constantly improve the accuracy of ideological and political education, and ensure that it can bring positive influence to guide students. For higher vocational colleges, there are some problems in the development of ideological and political education, such as the need to optimize the form and content of education, and the impact of new media makes it impossible to carry out high-quality ideological and political education, which leads to the ideological and political education becoming a mere formality. In this regard, we should seize the opportunity of the development of the new era in the new era, accurately implement ideological and political education, optimize the environment of ideological and political education for students, create a good teaching atmosphere, clarify the positioning of ideological and political education, and then exert the effectiveness of ideological and political education.

REFERENCES

[1] You Changjun, Liu Bo. Research on the strategy of Implementing accurate Ideological and Political

Education in Higher Vocational Colleges [J]. Journal of Liaoning Agricultural Vocational and Technical College, 2023, 25(01):44-48.
[2] Li Lin. Analysis of the implementation path of precise Ideological and Political education in Higher vocational colleges from the perspective of "Internet +" [J]. Industry and Technology Forum, 2019, 19(08):127-128.

Analysis On the Construction of Digital Resources for Basic Teaching of Computer Application in Higher Vocational Colleges

Jing Zhang
Zibo Vocational Institute College of Artificial Intelligence and Big Data, Zibo, Shandong, China

Abstract: With the continuous development of times and the improvement of national economic level, higher vocational education in our country has entered the Internet big data era. Under the background of the Internet big data era, the basic course of computer application in higher vocational colleges can use the massive digital resources on the Internet to carry out the course construction of computer teaching. Through the introduction of digital resources, higher vocational students can better learn and improve the learning effect, which is in line with the current education reform. Based on this, this paper discusses and studies the construction of digital resources in the basic teaching of computer application in higher vocational colleges, explores and analyzes the shortcomings of the current basic courses of computer application in higher vocational colleges, and how to use digital resources to construct the basic teaching of computer application in higher vocational colleges.

Keywords: Higher vocational education; Computer; Basic teaching; Digital resources; Construct

1. INTRODUCTION

Digital teaching resources can significantly improve the teaching effect of basic courses of computer application in vocational colleges, improve students' learning ability and exploration ability, and promote the better development of vocational college students in the future. However, the current basic teaching of computer application in higher vocational colleges has not effectively combined with digital resources to carry out teaching activities. At the same time, there are many problems in the current basic teaching of computer application in higher vocational colleges, such as outdated and too rigid teaching mode, teaching content is too systematic and so on. the construction of digital resources in the basic teaching of computer application in higher vocational colleges is especially important to carry out efficient teaching.

2. THE CURRENT PROBLEMS FACING THE BASIC TEACHING OF COMPUTER APPLICATION IN HIGHER VOCATIONAL COLLEGES

2.1 The current content of basic computer application teaching in higher vocational colleges is too systematic

The basic teaching of computer application in higher vocational colleges is mainly to cultivate the computer ability of students in higher vocational colleges. However, the current teaching content is too systematic, resulting in the practical application of students is not strong, and there is no applied teaching content. Such teaching content is suitable for students with certain basic computer ability, but not suitable for current students in higher vocational colleges. At present, higher vocational students need to focus on the ability to apply computers, and the knowledge they have mastered should have certain practicability, rather than learning complex and tedious theoretical knowledge. Such teaching content increases the difficulty of higher vocational students' learning and reduces their learning interest.

2.2 The current basic teaching methods of computer application in higher vocational colleges are outdated and rigid

At present, the basic teaching of computer application in higher vocational colleges mainly attaches importance to theory, while the students in higher vocational colleges should emphasize practice. At present, some teachers in basic computer application teaching in higher vocational colleges still use the concept of exam-oriented education, still attach importance to learning results, take teachers as the master of the classroom, and despise students as the main body of teaching. Such teaching methods directly affect the overall teaching effect and learning efficiency of students in higher vocational colleges. Computer is an application course. In the process of teaching activities, teachers in higher vocational colleges should emphasize the focus of application and make students as the main body of learning. Only in this way can digital teaching resources be better introduced and digital teaching classroom of computer application in higher vocational colleges be developed.

2.3 The current digital resources of computer application basic teaching in higher vocational colleges are not perfect

Digital teaching is the focus of computer application courses in higher vocational colleges, and computer courses perfectly fit the current Internet big data information age. Through the integration of traditional teaching and Internet digital teaching, teaching activities can be better carried out. However, the current digital resources of basic computer application teaching in higher vocational colleges are not perfect, and there is no perfect digital teaching resources. the main way of

teaching is still the traditional teachers' lectures and students' lectures.

3. ANALYSIS ON THE CONSTRUCTION OF DIGITAL RESOURCES FOR BASIC TEACHING OF COMPUTER APPLICATION IN HIGHER VOCATIONAL COLLEGES

3.1 Higher vocational colleges to build digital teaching resource database

The basic teaching of computer application in higher vocational colleges can complete the construction of digital resources by establishing a digital teaching resource database. the digital teaching resource database is a systematic and complicated project [1], which requires not only one higher vocational college to establish, but many higher vocational colleges to build together. Digital teaching resources generally include text teaching resources, such as Word and mind map teaching resources, as well as audio materials, video materials, animation materials, pictures and graphics materials. Higher vocational colleges need to combine their own teaching characteristics and the current professional needs of students to build digital teaching resource database. They can start from the aspects of curriculum system, teaching objectives, teaching methods, etc., effectively integrate all kinds of teaching resources, rationally layout and plan, and build an efficient digital teaching resource database.

The construction of digital teaching resource library can start from the actual teaching of teachers. For example, when teachers in higher vocational colleges give lectures, videos can be recorded. After the class is over, the unimportant content can be cut down by means of editing, only the key teaching content can be retained, and then the videos can be uploaded to the digital teaching resource library for students to watch. It should be noted that when recording teaching videos, teachers can't talk in general, or tell all the knowledge points again, which is not conducive to students' targeted learning. Students use the Internet digital teaching resource library in order to learn efficiently, in order to learn their weak knowledge points, and at this time, if the teacher will talk about the content of the textbook, vocational students will not catch the focus of learning, and because the video time is too long, it is not conducive to students to watch and learn. When uploading and recording videos, teachers can cut and segment the video resources according to the knowledge points, use the teaching method of "micro-lesson" to teach, record different knowledge points into different videos, and guide students to learn with the short and concise characteristics of "micro-lesson". For example, when learning to make PPT, teachers can divide the video into many teaching videos, such as how to insert pictures to make a video, how to compare documents to make a video, and so on. This way can refine the teaching content, because each student has his or her own learning weakness. Vocational college students can quickly find their own knowledge points in the digital teaching resource database to learn, so as to achieve efficient learning, teachers can also achieve efficient classroom, so as to complete the construction of digital teaching resources.

3.2 Multi-party participation in the construction of digital resources for computer basic teaching in higher vocational colleges

The establishment of digital teaching resource base can effectively complete the construction of digital resources for basic teaching of computer application in higher vocational colleges. On this basis, it is necessary to optimize and improve so as to enrich teaching resources, that is, multi-participation [2].

Construction of teaching resource library In addition to the computer classroom, you can also apply for funding from the school, you can also hire outside professional and technical personnel, industry experts, peer teachers, outstanding students to jointly develop and build. This model can not only be limited to teachers to enrich the content of digital resources, but also all walks of life in the society can participate in it, so as to enrich the structure of digital resources. At the same time, students' participation can improve their learning enthusiasm and exploration spirit, and the construction of teaching digital resources itself is a computer application course. By sharing their learning methods on the teaching digital resource library, students can actually apply the knowledge they have learned and mastered, so as to strengthen their learning ability and enrich their practical operation experience.

4. CONCLUSION

To sum up, the construction of digital resources for the basic teaching of computer application in higher vocational colleges is of great help to the basic teaching of computer application in higher vocational colleges. It can enrich teaching resources, strengthen students' learning ability, and facilitate students' efficient learning. Therefore, the basic teaching of computer application in higher vocational colleges must realize the construction of digital resources. It can effectively promote the sustainable and healthy development of computer application basic teaching in higher vocational colleges.

REFERENCES

[1] Qu Haihua, Ma Yuan. Analysis on the Construction of digital Resources for Basic Teaching of Computer Application in Higher Vocational Colleges [J]. Journal of Xiangyang Vocational and Technical College, 2022.

[2] Wang Na. Research on the Application of Digital Teaching Resources in Basic courses of Computer Application in Higher Vocational Colleges [J]. Shaanxi Education (Higher Education), 2019.

A Case Report of Counselling for General Psychological Problems

Lianquan Zhang
Zibo Vocational Institute, Zibo, Shandong, China

Abstract: This is a case report of counselling for a freshman with interpersonal maladjustment. the client has been experiencing depression, inattention and anxiety for the past month due to interpersonal problems among classmates. Through intake talks, data collection and psychometric measures, a diagnosis of general psychological problems was made. the counsellor adopted "rational emotion therapy" after discussing with the client, and after four stages and five sessions of psychological counselling, the client's mood improved significantly, with good results, and the objective of the counselling was achieved.

Keywords: Psychological counselling; General psychological problems; Rational emotion therapy

I. GENERAL INFORMATION

1.1 Demographic information

Seeker: Tang, female, Han nationality, 19 years old, a first-year resident student in a university in Shandong Province, 1.60m tall, the only daughter in her family, with excellent family conditions.

1.2 Personal growth history

She was born in a working-class family, was born at full term, is in good health and has no history of mental illness (or family history of illness), and was brought up mainly by her grandparents until the age of 5. She started to live in a group home when she entered university. Almost a month ago, she had problems interacting with her classmates in the same dormitory and felt troubled, so she came forward for counselling.

1.3 Current state

1.1.3 Mental state: depressed, fluent in speech and normal thinking.

1.3.2 Physical status: decreased appetite, sometimes difficulty sleeping, no organic disease on physical examination.

1.3.3 Social function: decreased learning efficiency, reluctance to communicate with others.

1.4 Test results

In response to the situation of the helper and with her consent, a scale test was administered and the results were as follows:

1.4.1 SCL-90: total score 152, interpersonal sensitivity 2.3, anxiety factor 2.4, depression factor 2.1, the rest of the factor scores are less than 2.

1.4.2 SAS: 58 (standard score), suggesting mild anxiety.

1.4.3 SDS: 54 (standard score), suggesting mild depression.

2. MAIN COMPLAINT AND PERSONAL STATEMENT

2.1 Complaint: Since entering school, she has been depressed, has difficulty sleeping, is overly concerned about her relationship with her roommate, always suspects that her roommate hates her, and is afraid to return to the dormitory. It lasted for almost a month.

2.2 Personal statement: the dormitory atmosphere has been dull and annoying since she started school. She said that she wanted to go back to the dormitory to relax, but when everyone was silent, she felt particularly uncomfortable and depressed. She can't help but speculate on the reasons for the silence and is always worried that she has done something wrong to cause them to be upset with her. For the last month, she has been depressed and often feels irritable and does not want to go back to the dormitory. She worries that her roommates are talking about her behind her back, and her relationship with them has turned bad. She has trouble sleeping at night and has no energy during the day, so she comes forward for counselling.

3. OBSERVATIONS AND REFLECTIONS OF OTHERS

3.1 Observation by the counsellor: the applicant was well-dressed, well-mannered, clear-minded, mentally tired, and her expression was unnatural when she mentioned the dormitory.

3.2 The counsellor's comments: the client has not been in a good mood lately, sometimes has difficulty concentrating, and her academic performance fluctuates.

4. ASSESSMENT AND DIAGNOSIS

4.1 Assessment

4.1.1 Mental state: depressed, easily distracted, with mild depression.

4.1.2 Physical status: loss of appetite, difficulty in sleeping, no organic disease.

4.1.3 Social functioning: decreased learning efficiency, reluctance to interact with others.

4.1.4 Relevant information: only daughter in the family, privileged life, successful schooling, few setbacks, introverted personality.

4.1.5 Reliability of information: reliable.

4.1.6 Key points of psychological problems: the surface is anxiety induced by interpersonal problems, but the substance is internal irrational beliefs about events that lead to psychological problems.

4.2 Diagnosis

The diagnosis of this helper is: general psychological problems.

4.3 Differential diagnosis

4.3.1 Differentiate from somatic illness and exclude somatic illness.

4.3.2 Differentiate from psychotic problems to exclude mental illness.
4.3.3 Differentiate from neurotic problems and exclude neurotic problems.
4.3.4 Differentiate from severe psychological problems to exclude severe psychological problems.
4.3.5 The preliminary diagnosis is: emotional problems caused by interpersonal relationships, which are general psychological problems.

5. FORMULATION OF COUNSELLING GOALS

Through consultation with the client, the following counselling goals are formulated:
5.1 Specific and immediate goals
5.1.1 To improve the helper's eating and sleeping problems and his mental state of worry and anxiety.
5.1.2 To change his or her wrong cognitive patterns and improve his or her current interpersonal relationships.
5.1.3 To improve the ability to overcome difficulties and to reduce dependence on teachers and parents in school and life
5.2 Final and long-term goals
On the basis of achieving the above goals, to help the help-seeker establish an interpersonal pattern of initiative, openness, sharing, respect, understanding and compatibility, to build good interpersonal relationships and to achieve personality perfection.

6. COUNSELLING PROCESS

Counselling is divided into four stages: diagnosis, assessment and relationship building; understanding; revision; consolidation and re-education.
6.1 Diagnostic assessment and relationship building stage
6.1.1 Methods: Intake talks, observation, psychological tests.
6.1.2 Process
6.1.2.1 Fill in the counselling record form, ask basic questions and introduce matters and rules related to counselling;
6.1.2.2 Intake talks to collect clinical information and to inquire about the psychological conflicts and the willingness to change of the person seeking help;
6.1.2.3 Determining the goals of counselling;
6.1.2.4 Introduce the ABC theory and make a preliminary analysis of the problem so that the helper can understand the causes. Explain that the emotional reaction is not caused by the external precipitating event itself, but rather by the person's evaluation and interpretation of this event.
6.1.2.5 Assignment: Continue to reflect on what has been said in this consultation, analyse the root causes of your psychological problems, list the elements according to the ABC theory and keep a record.
6.2 Understanding stage
6.2.1 Method: Rational Emotive Therapy
6.2.2 Process
6.2.2.1 Feedback on the counselling assignment: the helper lists his many irrational beliefs very carefully;
6.2.2.2 Through conversation, inspiration and guidance, the helper is finally helped to list the irrational beliefs related to his/her psychological problems. the helper is further guided to achieve three kinds of understanding.
6.2.2.3Assignment
Think carefully about the above irrational beliefs and make the helper realise the relationship between his or her problems and his or her irrational beliefs.
6.3 The stage of cultivation
6.3.1 Method: Maternal debate technique, rational emotional imagination technique
6.3.2 Process
6.3.2.1 Feedback on the counselling assignment: the helper has given serious thought to his or her irrational beliefs and the intensity of the helper's emotional reactions is reduced;
6.3.2.2 Discuss and debate with the helper about the irrational beliefs listed above, revise the helper's original irrational ideas and replace them with rational beliefs.
6.3.2.3 Assignment
Instruct the helper to complete the homework using the Rational Self-Analysis Report (RSA), so that the helper can learn to self-monitor irrational beliefs and debate them.
6.4 Re-education stage
6.4.1 Method: Rational Emotive Therapy
6.4.2 Process
6.4.2.1 Feedback on the counselling assignments: the helper feels good about herself and her symptoms have largely disappeared.
6.4.2.2 Basically end the counselling and make a review and summary of the counselling.
6.4.3 Homework: Keep a record of how you have solved problems in your own life with new ideas and ways of thinking to consolidate the effects of counselling.

7. EVALUATION OF COUNSELLING EFFECTS

7.1 Self-assessment of the helper: mood improved, no more anxiety, close relationship with roommates, easy to fall asleep.
7.2 Others' assessment: the helper slept normally, her mood recovered and her relationship with her roommate was normal.
7.3 Psychological test results: SCL-90: total score 124, interpersonal relationship 1.5, anxiety factor 1.6, depression factor 1.4, each factor score less than 2; SAS: 44 (standard score); SDS: 45 (standard score).
7.4 Counselor's assessment: After the return visit and follow-up, the counseling has basically achieved the expected goal, the irrational cognitive style has basically changed, the rational view of interpersonal relationship, the ability to cope with study pressure, and normal sleep.

REFERENCES

[1] Guo Nianfeng, ed. National Professional Qualification Training Course. Psychological Counsellor (Basic Knowledge). Beijing: Nationalities Publishing House, 2012.7.

[2] Guo Nianfeng, ed. National Vocational Qualification Training Course. Psychological Counselor (Level 3). Beijing: Nationalities Publishing House, 2012.7.

[3] Guo Nianfeng, ed. National Vocational Qualification Training Course. Psychological Counselor (Level 2). Beijing: Nationalities Publishing House, 2012.7.

Study on Copper Superhydrophobic Surface Modification by Electrostatic Spraying for Condensation Heat Transfer Enhancement

Xiaoyun Zhang
Education Ministry Key Laboratory of Renewable Energy Advanced Materials and Manufacturing Technology, School of Energy and Environmental Science, Yunnan Normal University, Kunming 650500, China

Abstract: Copper stearate and epoxy resin are mixed and sprayed onto copper substrate by electrostatic spraying to form superhydrophobic surface with rough nano-structure. the optimum process is obtained by orthogonal experiment. the contact angle(CA) of the super hydrophobic surface is 156.2°± 0.2°, and the rolling angle(SA) is 3°± 0.2°. the prepared superhydrophobic surface also shows excellent anti-corrosion capacity, mechanical stability, self-cleaning and anti -icing properties. In the electrochemical corrosion experiment, the corrosion inhibition efficiency of the super-hydrophobic film reaches as high as 93.32%.

Keywords: Superhydrophobic surface; Self-cleaning; Corrosion resistance; Anti-icing property

1. INTRODUCTION

Superhydrophobic surface has the advantages of anti-icing [1-2], anti-corrosion, self-cleaning [3-4] and reducing flow resistance [5]. At present, chemical methods [6], hydrothermal methods [7] and electrodeposition methods [8-10] are commonly used to prepare superhydrophobic surfaces. Chu et al. [11] used acid mixture solution for surface deposition and etching on the surface of copper foil to construct a graded micro-nanostructure consisting of a moss like structure of nanoscale stems and leaves. After modification with fluoroalkyl silane, the superhydrophobic surface was obtained with CA of 157°±1° and SA of 6°±1°. Yuan et al. [12] took the back of bamboo leaves as the original template, and adopted the method of combining template with etching to form a regular layered multi-scale structure on the surface of copper foil. After stearic acid modification, the CA of superhydrophobic layer on copper surface reaches 160.0°, and SA is only 3°. However, the superhydrophobic materials prepared by the above manufacturing methods still have problems of poor mechanical durability and chemical stability, and are easily damaged by external forces [13]. At the same time, Superhydrophobic material can not bear the mechanical strength caused by the ice, so the service life needs to be further developed. After a period of time, the wax-like substances on the superhydrophobic surface will fall off, and then the superhydrophobic performance will decrease or even disappear. At present, there are various methods for preparing superhydrophobic materials, but most of them are complicated and difficult to operate. At present, there are still some superhydrophobic preparation methods with relatively high cost, which has a great limit on the regions and corporate profits of the materials to be introduced [14- 16], which also restricts the development prospects of superhydrophobic materials. Compared with these methods, the electrostatic spraying method [11- 12] has the advantages of low equipment cost, simple process and high controllability [17].

It has been reported that superhydrophobic heat exchangers were successfully prepared by wet chemical etching [18-19]. Zhang et al. [20] immersed the stainless steel substrate in hydrochloric acid and ferric chloride solution successively to form micro-nano structures, and then modified the surface with low surface energy substances to obtain a superhydrophobic surface with (CA) of 159° and (SA) of 2°. Saleh et al. [21] used sulfuric acid to chemically etch the surface of stainless steel to form a rough surface structure and oxidize functional groups. Surface functionalization was performed using Octyl trichlorosilane (ODTCS) to obtain contact angle of up to 166.8° and oil-water separation efficiencies of up to 99%. However, the superhydrophobic structure formed by the above solution etching is easy to be damaged, and its durability is poor [22]. Moreover, the preparation process is complex and takes a long time, so large-scale production cannot be realized [23-24]. Therefore, researchers have been committed to developing a simple, low-cost method for preparing superhydrophobic surfaces that can maintain bead condensation for a long time [25-26]. At the same time, ice accumulation on the surface of the heat exchanger not only reduces the efficiency of the heat exchanger, but also increases the energy loss. Therefore, reducing or eliminating ice accumulation on metal structures is a hot topic in the future. In this work, we present a simple method to construct superhydrophobic surfaces that have good corrosion resistance as well as heat and ice resistance without damaging the substrate. Copper stearate and epoxy resin are used as raw materials to prepare superhydrophobic material, and orthogonal experiment is designed to prepare superhydrophobic coating on the surface of copper based heat exchanger

with the best process. Through electrochemical tests and experimental tests such as building a CHT system, it is proved that the prepared superhydrophobic surface has good stability, self-cleaning, corrosion resistance and ice coating resistance.

2. PREPARATION AND CHARACTERIZATION OF SUPERHYDROPHOBIC FILM

2.1 Preparation

The copper coil heat exchanger used in the experiment (Guangzhou Holy Fire Stainless Steel Products Factory, Φ 8*1-2)Chemical reagents include: Sodium stearate (Tianjin Zhiyuan Chemical Reagent Co. LTD), copper sulfate (Tianjin Hengxing Chemical Reagent Manufacturing Co. LTD), epoxy polyester powder Coatings (China Yunnan Hao Ling Machinery Equipment Co. LTD), 3.5wt% NaCl solution (Tianjin Hengxing Chemical Reagent Manufacturing Co. LTD). All chemical reagents are analytical and used without further purification.

Figure 1: shows the preparation process of copper-based superhydrophobic filmlayer, which includes the following steps:

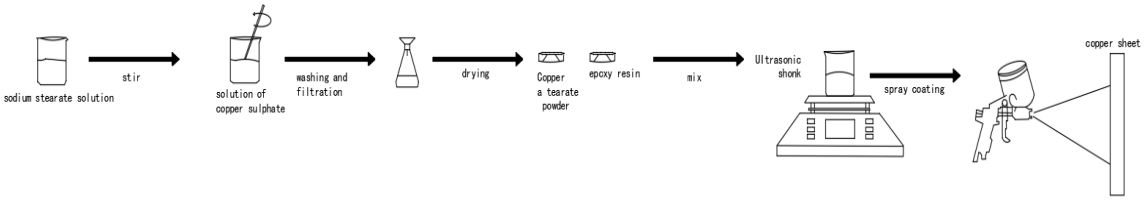


Figure 1 Preparation process of copper-based superhydrophobic film

Weigh 5g sodium stearate in 100mL deionized water and dissolve it by heating. Weigh 5g copper sulfate pentahydrate (CuSO4 · 5H2O) and dissolve it into 200mL deionized water. Put the sodium stearate solution in a magnetic stirrer at 80 ℃, then add CuSO4 · 5H2O solution into it. Stir with a magnetic mixer for 30 minutes to obtain a suspension of copper stearate. Then filter the copper stearate suspension for many times, wash it with hot water during the filtering process to remove most of the white substances on the surface, and place it in an oven at 80 ℃ to dry the water after filtering.

In order to remove dust, oil stains, metal oxides and other defects on the surface of copper-based heat exchanger, oil removal and deoxidization treatment are carried out on heat exchanger. Under the ultrasonic environment, clean the surface with ethanol solution for 5 min, and then rinse it with deionized water. Then soak the surface in 4.0 mol HCI solution for 15 min to remove the oxide film. Finally, rinse the surface with deionized water and dry it quickly.

Table 1: Single factor experiment table with four factors and four levels.

Level	Factor level			
	A(Copper stearate:epoxy resin)	B(Spraying pressure/KV)	C(Spraying distance/cm)	D(Number of spraying)
1	1:3	60	10	5
2	1:4	70	15	6
3	1:5	80	20	7
4	1:6	90	25	8

The previous single factor test shows that the process parameters with better film quality are copper stearate: epoxy resin A is 1:3, 1:4, 1:5, 1:6, the spraying pressure B is 60KV-90KV, the spraying distance C is 10cm-25cm, and the spraying times D is 5-8 times. the CA and SA are used as indexes. the contact angle instrument (OCA 25, Oderino, Germany) is used to analyze the wettability of the liquid drop on the prepared copper base surface, and the average value of multiple measurements is taken as the contact angle. Set 4 factors and 4 levels and select L 16(4) orthogonal table to optimize4 process parameters, as shown in Table 1.

Table 2: Analysis and results of orthogonal L16(4) design4.

NO.	Factor level				Result	
	A	B	C	D	contact angle(°)	Slid angle(°)
1	1	1	1	1	120.3	23
2	1	2	2	2	128.2	18
3	1	3	3	3	135.5	14
4	1	4	4	4	148.7	12
5	2	1	2	3	139.6	14
6	2	2	1	4	136.8	16
7	2	3	4	1	127.5	18
8	2	4	3	2	142.4	10
9	3	1	3	4	142.5	14
10	3	2	4	3	148.8	10
11	3	3	1	2	150.6	4
12	3	4	2	1	153.1	3
13	4	1	4	2	148.2	10
14	4	2	3	1	147.5	11
15	4	3	2	4	148.8	10
16	4	4	1	3	146.9	13

Four levels are selected for orthogonal analysis: ratio

of epoxy resin to copper stearate, spraying voltage, spraying distance and spraying times, and the orthogonal design is carried out using table L16(44). In order to investigate the influence of different levels of each factor, the contact angle and rolling angle of the superhydrophobic film layer at different parameters are measured, as shown in Table 2.

Table 3: Evaluation indices of the orthogonal $L16(4)^4$

Orthogonal indices	A	B	C	D
contact angle(°)				
K_{I1}	132. 175	137.4	138.65	137. 1
K_{I2}	136.575	140.325	142.475	144.2
K_{I3}	148.75	140.6	141.975	142.7
K_{I4}	147.85	147.775	141.3	142.35
R	16.575	10.375	3.825	7.1
Optimal level	A_3	B_4	C_2	D_2
Slid angle(°)				
K_{I1}	16.75	15.25	14	13.75
K_{I2}	14.5	13.75	1 1.25	10.5
K_{I3}	7.75	1 1.5	12.25	12.75
K_{I4}	11	9.5	12.5	13
R	9	5.75	2.75	3.25
Optimal level	A_3	B_4	C_2	D_2

Table 3 shows the evaluation indexes of the orthogonal experiment, among which Kij (I = 1, 2, 3, 4) and R are important parameters. Kij is defined as the average test performance at the level of j (I= 1, 2, 3, 4) of the corresponding factor fi (f=A, B, C, D; I= 1, 2, 3, 4), and R is defined as the difference between Kmax and Kmin values in the corresponding factor column. the best factor level can be obtained by comparing K values. the larger the R value, the more important the coefficient is [27- 28].

Larger contact angle and smaller rolling angle lead to better hydrophobic properties of the superhydrophobic film. Therefore, the largest K value should be chosen. the optimal parameters for the maximum contact angle are A3(1:5), B4(90KV), C2(20cm) and D2(6), and the optimal parameters for the smaller rolling angle are A3(1:5), B4(90KV), C2(20cm) and D2(6).

Therefore, the best process for preparing superhydrophobic film by electrostatic spraying is A3 B4C2 D2. the superhydrophobic film prepared by the optimum process conditions obtained above has a contact angle of 156.2° and a rolling angle of 3°.

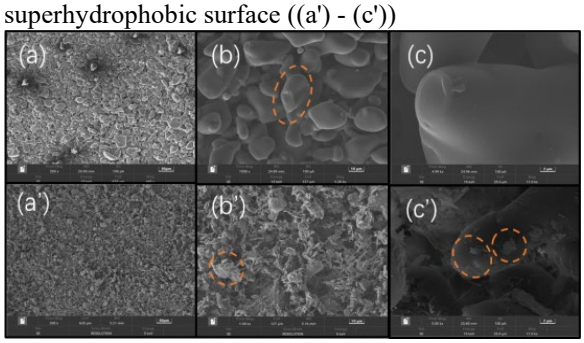
2.2 Characterization

2.2.1 Surface morphology and low adhesion

Figure 2 shows the SEM images of the surface only sprayed with epoxy resin and the copper base superhydrophobic surface with different magnifications. the surface of the epoxy resin is sparse, but after spraying the superhydrophobic material, the copper base surface forms a denser and more uniform micron film structure.

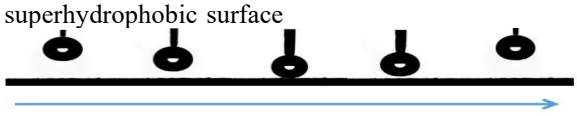
Copper stearate molecules not only fill the gap between epoxy resin molecules, but also form a network structure. A part of copper stearate molecules adhere to the surface of epoxy resin molecules, which makes the original smooth epoxy resin molecular surface rough. The existence of micro nanostructures leads to air trapped in the gap between clusters [29], and these trapped holes do not allow the rough surface to be wetted by liquid, the contact area between the droplet and the copper base is reduced, the viscous resistance is reduced, and the droplet is easier to fall off, thus showing superhydrophobicity [30].

Figure 2: SEM images of epoxy resin ((a) (c)) and superhydrophobic surface ((a') - (c'))



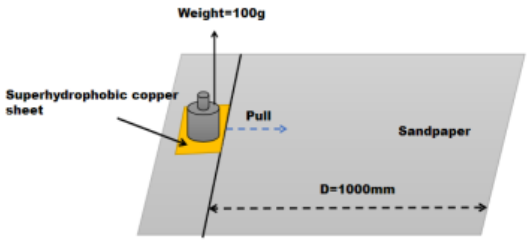
The optical contact angle tester (OCA35, Dataphysics, Germany) was used to measure the contact angle (CA) and slip angle (SA) of water droplets with a 10 μL distilled water drop. the CA and SA values are taken from the average of measurements taken at five different locations on the surface of the same sample. Figure 3 shows the adhesion test of the superhydrophobic surface. the adhesion of the surface can be characterized by the degree to which the droplet bounces back after collision. When the water drop is squeezed after contacting the superhydrophobic surface, it will not adhere to the superhydrophobic surface, and the contact angle between the water drop and the superhydrophobic surface is small. Therefore, the superhydrophobic meter has low adhesion to water droplets.

Figure 3: Process of low adhesion test of the superhydrophobic surface



2.2.2 Mechanical stability

Figure 4: Test method for mechanical stability of superhydrophobic coatings



The prepared super hydrophobic copper sheet (the best

process is adopted at this time) is attached to the bottom of the 100g weight, and then push it on the 1500 # sandpaper (As shown in Figure 4). the changes of contact angle and rolling angle of superhydrophobic coating with the increase of friction distance are recorded.

Figure 5: Surface contact angle and sliding angle of superhydrophobic copper sheet as a function of sliding distance

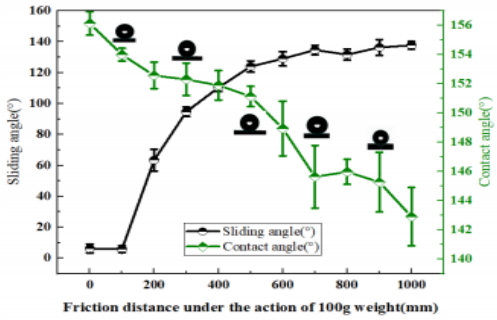


Fig. 5 shows contact angle and sliding angle of superhydrophobic copper sheet as a function of sliding distance. At the beginning of the friction experiment, the contact angle of the sample is 156.2° and the rolling angle is 3°, showing good superhydrophobic performance. After 1000mm friction test, the contact angle is reduced to 142.8°, but it still shows hydrophobicity. Because the low surface energy materials located at the edge of the rough "mountain" structure and in the "canyon" pit structure still exist, and the loss is small, so the decline trend of the contact angle slows down after the friction tests.

2.2.3 Self-cleaning

Due to the accumulation of dust and dirt particles in the natural environment, the surface of most materials is easy to become dirty, and superhydrophobic coating is an excellent solution [31]. Lay the NaCl solid particles on the surface of the metal substrate, use a dropper to suck a small amount of distilled water onto the surface of the metal substrate covered with NaCl solid particles, and observe the surface condition.

Figure 6: Self- cleaning process of super hydrophobic surface

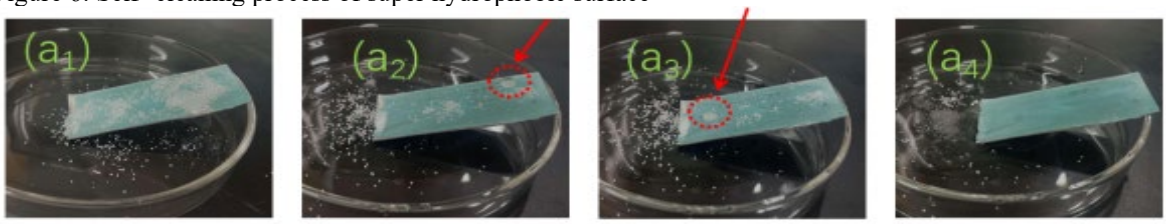
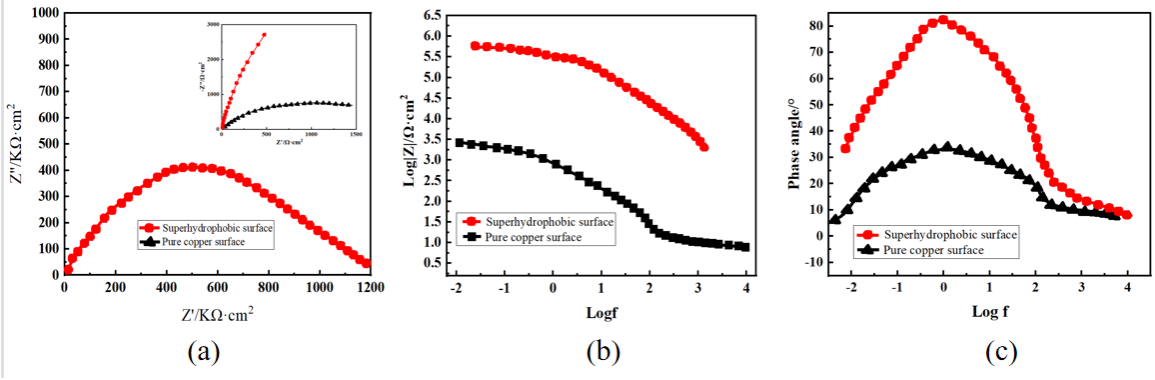


Figure 6 shows the self- cleaning process of super hydrophobic surface. When the water drops roll off, the solid particles on the surface are also taken away by the water drops, so the surface can realize self-cleaning. the good self-cleaning effect of the surface is due to its strong superhydrophobic property. the gas film intercepted by the superhydrophobic surface blocks the contact between the water droplets and the surface.

2.2.4 Corrosion resistance

Figure 7: EIS of Superhydeophobic surface (a) Nyquist piots, (b) Bode plots and (c)Phase angles piots



The electrochemical polarization curve is measured by Shanghai Chenhua CH660D electrochemical workstation, and the corrosion medium is 3.5wt% NaCl solution. A standard three-electrode system is used for electrochemical testing, in which saturated Ag/AgCl is used as the reference electrode, Pt is used as the counter electrode, and a sample with an exposed area of 1cm2 is used as the working electrode. Before the test, the working electrode is immersed in 3.5wt% NaCl solution for 1h to obtain a stable open-circuit voltage (OCP). The scanning rate of potential polarization curve test is 2mv/s, and the test voltage range is in the open circuit voltage +250mv —-700mv. EIS is measured in the frequency range of 100kHz to 0.01Hz, and the sinusoidal signal amplitude is 5mV. EIS curve is fitted with Zsimpwin software to obtain electrochemical impedance parameters.

Electrochemical impedance spectroscopy can reflect the structural information of electrode interface composed of substrate and film layer [32]. Immerse superhydrophobic copper sheet and pretreated smooth copper sheet in 3.5% wt NaCI solution to measure its

impedance spectrum. In Fig. 7 (a), the semi-arc radius of the superhydrophobic film is the largest, indicating that its impedance values is high, and it has strong corrosion resistance to seawater. In Fig. 7 (b), the electrochemical impedance Bode diagram shows that the total impedance of the superhydrophobic film (105.7Ω·cm-2) is significantly higher than that of the copper sheet (103.4Ω·cm-2). the reason is that the rough structure of the superhydrophobic surface forms a gap, and the air trapped in the gap will form an air cushion. At the same time, the capillary effect of micro-nano rough structure can also prevent the penetration of corrosive medium ions into the substrate, so the superhydrophobic layer shows excellent corrosion resistance.

Figure 8: Potentiodynamic polarization curve

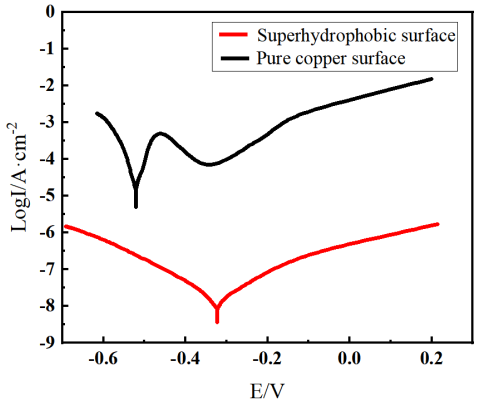


Figure 8 is the potentiodynamic polarization curve. the corrosion potential of the sample covered with the superhydrophobic film is positively shifted by 0.25 V compared with that of the bare sample, Cathodic polarization current density and anodic polarization current density are 2-3 orders of magnitude lower than bare copper respectively. In addition, there is an obvious passivation platform in the anode polarization curve. Therefore, the superhydrophobic film can effectively prevent the corrosion of chloride ions on the substrate.

The corrosion potential and corrosion current density of each curve can be obtained from Tafel curve by extrapolation method. Corrosion rate and corrosion efficiency η can be calculated by equation (1) and (2) as follows:

$$P_i = 22.85 \times i_{corr} \quad (1)$$

$$\eta(\%) = \frac{i^0_{corr} - i_{corr}}{i^0_{corr}} \quad (2)$$

Where is the corrosion current density on the bare copper surface and is the corrosion current density on the superhydrophobic surface.

Table 4 shows polarization curves parameters of the different surfaces in 3.5 wt% NaCl solution. It is calculated that the corrosion rate of superhydrophobic surface (4.18×10-5 mm/year) is about 34.8 times lower than that of pure copper surface (1.56×10-3 mm/year). Obviously, the corrosion resistance of superhydrophobic surface is obviously better than that of bare copper surface. the surface corrosion current density of superhydrophobic copper decreases to 1.83× 10-6A·cm-2, the corrosion potential is moving from -0.47V to -0.24V, and the corrosion inhibition rate reaches 93.32%, indicating that the superhydrophobic film has good corrosion resistance.

Table 4: Polarization curves parameters of the different surfaces in 3.5 wt% NaCl solution.

Sample	E_{corr} */V*	I_{corr} */A·cm^{-2}*	$-\beta_c$ */V·dec^{-1}*	β_a */V·dec^{-1}*	P_i */mm·year^{-1}*	*η*
Bare Cu	*-0.43*	*2.74×10^{-5}*	*0.43*	*0.17*	*1.56×10^{-3}*	—
Superhydrophobic surface	*-0.28*	*1.83×10^{-6}*	*0.038*	*0.032*	*4.18×10^{-5}*	*93.32%*

Figure 9: Schematic diagram of anti-corrosion protection of Cu and superhydrophobic surfaces in 3.5wt% NaCl solution

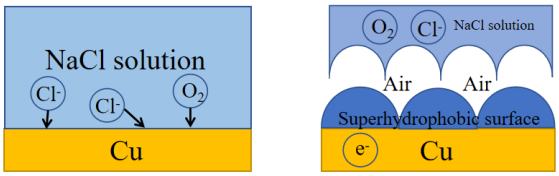


Figure9 shows the anti-corrosion mechanism of the superhydrophobic surface. Superhydrophobic film has low surface energy and low attraction to other molecules, thus reducing the adhesion to solid substances such as dust, which makes it difficult for water and other corrosive media to contact the copper surface. In addition, air can be stored in the grooves of the micro-nano structure on the superhydrophobic surface, forming an air pocket that prevents the transfer of electrons and corrosive substances between the electrolyte solution and the bare Cu substrate, thus inhibiting the corrosion process. It can be seen that the superhydrophobic film is covered on the surface of the substrate as a physical barrier, which can effectively prevent the penetration of corrosive media, thus giving the superhydrophobic film good corrosion resistance.

3. ANTI-ICING PROPERTY

The pre-treated bare copper and superhydrophobic copper sheets were tightly

bonded on the semiconductor cooling wafer (Figure 10), with the superhydrophobic coating sprayed on one side up. Place 10 μ L water droplets on the surface of the coating and adjust the power adapter to maintain the surface temperature of the cooling sheet at -5℃. During the cooling process, use a high-definition camera to take pictures every 1 second. the temperature and humidity of the experimental environment were properly adjusted by air conditioning and humidifier. the ambient temperature is 16±0.5℃, and the air

humidity is 57±0.5℃.

Figure 10: Freezing time testing system

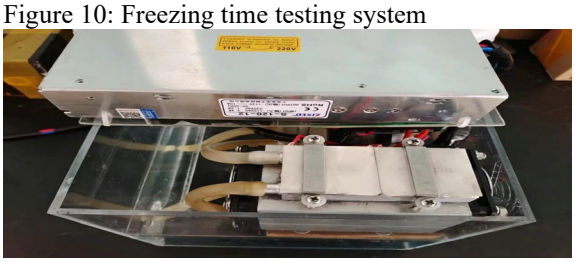
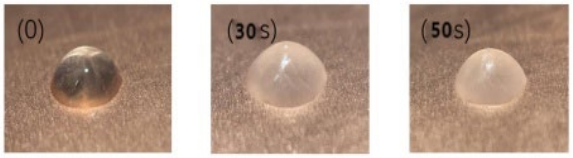
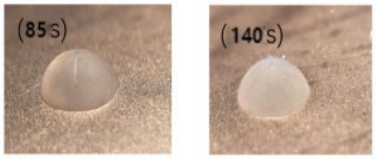


Figure 11 shows the internal and surface morphology changes of droplet on copper surface and superhydrophobic surface during condensation process. After the water droplets freeze, ice crystals begin to appear inside and become opaque. Ice crystals first nucleate at the interface between droplets and copper substrates, and grow like dendritic in droplets. In Figure 8, ice crystals persist for 30s on the copper surface and 210s on the superhydrophobic surface. As the inside of the droplet continues to harden and expand, the top begins to bulge and eventually become a needle tip, at which point the inside of the droplet becomes completely frozen. Subsequently, frost continues to form on the surface of the droplet as water vapor in the ambient air condenses. the freezing time of the droplets on the bare copper surface lasted for 85s, while the freezing time of the droplets on the superhydrophobic film was observed to be 280s. For superhydrophobic copper surfaces, the freezing delay time increases significantly. Because the Gibbs free energy difference needs to be overcome when droplets freeze on the substrate surface. the Gibbs free energy required for crystallization nucleation of a specific droplet is mainly positively related to the static contact angle of the droplet. Increasing the contact angle can increase the energy barrierand delay the formation time of crystal nucleus [33].

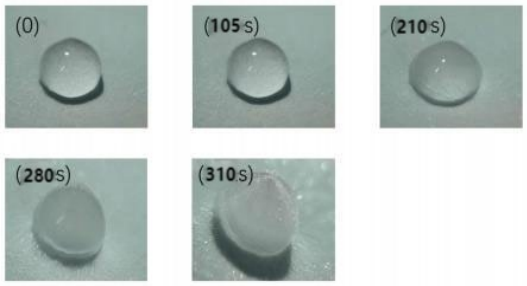
Figure 11: Condensation process of droplets on the original copper surface(a), and on the super hydrophobic copper surface(b)

(a)





(b)



4. CONCLUSIONS

Superhydrophobic film is prepared on smooth copper substrate by electrostatic spraying. the optimal recipe is obtained by orthogonal experiments: epoxy resin: copper stearate 5:1, spraying voltage 90KV, spraying distance 20cm and spraying times 6. With these conditions, the contact angle of the superhydrophobic surface reaches 156.2°.

SEM pictures show that copper stearate and epoxy resin form rough nanostructures on copper substrate by intermolecular coulomb force due to bonding or adhesion. With this structure, superhydrophobic surface has excellent mechanical stability and self-cleaning capacity. In anti-icing experiment, the freezing time of water droplets on the superhydrophobic surface is 286s, while the freezing time on the bare copper surface is only 86s. It demonstrates that the superhydrophobic film on copper substrate effectively delays the freezing. In the electrochemical corrosion experiment, the corrosion inhibition efficiency of the superhydrophobic surface is 93.32%, with good corrosion resistance.

This work contributes to the low-cost and large-scale preparation of superhydrophobic membranes.

REFERENCES

[1] Li W, Y Zhan, Yu S. Applications of superhydrophobic coatings in anti-icing: Theory, mechanisms, impact factors, challenges and perspectives [J]. Progress in Organic Coatings, 2021, 152:106117.

[2] Latthe S S, Sutar R S, Bhosale A K, et al. Recent developments in air-trapped superhydrophobic and liquid-infused slippery surfaces for anti-icing application [J]. Progress in Organic Coatings, 2019, 137:105373.

[3] Jishnu A, Jayan J S, Appukuttan S, et al. Superhydrophobic graphene-based materials with self-cleaning and anticorrosion performance: An appraisal of neoteric advancement and future perspectives [J]. Colloids and Surfaces A Physicochemical and Engineering Aspects, 2020.

[4] Latthe S S, Sutar R S, Kodag V S, et al. Self – cleaning superhydrophobic coatings: Potential industrial applications [J]. Progress in Organic Coatings, 2019, 128:52-58.

[5] Liravi M, Pakzad H, Moosavi A, et al. A comprehensive review on recent advances in

superhydrophobic surfaces and their applications for drag reduction [J]. Progress in Organic Coatings, 2020, 140(2020).
[6] Dou, Wenwen, Jiajia, et al. Preparation of super-hydrophobic micro-needle CuO surface as a barrier against marine atmospheric corrosion [J]. Corrosion Science: the Journal on Environmental Degradation of Materials and its Control, 2018, 131(Feb.):156- 163.
[7] Wan Y, Chen M, Wei L, et al. the research on preparation of superhydrophobic surfaces of pure copper by hydrothermal method and its corrosion resistance [J]. Electrochimica Acta, 2018, 270.
[8] Gu Y, Zhang W, Mou J, et al. Research progress of biomimetic superhydrophobic surface characteristics, fabrication, and application:[J]. Advances in Mechanical Engineering, 2017.
[9] Neinhuis C, Barthlott W. Characterization and Distribution of Water-repellent, Self-cleaning Plant Surfaces [J]. Annals of Botany, 1997(6):667-677.
[10] P. Sumit, D. Prakhar, C. Sujay, Superhydrophobic surfaces: insights from theoryand experiment, J. Phys. Chem. B 124(2020) 1323– 1360.
[11] D. M. Bastidas, M. Criado, S. Fajardo, V. M. La Iglesia, E. Cano, J. M. Bastidas, Copper deterioration: causes, diagnosis and risk minimization, Int. Mater. Rev. 55(2010) 99- 127.
[12] S. Yuan, S. O. Pehkonen, B. Liang, Y. P. Ting, K. G. Neoh, E. T. Kang, Superhydrophobic fluoropolymer-modified copper surface via surface graft polymerisation for corrosion protection, Corrosion Sci. 53(2011) 2738-2747.
[13] Huang L, Song J, Lu Y, et al. Superoleophobic surfaces on stainless steel substrates obtained by chemical bath deposition [J]. Iet Micro & Nano Letters, 2017, 12(2):76-81.
[14] Zhang J, Song Z, Li B, et al. Fabrication and characterization of superhydrophobic poly (vinylidene fluoride) membrane for direct contact membrane distillation [J]. Desalination, 2013, 324:1-9.
[15] Ning C, Bai Y, Barras A, et al. Polyurethane sponge functionalized with superhydrophobic nanodiamond particles for efficient oil/water separation [J]. Chemical Engineering Journal, 2017, 307:319-325.
[16] Wang, Shanlin, Xinquan, et al. Enhanced condensation heat transfer in air-conditioner heat exchanger using superhydrophobic foils [J]. Applied thermal engineering: Design, processes, equipment, economics, 2018, 137:758-766.
[17] Gu, G., Tian, Y., Li, Z., & Lu, D. (2011). Electrostatic powder spraying process for the fabrication of stable superhydrophobic surfaces. Applied Surface Science, 257(10), 4586-4588.
[18] Feng W, Liang C, Zhang X. Experimental study on frost suppression for ASHP combining superhydrophobic heat exchanger and air flow [J]. Applied Thermal Engineering, 2018, 136.
[19] Boreyko J B, Collier C P. Delayed frost growth on jumping-drop superhydrophobic surfaces. [J]. Acs Nano, 2013, 7(2):1618-27.
[20] [1] Kim J H, Mirzaei A, Kim H W, et al. Facile fabrication of superhydrophobic surfaces from austenitic stainless steel (AISI 304) by chemical etching [J]. Applied Surface Science, 2018, 439(MAY1):598-604.
[21] T. A. Saleh, N. Baig, Efficient chemical etching procedure for the generation of superhydrophobic surfaces for separation of oil from water, Prog. Org. Coat. 133 (2019) 27–32.
[22] Wang F, Zhou Y, Yang W, et al. Anti-frosting performance of sprayable superhydrophobic coating suitable for outdoor coil of air source heat pump [J]. Applied Thermal Engineering, 2020, 169:114967.
[23] Ren G, Song Y, Li X, et al. A superhydrophobic copper mesh as an advanced platform for oil-water separation [J]. Applied Surface Science, 2018, 428(jan. 15):520-525.
[24] Zeng-Tian, Li, et al. Preparation of magnetic superhydrophobic melamine sponges for effective oil-water separation [J]. Separation & Purification Technology, 2019.
[25] Zhu Y, Tso C Y, Ho T C, et al. Heat Transfer Enhancement on Tube Surfaces
with Biphilic Nanomorphology [J]. Applied Thermal Engineering, 2020, 180:115778.
[26] Meng K, Fan W, Hao W. Dynamic scenario simulation of dropwise condensation on a superhydrophobic surface with droplet jumping [J]. Applied Thermal Engineering, 2018, 148.
[27] L. Deng, B. Feng, Y. Zhang, An optimization method for multi-objective and multi- factor designing of a ceramic slurry: combining orthogonal experimental design with artificial neural networks, Ceram. Int. 44(2018) 15918– 15923
[28] C. C. Zhou, G. F. Yin, X. B. Hu, Multi-objective optimization of material selection for sustainable products: artificial neural networks and genetic algorithm approach, Mater. Des. 30(2009) 1209– 1215
[29] A, Prusi, Lj, et al. Anodic Behavior of Ti in KOH Solutions [J]. Journal of the Electrochemical Society, 2002.
[30] Chunxi L I, Zhang S, Xue Q, et al. Drag reduction of superhydrophobic microchannels based on parabolic gas-liquid interfaces [J]. CIESC Journal, 2016.
[31] Zhang L, Zhi J. Durable hydrophilic-super-hydrophobic bipolar self-cleaning composite film, and preparation method therefor:, US11149152B2[P]. 2021.
[32] Perlenfein T J. Fabrication and characterization of inverted organic photovoltaics [J]. 2012.
[33] M. -H. Kim, H. Kim, K. -S. Lee, D. R. Kim, Frosting characteristics on hydrophobic and superhydrophobic surfaces: a review, Energy Convers. Manag. 138(2017) 1–11.

The Community Course Design of Civilized Dining Ritual into The Community Integrated with Context Setting and Role Playing

Kang Na
Zibo Vocational Institute, Zibo 255000, Shandong, China

Abstract: In terms of the organization of teaching content, this course organizes teaching activities according to the basic knowledge and skills needed for banquet etiquette in interpersonal communication. the course has designed two parts of Chinese banquet etiquette and Western banquet etiquette, and the content is subdivided into 21 small knowledge points, each of which is produced. the course resources of "teaching video+case video +PPT courseware+teaching plan+exercises" are closely linked and effectively constitute the core content of the course.
Keywords: Context setting, role playing, Humanities, Community curriculum.

1. SPECIFIC CONTENT

1.1 CHINESE BANQUET ETIQUETTE

This part mainly teaches the classification of banquet, banquet organization procedure etiquette, banquet etiquette and so on.

1.2 WESTERN BANQUET ETIQUETTE

This part mainly teaches the representative dishes and characteristics of Western food banquet, Western food seat arrangement etiquette, Western food banquet order etiquette, Western food and wine matching etiquette, Western food banquet dining etiquette and other content. [1]

2. COURSE CONTENT STRUCTURE

The course modules include: Chinese banquet Etiquette, Western banquet etiquette.

3. DESIGN OF TEACHING OBJECTIVES

Through the study of this course, it can meet the needs of community residents to understand, get familiar with, and use the knowledge and basic etiquette skills of Chinese food, Western food, buffet and other meals needed in daily social communication and to perform their duties in the workplace, comprehensively improve the cultural cultivation of community residents, enhance their comprehensive social ability, and further improve their professional quality and build a good personal image. Build a civilized and harmonious community. [2]

Knowledge objective: To understand the knowledge and norms of banquet etiquette and master the operation essentials of basic banquet etiquette skills.

Ability goal: apply what you learn to create a decent and elegant social image and harmonious interpersonal communication.

Quality goal: to improve etiquette literacy and be a civilized community person who knows and obeys etiquette.

4. COURSE CONTENT DESIGN

4.1 COURSE DESIGN IDEAS AND CONTENT SELECTION

According to the course design idea of "determination of teaching needs - selection of course content - teaching design - teaching implementation", the community course of "Civilized Dining Etiquette into the community" takes familiar knowledge points, mastering skills and standardizing the use of banquet etiquette as the starting point. Through analysis, induction and reorganization, the teaching content is reconstructed and teaching, learning, doing and using is implemented in an integrated way. [3]

In the teaching content design of "Civilized Dining Etiquette into the Community", the focus is on the organization and procedure etiquette of Chinese banquet etiquette, the norms and requirements of proper dressing, seat selection, civilized dining etiquette and dining behavior taboos in dinner etiquette. the characteristics of classic dishes in Western banquet, the seating arrangement principle, the standard serving order, the norms of Western dishes and drinks matching and the standard requirements of Western food dining, including the correct use of knives and forks, drinking coffee etiquette, eating buffet etiquette and western food taboos.

In terms of teaching content, the course is organized according to the standard requirements of banquet etiquette in interpersonal communication: banquet classification, banquet preparation and organization procedures, banquet etiquette, dining etiquette, Chinese food, Western food and buffet dining taboo, through the creation of situations, students can gradually master the relevant knowledge and basic operation essentials of banquet etiquette.

In order to realize the natural connection and clever integration of course content and humanistic literacy content, the course team pays attention to professional details, collects, breaks, combs and integrates many social hot spots and practical problems and other data,

repeatedly discusses, and determines the integration opportunity based on the premise of content needs.

4.2 "CIVILIZED DINING RITUAL INTO THE COMMUNITY" COURSE HUMANISTIC QUALITY ELEMENTS INTO THE DESIGN

4.2.1 CHINESE BANQUET

Classification of banquets Understand China's long history of food culture, distinguish the types and uses of banquets, and build cultural confidence

By importing the state banquet preparation video, I can understand the banquet organization and preparation procedure, and establish a planned, rigorous and meticulous work attitude.

By watching the banquet video, you can understand the dress code and dining etiquette of various banquets, and establish a good sense of dressing appropriately, attending the banquet on time, and dining in a civilized manner.

4.2.2 WESTERN FOOD BANQUET

The representative dishes and characteristics of Western food banquets, the seating arrangement etiquette of Western food, the dining order etiquette of Western food banquets, and the classic dishes of Western food and the seating arrangement are displayed through videos and pictures. Each country has its own unique food culture, and establish the concept of beauty, beauty and sharing.

Western food and wine matching etiquette and Western banquet dining etiquette, through the video to show the proper dining behavior in reality, master the standardized use of knives and forks, elegant drinking coffee etiquette, civilized eating buffet etiquette, Western food dining taboo

Develop good dining habits and shape a good dining image.

5. CURRICULUM IMPLEMENTATION DESIGN: (TEACHING MODE AND TEACHING METHOD)

5.1 TEACHING MODE

This course mainly adopts the teaching mode of "on-site teaching+online class" (offline+online combination).

5.1.1 MULTIMEDIA TEACHING ON SITE

Multimedia teaching means mainly include: electronic courseware, projection, video, multimedia teaching software. Teaching interaction, classroom display and other teaching links can adopt multimedia teaching.

5.1.2 ONLINE TEACHING METHODS

Online teachers can make use of online videos, PPT courseware, lesson plans, exercises and other resources to allow students to self-study and self-test, while providing corresponding teaching guidance and feedback.

5.2 TEACHING METHODS

Combined with the characteristics of the course content, the main line is to apply what we learn, create social situations to integrate teaching, learning and doing. Through various teaching methods such as situational teaching method, role playing method, case teaching method and discussion method, we focus on stimulating students' learning interest and meeting the personalized and diversified needs of learners. Make full use of multimedia, video, animation, micro-video and other means to assist the teaching, make the teaching content more vivid and intuitive, and integrate the training of professional quality and professional awareness, so that students can master the learning methods and improve the offline independent learning ability.

Specific use of the following teaching methods:

(1) Teaching method: the teacher elaborated the key points and difficulties of learning.

(2) Interactive method: teacher demonstration is combined with learners' individual experience, individual display and collective perception training.

(3) Situational method: Learners conduct practical training according to specific situations set by teachers.

(4) Intuitive experience method: Using video materials, situational demonstration, teacher demonstration, individual experience of learners and individual display, so that learners can further understand and master skills through intuitive experience.

(5) Discussion method: Organize learners to discuss video materials, cases, teacher demonstrations and learner demonstrations, distinguish right from wrong, and clarify key points.

(6) Comparative evaluation method: Use the display of comparison between teachers and students and comparison between learners, and organize learners to comment and evaluate each other in order to achieve common improvement.

(7) Observation analysis: Teachers tell about life phenomena, or ask learners to carefully observe the performance of etiquette ability in social life and service in various industries after class, and make observation records, and then organize learners to analyze the phenomenon and gain practical experience, so as to enhance personal ability.

(8) Combination of internal and external classes: classroom learning drives extracurricular training.

According to the application, practicability and operability of the teaching content, emphasis is placed on the principle of theoretical necessity and sufficient, and emphasis is placed on practical application. Teachers' demonstration, individual perception, individual display, collective perception, classroom training, situational training, extracurricular training, individual training, comprehensive training, practical exercise and demonstration are used to deepen the learning of theoretical knowledge.

Using multimedia teaching means to change the traditional teaching mode, make multimedia teaching courseware. Use the form of watching videos, cases, etc., observation learning, discussion learning, imitation learning. In this way, the learners' interest in learning is effectively improved, the limited classroom

teaching time is fully utilized, and good teaching results are achieved.

6. CURRICULUM EVALUATION DESIGN

The teaching evaluation of this course is divided into the following two situations:

6.1 ON-SITE TEACHING

The results of the students who participated in the on-site teaching were evaluated by the way of "on-site learning (80%)+project test (20%)". Students who participate in the on-site teaching directly receive 80% of the test grade, while participating in the project test can receive 20% of the test grade.

6.2 ONLINE CLASSROOM

For students who participate in online learning, the assessment of the course consists of "online learning (70%)+course exchange (10%)+project test (20%)".

(1) Online learning. Results are obtained based on video viewing progress, online note-taking, question answering, etc.

(3) Course exchange. According to the number of forum discussions, the number of questions and answers to determine the course exchange results.

(3) Project testing. At the end of each project, students participate in the project test online and get corresponding results.

Online learning performance assessment items include: online learning 70%, course exchange 10%, project test 20%. Online learning assessment forms include: watching course videos and other resources, recording course notes online, answering questions, etc. Course exchange assessment forms are: according to the number of students participate in the discussion, the number of questions to determine the usual score. the forms of project test and assessment are: according to the number of completed questions, the timeliness of submission, correctness and standardization system automatically gives results. Online learning is organized in the following ways: online inspection, a certain number of class hours and time, and complete course notes. the organization of course communication is as follows: the teacher determines the score according to the number of students' participation in discussions, the number of effective topics published and the number of questions answered. the organization of the project test is as follows: online submission, students choose the questions they want to answer independently during the course of the lecture, and the system automatically scores the number of correct answers.

7. COURSE DESIGN FEATURES: HUMANISTIC QUALITY ELEMENTS THROUGHOUT

The organization and implementation of this course will run through the elements of humanistic literacy, which not only meets the needs of community residents to understand, be familiar with and use the etiquette knowledge and basic etiquette skills of Chinese food, Western food, buffet and other meals needed in daily social communication and to fulfill their duties, but also comprehensively improves the cultural cultivation of community residents and enhances their comprehensive social ability. Furthermore, it improves the professional quality and plays a positive role in shaping the elegant and decent banquet image of residents and building a civilized and harmonious community.

The participants of community courses are mostly retired or unemployed grandparents who take care of their children. What they learn can not only influence their children at work, but also influence the next generation who are taking care of them. Therefore, the content design of the course should be practical and operable, so that students can enjoy learning. the key is to apply what you learn.

REFERENCES

[1] Connor. Practical Business Etiquette. Beijing: Peking University Press, 2008.

[2] Connor. Zhao Haijun. Business Etiquette for New Employees. Beijing: Peking University Press, 2012.

[3] Kang Na, Three Steps to Enhance Workplace Competitiveness through Communication, Cooperation and Innovation, Qingdao: China University of Petroleum Press, 2017.

Exploration of the Reform of the Examination Mode for the Course of Motor Control Technology

LI Hongyan
Zibo Vocational Institute, Department of Mechanical and Electrical Engineering, Zibo 255000, Shandong, China

Abstract: This article proposes a reform plan for the examination mode of the "Motor Control Technology" course by learning from the German vocational education curriculum examination mode and combining it with the actual situation of higher vocational education in China. the aim is to improve the quality of talent cultivation by learning skills and knowledge based on the work process orientation.
Keywords: Reform of examination mode, work process-oriented.

1. BACKGROUNG OF PROJECT IMPLEMENTATION

Course exams are one of the means to check and evaluate the quality of talent cultivation. the content, methods, and methods of exams inevitably reflect the concept of education and teaching, the positioning of training objectives, the positioning of training models, the characteristics of teaching processes, the overall quality of teachers, as well as the teaching methods, experimental and practical conditions related to the realization of teaching objectives. the exam mode is a concentrated reflection of the exam content, methods, and methods. the reform of the exam mode will inevitably drive the comprehensive construction of the entire talent cultivation chain, including talent cultivation mode, curriculum system, teaching content, teaching mode, teaching conditions, and teaching team. [1]

This implementation plan is developed by learning from the German vocational education curriculum examination model and taking into account the actual situation of higher vocational education in China. the course 'Motor Control Technology' is a basic vocational ability course for electrical automation technology majors, mainly aimed at cultivating high skilled talents with good professional ethics who are engaged in the maintenance and repair of enterprise electrical control equipment and automation control systems. [2] Based on a work process orientation and the application of motor control technology as the carrier, the course system and content are reconstructed. In order to meet the requirements of the new talent cultivation mode, the traditional examination mode is no longer suitable for the teaching development of the course "Motor Control Technology", so it is necessary to reform the examination mode.

2. BASIS FOR PROJECT IMPLEMENTATION

The plan for the reform of the examination mode of the course "Motor Control Technology" is based on the talent training objectives of the electrical automation technology major. the specific implementation content, methods, processes, etc. must meet the requirements of the electrical automation technology professional job positions and knowledge abilities. the plan for the reform of the examination mode of the course "Motor Control Technology" is based on the talent training objectives of the electrical automation technology major. the specific implementation content, methods, processes, etc. must meet the requirements of the electrical automation technology professional job positions and knowledge abilities.

2.1 EMPLOYMENT POSITIONS IN ELECTRICAL AUTOMATION TECHNOLOGY

The main job positions in this major include the operation, maintenance and repair of electrical control equipment and systems in industrial enterprises; Electronic product installation and deployment positions; Electronic product testing position; Post sales service position. the employment prospects of students in this major mainly include the operation, maintenance and repair of electrical control equipment and systems, as well as electronic product sales enterprises. the main job positions in this major include the operation, maintenance and repair of electrical control equipment and systems in industrial enterprises; Electronic product installation and deployment positions; Electronic product testing position; [3] Post sales service position. the employment prospects of students in this major mainly include the operation, maintenance and repair of electrical control equipment and systems, as well as electronic product sales enterprises.

2.2 TALENT TRAINING OBJECTIVES FOR ELECTRICAL AUTOMATION TECHNOLOGY MAJORS

This major cultivates and supports the basic line of the Party, meets the needs of the construction of Socialist market economy, develops morally, intellectually, physically and aesthetically in an all-round way, grasps the basic theory and knowledge of electrical automation technology, highlights the cultivation of PLC application ability, has the ability to operate maintenance electricians (above intermediate level),

and is oriented to enterprises in the chemical, pharmaceutical and building materials industries in Zibo City and its surrounding areas to cultivate competence in the operation of industrial electrical control equipment and systems High skilled applied talents for maintenance and repair positions.

2.3 KNOWLEDGE AND ABILITY REQUIREMENTS FOR ELECTRICAL AUTOMATION TECHNOLOGY MAJOR

Possess strong knowledge in drawing and recognizing drawings;

Having the ability to apply electronic technology, with advanced skills and knowledge in electronic product maintenance and electricians;

Proficient in using commonly used electricians, electronic testing instruments, and instrument knowledge;

Possess the application ability of PLC switch logic control technology and motor control technology;

Having basic knowledge and application ability in microcontroller programming;

Ability to diagnose and troubleshoot automated production lines;

Capable of distributed control and fieldbus application.

3. PROJECT IMPLEMENTATION PLAN

Table 1 Implementation Plan

Task1	Development of Assessment Plan for the Course of Motor Control Technology
Task Overview	According to the overall requirements of the project, we have divided the assessment plan task into two sub tasks: Establish a team and develop course assessment plans; Develop assessment content and standards.
Project Objectives	Through the implementation of this project, teachers can increase the intensity of teaching reform and improve the quality of students' learning interest and teaching.
implementing condition	Through the analysis of the project, the following teaching conditions are required to ensure project implementation: Establish an implementation team with strong professional abilities and rich work experience; An experimental and training room that meets the requirements of project implementation.
Implementation measures	Establish a plan team based on course teachers and some professional teachers; Discuss the content and scoring standards of the assessment; Conduct special seminars; Supplement and revise the plan based on the problems found during the discussion process.
Project results	1. summary of course assessment and 1 set of course assessment results.

Table2 Implementation Plan

Task2	Implementation of the Assessment Plan for the Course of Motor Control Technology
Task Overview	According to the overall requirements of the project, we have divided the assessment plan task into two sub tasks: The plan will be implemented in the 2010 level Electrical Automation Technology major; Analyze the implementation results and effectiveness.
Project Objectives	Through the implementation of this project, teachers can increase the intensity of teaching reform and improve the quality of students' learning interest and teaching.
Implementing condition	Through the analysis of the project, the following teaching conditions are required to ensure project implementation: Establish an implementation team with strong professional abilities and rich work experience; An experimental and training room that meets the requirements of project implementation.
Implementation measures	Implement assessment and reform according to the plan; 1. Analyze the effectiveness of assessment reform; 2. Revise the plan based on the issues identified during implementation, providing a basis for the next level of implementation.
Project results	1 summary of course assessment and 1 set of course assessment results.

4. PROJECT IMPLEMENTATION MEASURES

The final comprehensive score of this course includes two parts: the usual score (40%) and the final score (60%). the usual performance includes three parts: practical training assessment score (20%), homework score (10%), and attendance score (10%); the final score includes two parts: the final theoretical score (30%) and the final project skills score (30%), As shown in Table 3.

Table 3 Overall Assessment Plan for the Course "Motor Control Technology"

Project		Measure	Weight coefficient
Daily performance	Check on work attendance	Deduct 1 point for each absence	10%
	homework	Deduct 2 points for every underpayment	10%
	Practical training assessment	Score based on project completion in the context	20%
Final grade	Theory	Score based on completion status	30%
	Project Skills	Score based on completion status	30%

4.1 Final project skill assessment:

The exam for the "Motor Control Technology" course is based on the course standards, focusing on the

teaching objectives and quality standards of the course. A three-dimensional comprehensive evaluation system for the knowledge, ability, and quality of the course is developed, and each student is required to conduct a comprehensive project evaluation before the end of each project. According to the characteristics of the Electrical Automation Technology major and the "Motor Control Technology" course, the weight of knowledge, ability, and quality in the comprehensive evaluation of the course is determined as knowledge accounting for 30%, ability accounting for 50%, and quality accounting for 20%. Based on the actual teaching situation and integrating the teaching of the "Motor Control Technology" course project, the corresponding assessment items will be developed with a total of 100 points, As shown in Table 4.

Table 4 Assessment Plan for Course Implementation Projects

Serial Number	Project name	Score			
1	Installation and Maintenance of Forward and Reverse Control Circuits for Three Phase Cage Asynchronous Motors	20	knowledge	30%	Conducted
			capacity	50%	
			quality	20%	
2	Installation and Maintenance of Braking Control Circuit for Three Phase Cage Asynchronous Motor	30	knowledge	30%	Conducted
			capacity	50%	
			quality	20%	
3	Design, Installation, Debugging and Maintenance of Control Circuit for Z3040 Radial Drilling Machine	50	knowledge	30%	Conducted
			capacity	50%	
			quality	20%	

The assessment of each project requires a complete design report, which should include the following content:

The purpose and significance of project implementation;

Schematic diagram of project design;

The method and process of circuit debugging;

The problems and improvement directions of the project;

Experience gained from implementing the project.

4.2 THEORETICAL EXAMINATION

Conduct an assessment of relevant theoretical knowledge in the form of a test paper.

Total course grade=usual grade * 50%+final grade * 50%.

5. EVALUATION AND FEEDBACK

Based on the working principle of "goal orientation, project management, process control, dynamic feedback, and circular improvement", a departmental inspection team is formed to provide technical guidance and services during the project execution process, supervise and monitor the completion process of each project, evaluate and evaluate the results, eliminate interference from various factors during the project implementation process, and ensure the completion of project objectives.

REFERENCES

[1] Xing Li. Deconstructing and Reconstructing the Practical Teaching Mode of Higher Vocational Education under the Concept of Work Process Orientation. Vocational & Technical Education Forum.

[2] Jiang Dayuan. Curriculum View Based on Work Process [J]. Chinese Vocational Education.

[3] Yan Zhonghua Development and Implementation of Vocational Education Curriculum [M]. beijing: Tsinghua University press, 2009.

Diagnosis, Treatment and Nursing of Liver Function Abnormalities in Simple Pregnancy

Liu Yinglian
Zibo Vocational Institute, Zibo 255000, Shandong, China

Abstract: This study aims to analyze and discuss the impact of isolated pregnancy-related liver function abnormalities on pregnancy outcomes. A total of 41 pregnant women with isolated liver function abnormalities were selected as the experimental group, while 41 pregnant women with normal liver function during the same period were randomly selected as the control group. the study analyzed the transaminase levels in the experimental group and compared differences in delivery methods, pregnancy complications, and prognosis between the two groups. In terms of delivery methods, the cesarean section rate in the experimental group was significantly higher than that in the control group ($P<0.05$). the experimental group had higher rates of pregnancy complications such as gestational hypertension, fetal distress, premature birth, and postpartum hemorrhage compared to the control group, with significant differences ($P<0.05$). the incidence of pregnancy-related liver function abnormalities is increasing, necessitating early detection, diagnosis, and treatment to ensure the safety of both mother and baby. Due to the potential for various complications associated with pregnancy-related liver function abnormalities, providing correct and effective nursing care is essential to ensure the safety of pregnant women and newborns.
Keywords: Pregnancy; Liver Function; Complications; Causes; Nursing Care; Prognosis.

1. INTRODUCTION

During pregnancy, various factors can contribute to liver function abnormalities, including viral hepatitis, alcoholic liver disease, fatty liver, intrahepatic cholestasis, genetic metabolic disorders, and drug-induced liver injury. Due to the pregnant state, invasive examinations may not be feasible for many patients, making it challenging to definitively identify the causes of liver function abnormalities. Severe complications such as HELLP syndrome, acute fatty liver of pregnancy (AFLP), and preeclampsia can adversely affect maternal and fetal health.

The intricate journey of pregnancy is marked by numerous physiological changes that affect various organ systems, including the liver. Among these changes, liver function plays a pivotal role in maintaining maternal health and supporting the growing fetus. However, the delicate balance of liver function can be disrupted by a range of factors, leading to abnormalities that might influence the course of pregnancy and its outcomes. Understanding the intricate interplay between liver function abnormalities and pregnancy outcomes is of paramount importance for ensuring appropriate medical management and optimizing the well-being of both mother and child.

The occurrence of liver function abnormalities during pregnancy is not a singular event with a uniform etiology. Instead, it is a complex phenomenon influenced by a multitude of factors. These factors can range from pre-existing conditions, such as viral hepatitis and metabolic diseases, to pregnancy-specific disorders like preeclampsia, viral hepatitis, hyperemesis gravidarum (HG), and intrahepatic cholestasis of pregnancy (ICP). Additionally, external contributors like alcohol consumption, fatty liver, and drug-induced liver damage can further complicate the liver's normal functioning during pregnancy.

The impact of liver function abnormalities on pregnancy outcomes has garnered significant attention from the medical community. Researchers have sought to unravel the intricate relationship between these abnormalities and the well-being of both the mother and the developing fetus. It is well-established that certain liver function abnormalities can increase the risk of adverse pregnancy outcomes. For instance, preeclampsia, a condition characterized by high blood pressure and organ damage, has been linked to liver function abnormalities, particularly elevated transaminase levels. the presence of preeclampsia can lead to complications such as intrauterine growth restriction, preterm birth, and even maternal mortality.

Another condition of concern is intrahepatic cholestasis of pregnancy (ICP), a disorder characterized by impaired bile flow that results in elevated levels of bile acids in the blood. ICP can lead to intense itching, particularly on the palms and soles, and poses a risk to both maternal and fetal health. Studies have indicated that ICP is associated with an increased risk of preterm birth, fetal distress, and stillbirth. the mechanisms through which ICP influences these outcomes are still being investigated, but it is thought that the accumulation of bile acids could lead to placental dysfunction and altered fetal development.

1.1 Data and Methods

General Information: With the further improvement of prenatal examinations, most pregnant women can complete systematic prenatal checks, and liver function tests are a very important component. This study selected 41 pregnant women with abnormal liver function who were admitted to the Internal Medicine

Department of Zibo Maternal and Child Health Hospital from September 2021 to September 2022 as the liver function abnormality group (experimental group). the experimental group had an age range of 22-42 years, with an average age of 28.5 years. Among them, there were 30 primiparous women and 11 multiparous women. [1] Forty-one cases who gave birth during the same period were randomly selected as the control group. There were no significant differences in age or parity between the two groups. the control group had an age range of 20-40 years, with an average age of 28.4 years. There were 22 primiparous women and 19 multiparous women in the control group.

Inclusion Criteria: All pregnant women in the experimental group had fasting venous blood tests at their initial visit. Those with ALT levels greater than 40 U/L and AST levels greater than 40 U/L were considered abnormal. Ultrasound examinations of the liver, gallbladder, pancreas, and spleen were performed on all pregnant women in the experimental group, and no obvious abnormalities were found. the pregnant women had no self-reported symptoms, no positive physical examination findings, negative viral markers, and had not taken medications known to cause liver damage. They were followed up until the end of delivery, and pregnancy outcomes were recorded. In the control group, all patients had liver function tests that showed ALT and AST levels below the normal values. [2] Ultrasound examinations did not reveal any significant abnormalities, and viral markers were all negative.

Treatment and Monitoring Follow-up: the primary focus of treatment is on rest and nutrition, with "liver-protecting" medications used as a supplementary measure to avoid exacerbating factors. the diet should be light. Patients in the experimental group were given general medication treatment (reductive glutathione, vitamins, etc.). Liver function was rechecked after 2 weeks of treatment. If it returned to normal, they were discharged with instructions. Patients who did not show improvement continued the same treatment.

2. STATISTICAL METHODS

Statistical analysis was performed using SPSS 17.0 software. Comparison of categorical data was done using the chi-squared test, with a significance level of $P < 0.05$ indicating statistical significance.

3. RESULTS

Experimental Group: Before treatment, ALT levels ranged from 83.3 to 428 U/L, with an average of 165.7 U/L. Before treatment, AST levels ranged from 46.1 to 254.2 U/L, with an average of 93.8 U/L. After treatment, ALT levels ranged from 11.1 to 245 U/L, with an average of 74.3 U/L. [3] After treatment, AST levels ranged from 20.1 to 148.3 U/L, with an average of 47.4 U/L. the duration of treatment ranged from 5 to 29 days, with a median treatment time of 15.3 days.

Regarding the mode of delivery, the cesarean section rate was higher in the experimental group compared to the control group, and the difference was statistically significant ($P < 0.05$). the experimental group had a higher incidence of pregnancy complications such as hypertension, fetal distress, preterm birth, and postpartum hemorrhage compared to the control group, and the differences were statistically significant ($P < 0.05$). However, there were no statistically significant differences in complications such as diabetes and amniotic fluid abnormalities (excess or deficiency of amniotic fluid) compared to the control group (follow Table 1).

Table 1: Comparison of Two Delivery Methods and Pregnancy Complications

	Number	Caesarean Section	Hypertension	Fetal Distress,	Premature Rupture of Membranes	Postpartum Hemorrhage	Diabetes	Abnormal Amniotic Fluid
Experimental	41	18	6	3	8	5	3	2
Group Control Group	41	11	2	1	3	1	2	2
P-Value		<0.05	<0.05	<0.05	<0.05	<0.05	>0.05	>0.05

4. DISCUSSIONS

There are various causes of abnormal liver function during pregnancy, including preeclampsia, viral hepatitis, hyperemesis gravidarum (HG), and intrahepatic cholestasis of pregnancy (ICP). These conditions increase maternal and fetal risks to varying degrees and require accurate and timely diagnosis and treatment.

Recognizing and promptly identifying abnormalities are of paramount importance for reducing maternal and neonatal mortality rates and improving outcomes. High viral load is a high-risk factor for active chronic hepatitis B and is also a high-risk factor for abnormal liver function during pregnancy.

4.1 VERTICAL TRANSMISSION OF HBV

Vertical transmission of HBV from mother to child remains the primary cause of chronic HBV infection in China. It is safe for women without protective antibodies to receive HBV vaccination during pregnancy. Pregnant women with HBV infection should undergo mother-to-child transmission prevention to prevent the spread of HBV during the perinatal period. Infants born to HBV-infected mothers should receive a 100 IU intramuscular injection of hepatitis B immune globulin within 12 hours of birth, followed by the first dose of HBV vaccine (10 μg) within 12 hours of birth, and complete the second and third doses of HBV vaccine (each 10 μg) at 1 month and 6 months after birth. [4] In women with high viral

load, the failure rate of mother-to-child transmission prevention is higher.

Guidelines from the American Association for the Study of Liver Diseases and the Chinese Society of Obstetrics and Gynecology recommend antiviral therapy for women with HBV DNA levels greater than 200, 000 IU/ml starting in late pregnancy (gestational age 28-32 weeks) to reduce the risk of perinatal transmission. Antiviral drugs should be carefully selected during pregnancy. Entecavir is contraindicated during pregnancy. Currently, tenofovir, lamivudine, and telbivudine are considered relatively safe antiviral drugs for use during pregnancy. [5] Tenofovir is widely used in clinical practice due to its high efficacy, low resistance, and sufficient safety during pregnancy.

4.2 INTRAHEPATIC CHOLESTASIS OF PREGNANCY (ICP)

Intrahepatic Cholestasis of Pregnancy (ICP) is the most common disorder involving bile stasis during pregnancy. It often occurs in the mid to late stages of pregnancy, with 80% of patients experiencing symptoms after 30 weeks of pregnancy, and it typically resolves rapidly after childbirth. the incidence of ICP varies significantly depending on ethnicity and geographical location. the exact mechanisms behind ICP are not fully understood but are believed to involve genetic, hormonal, and environmental factors. Most treatment approaches can only improve bile acid levels, restore liver function, and alleviate itching, making a cure difficult to achieve.

4.3 ACUTE FATTY LIVER OF PREGNANCY (AFLP)

AFLP lacks predictability and clear predisposing factors. When pregnant women exhibit digestive symptoms such as nausea, vomiting, and upper abdominal discomfort, acute abdominal conditions like pancreatitis, viral hepatitis, and drug-induced liver injury should be ruled out through timely blood biochemical tests. Risk factors include multiple pregnancies, preeclampsia, male fetuses, and low maternal BMI. Due to the rapid progression and high mortality rate associated with AFLP, and the lack of effective conservative treatment, close monitoring of blood counts, coagulation profiles, liver function, kidney function, etc., should be carried out after 34 weeks of pregnancy to enable early diagnosis, timely termination of pregnancy, and comprehensive supportive treatment.

4.4 HYPEREMESIS GRAVIDARUM (HG)

Hyperemesis Gravidarum (HG) occurs in early pregnancy, with an incidence of approximately 0.3% to 2%, and affects the liver in 50% to 60% of cases. Liver injury may be related to dehydration, starvation, increased secretion of human chorionic gonadotropin, and placental cytokines such as TNF-alpha. the main symptoms include nausea, vomiting, weight loss, and dehydration. Treatment strategies depend on the severity of the disease and primarily involve intravenous fluid administration to provide energy, maintain electrolyte and acid-base balance, and alleviate vomiting.

5. NURSING STRATEGIES

Pregnancy combined with liver diseases can lead to complications, posing significant safety risks for both mother and baby. Patients and their families may feel anxious, so it's essential to provide psychological support and alleviate their stress and anxiety. Dietary Care: It is advisable for pregnant women with liver diseases to consume high-protein foods, supplement vitamins, maintain a low-fat and easily digestible diet, and avoid medications with significant liver toxicity.

REFERENCES

[1] Choi C H, Kim C J, Lee Y Y, et al. Peritoneal tuberculosis: a retrospective review of 20 cases and comparison with primary peritoneal carcinoma [J]. International Journal of Gynecologic Cancer, 2010, 20(5).

[2] Kim Y H, Pfaller B, Marson A, et al. the risk of venous thromboembolism in women with inflammatory bowel disease during pregnancy and the postpartum period: a systematic review and meta-analysis [J]. Medicine, 2019, 98(38).

[3] Jurate K, Rimantas Z, Jolanta S, et al. Sensitivity and specificity of biochemical tests for diagnosis of intrahepatic cholestasis of pregnancy [J]. Annals of hepatology, 2017, 16(4):569-573.

[4] Wu K, Wang H, Li S, et al. Maternal hepatitis B infection status and adverse pregnancy outcomes: a retrospective cohort analysis [J]. Archives of Gynecology and Obstetrics, 2020, 302:595-602.

[5] Huang W, Li T, Liu P, et al. the Clinical Features and Prognosis Analysis of Pregnant Women with Tuberculosis After in Vitro Fertilization and Embryo Transfer and Natural Fertilization [J]. 2021.

Research on the Design of Mutual Learning System for Basic Education Resources from the Perspective of Artificial Intelligence

Pan Xianmin, Cheng Yue
School of Information science and Engineering, Hunan Women's University, Changsha, Hunan 410000, China

Abstract: In the era of artificial intelligence, there have been many new forms of people's learning methods. Although there are many ways for people to obtain information, they cannot systematically learn knowledge. Moreover, existing sharing platforms and learning applications have not truly met people's learning needs, especially in the fields of sharing and exchanging self-learning materials in basic education. Therefore, it is imperative to study the mutual learning system of basic education resources from the perspective of artificial intelligence. the proposed design scheme for a learning mutual assistance system mainly includes two modules: administrator and user. the administrator module is mainly composed of four functional modules: user information management, group information management, question bank information management, and forum information management. the user module is composed of six functional modules: personal information, my friends, my group, question bank, forum, and check-in. This system can effectively improve learners' efficiency and initiative, promoting knowledge sharing and exchange.
Key words: the Era Of Artificial Intelligence; Basic Education; Mutual Assistance Communication; Learning Mutual Assistance

Artificial intelligence is in full development, and it is beginning to take its place in various industries, and its value space is getting bigger and bigger, especially the emergence of GPT4, which has brought about an unprecedented revolution in our learning methods and modes. Students' utilization of artificial intelligence will gradually become a new learning trend, now most of these studies are fragmented learning, students' learning objectives are not clear enough, more blind, learning cannot achieve significant results, furthermore, students have very many ways to obtain information, but fewer systematic methods and platforms for learning knowledge. Moreover, online learning is time-consuming, weak relevance, poor interactivity, and few learning tools, which is difficult to meet the needs of learning, and the effect is not very good [1]. Existing sharing platforms and learning applications do not really meet the needs of students for learning, especially in the field of basic education independent learning materials sharing, communication and other areas of research is still missing [2].

Some universities in the United States have solved the problem of ambiguous learning goals in education by using artificial intelligence to analyze the learning information on the Electronic Data Exchange (EDX) course platform to improve students' behavioral evaluation and learning direction; the EU-funded M-learning program provides specific learning courses and products to increase students' interest in learning [3]; the operation mechanisms of university self-learning programs in Australia and the United States are more mature. Self-learning programs in Australia and the United States are more mature in their operational mechanisms, with Australian universities focusing on "individual-cluster" and American universities on "individual-individual", "individual-cluster", "individual-group", "group" and "group". "The operation mechanism of university self-learning programs in Australia and the United States is more mature [4].

Domestic scholars have also proposed research on learning analytics, online test evaluation, and promoting professional development of university teachers in the age of artificial intelligence from the theoretical level. Huazhong Normal University mainly introduced Clicker system [5] to provide real-time feedback and support interactive teaching between teachers and students in the classroom [6] to improve classroom effect; Beijing Jiaotong University applied Clicker system to the Physics Department, which improved the students' interest in learning [7]. In addition, domestic enterprises also make full use of AI to participate in online education [8]. Most of these methods and tools are used by educators to solve the deficiencies of education by utilizing various systems to improve students' interest in learning and help them solve learning problems. However, due to the low ability of students to independently learn new things, ideas and creativity, and the lack of research and exploration ability, the market for this aspect of independent sharing of information and communication in the field of basic education resources is still very large, and the design and realization of learning mutual aid systems for basic education resources in the era of artificial intelligence also seems to be very necessary [9].

In this paper, we firstly use online questionnaires to collect relevant data to understand users' ideas and needs, and secondly, we also borrow relevant journal articles to grasp relevant domestic and international research dynamics to complete the conception of the project [10, 11]. Then, according to the collected data to sort out the requirements of the project to complete the requirements analysis, you can use data flow diagrams, timing diagrams, use case diagrams to systematically and in detail the functions contained in the user interface in a graphical manner, to further demonstrate the user's needs for this system. Then, the system design is carried out, including the overall design of the system, the detailed design of the system, and the database design of the system [12], according to the requirements of the design, the functions of each module are represented separately to realize the development of the project. Finally, the running test of the project is carried out to improve the system functions.

1 SYSTEM ANALYSIS

The mutual aid learning system of basic education resources in the view of artificial intelligence is mainly used to analyze the functional requirements and non-functional requirements of the system to clarify the functions provided by the system for the user and its own attributes and qualities.

1.1 System Functional Requirements

Administrators can view the basic information of all users in the user information management module, and modify and delete the information of the specified users; in the group information management module, they can view the information of all groups, add new group information, and modify and delete the information of the specified groups, and carry out certain management of the groups; in the question bank information management module, they can add, delete, change, and check the operation and management of the question bank; in the forum information management module, they can view, delete, and check the information of the question bank. In the forum information management module, you can view, delete and modify all posts in the forum and add new posts. Users in the personal information module can view personal information on the basis of modifying their own information; in the group learning module you can view group member information, which is conducive to interactive learning between the various members of the group; in the learning punch card module you can learn by punching the card to view the punch card calendar, which is convenient to understand the degree of self-study; in the question bank module you can view the relevant knowledge database, the question bank to provide answers to assist, which is conducive to a deeper understanding of the knowledge point and the user of their own Knowledge points of in-depth understanding and the results of their own learning verification and reflection; in the forum module, each user can learn to ask questions, you can also help answer questions in the forum, which is conducive to interactive learning between users.

1.2 Non-functional requirements

The Non-functional requirement is a very important stage, which has a certain impact on the functional requirements of the system to a large extent. the ease of use of the system is reflected in the system interface. the front-end interface of the system must be simple and clear, and the logic must be eye-catching and concise so that users can easily operate the system in a well-interacted manner [13]. In terms of scalability, the SSM framework is highly extensible and new features do not affect the original ones [8].

2 SYSTEM DESIGN

System architecture design: the architecture of this system adopts B/S architecture, the user clicks an event on the front-end JSP page in the browser layer, the browser layer sends a request to the server layer, and the server layer makes a response to return to the browser and display it on the page. the server layer can be divided into view layer, business layer and persistence layer according to the MVC layering concept. the view layer adopts Spring MVC framework, the business layer handles the core business logic, and the persistence layer adopts My Batis framework.

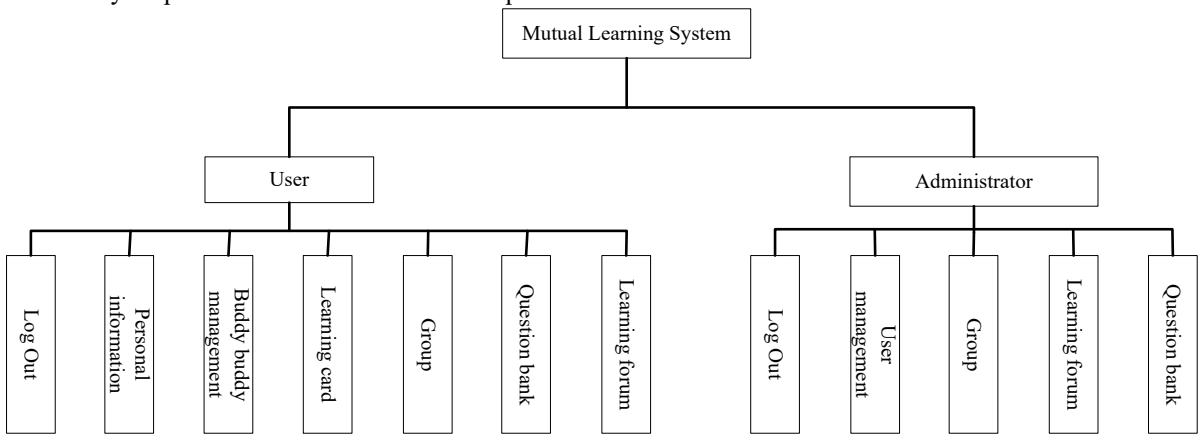


Fig. 1 System Main Function Framework Diagram

System Functional Module Design: This system has two roles for users, respectively, ordinary users and administrator users. Ordinary users can log in to the system to view and modify basic personal information, group learning (view, add, delete group), learning card (sign in, view card calendar), enter the learning forum (browse, add, reply to forum posts), view the question bank (browse the details of the topic), buddy management (view, delete buddy information); administrators to complete the login management, user management, group management, Question bank management, forum management and other data management, as shown in Figure 1.

According to the overall design of the system, it can be seen that the learning support system mainly consists of the administrator module and ordinary user module. the administrator module is responsible for the management of user data, group data, question bank data and forum data. User management is the administrator's way of adding, deleting, changing and checking all registered users. Group management is mainly to add, delete, change and check the group added by the user operation management. Question bank management is the administrator's management of the questions in the question bank for simple addition, deletion, modification and checking operations. Forum management is the administrator's management of user posts in the forum to add, delete, change and check the operation. the user module is mainly responsible for the management of the user's personal, group, friend, study card, question bank and forum functions.

3 DATABASE DESIGN

The data entity descriptions in the conceptual structural design are shown in Table 1.

Table 1 Data Entity Description

Data Entity Name	Data Table Name	Data Entity Description
Users	User_Info	User Information
Question Bank	Question_Info	Question Bank Information
Forum	Forum_Info	Forum Information
Punch Card	Clockin_Info	Punch Card Information
Groups	Group_Info	Groups
Friends	Friend_Info	Friends
Replies	Reply_Info	Replies

Logical structure design is mainly to design the main database tables of the system related functions, the learning support system needs to establish a total of 7 tables. In addition, the question bank, learning forum, learning card, learning group, my friends, reply to the forum, and other information tables according to the conceptual structural design of the system requirements can be done according to the corresponding logical design.

4 SYSTEM REALIZATIONS

Database connection and implementation Firstly, use Navicat for MySQL to create a visual database study_db, then create data tables: Friend_Info, User_Info, Question_Info, Forum_Info, Clockin_Info, Group_Info, Reply_info and set the related fields. the implementation of functional modules, including the administrator module, user information management, group management, question bank management, forum management, user modules, personal information, my friends, my group, question bank, forums, check-in management and other modules can be achieved through the design of the key code to achieve the interface and functionality, will not be repeated here.

5 CONCLUSIONS

In this paper, the design and realization of the learning mutual aid system for basic education resources in the era of artificial intelligence is proposed as the topic, and a learning exchange system design scheme with learning mutual aid as the core is proposed, and after testing, the user logging in to the system can quickly jump to the corresponding main interface, the foreground interface is concise and generous, the function is simple and clear, and the user is easy to operate, and it has a good interactivity [14]. In terms of scalability, the system adopts SSM framework, of which Spring MVC is a pattern-based development framework, which has good scalability, adding new functions will not have an impact on the original function. the existing functions of the Learning Support System in the Age of Artificial Intelligence can be successfully realized after testing, which meets the requirements put forward in the requirements analysis phase and also fits the detailed design in the system design phase.

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REFERENCES

[1] Lv Miao, Shi Ke, Zhou Yanyan. Exploring the Blended Teaching Mode of English in Colleges and Universities Based on Campus English Mutual-aid Learning Platform--Taking the Financing Project of "iEnglish" Campus English Mutual-aid Learning Platform as an Example [J]. English Square, 2022, (14):53-57.

[2] Rui Zhang. Peer Supported Learning for College Students: A Comparison of Typical Experiences in American and Australian Universities [J]. Journal of Chengdu Normal College, 2022, 38(02):80-89.

[3] J. E. Caldwell. Clickers in the large classroom:current researchand best-practice tips [J]. CBE Life Science Education, 2018(6):9-20.

[4] CROMPTON H. Mobile learning:new approach, new theory [M]//BERGE Z L, MUILENBURG L Y. Handbook of mobile learning. Florence, KY:Routledge. 2019.

[5] JIANG Qiang, ZHAO Wei, WANG Pengjiao, WANG Liping. Personalized adaptive online learning

analysis model and implementation based on artificial intelligence [J]. China Electrochemical Education, 2019, (01):85-92.
[6] Zhu Guijie. Design and realization of an enterprise information management system based on SSM [D]. Huazhong University of Science and Technology, 2016.
[7] Johnson R, Hoeller J, Arendsen A, et al. Professional Java Development with the Spring Framework. Apc, 2007:195-237.
[8] Krill Paul. Genuitec introduces My Eclipse IDE for the Spring Framework. InfoWorld. com, 2022, 8, 12:115-137.
[9] Guan Wenli, Fu Yu, Song Fangqin. Construction and design of SSH-based studio learning mutual support platform [J]. Computer Age, 2020, (11):30-31+34
[10] Liu Qiao, Zhu Xuebo, Shao Zhenzhen. Design of web-based network knowledge popularization mutual supportive learning platform for digital campus [J]. Science and Technology Information, 2019, (04):21-22
[11] Gao Xiaotian. Empirical research on the application of multi-year mutual aid learning mode in network and new media courses - based on interactive network mutual aid learning platform [J]. Modern Business Industry, 2020, 41(07):56-58.
[12] Tang Shaoxiong. Research and Development of Mutual Aid Programming Learning Platform Based on Intelligent Q&A [D]. Zhejiang University of Technology, 2020:69-65.
[13] Li Yang. Design and implementation of SSM framework in web application development [J]. Computer Technology and Development, 2022, 26(12):190-194
[14] Ye Yaozhong. Design and realization of shield tunneling management platform based on SSM [D]. Tianjin University of Science and Technology, 2021:130-144.

Curriculum Reform of CNC Machine Tool Installation and Debugging in Vocational Colleges

Zhao Renhan
Zibo Vocational Institute, Zibo 255000, Shandong, China

Abstract: So far, there are few universities offering courses on installation and debugging of CNC machine tools, and there are not many teaching experiences that can be learned. However, as one of the courses in the mechanical field, installation and debugging of CNC machine tools has a wide range of content and knowledge, including hardware functions and wiring, fault detection and troubleshooting, PLC programming control, machine tool accuracy measurement, and other contents. For most vocational college students, due to their weak professional foundation and average learning abilities, there are significant difficulties in learning this course. During the practical training process, it is extremely easy to develop a dislike for learning. This article takes the installation and debugging course of CNC machine tools in vocational colleges as the research object, analyzes and discusses some problems that exist in the practical operation process of CNC machine tool installation and debugging course, and identifies corresponding teaching breakthroughs, providing reference for the practical training of CNC machine tool installation and debugging course.

Keywords: Vocational colleges, Installation and debugging of CNC machine tools, Practical training.

1. INTRODUCTION

The course of CNC machine tool installation and debugging is one of the professional courses in the mechanical field, and it is also a highly theoretical and practical professional course. [1] This course is based on cultivating intermediate and advanced CNC machine tool maintenance and adjustment workers, and cultivates technical and composite application talents with abilities in CNC machine tool installation, debugging, fault diagnosis and troubleshooting positions. [2] Through training, students are equipped with the ability to analyze, diagnose, and debug faults in CNC machine tools. However, due to the extensive theoretical content of CNC machine tool installation and debugging, most students have not been exposed to machine tools and do not understand or fully understand many concepts. [3] At the same time, the internal mechanical and electrical structures of machine tools are complex and varied, with a wide range of fault types and strong logic, For most vocational college students, there is considerable difficulty in understanding. [4] Over time, it can easily undermine students' learning enthusiasm and self-confidence, leading to a sense of disgust with learning. Based on this, curriculum reform is carried out for the installation and commissioning of numerical control machine tools. [5] Through the reform, teaching effect is improved, students' impression of knowledge points is deepened, and Reinforcement learning effect is strengthened.

2. ANALYSIS OF TEACHING PROBLEMS AND REASONS

Analysis of Teaching Problems and Reasons for Installation and Debugging of CNC Machine Tools CNC machine tool installation and debugging course is one of the mechanical professional courses. Due to the strong theoretical nature of CNC machine tool installation and debugging course, many professional terms and difficult to understand, during the training process, the following problems were found in the implementation of this course.

(1) the course of installation and debugging of CNC machine tools has strong theoretical and practical significance, with a wide range of professional terms and high learning requirements for students. Most vocational college students have not been exposed to CNC machine tools and have no basic concept of CNC machine tools. A very few students have been exposed to CNC machine tools before, but their focus is on the operation and application of machine tools. They are not clear about the internal mechanical structure and electrical control principles of machine tools, do not understand common faults of CNC machine tools, and do not understand the maintenance methods and skills of CNC machine tools. Therefore, for the vast majority of students, the learning task of CNC machine tool installation and debugging course is relatively large. At the same time, this course is a highly practical course that requires students to carry out practical operations in order to truly master machine tool maintenance methods and skills. Due to the lack of theoretical knowledge and unclear understanding of professional terminology and machine tool logical relationships among most students, based on their practical performance, the learning effect is poor and they cannot achieve the expected goals.

(2) the learning time for the course of CNC machine tool installation and debugging is limited, and teachers

need to complete the content in the course standards in a short period of time. Therefore, higher requirements are put forward for students' learning ability. However, vocational college students generally have weak learning ability and insufficient ability to accept and digest professional terminology and other knowledge, resulting in a significant contradiction between the two. In the limited time, It is difficult for students to master and absorb a large amount of knowledge points. Over time, there will be more and more content that students will not know, which can easily lead to a fear of difficulty and dampen their learning enthusiasm, which is extremely detrimental to the subsequent course learning.

(3) the training equipment is limited. Due to the large volume and high price of machine tool maintenance equipment, the purchase quantity is limited, and it is not possible to meet the training needs of each student. Although group exercises can be conducted, many students are only watching other students operate, unwilling to personally practice, or encountering difficulties during the operation process, but unwilling to seek help from other students and teachers, Some students even gather together to play on their phones, chat and other negative phenomena. At the same time, the installation and debugging content of CNC machine tools is complex, and many students do not understand theoretical knowledge, let alone independently carry out practical operations. the above situation leads to the inability to mobilize students' learning enthusiasm during the practical training process, resulting in insufficient learning motivation, slow reception of knowledge, and overall poor teaching effectiveness.

3. TEACHING STRATEGIES

Teaching Strategies for the Course of Installation and Debugging of CNC Machine Tools Based on the existing problems mentioned above, corresponding reform methods are proposed as follows.

(1) Adjust the curriculum system appropriately and add courses related to CNC machine tools. Before conducting practical training on CNC machine tool maintenance, relevant theories, knowledge, and skills should be taught to students, so that they have a certain understanding and understanding of CNC machine tool maintenance. At the same time, the enrollment and admission methods should be adjusted. When admitting students, comprehensive consideration should be given to their academic background, and priority should be given to students with relevant knowledge foundations, Prepare students for future learning.

(2) Appropriately increase the learning time for the installation and debugging of CNC machine tools, ensure the teaching time of teachers and the learning time of students. In addition, adjust the student training plan and curriculum standards reasonably according to the student's knowledge structure, discard some obscure and less applied chapters, reduce theoretical content, increase practical content, and allow students to practice more, summarize more, discover and solve problems in the practical process. At the same time, teachers should pay attention to students' understanding of classroom content during the teaching process, take into account every student as much as possible, and achieve the goal of "clearing the content on the same day" to avoid knowledge blind spots that accumulate and affect students' learning enthusiasm.

(3) Enrich and improve the relevant course resource library, introduce sufficient training equipment, improve training conditions, and plan and write professional theoretical and practical integrated course standards in accordance with the "information technology+course certificate integration+self-learning report+corporate culture+course ideology and politics+craftsman spirit" multiple in one performance mode. Construct course standards in accordance with the "student-centered, learning result oriented, and promoting independent learning" approach. Based on the "work oriented project-based teaching method" in the teaching mode, the "six step teaching method" is adopted throughout the entire teaching process, which conforms to the basic teaching laws and student memory laws, and is conducive to improving the quality of teaching; Focusing on students' self-learning, gradually improving their self-learning ability to enhance their methodological abilities. Following the path of observation, perception, learning, practice, summary, re learning, re practice, and re summary, the ability ladder is gradually advanced, and vocational quality education is integrated into the entire process of talent cultivation to gradually transform the role of students into employees.

4. CONCLUSIONS

In today's society, with the development of technology and technological progress, the status of mechanical and electrical majors has become increasingly important, playing an irreplaceable role in many industries. Mechanical and electrical devices are interdependent and inseparable. On the one hand, mechanical devices rely on electrical devices to complete control functions; On the other hand, electrical devices require mechanical devices as controlled objects to complete corresponding actions. As one of the professional courses, the installation and debugging of CNC machine tools have both mechanical and electrical contents, so the importance of it in mechanical majors is self-evident. Only by mastering both mechanical and electrical related professional knowledge can students master the installation and debugging methods of CNC machine tools, and complete the installation and debugging work of CNC machine tools. This article analyzes the typical problems that exist in the practical training process of CNC machine tool installation and debugging courses, analyzes the reasons, and proposes corresponding teaching reform methods, providing

certain reference for the subsequent practical training of CNC machine tool installation and debugging courses.

REFERENCES

[1] Yang Jie. Installation, Debugging, and Maintenance Methods for CNC Machine Tools [J]. Internal Combustion Engine and Accessories, 2021, (14):153-154.

[2] TAO Hui Research on the Reform of Autonomous Process Teaching in the Course of "Installation, Debugging and Maintenance of CNC Machine Tools" [J]. Industry and Information Technology Education. 2019(05):70-74.

[3] Geng Qingling Research on the Development of School-based Curriculum for "Installation and Debugging of CNC Machine Tools" [J]. Computer and Telecommunications. 2018(07):27-29.

[4] Yi Huimin, Sun Shangyuan, Lu Xingru Curriculum Reform and Practice of "Installation and Debugging of CNC Machine Tools" Based on Project Based Teaching [J]. Modern Manufacturing Technology and Equipment. 2014(04):100-102.

[5] Chen Weiguo, Lu Jinchuan. Research on the Teaching Reform of Higher Vocational Mathematical and Dimensional Majors Based on Information Technology: Taking "Installation and Debugging of CNC Machine Tool Reference Points" as an Example [J]. Education Modernization. 2019, 6(33):130-133.

A Comparative Study of Reporting Verbs in Chinese and Foreign Academic Papers Based on Python

Jiao Yongjie
Zibo Vocational College, 25500, China

ABSTRACT: As the most prominent signal of reporting, reporting verbs play an important role in academic writing. the present study focuses on the similarities and differences of the use of reporting verbs between Chinese writers and their native counterparts in English papers. A corpus of academic papers is built up and tagged by two dimensions. the results show that Chinese writers, in general, overuse reporting verbs in their writing, while they are less likely to use the reporting verbs which can express their evaluation of the previous studies; besides, Chinese writers tend to adopt more past tense verbs but less present tense verbs in their writing.

Key words: Reporting verbs; Academic papers; Corpus; Python

1. INTRODUCTION

Reporting is an important linguistic phenomenon, which means telling other people what happened or what someone said. In academic writing, it refers to writers making reference to previous works, including ideas, research outcomes or findings, and research activities of previous research agents. As the most prominent signal of reporting (Thompson & Ye 1991), reporting verbs are of utmost importance in this action. Whether the authors can evaluate previous research and present their own position properly and effectively enormously depends on the using of the reporting verbs. In China, the significance of using reporting verbs might be neglected by both teachers and students. According to some previous researches (Bruce 1989; Thompson & Ye 1999), writers will have more or less difficulties in reporting when they use non-native languages in their academic writing; and some researches indicated that Chinese writers frequently misuse reporting verbs for their limited variety in reporting verbs. It seems that language barriers expose and exacerbate these writers' problems on reporting verbs.

Accordingly, the present study will focus on the use of reporting verbs by making a comparison between the English papers written by native English speakers and Chinese scholars. Although many scholars have studied use of reporting verbs in academic writing, few of them investigated the different performance on this between English native speakers and Chinese English learners. the results of this study will suggest the similarities and differences of the use of reporting verbs between Chinese writers and their native counterparts, and explain why Chinese writers would have difficulties on this. Besides, it would be beneficial to the Chinese learners of English.

2. LITERATURE REVIEW

As the most prominent signal of reporting, reporting verbs have been a hot area of reporting studies for many years. Many scholars have tried to give a definition of reporting verbs and the others mainly focus on the semantic categories and tense of reporting verbs.

2.1 defining reporting verbs

Reporting verbs refer to the action of making references in academic writing. Although there are many different versions of the definition of reporting verbs, the essences of their function are the same: reporting verbs can be used by writers to report their own claim and the attitude writers have towards others' claims (Thompson and Ye, 1991). Besides, Swales (1990) makes clear that though the reporting is introduced by a reporting verb, the reporting verb is only one signal of reporting. Reporting noun phrases, reporting adjectives, reporting adjuncts (including reporting adverbs, prepositional phrase, and subordinate finite clause) are just signals to identify reporting.

2.2 Semantic categories of reporting verbs

Thompson and Ye (1991) contributed a lot to the study of the semantic categories of reporting verbs, and their early researches are very remarkable. They classified reporting verbs in terms of denotation and evaluation. In analysis of denotation, they propose three categories: textual, mental and research verbs; while for the evaluative nature of reporting verbs, they consider three factors: author's stance, writer's stance and writer's interpretation. Accordingly, they divided reporting verbs into 3 categories: factive, counter-factive and non-factive. the present study will also adopt the method of Thompson and Ye.

2.3 Tense of reporting verbs

The tense usage of reporting verbs is another core area that scholars focus on and most of them have examined the use of present, past and present perfect. According to Lackstrom, Selinker and Trimble (1972), present tense indicates a general claim, past tense claims lack of generality and present perfect tense gives a good

generalization about past events. Later, scholars tried to link the authors' stance with the tense of reporting verbs. Weissberg and Buker (1990) concludes how the three tenses related with the author's attitude:

1) Past tense is used in the findings which you believe are restricted to the specific study you are citing but not be acceptable as true in all cases;

2) Present tense is used in the findings which you believe are fact;

3) Tentative verbs and a modal auxiliary with the complement verb are used in the findings you are citing were considered by the original author as tentative, or were only suggestions or proposal rather than findings. (Weissberg & Buker, 1990, p. 55-56)

Undoubtedly, the elaborated pattern of Weissberg and Buker provided the following research an exemplar of the tense research, and the present study will be conducted based on their theory.

3. METHODOLOGY

3.1 data collecting

Most of the reporting verbs are used in the introduction and literature review part, so the present study only involves these parts as the resource of corpus. In addition, since a previous study (Hyland, 1999) has showed that there are differences across disciplines in how writers use reporting in academic writing, the corpus in this study is collected from two areas: social sciences disciplines and physical sciences disciplines.

All the papers involved in this study are indexed by SCI, SSCI or CSSCI, and are published in recent years.

3.2 data analysis

Bloch (2010) in his research determined 26 most frequently used reporting verbs and this study, basing on the findings of Bloch, examined the 26 reporting verbs with the help of Wordsmith.

To evaluate the usage of reporting verbs by different writers, a tagging system was created in this study. All of the 26 reporting verbs are tagged basing on their tense (present, past tense and present perfect) and the category method of Thompson and Ye. This process was automatically conducted by Python code.

4. RESULTS & DISCUSSION

Though comparing the 26 most frequently used reporting verbs used by Chinese and native English speakers, this study finds that they all perform more or less differently in categories choosing and tense using.

4.1 Categories of reporting verbs

The categories of reporting verbs in this part are conducted based on Thompson and Ye's (1991) categories in terms of denotation and evaluation.

Table4.1 Frequency of reporting verbs in denotation

Categories of denotation	Chinese writers		Native speakers writers	
	Tokens	Percentage per 10000 Words	Tokens	Percentage per 10000 Words
Textual	1416	42.59	1280	33.71
Mental	473	14.22	223	5.87
Research	714	21.48	671	17.67

It is clear that the textural acts are both the most frequent value and the mental acts the lowest. Native speaker writers use less reporting verbs generally and the difference of the mental acts between Chinese and native speaker writers are most noteworthy. the results suggest that Chinese might overuse the reporting verbs in their papers, and the significant difference on the reporting verbs concerning mental acts indicate that Chinese writers pay more attention on idea and thoughts of scholars rather than the facts or reliable findings in their papers.

Generally speaking, most of reporting verbs used in papers are non-factive and few counter-factive verbs exist in paper writing, whereas there are still some subtle distinctions between Chinese and native speaker writers. Chinese use much more non-factive reporting verbs in their writing than the native speakers, which may suggest that when Chinese report other's ideas or finding, they seldom express their own ideas about the previous research, or they don't know how to express themselves in the second language.

4.2 Tense of reporting verbs

According to the Weissberg and Buker (1990), the usage of tense is closely related with the attitude of authors. Three tenses (present, past and present perfect) of the most frequent used reporting verbs are examined in the study. the following table is the statistic results.

Table4.2 Frequency of the tense of reporting verbs

Categories of denotation	Chinese writers		Native speakers writers	
	Tokens	Percentage of all reporting verbs	Tokens	Percentage of all reporting verbs
Present	1573	60.43%	1463	67.30%
Past	956	36.73%	643	29.58%
Present perfect	74	2.84%	68	3.12%

As shown in the Table 4.2, present perfect is seldom adopted in papers and present tense is most frequently used by both two groups of writers. However, the reporting verbs with past tense account lower percentage in the writing of native speakers than Chinese. According to Weissberg and Buker (1990), the past tense is used in the findings that they believe are restricted to the specific cited study but not be acceptable as true in all cases. Therefore, native English writers pay more attention to the specific studies and findings which are only limited to the cited study or experiment, so that they can increase the credibility and depth of their study. However, a factor cannot be neglected in this part. In Chinese (Mandarin), the tense of sentence is not expressed by the inflection of verbs, but directly by some adverbials of time. Hence, Chinese writers may not clearly understand the tenses and inflection of reporting verbs.

5. CONCLUSION

In the present study, the similarities and differences of the use of reporting verbs between Chinese and native speaker writers are examined by two dimensions: the sematic categories and the tense of reporting verbs. In general, Chinese seemingly overuse the reporting verbs in their writing, which is especially pronounced on the use of reporting verbs concerning mental acts, such as believe and think. In addition, Chinese writers are less likely to use the reporting verbs which can express their evaluation of the previous studies. Furthermore, Chinese writers tend to adopt more past tense verbs and less present tense verbs in their writing. the reasons of these subtle distinctions are complex. Undoubtedly, the influence of Chinese has played a remarkable role in it. Some Chinese writers cannot well understand the function of the tenses due to the feature of Chinese, and thus neglect that the tense of the verbs can reflect the attitude of writers. the different writing habits is another notable reason. Chinese writers often emphasize the creative idea and their own research in papers, while the English native speakers would pay more attention on the reliability of what they have written.

REFERENCES

[1] Bavelas, J. B., 1978. the social psychology of citations. Canadian Psychological Review, 19, p. 158-63.

[2] Bloch, J. (2010). A Concordance-based study of the use of reporting verbs as rhetorical devices in Academic papers. Journal of Writing Research, 2, p. 219-244.

[3] Bruce, N. J., 1989. the roles of analysis and the conceptual matrix in a process approach to teaching academic study and communication skills. In V. Bickley, ed. Language Teaching and learning Styles within and across Cultures. Hong Kong Education Press.

[4] Gilbert, N. G., 1977. Referencing as persuasion. Social Studies of Science, 7, p. 113- 22.

[5] Hyland, K., 1999. Academic attribution: citation and the construction of disciplinary knowledge. Applied Linguistics, 20(3), p. 341-67.

[6] Lackstrom, J. E., Selinker, L., & Trimble, L., 1972. Grammar and technical English. In R. C. Lugton ed. English as a second language.

[7] Myers, G., 1990. Writing Biology: Texts in the social construction of scientific knowledge. Madison: University of Wisconsin Press.

Research on Intelligent Tourism Decision Support Based on Big Data

Ouyang Beisi
Changsha Normal University, Changsha 410100, China

Abstract: With the rapid development of big data technology, tourism, as one of the most important economic industries in the world, has gradually realized the great potential of big data in decision support. This paper deeply discusses the application of big data in intelligent tourism decision-making support, focusing on the selection and recommendation of tourism destinations, tourism behavior prediction and personalized recommendation, tourism resource optimization and intelligent allocation, tourism risk management and emergency response. the results show that the application of big data in tourism intelligent decision support brings great potential and opportunities to the tourism industry. Through the analysis and application of big data, it can provide personalized and intelligent decision-making support for tourists and improve tourism experience and satisfaction.

Keywords: Big Data; Tourism Wisdom; Decision Support

INTRODUCTION

With the rapid development of big data technology and the increase in the demand for intelligent decision-making, the application of big data in various fields has also attracted increasing attention, and the application of big data to intelligent tourism decision-making support has become a hot field in tourism research. Although the application of big data in the tourism field is promising, there are still some problems and challenges. the data sources of the tourism industry are diverse, involving the behavior of tourists, the resources of the destination, market demand and other aspects, and the amount of data is large and complex. Therefore, in-depth discussion of the application of big data in tourism intelligent decision support is of great significance to promote the development of tourism intelligent decision support, improve the efficiency of tourism and the satisfaction of tourists.

1 APPLICATION OF BIG DATA IN THE FIELD OF TOURISM

Data collection in the tourism sector: With the popularity of the mobile Internet and the widespread use of smart devices, the amount of data generated by tourists has increased dramatically. This data includes personal preferences, location information, social media content, search history, etc. By collecting and integrating these multi-source and diverse data, we can fully understand the needs and behavior characteristics of tourists, and provide strong support for tourism decision-making.

Data storage and processing in the tourism field: Due to the large scale and diversity of tourism data, traditional data processing methods can no longer meet the needs of efficient analysis and processing of data. the introduction of big data technology has enabled tourism data to be stored and processed in a high-speed, efficient and scalable manner. For example, distributed storage and computing platforms, parallel processing technologies, etc. can accelerate the processing and analysis of data, and improve the timeliness and accuracy of decision-making.

Data analysis in the field of tourism: Through the mining and analysis of tourism data, the laws and trends hidden behind the data can be revealed. For example, by analyzing travelers' behavior trajectories and preferences, it is possible to identify popular travel destinations and recommend personalized travel itineraries and products. At the same time, big data analysis can also help travel business operators make decisions such as market segmentation, customer group positioning and product pricing, so as to improve the competitiveness and market share of enterprises.

Data visualization and decision support in the field of tourism: By visualizing tourism data, the dynamics and trends of the tourism market can be visually presented, helping decision-makers better understand and analyze the data. At the same time, combined with data mining and machine learning algorithms, a tourism intelligent decision support system can be built to provide decision-makers with personalized and real-time decision-making suggestions and predictions, thereby improving the accuracy and efficiency of decision-making.

2 RESEARCH STATUS AND CHALLENGES OF INTELLIGENT DECISION-MAKING SUPPORT FOR TOURISM

At present, many researchers and industry experts have begun to pay attention to the design and implementation of intelligent tourism decision support [2]. In terms of research methods, techniques such as data mining, machine learning and natural language processing are widely used in the analysis and prediction of tourism data. the development and application of decision support models and algorithms have also become the focus of research, such as recommendation systems based on knowledge graph, construction and optimization of tourism decision

models, etc. These research results provide new tools and methods for tourism decision-makers, making tourism decision-making more scientific and intelligent.

Although some theoretical and methodological progress has been made in intelligent decision-making support for tourism, there are still some challenges that need to be solved. the quality and reliability of tourism data is a key issue. There may be errors and noises in the collection and processing of tourism data, which affect the accuracy and reliability of decision support. Intelligent decision-making support for tourism needs to involve multi-source and multi-dimensional data integration and analysis, which involves data privacy and security issues [3]. Protecting user data privacy and information security while balancing data sharing and utilization is a challenge. In addition, intelligent tourism decision-making support needs to consider the subjective preferences and decision-making constraints of decision-makers to achieve the interpretability and operability of decision-making results.

3 APPLICATION OF BIG DATA IN INTELLIGENT TOURISM DECISION SUPPORT

3.1 Destination selection and recommendation

The selection of tourist destinations is a key link in the tourism decision-making process, which has an important impact on tourists' travel experience and satisfaction. Traditional tourism destination selection mainly relies on personal experience, word-of-mouth communication and tourism consultation, which is easily limited by information asymmetry and subjective preferences. However, with the development of big data technology, intelligent tourism decision support methods based on big data have made significant progress in the field of tourism destination selection and recommendation.

Through big data collection and analysis, a large amount of tourism-related data can be obtained, such as the number of tourists in tourist attractions, evaluation information, and tourism content on social media. This data can help identify popular destinations, popular attractions, and travel trends, providing travelers with comprehensive and accurate destination selection information.

The tourism destination selection and recommendation method based on big data can mine hidden patterns and patterns from massive tourism data with the help of data mining, machine learning and recommendation algorithms. By analyzing tourists' historical behaviors, preferences and interests, and building personalized tourist models, travelers can be recommended for destinations and itineraries that match their preferences. At the same time, by combining social network data and location information, it can also provide travelers with personalized travel activities and experience suggestions, and improve tourists' satisfaction and experience.

3.2 Travel behavior prediction and personalized recommendation

Through the analysis of tourists' historical behavior data and other relevant data, big data technology can reveal tourists' behavior patterns and preferences, and make personalized travel recommendations and predictions based on this, so as to provide more intelligent and customized decision-making support.

Tourism behavior prediction: By collecting and analyzing tourists' historical behavior data, including booking records, browsing history, consumption patterns, etc., tourist behavior models can be established and future tourism behavior can be predicted. These behavioral predictions can help travel decision-makers better understand the needs and behavior characteristics of travelers, so that they can make corresponding decision-making adjustments such as resource allocation, product pricing and marketing in advance. In addition, through the prediction of tourists' behavior, personalized travel recommendations and customized travel services can be provided to improve tourists' satisfaction and experience.

Personalized travel recommendation: By analyzing tourists' historical behaviors and preferences, combined with other personal characteristics and tourism-related data, big data technology can establish personalized recommendation models to provide tourists with accurate travel recommendations. These recommendations can cover all aspects such as destination selection, travel itineraries, dining and accommodation, etc., to meet the individual needs and interests of travelers. At the same time, by continuously optimizing personalized recommendation algorithms and models, the accuracy and precision of recommendations can be improved and a more satisfactory travel experience can be provided.

3.3 Optimization and intelligent allocation of tourism resources

The optimization and allocation of tourism resources is an important issue in tourism business decision-making, involving the resources of tourist destinations, transportation, accommodation, catering and other aspects. Traditional resource optimization and allocation often rely on experience and manual planning, which is difficult to meet the growing tourism demand and dynamic market environment. However, with the help of big data technology and intelligent algorithms, the intelligent optimization and allocation of tourism resources can be realized, and more efficient and personalized decision-making support can be provided.

Tourism resource optimization: By collecting and analyzing a large amount of tourism-related data, including the number of tourists, flow trends, utilization rate of tourism resources, etc., we can understand the supply and demand relationship and potential shortage of tourism resources. With the help

of big data technology, tourism resources can be intelligently scheduled and optimally allocated to maximize the efficiency of resource utilization and meet the needs of tourists. This intelligent resource optimization can involve the allocation of attraction ticket quotas, transportation planning and optimization, and the allocation of accommodation and catering resources.

Intelligent allocation of tourism resources: Based on tourists' personal characteristics, preferences and historical behavior data, as well as other tourism-related data, big data technology can establish personalized tourist models and carry out intelligent resource allocation. Through the analysis and prediction of tourists' needs and behaviors, it can provide tourists with personalized resource recommendation and allocation to meet their unique travel needs and preferences. This personalized resource allocation can improve the satisfaction and experience of tourists, and also improve the utilization efficiency and market competitiveness of tourism resources.

3.4 Tourism Risk Management and Emergency Response

In the tourism industry, risk management and emergency response are important tasks to ensure the safety of tourists and the sustainable development of tourism. Traditional risk management and emergency response rely heavily on experience and manual processing, facing the challenge of untimely information and slow response. However, with the help of big data technology and intelligent algorithms, tourism risk management and emergency response can be intelligentized, and real-time and accurate decision-making support can be provided for tourism decision-makers.

Tourism risk management: By collecting and analyzing a large amount of tourism-related data, including weather data, traffic data, tourist number and behavior data, etc., tourism risk can be comprehensively assessed and monitored. Risk assessment models and algorithms based on big data can predict and identify potential tourism risks, such as natural disasters, severe weather, traffic congestion, etc. By monitoring and analyzing this data in real time, travel decision-makers can make risk management decisions that include adjusting travel itineraries, providing early warning messages and taking emergency measures to minimize the impact of risks on travel operations.

Tourism emergency response: With the help of big data technology and intelligent algorithms, real-time tourism emergency response and decision support can be realized. Through the integration and analysis of multi-source data, key tourism emergency information can be quickly obtained, such as the location of emergencies, the scope of impact, and the distribution of tourists. Based on this information, tourism decision-makers can formulate emergency plans in a timely manner, dispatch resources, organize rescue, provide safety warnings and guidance, etc., so as to maximize the safety of tourists and the stable operation of the tourism industry.

EPILOGUE

The application of big data in intelligent decision-making support for tourism has brought great potential and opportunities to the tourism industry. Future research and practice should continuously promote innovation in related fields, solve existing challenges, promote the wide application of big data technology in the tourism field, and achieve sustainable development of tourism and improvement of tourist satisfaction.

REFERENCES

[1] XIN Yu, CAI Xia, WU Menglin. Opportunities and challenges of tourism development in the era of smart tourism [J]. Industrial Innovation Research, 2023, (12):91-93.

[2] CAI Baozhong, LI Jing, LIU Jin, HE Zhen. Research on the status, mode and path innovation of smart cultural tourism development in China [J]. China-Arab Science and Technology Forum (Chinese and English), 2023, (05):1-6+17.

[3] Cui Ling. Research on security threats and countermeasures of smart tourism [J]. Journal of Jilin Provincial Institute of Education(Zhongxin), 2015, 31(06):142-144.

Exploration and Practice of Online and Offline Mixed Teaching of Printing Media Technology Based on Out-come based Evaluation

Wang Jia
Yunnan Open University,Yunnan Kunming,China

Abstract: As the main channels for information dissemination, printing media technology has a significant impact on social development. Online and offline mixed teaching of Printing Media Technology based on OBE plays an important role in improving teaching quality. Traditional curriculum teaching places too much emphasis on the effectiveness of knowledge transfer, making it difficult to meet the personalized development needs of students. In response to the current shortcomings in teaching, relevant departments should adopt strategies such as innovating teaching concepts, innovating teaching content, innovating teaching models, innovating teaching forms of curriculum practice, and diversifying teaching activities to enhance the educational function of mixed teaching activities based on OBE, and promote significant improvement in the implementation effect of the Printing Media Technology course.Introduction
Keywords: OBE; printing media technology; mixed teaching

1. INTRODUCITON

The development of the overall environment affects the changes in educational development. Traditional education tends to focus on a single cultivating method, but neglects the use of different media, so that the way of students' learning is relatively dull. Therefore, new teaching concepts should be actively introduced and guided by learning outcomes, and more attention should be paid to students' learning needs. In the setting of teaching objectives, design of teaching content, and application of teaching methods, OBE (Outcome-based Education) is taken as the domination to promote the innovation in various aspects of teaching. In addition, under the new teaching concept, we should construct a new teaching platform to coordinate online and offline teaching methods, and achieve a comprehensive innovation in the teaching of Printing Media Technology course.

2.REQUIREMENTS OF MIXED TEACHING BASED ON OBE

2.1 CONNOTATION OF OBE

First of all, OBE regards learning outcomes as the core goal of education. It emphasizes the practical abilities and application of knowledge during the learning process. Learning outcomes can be specific skills, knowledge, and abilities, as well as broader learning objectives and core competencies. Secondly, it focuses on students' initiative and participation. Students play an active role in the learning process. They need to set their own learning goals, formulate and evaluate their learning plans, and actively participate in learning activities. At last, it requires clear setting of teaching objectives which should be clear, specific, and consistent with learning outcomes. Teachers need to clearly guide students on the specific behaviors required to achieve these goals. OBE emphasizes the effectiveness and accuracy of teaching evaluation that is not only a measure of students' learning outcomes, but also a basis for feedback and improvement in teaching. Teaching evaluation should be closely linked to learning objectives with diverse evaluation methods, including exams, project works, oral reports, etc.

2.2 REQUIREMENTS FOR MIXED TEACHING BASED ON OBE

Mixed teaching based on OBE requires clear teaching objectives that should be consistent with learning outcomes. Firstly, teachers need to clearly define the abilities and knowledge that students should achieve, and combine these goals with the design and implementation of mixed teaching. Such teaching mode requires teachers to adopt flexible teaching strategies and methods by combining the advantages of face-to-face and online teaching. Teachers can choose suitable teaching resources and tools based on students' needs and learning objectives, such as online courses, multimedia textbooks, discussion boards, etc., so as to provide a rich learning experience. Secondly, it emphasizes students' active participation and cooperation. Students need to actively participate in online learning activities such as discussions and group projects, and interact and collaborate with classmates and teachers in a face-to-face teaching environment to promote mutual learning and development. In addition, mixed teaching also requires the use of diverse evaluation methods to evaluate students' learning outcomes. The method can include

traditional exams and assignments, as well as participation and performance in online learning activities. Teaching evaluation should be consistent with teaching objectives and learning outcomes to gain a comprehensive understanding of students' learning situation.

3. PRACTICE OF ONLINE AND OFFLINE MIXED TEACHING OF PRINTING MEDIA TECHNOLOGY BASED ON OBE

3.1 SETTING TEACHING OBJECTIVES

Setting teaching objectives is an important part of mixed teaching based on OBE, which requires a clear definition of the abilities and knowledge that students should achieve, and is combined with the design and implementation of mixed teaching. The teaching objectives should be specific, measurable, and achievable. The specificity of the goals can help teachers clarify the teaching content and evaluation standards. Measurability can be tested by evaluating whether students have achieved the goals, and accessibility can ensure that the goals are achievable by students. For example, the goal is to enable students to independently design and produce a printed product, and to analyze its design principles and process. In practice, students can proficiently master common printing techniques and equipment, such as Offset Printing and Relief Printing, and demonstrate their skills through projects.

3.2 PREPARATION OF TEACHING RESOURCES

Teachers should prepare online courseware that includes relevant theoretical knowledge, case analysis, and practical guidance before teaching. Courseware can include various forms such as text explanations, images, animations, and videos to help students understand and master the basic concepts and principles of printing media technology. And they should also need to record and prepare relevant video teaching resources to showcase and demonstrate the practical operation and application of printing media technology. Videos can include demonstrations of printing machine operation, recording of experimental processes, and case studies, allowing students to have a more intuitive understanding of the practical application of printing media technology.

3.3 ONLINE LEARNING SESSION

We should take OBE as the core and actively create online learning for Printing Media Technology course. The development of online learning based on OBE should emphasize the cultivation of students' autonomous learning and practical abilities, and provide learning resources and practical tasks through online platforms to enable students to actively explore and apply the knowledge. The online learning can provide students with learning resources, such as teaching videos, courseware, case studies, etc., and students can independently learn relevant printing media technology knowledge. At the same time, practical tasks can be designed, such as designing and producing printed materials such as brochures and posters, so that students can practice their operation online and cultivate their practical skills. Online learning should focus on collaborative learning and communication among students, and students can learn from each other and solve problems together through online discussions and collaboration. Discussion boards or online groups can be set up where students can engage in discussions and exchanges on print media technology. For example, when teaching the topic that how to use printing media technology to print a desired object, teachers can allow students to share their perspectives and experiences, and students can also learn new knowledge and insights from discussions with other students. Teachers can regularly participate in students' discussions, provide guidance and answer questions for students, and promote interaction and cooperation between students. The online learning can also provide excellent learning feedback and evaluation, which helps to timely understand students' learning progress and problems and provide personalized guidance and support.

3.4 OFFLINE LEARNING SESSION

Carrying out mixed teaching activities guided by OBE requires teachers to actively transform traditional exam-oriented education concepts and abandon the focus on teachers and courses that emphasizes the teaching process of course units, weakens students' classroom subjectivity, and ignores students' learning experiences. Instead, teachers must adhere to student-centered teaching concept. So offline learning should focus on practice and practical operation, and students can personally participate in the practical application of printing media technology. A laboratory or workshop can be set up to provide relevant printing media technology equipment and materials for students to carry out actual printing operations. Students can personally operate printing machines, adjust printing parameters, and produce printed materials. Through practice, they can consolidate and apply their knowledge and improve their practical skills. We should also focus on collaborative learning and teamwork, and cultivate students' collaborative and problem-solving abilities through group projects and practical tasks. Students can be organized to divide into small groups and work together to complete projects or practical tasks related to printing media technology. For example, having students collaborate on the design and production of a printed product requires teamwork throughout the entire process from design to printing. Students can work together in small groups, assist each other, communicate and solve problems, and improve their ability to cooperate with others and solve problems. And reflection and evaluation sessions are set up to allow students to review and summarize their experiences and lessons learned in practice. For example, students can conduct project reports or presentations to share their learning outcomes and insights. Teachers can provide guidance

and feedback to help students reflect and propose improvement measures, so as to promote their learning and growth.

4. CONCLUSION

The online learning in the online and offline mixed teaching of Printing Media Technology based on OBE can cultivate students' autonomous learning and practical abilities by providing learning resources and practical tasks. In addition, it can promote collaborative learning and communication among students through online discussions and collaboration, and improve students' comprehensive abilities in various aspects.

REFERENCES

[1]Zhang Linlin, Wang Xuhong, Gong Xiuduan (2018). Research on the Construction of Curriculum Standards for the Connection between Middle and High Vocational Schools in the Printing Media Technology Majors: Taking the Course of Printing Colorology as an Example. Education Forum, (25): 2.

[2]Yu Zhonghua, Teng Yuemin, Xiao Ying, et al (2023). A Practical Study on the Coupling Education of Professional Ideological and Political Education and Curriculum Ideological and Political Education: Taking the Printing Media Technology Majors in Vocational Colleges as an Example. Journal of Tianjin Vocational University, 32 (2): 52-56.

[3]Wan Zhenggang (2019). Application and Practice of Virtual Reality Integrated Training Teaching in Printing Media Technology Majors in Higher Vocational Education. Guangdong Printing, (1): 3. DOI: CNKI: SUN: GDYI. 0.2019-01-025.

[4]Zhao Yunji (2020). Research and Practice on Constructing a Practical Education System in Higher Vocational Colleges under the Background of Curriculum Ideological and Political Education: Taking the Printing Media Technology Majors as an Example. Modern Education Forum, 3 (8): 150-151.

[5]Zhao Yunji (2019). Exploration of Experiential Teaching Model Based on Innovation and Entrepreneurship Orientation: Taking Printing Technology Majors in Higher Vocational Education as an Example. Modern Education Forum, 2 (4): 2.

Design and Implementation of Elevator PLC Control System

Qiang Zhang

School of Intelligent Manufacturing, Zibo Vocational Institute, Zibo255300, Shandong, China

Abstract: The application of PLC in elevator control is studied in this paper. In the process of elevator control, logic switch control and PLC are well combined to realize the control of elevator. Compared with the original elevator control mode, this design improves the functions of hall calling, floor pointing, floor selection and direction selection, which can more easily realize more complex control tasks than the original control system. Thus, the energy consumption of the elevator is reduced, the working efficiency of the elevator is improved, and the market competitiveness is further enhanced. The experimental results can verify the feasibility of this design.

Keywords: Programmable Controller; Elevator; Instruction Program; Control System.

1. INTRODUCTION

At present, relay control, PLC control and microcomputer control are the three main control methods of elevators[1]. The rapid development of elevator technology mainly depends on the importance of domestic elevator enterprises to technological development, and a lot of manpower and material resources have been invested in the innovation of elevator technology and the repair of elevator technology[2]. Relay control system is a kind of elevator control system mainly used by elevator companies in the past, with the innovation of technology, people's living standards are getting higher and higher, began to consider the safety, comfort, rapidity of elevators, relay control has been unable to meet people's living needs. With the continuous development and improvement of electronic technology, PLC control system as an editable digital computing electronic device, began to appear in the elevator control system, because the system has a series of advantages such as safety and stability, flexible and practical, easy to operate, low energy consumption, etc., has been vigorously promoted and developed, has gradually begun to replace relay control, become the mainstream of elevator control technology. At the same time, the elevator traction method of AC frequency conversion speed regulation has gradually eliminated the original DC speed regulation. In terms of existing high-end elevator products, most enterprises have adopted PLC control and AC speed regulation control technology in elevator control, which is becoming the mainstream of today's elevator industry development with efficient performance and unique stability.

The design and implementation of elevator PLC control system The elevator, as a vertical transportation tool, plays an increasingly important role. Elevators are equipment that serves the transportation of high-rise buildings, with the advantages of fast transportation speed, safety and reliability, and easy operation. Relay control is the most traditional control method in the elevator industry. The relay control system has many drawbacks and shortcomings, such as high failure rate, inconvenient maintenance, high energy consumption, and cumbersome programming. Starting from people's demand for elevators, this system can no longer meet people's daily needs and will gradually be phased out. This article applies Programmable Logic Controller (PLC) to the control system of a five story elevator, which has the advantages of easy programming, easy maintenance, strong anti-interference, and strong safety and stability. It greatly improves the safety, comfort, flexibility, and maintainability of elevators, shortens the development cycle of elevators, and reduces elevator losses. PLC control system, as a control method for elevators, can meet people's needs for reliability, safety, comfort, etc., and has become a development trend of elevator control systems today. The application of PLC in elevator control is mainly reflected in its logic switch control function. Due to the PLC's functions of logical operations, counting and timing, as well as data input and output. In the process of elevator control, various logic switch controls are well combined with PLC, achieving good control of the elevator. This design improves the functions of hall calling, floor pointing, floor selection, and direction selection on the original elevator control mode, making it easier to achieve more complex control tasks than the original control system.

2. ELEVATOR CONTROL SYSTEM

The elevator control system design mainly realizes the following functions:

(1) In the foyer of each elevator on each floor, an upward and downward call button should be installed, and the uplink and downward buttons should be pressed separately or simultaneously, and the signal can be remembered, and the corresponding signal light is on.

(2) When the elevator goes up, if there is an upward call signal on a certain floor, it stops on the floor, and at the same time eliminates the upward signal of the floor, the corresponding signal light goes out, and the door opens automatically, and in the upward process,

the call signal of the lower floor does not work, the downward signal is still remembered, and the downward link is the same[3].

(3) Press the close button in the car, the door will automatically close, and the door can only be raised and lowered after it is in place. When the elevator passes through a floor without a call signal during the lifting process, it does not stop or open the door.

(4) In the process of rising, if there are call signals both uplink and downstream, priority should be given to serving the call signal of the upstream, and when there is no call signal on the upper floor and there is a call signal on the lower floor, it serves the downward call signal, and the elevator is the same in the process of descending.

(5) When the elevator stops, you can use the button to directly control the door opening, closing, and opening the door timing time If no one closes the door, the elevator will automatically close the door, and when the elevator stops on a certain floor, press the call button on the floor in the foyer to open the door.

(6) The elevator cannot rise and fall when the door is opened; The elevator cannot open the door during the lifting process.

(7) There is a layer selection button and corresponding signal light in the car, and the layer selection button of the upper link is given priority when going up; When descending, priority is given to the downlink button signal; When the elevator stops on a certain floor, the floor selection signal for that floor should be cleared.

Combined with the design and implementation program of the elevator PLC control system that has been edited, a series of steps such as compilation, download, and wiring of the experimental box are carried out, and the entire system is debugged. The debugging process mainly has the following steps:

(1) Debug simple instructions and check whether the simplest functions have errors;

(2) Debug the single layer and check whether there are any errors in the functions between each layer;

(3) Debug complex instructions and check whether there are errors in each function.

Since the command program of the five-story elevator is relatively complicated, considering the actual conditions, time and energy, the command program of the five-story elevator selection function is selected for debugging. The laboratory is a Mitsubishi PLC model, so the instruction code in the OMRON C60P PLC is first converted into the instruction code of the Mitsubishi PLC. Then the command program selected to the PLC control is entered into the PLC comprehensive experimental learning machine host to verify the feasibility of the design.

Before drawing the I/O allocation table controlled by the PLC control of the five-story elevator selection and direction selection function, it is necessary to determine the specific number of PLC input and output points, mainly from the following two aspects:

(1) Input points: First of all, it is mainly the control buttons of the car and the foyer on each floor, including a door interlock switch, 5 floor selection keys on the first to fifth floors on the operation screen in the car, 4 upward direction buttons in the foyer of the first to fourth floors, 4 downward direction buttons in the foyer of the second to fifth floors, and a door key switch. The second is the detection and reflection signal in the elevator operating position, which are 2 chronic buttons and corresponding contactors in the upward and downward directions, and 5 position signals displayed outward when the elevator runs to the first to fifth floors.

(2) Output points: mainly corresponding to the one-to-five-layer selection command signal, door interlock switch, corresponding control of relay 6 points; There are drivers who select the direction of the upward and downward directions; 2 relays for corresponding control of upstream and downstream. In summary, in the PLC control system of the five-story elevator selection and direction selection function, the number of input points is 25 and the number of output points is 10, and the I/O input and output distribution is drawn according to the requirements of the control system.

3. DEBUGGING AND VERIFICATION

This elevator control system mainly adopts three control modes: passenger operation, driver operation and manual maintenance. When the passenger operates, the passenger arrives at the car and presses the button to reach the floor, the elevator will reach the floor that the passenger needs to reach according to the optimal operation mode, and the floor display light will light up after the elevator stops. When the driver operates, the buttons of the car are all controlled by the driver, the driver presses the button in the car, the elevator stops after reaching the selected floor, and the floor indicator lights up and displays the specific floor number. The driver can also effectively control the running direction of the elevator through the up slow travel button and the lower slow travel button. During manual maintenance, maintenance personnel can adjust and control the speed of the elevator according to the maintenance task by using the upward and downward slow buttons of the car roof in the maintenance car. According to the control mode of the elevator, the command program of elevator floor selection and direction selection is edited.

The elevator fully considers factors such as car instructions and summoning signals outside the hall, and reasonably implements the procedural requirements to achieve the direction selection function. When the elevator receives instructions and summoning signals when running, the elevator responds to the summoning signal to slow down and stop to achieve the function of floor selection.

4. CONCLUSION

With PLC as the core, the powerful control function of PLC is used to realize the control of the elevator. Taking the requirements of elevator PLC control

system as the standard, through the orderly overall design of the elevator system, the reasonable selection of the elevator hardware system, and the effective design of the elevator control system program, the design and implementation system of the elevator PLC control system were studied and successfully designed, so that the elevator structure is compact, the noise is reduced, the maintenance is simple, the failure rate is low, and the safety, stability and comfort of the elevator operation are improved. So that small and medium-sized elevator enterprises transition from relay control to PLC control, and comprehensively improve elevator control technology to provide a good reference value.

REFERENCES

[1]Xiaoling Chang. Electrical control system and programmable controller[M]. Beijing: China Machine Press, 2020: 40-65.

[2]Chen Junqiang.Overview of Embedded Systems [J].Optical Fiber Communication Technology,2002 (12): 13-14.

[3]Meilan Zhou. PLC electrical control and configuration design[M]. Beijing: Science Press, 2021: 45-55.