International Journal of Social Sciences in Universities

CONTENTS

Research on the Construction of SMEs' Financial Innovation Platform

Ningning Zhai
Zibo Vocational Institute, Zibo 255314, Shandong, China
E-mail: 450057422@qq.com

Abstract: The SME financial innovation platform is mainly for the financing needs of different stages of the "enterprise-incubation-growth-expansion-listing" of technology-based enterprises, guided by policy services, the main mission is to attract financial capital, venture capital and various types of social capital investment, comprehensive use of policies, government credit, government-led investment and related financing tools to build a venture capital investment system and a technology finance promotion system, provide comprehensive services such as policy fund assistance, technology financing promotion, venture capital promotion, technology guarantee promotion, property rights transaction, technology insurance, investment financial institution interaction promotion, and social intermediary convergence. This paper mainly discusses the construction and application of financial innovation platform for SMEs.
Keywords: SME; Financial Innovation; Platform

1. THE STATUS QUO OF FINANCIAL INNOVATION OF SMES

SMEs are the main carrier of China's technological innovation and an important driving force for economic growth. They play an important role in promoting the transformation and industrialization of scientific and technological achievements, in promoting employment through innovation, and building innovative countries. At present, the financing difficulties of SMEs in China are mainly reflected in the following aspects: First of all, the financing method is relatively simple, lacking direct market financing channels，according to statistics, the total amount of financing for SMEs in China mainly depends on commercial bank loans and private lending, accounting for more than 50%;Secondly, the term of borrowing is short and the number is generally small, mainly used to solve temporary liquidity, rarely used in project development and expansion of reproduction; In addition, the entire society, including many commercial banks, does not keep up with the needs of the development of the situation, and lacks the necessary understanding and sufficient attention for SMEs, it is generally believed that investing funds in SMEs is risky, costly, and has a large workload and little effect[1].

2. THE IMPORTANCE OF THE CONSTRUCTION OF FINANCIAL INNOVATION PLATFORM FOR SMES

Improving the independent innovation capability of enterprises is the key to promoting China's economy as soon as possible on the track of innovation-driven development. At present, the overall innovation capability of Chinese enterprises, especially small and medium-sized enterprises, is still relatively weak, and it is generally faced with three bottlenecks such as financing difficulties, lack of scientific and technological talents and insufficient scientific research equipment. According to the survey, in the demand for technology-based SMEs, financing needs are the most urgent. Through platform construction, it is possible to integrate financial institutions that serve technology-based SMEs, encourage them to innovate financial products, and provide financial institutions with certain subsidies and compensation, and reduce their loan risks. Meet the needs and characteristics of both the supply and demand sides of funds, and promote the financing needs of small and medium-sized enterprises.

2.1. Policy Funding Assistance Service

Policy-based financial assistance is divided into financial assistance for technology companies and financial assistance for investment and financing services. Assistance for technology companies refers to reflect the forefront of new technology development and industrialization of guidance function and performance of functions of public finance, government science and technology management department of a major research and development projects and industrialization, public technical service platform construction and focus on science and technology Small and medium-sized enterprises, in the form of equity investment and grants, support the form of assistance[2]. The assistance to investment and financing service institutions refers to the form of assistance to attract investment and financing institutions to increase investment in technology enterprises and use financial funds to partially compensate banks, guarantee companies, investment institutions, insurance institutions for losses or risks. The platform undertakes the daily management of the policy support funds such as the innovation fund, venture capital guiding fund, financing subsidy and risk compensation special fund entrusted by the government, and uses the supporting funds for policy fund assistance services.

2.2. Technology Financing Promotion Service

Establish a cooperation mechanism with banks. Strengthen strategic cooperation with banks, regularly recommend key technology-oriented enterprises and key projects supported by various science and technology programs to banks, and give priority support through financial interest subsidies. Give full play to the role of the service platform and expand the credit line of policy banks to the service platform; further deepen cooperation with financial institutions such as banks to enhance the commercial financing function of service platforms, establish a stable financing system. It will undertake the agency work of issuing organizations such as technology-based SME bonds, short-term financing bonds, and corporate bond bonds, and become a collective bond issuance service platform. Establish cooperation with financial leasing companies to expand financing channels for medium and long-term capital needs such as plant construction and equipment purchase of SMEs through financial leasing [3].

2.3. Venture Capital Promotion Service

Service platform realizes "two guides and one guarantees three bridges", "Two guidance" means: guiding private capital and foreign capital to set up venture capital institutions and funds, and guiding venture capital institutions to invest in start-up enterprises; "One guarantee" provides risk protection services; The three bridges become a bridge between venture capital institutions, venture capital institutions and governments, venture capital institutions and enterprises. Further promote the scale of venture capital guiding funds, expand the use of methods, adopt stage participation, follow-up investment, risk subsidy, investment guarantee, risk compensation, etc., support the construction of venture capital system and guide venture capital institutions to invest in start-up enterprises.

Formulate guidelines for the operation and management of guiding funds, and attract private capital and foreign capital to set up venture capital institutions and funds. Track and supervise the operation of the "Guiding Fund Cooperation Fund (Institution)" and its investment behavior, and be responsible for the risk control of the fund operation.

For the growth-oriented SMEs, the main goal is to become bigger and stronger, and actively assist in the matching of various science and technology projects, and support enterprises to carry out independent innovation. The main purpose is to obtain debt financing as a major financial support by means of innovative fund loan interest subsidies, and actively introduce venture capital funds. The loan method can suggest that companies adopt a more flexible combination: such as intangible asset pledge, equity pledge, order financing, credit portfolio, financial leasing and other methods.

For the expansion-oriented technology-based small and medium-sized enterprises, the main objective of standard operation is to support the use of major scientific and technological projects, and actively encourage enterprises to enter the multi-level capitalized market, and strengthen with other intermediary organizations, such as brokers, accounting firms, lawyers. The cooperation of the firm and other companies actively guides the company to integrate horizontal or vertical resources by means of mergers and acquisitions, and cultivate more famous domestic enterprises and listed companies.

3. COUNTERMEASURES FOR SUSTAINABLE DEVELOPMENT OF SMES' FINANCIAL INNOVATION PLATFORM

While carrying out comprehensive services of science and technology finance in high-tech zones, relying on the rich research institutes, universities, financial institutions and enterprise resources of the region, we will cooperate with other projects of this project to share information, collect and analyze the investment bottleneck of SMEs, and organize technology finance. Experts, carry out scientific and technological financial innovation research and development projects and innovative service models for technology financial products; And technology and financial innovation products and service models, such as technology insurance, investment and loan linkage, collective financing, etc., in the national independent innovation demonstration zone, the first mover, collect the operation and information to form feedback correction, and constantly improve and optimize the technology financial products and Model risk-return structure, promote the establishment of government departments, venture capital institutions, banks, technology-based SMEs, guarantee companies and other multi-participation, scientific and reasonable risk sharing system, to achieve diversification of science and technology financial institutions, multi-layered technology financial market, technology finance The product and business are characterized, and the science and technology financial innovation system at different stages of the industrialization of service scientific and technological achievements is formed and promoted[4-5].

The service platform adheres to the operating principle of "openness, innovation, service, and regulation" and has become the link for the support of science and technology enterprises and investment and financing institutions to support science and technology. It has become the relationship between connected enterprises and various investment and financing institutions, and integrates various investment and financing institutions to build technology. The hub of the SME investment and financing service network has become a bridge connecting banks, guarantees, venture capital and insurance, and promoting the linkage and innovation of various institutions, making the economic development zone an institutional gathering center and

information service for SMEs' financial and other services. The Center, Science and Technology Investment and Financing Policy Research Center has become a "demonstration field" that will lead the comprehensive service and innovation of science and technology finance, and encourage and drive the development of comprehensive service system for science and technology finance.

4. CONCLUSION

Continuously improve and optimize the structure of risk and income of technology financial products and models, and promote the establishment of a multi-participation, scientific and rational risk sharing system of government departments, venture capital institutions, banks, technology-based SMEs, guarantee companies, etc., to achieve diversification of science and technology financial institutions, technology The financial market is multi-layered, technology financial products and business characteristics are differentiated, and the science and technology financial innovation system at different stages of industrialization of service scientific and technological achievements is formed and promoted.

REFERENCES

[1]Jiyun Liu, Thoughts on Financial Innovation of Small and Medium Enterprises, Enterprise Technology and Development, 2018, (1).

[2]Tongen Zhou, The Status Quo of Financial Innovation of SMEs and Its Countermeasures, Market Modernization, 2015, (8).

[3]Jinghua Wang, The Application of Financial Technology Innovation in the Financing of Small and Medium Enterprises, Modern economic information, 2018, (22).

[4]Jie Huang, Zhong Zhuang, Wu Wen, Research on the Development Model of Government SMEs Investment and Financing Platform under the Background of Internet Finance Innovation. Enterprise Technology and Development, 2015, (13).

[5]Wei Zhang, Fan Zhang, Zhihong Luo, Xiaoyun He, Financial Support Analysis of SMEs' Technological Innovation. Liaoning Economy, 2016, (10).

Thoughts on the Management of College Students

Li Xingzhong
Zibo Vocational Institute, Shandong, China
E-mail: 17569620@qq.com

Abstract: The management of college students is an important part of achieving the goal of talent training. Under the new situation, we should change the concept according to the characteristics of existing college students, actively explore the management ideas of contemporary college students, and cultivate high-quality talents that meet the requirements of the new era.

Keywords: University; college students; management work

1. INTRODUCTION

Colleges and universities are an important base for transferring talents to the society and shoulder the important mission of talent cultivation. The management of college students directly affects the cultivation of talents in socialist modernization. It is an important part of achieving the goal of talent training and has an irreplaceable role. With the advent of the dual challenges of market economy and knowledge economy, in the process of building a harmonious society, student management should also adapt to the traditional concept of changing the new situation, actively promote the innovation and scientific development of student management in colleges and universities to adapt to society. The need for a market economy and the rapid development of higher education [1].

2. ADAPT TO THE NEW SITUATION AND CHANGE THE CONCEPT

(1) The transformation of the main body is one of the central tasks of the university. In the student work of the students' education, management and services for the students, the "student-centered" is truly implemented, respecting the value of students as human beings and Dignity, fully respect the students' personality, personality, interests, needs, knowledge interests, hobbies, and promote students' all-round development, healthy and talented, and sustainable development

(2) The transformation of management content is in line with the needs of higher education reform and development in the market economy environment, in accordance with the national education policy, formulate talent training objectives, and conduct all-round management and education for students.

(3)Transformation of management methods

To establish a "people-oriented" educational philosophy to transform the traditional "regular education" to establish a "student-centered" 0 student-oriented educational philosophy. On the basis of establishing the subjective status of students, starting from the human point of view, carry out all management activities around mobilizing students' initiative, enthusiasm and creativity.

To build an emotional teacher-student relationship and change the traditional concept of "teacher's dignity", to establish a good teacher-student relationship with students, to help play the leading role of teachers, to influence the charm of personality, through probation, edification, etc. Various ways, spring and rain, and quiet, make college students develop good concepts and behavior habits, and promote the formation of college students' personality, the maintenance of mental health and the improvement of individual socialization [2-3].

It is necessary to guide students to carry out the effective educational influence of self-education, only through the self-educational role of the subject, in order to achieve the goal of learning to generate talent. It is also a democratic, open, and humane management style. By matching and coordinating the education management of students with the self-management of students, giving full play to the subjective initiative of the subject and publicizing their individuality, can we truly achieve the best effect of the combination of education and management.

To build an excellent campus culture Campus culture construction is conducive to creating a harmonious campus atmosphere, creating a comprehensive development of the educational environment, playing a subtle role in the process of cultivating students' knowledge, feelings, intentions and actions. Students' amateur life is beneficial, and it has a profound and profound impact on the healthy development of students' physical and mental health, the improvement of spiritual realm and the improvement of cultural accomplishment [4-5]. Excellent campus culture can promote the improvement of students' comprehensive quality in all aspects.

3. MANAGE NEW IDEAS, SCIENTIFIC DEVELOPMENT

Clarify educational thoughts Student management is a kind of "being a man" education. It is difficult to measure the effect of work. But the criteria for judging the quality of work can be seen whether managers have clear educational ideas and whether they can gather students together. Guide and educate students'

political direction, learning motivation and study style, moral cultivation and value orientation to form talents with perfect personality, high morality and good for society[6]. Therefore, those who can really do a good job in student work need a person with ideological charm. Through practical work, students can identify and consciously practice their educational thoughts, in order to touch the students' minds, and thus arouse the students' emotions. Implemented into behavior.

Exploring the law of work the focus of student work under the new situation is to find the law from many phenomena. Grasp the characteristics of the work object and carry out targeted work. College students have unique characteristics in terms of age, personality, psychological characteristics and behaviors and social interactions. Management work should be carried out according to the characteristics of students and explore their laws.

Clearing up the thinking of work The student's work is based on the student, relying on the scientific concept of development, focusing on teaching, taking strict management as the core, making it a moral person, a wise person, a responsible person, and a comprehensive development. The people, through educational and ideological guidance, organizational planning of the party and group activities, and close coordination of classes, seize the work of ideological student work, teaching student work, community student work, active student work, and management student work. Forming the characteristics of student work

Improve the quality of student management workers Student workers must profoundly understand and accurately grasp the economic and social situation and development trends, face the impact of these changes, and be able to do a good job in educating and guiding students. First of all, the counselors who specialize in student management work should strengthen their self-cultivation, clarify their sacred duties, enhance their sense of responsibility, establish a sense of service, study hard, and constantly explore new ways and methods for student work under the new situation, and constantly summarize and adapt to the new The new experience and new achievements of student work in the situation and new situations will develop themselves and realize their own value in the process of fully serving students to grow up. For those who have just stepped out of the counselor, they have no work experience teachers, they must pre-job training for them, carry out targeted professionalization and information training, recognize their professional characteristics and the rules of student work, and improve them[7-8]. At the same time, we must give full play to the advantages of young teachers and students without generation gaps and easy communication, and it is easier for students to have a sense of identity. Do a good job of the old teachers to help, with the rich experience of the old teachers, to drive new teachers to quickly grasp the ways and means of student management in the new era, and quickly open the work situation. Secondly, all teachers in colleges and universities have the responsibility of educating people, and each course has the function of educating people. Teachers' moral literacy can determine the effectiveness of school moral education to a large extent. Teachers and various management personnel must influence and influence students' behaviors from different aspects, and establish a concept of full-education and full-time education.

Strengthening professional, employment, and entrepreneurship education. First, we must strengthen students' professional ideological education. Defining the relationship between majors and professions is conducive to students learning to correctly learn methods, arranging university life, and establishing clear learning goals. When new students are in school, they should ask some excellent old teachers for professional ideological education, introduce learning methods and experience, and make Freshmen establish a good career impression and help students to define the development prospects of the profession. Secondly, it is necessary to strengthen the employment education of students. The career-oriented employment education runs through the university education. This is also a good time for students to carry out ideal education and life outlook education. It is necessary to strengthen student entrepreneurship education to provide guidance for student entrepreneurship. Through the explanation of policies, the emergence of successful people, and the coordination of social, corporate and group support, students can create entrepreneurial awareness.

Strengthening departmental communication The work of all departments of the university should be carried out around the students, in order to facilitate the shaping of the talents of the students, and consider the development of the students. First of all, in cooperation with the Academic Affairs Office, we will open a public elective course based on social needs, professional basic courses, and combine the depth of professional courses to train students into "t" type talents[9]. Secondly, in cooperation with the research department, combined with the students' social practice, internship training and graduation internship, students and teachers are encouraged to apply for the project together or separately, and conduct scientific research under the leadership of the teacher to improve the students' practical ability. Third, in cooperation with the Youth League Committee and the Logistics Department, students are encouraged to participate in public welfare activities such as youth volunteers or work-study activities.

4. CONCLUSION

What is needed in the 21st century is a high-level talent with high comprehensive quality and innovative ability. To achieve this goal, under the new situation,

the management of college students must be passive and active, establish a people-centered management thinking, and regard students as both the object of management and the main body of management, and fully promote the democratic transfer of students in management. Enthusiasm and strengthen self-management. At the same time, we also need to continuously strengthen the construction of student management work teams, explore new management models, and use modern educational management methods to further scientifically, institutionalize, and rule by law. We believe that as long as we continue to learn and actively explore, the management of college students will be able to adapt to the requirements of the new situation and make greater contributions to the cultivation of talents.

REFERENCES

[1]Meifen Wan, Lili Huang, The status quo and countermeasures of college students' management information construction in the era of big data, Science and Technology, 2017, (10): 277.

[2]Jianpo Li, Strategic Thinking on Improving the Management Level of College Students in the New Period, Journal of Henan Normal University (Philosophy and Social Sciences), 2009, 36(5) 211-213.

[3]Qiang Li, Zunbo Wang, Challenges and countermeasures of college student management in the era of big data, Jiangsu Science and Technology Information, 2016, (33): 20-21.

[4]Jiangling Hu, Reflections on doing a good job in the management of college students in the new era, Examination Weekly, 2009, (35) 181-182.

[5]Zhongyan Li, Furong Zhang, Student Management and Thinking in Colleges and Universities in the New Period, Urban Construction Theory Research (electronic version), 2018, (24).

[6]Xinzhong Chen, Analysis of the construction of information management for college students in the era of big data, Science and Technology, 2016, (07): 79.

[7]Chunqiao Ye, Exploration and Reflection on College Student Management in the New Period, Journal of Ningbo University (Educational Science Edition), 2018, 28(1) 46-48.

[8]Jie Yu, College students work in the era of big data Analysis of Thinking Paradigm, Liaoning Economic Management Cadre College.Journal of Liaoning Vocational College of Economics and Technology, 2017, (02):66-68.

[9]Xiaojun Zhang, Analysis of the Ideological and Political Education Function of Student Management Early Warning Mechanism in Private Colleges and Universities, Science and Technology Economics Guide, 2016, (18).

Cultivation Path of College Students' Good Entrepreneurship Psychological Quality

Ruixia Wang
Zibo Vocational Institute, Shandong, China
E-mail: 75138022@qq.com

Abstract: with the expansion of college enrollment, college graduates show an increasing situation year by year, so the problem of difficult employment for college students has become a key topic in society. It is an important way to solve the difficult problem of employment for college students to start their own business. Therefore, it is supported by the state and society. In the process of starting a business, we need to counseling the psychology of entrepreneurship.
Keywords: College students; Entrepreneurship; Psychological quality; Cultivation Path

1. INTRODUCTION

Social development needs the support of more talents resources of college students. They are the successors and builders of the country's future development. They not only need to have a healthy body but also need to have good psychological quality. This is the key to promote the development of college students to a good road. In the report of the 17th National Congress of the Party, it is clearly pointed out that supporting college students to start their own businesses is not only the key to solving employment but also the key to improving college students' ability.

2. THE CONTENT ANALYSIS OF COLLEGE STUDENTS' GOOD ENTREPRENEURSHIP PSYCHOLOGICAL QUALITY

2.1. Strong Belief in Entrepreneurship

In the course of the development of socialist society, because the fierce competition in society is getting more and more serious, it is a very important content to cultivate college students' tenacious perseverance and high sense of self-responsibility and social responsibility. After graduation, college students will enter the work position, or start their own business. Therefore, tenacious entrepreneurial beliefs can allow college students to adapt to the current social development forms, invest in the service of the society as soon as possible, and take on the responsibility of building the motherland. Entrepreneurship belief is the direction of college students' entrepreneurial behavior and is also an internal driver. Therefore, saying that a firm and clear entrepreneurial belief can allow college students to have a more positive entrepreneurial mentality and play a role in stimulating and guiding the entrepreneurial process. Help college students go further and further on the road to entrepreneurship.

2.2. Strong Character of Will

The road of starting a business is not plain sailing. It will encounter many difficulties and many thorns. Therefore, as an entrepreneur, college students must have strong will qualities. In the process of starting a business, the will can urge college students to consciously start a business, and according to the needs of entrepreneurship to mobilize their own behaviors and ideas, and actively overcome difficulties when encountered. To achieve the intended purpose as a spiritual pillar, in the process of solving the problem showed self-awareness, perseverance and decisive. The tough and tenacious entrepreneurial quality is the key to the success of entrepreneurship. Entrepreneurship in every industry is very challenging and requires a lot of rain and rain. Only in the process of making mistakes and correcting mistakes, can we go through all kinds of difficulties and hardships to succeed. The strong will quality of college students is the embodiment of perseverance and is also the fundamental condition of entrepreneurship. Only by adhering to it will it lead to victory [1].

2.3. Comprehensive Abilities Required for University Students to Start Their Own Business

Entrepreneurship is a difficult and complex process. It requires a high degree of comprehensive ability for college students. In the process of starting a business, they will encounter various problems. Therefore, college students are required to have not only professional knowledge but also comprehensive knowledge and various abilities, such as the ability to overcome difficulties. The ability to solve problems, analyze problems, etc. Entrepreneurship is one of the psychological characteristics of college students to ensure the completion of entrepreneurial activities, and is also a basic element to promote the success of this activity. Entrepreneurship skills include the comprehensive ability of college students to handle problems, professional and technical skills, business management skills, market situation estimates, investigation capabilities, and social skills. Only if they have mastered these abilities can they improve their own entrepreneurial foundation. Can make its own knowledge structure improve, so it can promote the smooth development of entrepreneurial practice [2].

3. THE WAY TO CULTIVATE COLLEGE STUDENTS' GOOD ENTREPRENEURIAL PSYCHOLOGICAL QUALITY

3.1. Cultivating the Entrepreneurial Consciousness of University Students

Entrepreneurship awareness is the basic condition to inspire college students to start a business, and it is also the psychological factor that drives college students to start a business. This awareness can guide college students' entrepreneurial ability and entrepreneurial practice activities. In the process of cultivating college students' sense of entrepreneurship, colleges and universities need to help them understand the current situation of social development, see the employment situation, help them establish their own goals in life, and correctly guide them to have a basic understanding of entrepreneurship. Changing the traditional concept of stable employment. Secondly, the good medicine of the school actively leads the college students to realize that independent entrepreneurship is a part of realizing the value of life and an inevitable requirement of social development. Finally, the school must integrate entrepreneurial consciousness into plain teaching, help college students maximize their knowledge, breadth of understanding, and height of problems, etc., constantly instill their entrepreneurial knowledge, cultivate students' positive and enterprising character, and inspire them. Entrepreneurship enthusiasm [3] And...

3.2. Institutions of Higher Learning Should Establish a Course System for Entrepreneurship

In the process of encouraging college students to start their own business, colleges and universities need to perfect their own curriculum system, constantly add entrepreneurial knowledge and teaching content, and accelerate the pace of teaching reform to help students establish good psychological quality and make them interested in entrepreneurship. Willing to get into the business of starting a business. First of all, in the course of ideological and political theory courses in colleges and universities, we should establish the correct values, outlook on life and entrepreneurship for college students, and guide them to establish their own life ideals and life goals; School education should be integrated into the idea of entrepreneurship and related education of entrepreneurship in the teaching process of various majors. This not only has the effective use of professional resources, but also has opened up students' entrepreneurial ideas. Secondly, the university independently establishes the student entrepreneurship psychology counseling education course, so as to effectively guide the college students to do their own career planning, help the college students solve some psychological problems that are easy to appear in the entrepreneurial process, gradually establish entrepreneurial confidence, determine the entrepreneurial goal and entrepreneurial spirit[4]. The content of the entrepreneurship psychology education course needs to include the promotion of entrepreneurial psychology, innovation and creation, potential development, interpersonal communication, market observation, etc. The focus is on the counseling of college students' psychological quality. Let college students in these courses to identify their own shortcomings and advantages, stimulate their entrepreneurial potential, promote the promotion of good entrepreneurial quality.

3.3. To Actively Carry out Various Social Practice Activities

Social practice is a test of the University's existing knowledge, and it is also a process of raising theory to practice. In the course of practice, we must earnestly adhere to and adhere to the line of political education, strengthen the entrepreneurial consciousness of college students, enhance their entrepreneurial ability, and cultivate good psychological quality. College students can effectively use their own knowledge to solve practical problems in the practical activities of society. This not only has knowledge been consolidated and improved, but also has improved their application capabilities, laying the foundation for future independent entrepreneurship. The practice activities mainly have two aspects. One is the self-practice activities organized by the school, such as the various entrepreneurial design competitions organized by the school's Youth League Committee and the Student Union. During the activities, students can be organized to conduct case discussions, surveys and interviews, as well as simulation of various entrepreneurial situations, in order to enhance college students' understanding of entrepreneurship. On the other hand, it is actively expanding off-campus practical activities, such as organizing college students to carry out various practical activities in factories and enterprises, helping them to build a business stage, so that they can better understand the company's understanding of society and experience the joy of entrepreneurship and the hardships of entrepreneurship.

3.4. Using the Internet + Competition Platform to Promote Learning

The openness of the Internet and the sharing of resources contribute to the independent learning of college students. Students can use the Internet to collect learning materials on their own in the learning process, actively use and regulate their own cognitive strategies, motives and behaviors for learning, and can determine their own learning progress. Choose a learning method. Network learning fully reflects the advantages of interactive cooperative learning. Students can not only download learning materials from the Internet, but also discuss, evaluate and share knowledge and interesting issues learned in the classroom with other students, teachers or experts on the Internet. Inquisitive learning methods need the support of a large number of learning resources. Huge online resources become the auxiliary resources for exploratory learning. Various tools and software are

the auxiliary tools for learning. The interaction of learning environments provides convenient conditions for students to communicate and collaborate. The Internet is conducive to individual learning: The Internet provides students with a variety of learning paths and learning methods. Students can set their own learning goals according to their own needs and learning styles, and then according to their own goals. Choose the way you like to learn, so that the study has a strong personalized color. The mode of thinking is a mode of thinking, that is, a relatively stable mode of thinking that combines many elements of thinking according to certain methods and procedures to solve problems[5]. The way of thinking of middle school students is being formed, and the Internet has also made great changes in their thinking methods, such as: openness, pluralism, virtuality, personalization and interaction.

4. CONCLUSION

To sum up, this paper analyzes the cultivation of the entrepreneurial psychological quality of college students. In today's society, encouraging independent innovation and entrepreneurship has become a kind of expectation for graduates in society and universities. Therefore, we must pay more attention to the cultivation of psychological qualities in the process of college students' entrepreneurship, and good psychological qualities can promote college students' entrepreneurship. So that college students can go further and further on the road to entrepreneurship.

REFERENCES

[1]Lifang Deng, Zuliang Liu, Liwei Mu, etc., Research on the characteristics and cultivation model of college students' entrepreneurial psychological competence, Academic Forum, 2012, 35(9): 204-208.

[2]Luochen, Wei Wei, On the cultivation of college students' entrepreneurial psychology and entrepreneurial spirit, Journal of the National Forestry Administration Management Cadre College, 2013, 12(4): 30-32.

[3]Liping Che, Exploration of the mechanism of psychological education for college students' entrepreneurship, Journal of Shandong Normal University (Humanities and Social Sciences Edition), 2013, 58(1): 95-99.

[4]Guangmei Shang, Research on Influencing Factors and Countermeasures of Entrepreneurship Education in Colleges and Universities, Journal of Fujian Medical University (Social Science Edition), 2012, 2:35 -38.

[5]Jian Ni, College students' entrepreneurial psychological quality to develop the "54" model study, Journal of Shenzhen Information Vocational and Technical College, 2012, 4:82 -86.

The Risk Assessment for Airport

Bo Li
Criminal Investigation Detachment, Henan Airport Police
E-mail:klb1314@126.com

Abstract: Public security is an important part of public security research. As an important public place, airport is the key part of public security research. Airport scenes are not only crowded, but also have many risk factors. They are prone to public security crimes and public security disasters. Various risk factors in airports seriously affect people's travel safety. This paper uses the risk factor analysis method to analyze and score the inherent risks and potential risks existing in the airport, so as to determine the direction for formulating the airport risk control scheme. Finally, an example of a specific airport is analyzed by field investigation and operational risk analysis method, and a more targeted airport risk control scheme is obtained based on the survey results.
Keywords: Airport; Risk Assessment; Risk Management

1. INTORDUCIOTN

With the continuous development of China's economy, the number and scale of domestic airports are increasing, which makes a large number of people converge to the airport scene. At the same time, many risks are further turned to the airport, which increases the security risk and the probability of crime in the airport scene. Airport risk assessment reflects security-based security work, which is conducive to reducing the losses and violations caused by various accidents. Risk assessment of airport scenarios, on the one hand, is conducive to improving the ability of airport security prevention, on the other hand, is conducive to the scientific formulation of risk prevention strategies by public security organs, in order to better respond to and deal with emergencies and disasters [1].

2. CONTENTS OF RISK ASSESSMENT IN AIRPORT

The risk of airport scenario mainly includes two aspects: first, when the risk of airport scenario occurs, it means loss and accident; second, whether the accident or terrorist attack occurs is an uncertain random event, we can predict the possibility of its occurrence to make accurate judgement of its occurrence.

The inherent safety risk assessment of airport is a risk assessment of the current situation of airport. To begin with, it aims to improve the operational quality of personnel, safety of equipment, stability of environment and management level in airport, and to assess the risks that may affect the operation of airport. The inherent safety risk assessment is a comprehensive static assessment of the overall safety risk of the airport through the establishment of safety risk assessment indicators.

This paper selects indicators from four aspects: human factors, equipment factors, environmental factors and management factors, and uses LEC to analyze the case.

2.1. Human Factors Mainly Include the Following Aspects:

a. Staff physiological condition. According to the results of on-site inspection and testing, scoring and other links to determine whether the physiological conditions of the police and the relevant airport staff meet the requirements of the work.

b. Personnel's psychological status: According to the results of on-site inspection and testing, the psychological endurance of police and relevant airport staff can meet the minimum standard of adapting to airport work.

c. Level of knowledge and skills: Check the level of knowledge and skills of airport employees, and use technical assessment failure rate to measure. The failure rate of technical assessment can be obtained by business training records, inspection records, etc. or by calculating the following equation:

Failure rate of technical assessment = (number of unqualified persons/total persons participating in the assessment)*100%

d. Index of dangerous incidents caused by human factors: Measuring and comparing unsafe incidents caused by personal dangerous acts of police officers and airport staff of public security organs, we can get the following formula: probability of unsafe incidents caused by human factors= (number of dangerous incidents caused by human factors/total number of dangerous incidents)*100%.

e. Personnel performance index at the start of emergency response procedures: to assess the response speed and handling capacity of public security organs and related personnel when an emergency occurs, and to analyze and measure the results of emergency response [2].

2.2. Equipment Factors

The risk factors of equipment mainly refer to the integrity of airport equipment configuration and the operation and use of various facilities and equipment in the airport. Five items were selected as evaluation index [3].

a. Equipment Integrity: Measuring the compliance of various facilities and the matching degree of equipment-related standards, the following formula can be used to calculate the degree of completeness= (quantity of airport equipment/quantity required by standards)*100%

b. Maintenance Rate of Equipment: Monitoring the

Maintenance Rate of Airport Repairable Equipment, which can be calculated by the following formula: Maintenance Rate of Equipment= (Number of Repairable Equipment/Number of Repairable Equipment)*100%

c. Equipment Maintenance Quality Index: Measure the quality of equipment maintenance. Calculate by the following formula: Equipment Maintenance Quality Index= (Number of equipment under standard/Number of equipment maintenance quality inspection)*100%.

d. Indicators of technical standards missing: to measure the responsibility of maintenance personnel and the alertness of maintenance personnel, as well as the implementation of management system, can be calculated according to the following formula: technical standards supervision index= (number of technical standards violation investigation events/total number of violation operation events)*100%.

e. Insecurity Event Index for Equipment Causes: Insecurity Events Caused by Airport Equipment Management Failure, reflecting the impact of equipment Airport security, can be calculated by the following formula: Insecurity Event Index for Equipment Causes= (Number of Insecurity Events for Equipment Causes/Total Number of Insecurity Events)*100%.

2.3. Environment Factor

In the process of aircraft operation, environmental factors are not the airport's own problems, but have a great impact on the airport.

a. During the flight, the degree of bad weather: to measure the degree of natural environmental impact of aviation operations. It can be obtained by scoring by comparing weather forecasts with minimum flying weather standards and aviation abnormal events.

b. Frequency of abrupt weather change during flight: Expressing the frequency of sudden deterioration of weather during flight (such as thunderstorms and wind shear), can be obtained directly from statistical data.

c. Failure rate of air traffic control equipment: Hardware quality and technical support of air traffic control can be directly obtained from statistical data.

d. Degree of Bird Damage at Airport: Measure the degree of bird damage to the airport, reflect the effectiveness of bird damage treatment, and conduct on-site inspection, and use scoring method to obtain.

2.4. Management Factors

The role of management is to coordinate the factors such as person, aircraft, environment, etc. in order to achieve the established goal of airport safe operation, which mainly includes the following aspects:

a. turnover rate of key personnel: reflecting the stability of key personnel, employee engagement level and human resources management level in the airport. The calculation formula is as follows: critical turnover rate = critical turnover / total number of key personnel * 100%

b. sense of inequity: this index will affect employees' work engagement, indirectly reflecting the rationality of airport performance appraisal and salary incentive system. There are five levels: weak, weak, general, strong and strong.

c. Distortion rate of information communication: reflecting the state of information communication. The following formula can be used to calculate the distortion rate of information communication= (information communication distortion/total information) * 100%.

d. Rationality of organizational structure: Measuring the organizational structure of airports, especially the establishment of security management agencies, can be obtained by scoring method.

e. Lack of supervision rate of management standards: measure the responsibility and vigilance of safety management personnel, as well as the construction of safety management system, the implementation of daily safety management and safety management system. Management Standard Lack of Supervision Rate = (Number of Management Violations/Number of Violations)*100%.

3. AIRPORT RISK CONTROL SCHEME

After identifying, analyzing and researching the inherent risk of airport, the airport inherent risk control scheme formulates the Countermeasures for preventing and eliminating the risk according to the determined risk factors, and finally achieves the goal of eliminating the inherent risk of airport [4].

(1) For human factors, we can divide them into two categories: the first is the staff in the airport (including security personnel, ticket sellers, maintenance personnel, airport store sales staff and police); the second is the traveling passengers.

The following is a five-point control plan for the key risks in the assessment of human factors.

a. Strengthening the Psychological Construction and Guidance of Staff

Staff members have been in the airport for a long time. After scoring their psychology and physiology, we can provide timely psychological counseling to employees who may have hidden dangers, such as lectures and symposiums.

b. Strengthen pre-job training and retraining of staff

The professional quality of the staff plays an important role in the safe operation of the airport. Although the quality of staff is generally high, but there are also business quality and related technical level, ability can not reach the level of industry standards, which requires civil aviation departments to do a good job of pre-job training, but also can not ignore the training of on-the-job personnel, in order to improve the overall level of service and safety precautions.

c. Improving the ability of airport staff to communicate with each other

One of the main reasons for the occurrence of security risks is that the first discoverer can not report to his

superiors and communicate with his colleagues in time, and the most critical one is that secondary disasters are often more serious than primary injuries. Therefore, it is particularly important to improve the communication and coordination ability of staff.

d. Do a good job of passenger dredging

Although the security check into the airport waiting room is more stringent, the number of people receiving security check is usually larger, which often leads to congestion and makes passengers prone to impatience and boredom. Relevant departments and staff need to do a good job in dredging work to prevent crowd stampede and other mass incidents.

e. Do a good job in safety propaganda

The propaganda work at the airport mainly includes: legal warning propaganda to prohibit occupancy; strengthening the display of common fraudulent acts at the airport; relevant departments can adopt the form of rolling airshow at the airport. On the one hand, it can deter criminals, on the other hand, it can improve passengers'vigilance against common fraudulent means and reduce their chances of being cheated.

(2) For equipment factors, civil aviation and public security organs mainly rely on the internal security regulations, the Anti-Terrorist Law, industry standards and the Symptoms of Civil Aircraft Accidents to do a good job of inspection and timely maintenance of airport internal, runway, apron and aircraft equipment.

a. Strengthen the maintenance of equipment

Airports and aircraft have more equipment and facilities and are more sophisticated. Therefore, it is necessary for professionals to carry out regular maintenance, timely replacement of aging parts and equipment, and reduce the rate of failure to check the maintenance of equipment. At the same time, ensure the safe operation of the airport power supply system and alarm system.

b. Strengthen the training of equipment maintenance personnel

On the one hand, the training of maintenance personnel should pay attention to the training of their technology, ensure the quality of equipment maintenance and the time efficiency of equipment maintenance, and reduce the risk of equipment damage. On the other hand, ideological education and training should be carried out to improve their sense of responsibility and vigilance for equipment maintenance, so as to ensure that the equipment can be repaired timely and accurately when problems arise.

c. Strengthen the management of equipment

Reasonable use of equipment in airport scenarios is the premise to ensure the safe operation of airports. Relevant departments need to rationally plan the use of equipment in accordance with the regulations, and timely discover equipment operating under high load. Real-time monitoring of the use of equipment, timely detection and treatment of problems.

(3)For enviorment factors

The environment mainly includes two aspects. On the one hand, the airport is generally located in the suburbs, but there are many Metro stations, high-speed railway stations and other public areas with dense personnel, equipment and lines. In order to provide good accident handling and escape opportunities when public security risk accidents occur, the surrounding environment of the airport should avoid the placement of irrelevant items and leave as much space as possible for passengers to escape. Health, etc. In addition, some airports also have traffic inconvenience factors, such as black car solicitor, Mo solicitor and so on, which requires airport public security organs to carry out special rectification activities to combat such crimes. Transportation departments should timely command and dispatch to ensure that airport buses, buses, subway, high-speed rail and other passengers can provide 24-hour convenient services for travel.

(4)For environment factors

Civil aviation companies have the responsibility and obligation to deliver passengers to their destinations safely, but aircraft delays and even grounding are always inevitable, which requires relevant parts to make emergency plans, inform passengers in time and make adjustments in time, so as to obtain passengers' understanding, avoid mass incidents and provide guarantees for people to travel.

a. Establishing a reasonable salary system

Key talents play a vital role in airport management. To retain key talents, relevant departments need to establish a reasonable salary system. While ensuring their normal salary payment, they need to use incentive mechanism, such as performance pay, to enhance the enthusiasm of employees and make them have a sense of belonging to their work.

b. Rational planning of the structure of the security and prevention departments

Set up departments reasonably. When a safety accident occurs, it should be able to arrive in time according to the emergency plan and put forward reasonable solutions. At the same time, the responsibilities of various departments should be clearly defined, and close cooperation can be achieved when safety accidents occur.

REFERENCES

[1]Cheng-Lung, Wu, Robert E. Caves. Modelling of aircraft rotation in a multiple airport environment, Transportation Research Part E, 2002, (3).

[2]Andreas Wittmer, Introduction to special issue "managing airport infrastructure in the presence of risk and competition", Journal of Air Transport Management, 2018, 67.

[3]Jean-Claude Bizimana, James W. Richardson, Agricultural technology assessment for smallholder farms: An analysis using a farm simulation model (FARMSIM), Computers and Electronics in

Agriculture, 2019, 156.

[4]Energy; Studies from University of Cyprus Update Current Data on Energy (Assessment of overheating risk and the impact of natural ventilation in educational buildings of Southern Europe under current and future climatic conditions), Energy Weekly News, 2019.

Exploration on Teaching Reform in "Automobile Application Engineering" Course Under the Background of "New Engineering Discipline"

Heng Wang[1,], Limei Wu[1], Zhenfeng Wang[1], Jilai Ying[1], Yan Cui[1], Zhenzhen Zhao[2]*
[1] College of Mechanical and Electrical Engineering, Henan Agricultural University, Henan, 450002, China
[2] College of Computer and Information Engineering, Henan University of Economics and Law, Henan, 450002, China
*E-mail: dawn_wangh@163.com

Abstract: Under the background of new engineering discipline, the teaching reform of automobile application engineering is explored from the aspects of teaching content, teaching resources, experimental teaching, assessment methods and so on. The purpose is to enhance students' learning enthusiasm, improve students' application and innovation ability. The research is of great significance in speeding up the training of Engineering Science and technology talents in emerging fields.
Keywords: Exploration on teaching reform; Automobile Application Engineering; New Engineering Discipline

1. INTRODUCTION

New engineering discipline is an important strategy and deployment of higher engineering education reform under the background of new science and technology revolution, new industry revolution and new economy. "Fudan Consensus", "Tianda Action" and "Beijing Guide" sounded the rallying cry of new discipline construction, played the main theme of talent training, and opened up a new path of engineering education reform [1].

Course teaching is an important part of the training system of students' practical and innovative abilities. Under the background of new engineering discipline, how to cultivate engineering talents with high practical and innovative abilities through effective curriculum construction, and how to achieve a high degree of connection between talent training and market demand, has become an important issue to be solved urgently in the course of curriculum construction.

2. CURRENT SITUATION OF CURRICULUM

"Automobile Application Engineering" is a compulsory professional basic course for engineering undergraduates, with 40, 2.5 credits. The course is offered to undergraduates, with an annual teaching population of more than 220. This course is an important professional and technical course for the major of transportation and automobile service engineering. It is an applied engineering technology discipline which studies the comprehensive management of automobile technology in the whole use process. It is a practical course which integrates professional theoretical basis and practical skills. Nowadays, the application technology of automobiles at home and abroad has developed rapidly. So far, it has developed into a complete discipline system to study the full application performance of automobiles, to organize and manage the production of automobile transportation rationally, to strengthen technical maintenance and repair, to operate safely, to reduce energy consumption, to prevent automobile pollution, to implement renewal and scrap.

The characteristics of this course are: complex content, fast updating of knowledge, strong theoretical, difficult to understand, but closely related to actual production and life, with strong practicability.

3. COURSE REFORM OF AUTOMOBILE APPLICATION ENGINEERING

3.1. Define the Basic Requirements of Course Teaching

Combining with the relevant requirements of the "new engineering discipline ", the basic requirements of the course teaching of "automobile application engineering" are clarified. This course should be based on the practical application ability of engineering, aiming at helping students consolidate their professional foundation, improve their professional ability and cultivate their scientific thinking ability [2]. Basic Requirements of Course Teaching: In terms of theoretical knowledge, through the study of this course, students can understand the problems existing in the process of automobile application and how to maintain the technical status of automobile, give full play to the efficiency of automobile, reduce consumption, prolong service life, and acquire the ability of optimum comprehensive benefits. Through the study of this course, students can master the basic principles of using and managing automobile. Discussions, knowledge and skills lay a solid and necessary foundation for becoming qualified professional and technical personnel in the application and management of automobile technology in

automobile transportation enterprises [3]. In terms of experimental skills, through the training of relevant experimental projects, students are mainly able to familiarize themselves with and master some common technical methods and the use of instruments and equipment in the process of automobile application, and to understand the relevant management regulations. The purpose of implementing the procedure is to solve the common technical problems in production practice, carry out routine technical inspection and implement the technical management organization of vehicle operation and production.

3.2. Reform of Teaching Course Content

The "Automobile Application Engineering" course is a course with strong engineering background, focusing on training students' ability to solve practical problems in the process of automobile application [4]. However, in the process of actual curriculum teaching, the teaching is textbook-oriented, and has a certain distance from the actual application, so the pertinence and applicability are not strong. In the reform of teaching content, the knowledge difficulties and key points of automobile application engineering are sorted out. Re-divide the knowledge points to be described into small knowledge points, and simplify the principle from the point of view of solving practical application problems.

3.3. Enriching Teaching Resources

Traditional classroom teaching is limited by time and space, and the effect of repetitive explanation of knowledge is not ideal, and students' access to knowledge is relatively narrow. With the rapid development of the industry, new theories and technologies are constantly integrated with traditional theories and technologies. In order to meet the requirements of the development of the industry for talents, the knowledge taught in online courses is timely supplemented and updated. Enriching students' access to resources.

3.4. Diversified Teaching Methods

At present, PPT is used to teach. Although PPT board improves the efficiency of teaching, according to the characteristics of this course, some knowledge points that are difficult to understand or close to the reality are difficult to show. Based on the characteristics of this course, for the introduction of narrative problems, cases related to knowledge points can be introduced, and the problems in the cases can be refined, so as to trigger students' thinking and discussion. In addition, if we combine theory with practice, take "micro-lesson" as the carrier, based on online course platform, adopt "flip classroom" teaching mode, and combine online and offline "mixed learning" method, increase the teaching form and enhance students' learning enthusiasm.

3.5. Reform of Experimental Teaching Methods

The "Automobile Application Engineering" course is a course with strong engineering background, focusing on training students' ability to solve practical problems in the process of automobile application [5]. In view of the theoretical teaching content in the classroom, the corresponding experimental teaching links are set up. Due to the characteristics of the course, experimental teaching can take many forms, such as online video, remote explanation and so on. Thus, a seamless and fully interactive learning system is formed for online and offline teaching links.

3.6. Reform of Course Examination Mode

Course assessment adopts a comprehensive evaluation method that emphasizes the teaching process and practical links. In order to cooperate with the reform of assessment methods and strengthen process management, students' classroom interaction, homework, experiment preview, stage test and simulation practice are recorded in detail, and accurate evaluation is made. Emphasis is placed on students' online learning process. The course adopts online and offline comprehensive evaluation results, including online course results, offline classroom teaching results, offline experiment results and final results. On-line course performance involves problem completion rate, accuracy rate, data sharing rate and so on, so as to evaluate the effectiveness of students in the online course learning process.

4. SUMMARY

With the further development of new engineering discipline construction, the teaching content, teaching resources and teaching forms of the course "Automobile Application Engineering" should also keep pace with the times. According to the training objectives of students and the characteristics of the teaching content of this course, the content of course construction is explored, so as to improve the teaching level and teaching effect.

REFERENCES

[1]Yuping Zhang, Yan Ma, Yanqin Yang, Shunbao Li, Hui Huang, The Reform and Exploration of the Computer Aided Design Course under "New Engineering", EDUCATION TEACHING FORUM, 2018,7(2): 115–116.

[2]Xiaohong Wang, Xiaomin Han, Yuying Ma, Exploration on teaching reform in "Sensor Application Technology" course under the background of "new engineering discipline", Wireless Internet Technology, 2018, 16(8): 94-95.

[3]Songbai Quan, Research on Teaching Staff

Construction of Engineering Training for New Engineering Disciplines in Universities, Value Engineering, 2018, 37(26):292-294.

[4]Youchuang Sha, Minglei Yuan, Chencheng Li, A Study on the Mobile Application Development Talent Cultivation and the Quality Assurance System Based on Emerging Engineering Education Foreign electronic components, 2017, 20(12): 60-62.

[5]Chunying Wu, Feng Gu, Lu Bai, Wei Wei, Hong Liu, Some Suggestions on Cultivation of Innovative Talents in the Context of Emerging Engineering Education, 2018, 35(21):16-18.

Constructing an Integrity Information Platform to Standardize Enrollment Work Monitoring Procedures

Huanqin Li
Zhengzhou Normal University, Zhengzhou, 450044, China
E-mail:sz2008peak@163.com

Abstract: Promoting the construction of a clean government in the enrollment work of colleges is an important measure to safeguard the image of education and to implement the fairness and justice of college enrollment. The integration of the Integrity Information Platform and online enrollment will not only further enhance the transparency of enrollment, but also help curb corruption and improve the integrity of the work.
Keywords: Integrity information; Enrollment; Curb corruption

1. INTRODUCTION

The rapid development of higher education has achieved remarkable achievements and great progress. It has selected a batch of qualified and qualified personnel of high quality and high level for the development of China's social economic culture. The scientific, normative and fair and impartial nature of its enrollment has been widely recognized by society. Especially under the promotion of "Sunshine Project", under the various examination management systems and supervision mechanisms, the enrollment behaviors of colleges are becoming more standardized and transparent. However, at the same time, we will still see some social unsatisfactory occurrences in the admissions examinations, irregular examinations outside the system of test fraud and unreasonable charges, etc. These acts not only disrupt the normal order of admission examinations, but also cause social problems. And the impacts also undermine the public's belief in educational equity. Therefore, promoting the construction of a clean government in the enrollment work of colleges and universities is not only an important manifestation of the internship of anti-corruption and anti-corruption ideas, but also an inevitable requirement for promoting the sustainable and healthy development of enrollment in colleges. [1] It is an important measure to safeguard the fair image of education and implement fair and equitable enrollment in colleges. Fairness is the ideal pursued by mankind. Educational fairness, as an extension of the concept of fairness, is the starting point and cornerstone for achieving social fairness and justice. The implementation of "Sunshine Project" is a concrete practice and exploration of openness, fairness, authority and scientific aspects of enrollment

work. Sunshine operation is a key part of college admissions to prevent corruption. Indeed, college enrollment uses online admissions, which reduces the interference of human factors, prevents unhealthy practices such as black-box operations, and guarantees fairness in enrollment, but some people have some vague understanding. Some people believe that online admission is automatically filed by the computer according to the prescribed admission policy. The entire admission process is carried out online. The admissions schools and provincial and municipal recruitment staff are no longer concentrated in one location for admission procedures, admissions staff and enrollment targets. Do not meet each other, there will be no violations. Some people think that online admission is based on electronic files, and paper media files are no longer the basis for admission. Therefore, candidates' information about their volunteers and achievements cannot be changed into electronic files, and there is nothing to supervise. Some believe that the online admission system implements the "school responsible, admissions office for supervision" work system, the city, state and county-level admissions offices have basically withdrawn from the admissions process, the provincial admissions office is mainly the service function, the school is also admitted in the policy scope Everything has become simpler and it is unlikely that something will happen. In a word, there is nothing to do with admissions and supervision. Although the college entrance examination enrollment uses modern management methods such as online admission, it can minimize the interference of human factors, but it cannot eradicate the factors caused by unhealthy trends and corruption, and even from the perspective of supervision, it also increases the difficulties of enrollment and supervision. For example, in the collection of candidates' information, the impersonation candidate may take the opportunity to take the opportunity to obtain the qualification of "being righteous". In the electronic file entry, fake outstanding cadres, fake three good students and fake minority students, the results of the fake medical examination may enter the electronic file. There may still be illegal activities in the process of marking and keeping. And there will still be a phenomenon of taking power for personal gains and for seeking

personal gains in the examinations and interviews. Therefore, we must not relax because of the implementation of online admission, improving the reliability and efficiency of technology, and we need to see the new requirements for the implementation of online admission to discipline inspection and supervision. We deed carefully to adjust and improve the methods of supervision and method to enhance the sense of responsibility for doing a good job in supervision according to new situations.

Although there are still some problems in online enrollment, it can enhance transparency as much as possible, and transparency are both the requirements for college admissions and the basis for enrollment supervision. If the admissions are not made public or not publicly available, supervision will be impossible. Therefore, it is reasonable to strengthen the embedding of informationization from the various procedures of enrollment, and to promote the openness of enrollment.

2. BUILDING AN ONLINE OPERATION PLATFORM TO ENSURE THAT THE ADMISSIONS EXAMINATION IS OBJECTIVE AND FAIR.

It will reduce the trouble of candidates by implementing online registration.[2] First of all, for graduate enrollment, the provincial admissions office organized and implemented online registration. Online registration for adult college entrance examinations is also being actively prepared. The advantage of implementing online registration is that it can fundamentally eliminate the phenomenon of crowded and long-term staying in the centralized venues, ensuring smooth flow and safe personnel, and candidates can register online anywhere within the specified time interval; For the amount of enrollment information, candidates can access the enrollment plan and enrollment school information. The second is that due to the increase in the amount of enrollment information, candidates can access the enrollment plan and enrollment school information online. For candidates, the amount of information is symmetrical and fair. And the third is that the candidate can modify his or her input information and adjust the application for volunteers within the time slot of inputting the information to the confirmation information. Since 2003, due to the college students' enrollment and adult college enrollment students' livelihood plans have been implemented online, online adjustment, so that the source program management is further standardized, work efficiency is greatly improved. In the past, face-to-face dealings became a "back-to-back" decision, which greatly eliminated the interference of factors such as human feelings, and maintained the seriousness of planning management and the impartiality of admissions. Ordinary colleges, adult colleges and local admissions offices participate in the online enrollment consultation activities of the Ministry of Education.

Each time the concentration of questions is about 7 to 15 days. At the same time, the online consultation is closely integrated with the agency's efficiency construction and advanced education. Every day, the leaders and relevant chiefs are on duty, accepting online consultations from candidates, and can immediately respond to general questions. For specific problems, they can explain in a limited time, basically do not reply overnight. The questions that are not satisfied by the candidates will not be easily let go. Therefore, through the implementation of online enrollment consultation, the candidates will have a question of "booting up" and get a satisfactory answer "shutdown". Through the implementation of online scoring, the face-to-face operations are transformed into back-to-back operations, thereby minimizing the error rate and human factors interference in the marking process, reducing the error rate of the points, and maintaining the interests of the candidates and the objective and fairness of the evaluation. After several years of practice, the online admission work not only fundamentally solved the shortcomings of manual work, but also greatly reduced the staff's mental stress and physical strength, reduced the expenses of the admissions colleges, shortened the admission time, and promoted the change of the concept of enrollment work and the optimization of the admissions admission process.

3. REDUCE INFORMATION ASYMMETRY BY IMPROVING THE INFORMATION RELEASE SYSTEM.

Through the enrollment plan and timely announcement of policies, the masses will know about the enrollment information. The Provincial Admissions Office uses the press conference, online announcement, and enrollment consultation activities to publicize the enrollment plan so that candidates can get to know the information as soon as possible. The policies for the upcoming reforms will be announced to the public early in the first 1-3 years, so that the candidates and schools have sufficient advances and calmly respond. For institutions that have not completed the enrollment plan, they can disclose information and do a good job in volunteering. The implementation of the supplementary volunteers provides candidates with the right and space for further choices, and it is also harmful to colleges At the same time, the Provincial Admissions Office will publicize the various types of candidates to the public through the admissions examination network and accept social supervision. In addition, for the reported incidents, actively cooperate with the discipline inspection department to seriously investigate. [3]

4. STRENGTHENING THE SYSTEM CONSTRAINT FUNCTION AND STRICTLY USING INFORMATION MANAGEMENT.

The admission ticket number is randomly arranged so that candidates and parents are in an unknown state before the test. In order to prevent individuals in

individual places from doing everything possible in the test sites, examination rooms, and seat numbers, so that their children or "relationships" can have a good test "environment", and the provincial and municipal admissions offices adopt The computer randomly generates the test number, the invigilator's method of temporary lottery or computer random grouping before the test, so that the candidate can not predict the test site, the test center and the approaching candidates in advance, nor can you predict the invigilator, and effectively ensure the test from the specific details. Fairness and justice have eliminated the hidden dangers of exam cheating. By taking online parallel and limited time to fill in the volunteer information, everyone is in the same state of treatment before each batch of the line.[4] By adopting an operating mechanism in which decision makers do not operate and operators do not make decisions, the admissions work is in a state of mutual restraint. For example, the plan management, investment, and inspection in the admissions process are not affiliated with each other, the leadership division is responsible, each performs its duties, and each has its own responsibilities. Major issues must be discussed and studied by the leading group, and collective decision-making. The data shall be kept by two or more people, the passwords shall be customized, and the copies shall be randomly copied. The data management shall be carried out by the full-time staff, the in charge of the leadership, and the discipline inspection and supervision department for custody and comparison inspection. At the same time, it also closely contacted the admissions on-site inspection and supervision office to provide timely information on the process of filing and recording, and received supervision and guidance.

5. CONCLUSIONS

Through the construction of integrity information, we will actively build an online operation platform to ensure the objective and fair admission examination, improve information dissemination, reduce information asymmetry, strengthen institutional constraints, and strictly use information management.

REFERENCES

[1]Longsheng Cai, Research on the Risk Prevention and Control of College Students' Enrollment Work, Management Review, 2013, (15):73-79.

[2]Kun Ruan, The Construction and Practice of Information Platform for Enrollment Work in Colleges, Laboratory Research and Exploration, 2014, 33 (07): 273-276.

[3]Zhaoming Gu, Liping Chen, Investigation Report on the Supervision and Management of College Entrance Examinations, Educational Theory & Practice, 2009, 29 (06): 52-56.

[4]Yusheng Tang, Yulan Jiao, Research on the Informationization Construction of College Enrollment, Journal of Northwestern Polytechnical University (Social Science Edition), 2007, (03):70-72.

Integration and Utilization of Digital Archives in Multi-Campus Universities under the Informatization Background

Linlin Zhao[1], Xiaowen Hao[2,]*
[1] School History and Archive Office, Shandong University, Weihai, 264209, China
[2] School of New Energy, Harbin Institute of Technology, Weihai, 264209, China
*E-mail: haoxiaowen@sohu.com

Abstract: Archives work of universities with multi-campus in cities is facing with the difficulties in unified management, in uneven informatization level and in cultural inheritance when the informatization in China and its universities is constructed. This paper studied the principles, methods and paths when digital archive resources were integrated and utilized in multi-campus universities under the information background. The paper was from the construction of the digital archives system, that of integrated archives informatization platform, and the service capacity improvement. From the studies, the information, network and scientific in the archives management, utilization and services were promoted. The full integration, the co-construction, the co-sharing, and the service promotion in multi-campus digital archives can be achieved.
Keywords: Informatization; Multi-Campus in cities; Digital Archives; Integration; Utilization.

1. INTRODUCTION

The pace of higher education reform in China is accelerating since this century. Many universities need to solve the development problems of land, scale and space. Local governments have the demand to rely on the brand advantage of the universities to invigorate the assets and enhance the economic momentum. All these factors lead to the trend of running university campuses out of the main campus located cities. As of January 2019, 31 of the original "985" universities have built (or merged) another campuses (excluding independent colleges) outside main campus located city according to statistics. These campuses other than the main campus undertake the function of cultivate undergraduate or graduate students. The problems of lack of space in the development of universities is solved by these campuses. However, management of multi-campus from cities also brings many new difficulties, such as administrative management, resources integration, disciplines integration, cohesion of popular feeling, and overall planning [1].

In the aspect of archival work, multi-campus universities are also faced with many problems. The scattered archive management, repeated archive content, and the inconvenient archive utilization between the multi-campuses in archival work have to be faced in these universities or even the same university located in different cities. The standardization and informatization of archives management among campuses is uneven. The digitization degree is different. The online remote service is largely difference. Many factors such as time and region limit the realization of the cultural education by archives resources in universities due to the multi-campus of one university in cities, which has shortcomings in the dissemination and inheritance of university spirit and culture. So integration and utilization of digital archives in multi-campus universities under the informatization background is studied [2-5].

2. OPPORTUNITIES AND CHALLENGES TO THE ARCHIVAL WORK OF MULTI-CAMPUS UNIVERSITIES DURING THE INFORMATIZATION CONSTRUCTION

At present, almost all of the universities are increasing their investment in informatization construction. As an important information resource, archives should be included in informatization construction. Archives departments should seize this historic opportunity to accelerate the integration and utilization of digital resources between campuses [6-9].

2.1. Opportunity for the Archive Work

The informatization of archival information construction is included in the overall plan of this construction of colleges and universities. This work is conducive to the overall planning of various management work, optimizing the top-level design, and realizing the front-end control of all kinds of archives, datum and information. Taking advantage of the opportunity of school informatization construction, the archives departments actively intervene to achieve an integrated layout in the allocation of archives information equipment, network distribution, selection of application systems, platform embedding and so on, which can avoid waste of funds and resources by low-level duplicate construction.

At the same time, the informatization construction in universities provides conditions for the archives departments speeding up the digitalization construction. The information construction in

universities is conducive to the unification of standards and requirements in the university multi-campuses, the improvement of work efficiency and quality, the promotion of service levels and ways, the dissemination of archives culture, and the realization of cultural education, while providing basic and technical support for the construction of intelligent archives.

2.2. Challenge for the Archive Work

Informatization construction puts forward higher requirements and challenges for the digital construction and networked services of university archives resources. They are mainly embodied in the selection of metadata standards for digital archives, electronic files and other information, standardization of recording and archiving procedures, compatibility of data platforms, and the security and reliability of information transmission and network systems.

3. MAIN STRATEGIES FOR THE CONSTRUCTION OF DIGITAL ARCHIVES RESOURCE SYSTEM IN MULTI-CAMPUS

3.1. Philosophy and Principles

The construction of digital archives resource system for multi-campus universities should follow the basic concept of overall planning, integrated development, deep integration, and joint construction and sharing. The construction should adhere to the basic principles of unified leadership, unified standards and requirements. And the construction should also base on the premise of ensuring information security and authenticity. Then a comprehensive, rich, diverse and distinctive digital archival resource system can be construct through the basic methods of digitalization and incremental electronicization.

3.2 Front-end Control

3.2.1. Front-end control of digitalization of collection resources

Standardization is the basic premise of digitalization of collections. The digitization of archives should be strictly in accordance with the requirements of the "Specification for digitization of paper-based records (DA/T 31-2017)" and the "Specification for digitization of audio-visual records (DA/T 62-2017)". The standards request using high-performance digital instruments and equipment, adopting the general storage format recommended by the archive industry standards. The standards also request sufficiently collecting digital resources, digital quantity control, digital file control, digital personnel management, etc.

3.2.2. Front-end control of electronic file metadata

The archives departments should conduct front-end intervention at the beginning of the electronic documents formation when many documents and datum are generated by multiple business management systems and platforms in the campuses.

The archives departments consider the format of the file, the parameters, the operating background, the storage environment, the transmission system and other factors. Their work bases on the principles of

simplicity, specificity, interoperability, scalability. Then the departments select or design a metadata scheme suitable for the integration of digital archive resources in campuses to ensure the formation of electronic information security, systems, and specifications.

3.3. Process Tracking and Management

Process tracking and management is an extension of front-end control. In the process of digital resources and electronic documents transmission, the dynamic control and supervision of the whole process of document formation is ensured. The process is through the regulation of various procedures, the setting of technical indicators, and the tracking of operational behaviors.

3.4. Information Safety and Security

3.4.1. Disaster recovery backup job

The archives departments of multi-campus in cities can use the geographical advantages to establish a remote data backup system. The system choose the appropriate disaster recovery backup product to accomplish the data backup and dumping in time. Data security and continuous availability of digital archive resources in the system can be protected against data corruption or loss. The disasters were from natural disasters, system failures, and erroneous operations.

3.4.2. Valuable network system security

The archives departments should ensure the stability and reliability of servers and information storage media in term of hardware. The archives departments should strengthen technical defense, improve network protection level, and adopt security measures such as password key, multi-level authority management, firewall, anti-virus software, etc. these work above can ensure system and network security in terms of software at the same time. Then, the archive information system and service network suffer from illegal access, virus attacks, and data corruption and tampering can be largely avoided.

3.5. Database Construction

The archives departments should gradually build catalogue databases, full-text databases, featured databases, special databases, multimedia databases, etc., and then manage file information resources in a unified manner.

The archives departments should utilize powerful data resources. Then the departments can fully exploit the characteristics of archives and cultural resources, display the university's educational achievements and resources, enhance the ability of knowledge management and communication, and promote the inheritance of university culture and spirit.

4. PLATFORM CONSTRUCTION

The universities have different characteristics in terms of management mode and distribution of archive resources, such as social governance and e-government. However, China has not yet established a unified digital information resource

sharing same platform for university archives and corresponding standard specifications.

Therefore, the universities need to explore the technical standards, modes and paths of archival digitization and informatization construction in line with the campuses' situation according to their own management and resource construction. The universities need to explore the technical standards, models and paths of digitalization and informatization construction in line with school conditions. The universities need to build a scientific archive information management system and network service platform. Then the universities can realize remote archiving and online one-stop online service.

4.1. Efficient, Stable and Comprehensive Archival Information Management System

The archives departments base on the three principles of "physical file and electronic file", "physical protection and information protection", "entity use and network utilization". Then advanced search, storage backup, database and other application technologies to improve the efficiency and quality of file management are developed.

The archives departments pay special attention to the data sharing and backup of multiple campus sections, pay attention to the docking of the file information management system and other departments' business systems. Then the safe, complete and fast import of data can be realized.

4.2. Diverse, Secure and Convenient Network Information Sharing Platform

The network information sharing platform should cover the main functions of user identity verification, file query, certificate issue, data statistics, digital collection display, file culture communication, user interaction feedback, and so on. The platform can provide users with diversified and humanized online services.

5 UTILIZATION OF DIGITAL ARCHIVES RESOURCES AND THE IMPROVEMENT OF SERVICE LEVEL IN MULTI-CAMPUS UNIVERSITIES

5.1. Transformation of Service Concept

The archives departments should established the concept of integrated development and integrated service. The campus-wide archives departments in a university should change from lack of coordination to inter-connected, and the service consciousness of the departments should change from passive to active. The service target should be transformed by the users within the campuses to the public.

5.2. Valuable Mining of the University Archives

The archives departments should explore the value of university archives resources in knowledge management, school history memory, cultural heritage, archives education by using the integration advantages of digital archive resources. Then the archives departments can do well in resource development, realize multi-campus archive resource sharing, and improve service level and quality.

5.3. Innovative Service Means

The archives departments should use the archives websites, the two micro-ends and other information network platforms flexible. The archives departments should promote the network and informationization of archival utilization and query services. The archives departments should simplify the optimization process and enhance two-way interaction. The archives departments should analyze user behavior, accumulate potential users, predict user needs, and provide accurate service by big data and other technologies.

5.4. Highly Attention to the Protection of Rights

An important risk of networked management and services is information security. It is especially necessary to handle the relationship between openness and confidentiality in the process of providing archives to utilize networked services.

Confidential information cannot be accessed online. Attention should be paid to shielding and occlusion for the information related to the personal privacy. Attention should be paid to the protection of the intellectual property rights of the author or the unit for scientific research archives.

5.5. Strengthened Team Building

The business training for archivists should be strengthened. The archivists must strengthen their information awareness, network awareness, and information skills. The archives departments should give full play to the advantages of professional and technical talents in universities. The archives departments should attract professional and technical talents such as computers, networks, and database joining in the archival work because the talents are lack in short term. The archives departments can cultivate and attract talents in cooperation and strengthen the gathering effect of talents.

6 CONCLUSIONS

The integration and utilization of digital archives information resources will be an important part of informatization construction and smart campus construction for multi-campus universities under the background of informatization construction. The digital resources is also an inevitable trend for universities to achieve integrated development, overall improvement, cultural integration and social services. University archive departments must seize this opportunity to promote the integrated development of archives work, strengthen the integration and development of digital archive resources. And the departments can promote the diversity, accuracy, security and convenience of archives utilization services.

ACKNOWLEDGMENT

REFERENCES

[1]XP Yan, AF Zhang, Exploration on the management idea model of multi-campus universities, China Higher Education Research, 2003, (12): 47-49.

[2]DD Xiong, Front-end control of archives digital construction-taking the digitalization practice of Nanjing University Archives of posts and Telecommunications as an example, Archives Space, 2017, (6):26-28.

[3]YL Wang, Dilemma and outlet of the functions extension in university archives, Archives Science Bulletin, 2013, (2):81-84.

[4]H Mou, Efficiency and effect: rational choice of university archives in the digital age, Archives & Construction, 2018, (5):85-88.

[5]YL Cao, On the Risks and Countermeasures in the
.

Digitalization of University Archives, Archives Management, 2017, (2): 91-92.

[6]LN Xu, Research on the realization of college archives value, Harbin: Heilongjiang University, 2016.

[7]QM Cao, From "exclusive" to "sharing"-on the realization path of the social value of university archives information resources, Archives Science Bulletin, 2012(5): 49-52.

[8]M Anderson, Evolving a network of networks: the experience of partnership in the national digital Information infrastructure and preservation program, International Journal of Digital Curation, 2008, 3(1): 4-14.

[9]HY Zhao, Research on the implementation of digital integration service of book archives resources, Changchun: Jilin University, 2015

Reform and Practice of Linear Algebra Curriculum Based on Network Public Platforms

Chunli Wang*, Junli Zhang
Institute of Information Technology of Guilin University of Electronic Technology, Guilin, 541004, China
*E-mail:wangchunliwcl821222@sina.com

Abstract: In the new media era, the online platform is a gas station from which students can acquire knowledge independently. In the teaching reform of linear algebra, the online learning platform can be used to update the teaching method. This paper analyzes the problems encountered in the process of linear algebra teaching, and uses the network video platform to solve a series of problems in the process of linear algebra teaching.
Keywords: Linear Algebra; Curriculum Reform; Network Platform

1. INTRODUCTION

Linear algebra is a very important basic course. It not only has strong logic, abstraction and wide application characteristics, but also plays a vital role in the study of other subjects. However, due to various factors, the applied characteristics of the course have not been well reflected in the teaching. The importance and applied value of this course have not been recognized by teaching managers and students. The teaching goal of linear algebra is not only to let students master the complete analytical knowledge of the system, but also to combine the current situation of the development of mathematics disciplines to cultivate lifelong learners with self-renewal knowledge [1]. This puts higher demands on the reform and exploration of teaching methods. It can be seen that it is of great significance to implement the reform method of linear algebra curriculum and continuously summarize and improve it in practice.

2. PROBLEMS FACED BY LINEAR ALGEBRA IN TEACHING AND LEARNING

2.1. The Less Intense of Teaching Reform

As a public course, most of the majors need to learn linear algebra. However, the teachers who undertake this class teaching work generally have heavy tasks, standing in the classroom all day [2]. There is no time and energy to undergone certain reforms and innovations. In teaching methods, they are not able to adopt different teaching methods according to different classes of different professions. As matter of a fact, they just complete the teaching tasks in limited time, resulting in unsatisfactory teaching results. In recent years, the college has repeatedly compressed the time of linear algebra, so the course of linear

algebra has the characteristics of time-critical task. The teaching method and its improvement are very slow. The curriculum teachers should be alert on this issue. It is necessary to implement effective teaching reforms.

2.2. The Relative Abstraction of the Course and Generally Less Time of Class

The linear algebra course has a high degree of abstraction and rigorous logic. It contains a large number of theorems, concepts and calculations, which are not convenient for students to accept. Even with reviews, it is difficult to achieve the desired effect. Under this circumstance, while the class is being reduced, the instructor can only complete the teaching task [3]. It is impossible to do too much practice for the students in the class to consolidate, which leads to the students not learning through each chapter. Therefore, it cannot cultivate students' mathematical thinking and mathematics skills.

2.3. Course Settings Inconsistent with Student Professional Courses

The teaching purpose of linear algebra courses in colleges and universities does not change according to the majors students studied, Besides, it does not adjust the teaching content based on the students' majors. The focus of teaching is immutable [4]. As long as teachers are teaching linear algebra, it is just to complete the content of the syllabus. Inflexibility leads to disconnect between teaching and learning of linear algebra. In the long run, students are in passive learning, losing interest in learning linear algebra, and even appearing to be tired of learning.

3. RESEARCH ON THE METHOD OF LINEAR ALGEBRA TEACHING REFORM

3.1. Integrating Mathematical Modeling Ideas into Linear Algebra Teaching

The definition of linear algebra is abstracted from practical problems, so in the classroom of linear algebra, the definition of historical background and the actual process can be explained to let students understand the idea of mathematical modeling [5]. In the actual applied process, by appropriate simplification and reasonable assumptions, students should be guided to analyze and establish a simple mathematical model to solve. It is not enough to carry out mathematical modeling training in the classroom of linear algebra. You can use the mathematics

modeling exercises of the post-class operation of linear algebra to train students to solve practical problems with the knowledge. The mathematics modeling learning exercise not only cultivates students' ability to comprehensively apply various aspects of knowledge to solve practical problems, but also improves the overall student's ability such as linguistic expression, scientific writing, innovative spirit, teamwork and other aspects. Thus it will be helpful to cultivate comprehensive ability of students. Therefore, proper integration of mathematical modeling ideas in the teaching of linear algebra teaching is conducive to the improvement of students' overall quality, and it is conducive to improving students' modeling literacy and benefiting students for life [6].

3.2. Applying the Tablet to Linear Algebra Teaching

In the daily use of the tablet, in addition to input for text, symbols, and graphics and so on, the cursor positioning function can also be provided. So the tablet can replace the keyboard and the mouse at the same time, and becomes an independent input tool. Applying the tablet to the teaching process of linear algebra greatly improves the efficiency of the classroom. Therefore, teachers are not limited to the podium. They can go to the middle of the students to talk and communicate. In this case, it not only closes the distance between the teacher and the student, but also makes the teaching more effective. The teaching of the tablet requires the teacher to organize the contents of the classroom into PDF files in advance. During the course of the class, the analysis and answer are carried out on the tablet, which greatly saves the time for the teacher to write the book [7]. And through the multimedia presentation, the students can understand and deepen more intuitively impression. After completing the teaching tasks in each class, teachers can also use the remaining time to expand the students' mathematical thinking or do more exercises to consolidate. The tablet teaching can achieve better teaching results in a limited class time, so the tablet teaching can solve the key problems of less linear algebra.

3.3. Infiltrate Matlab into Linear Algebra Teaching

Matlab and Mathematica, Maple are regarded as the three major mathematical softwares, which used in numerical computing in mathematics applications. Matlab can perform matrix operations, draw functions and data, implement algorithms, create user interfaces, and connect programs in other programming languages. It is mainly used in engineering calculation, control design, signal processing and communication, image processing, signal detection, and financial modeling design. Besides, it can be used in other areas such as analysis [8].

Anyone who has studied linear algebra knows that the characteristic of linear algebra is that it is computationally intensive. Besides, it is very troublesome to use the pen alone. Especially in practical applications, the calculation difficulty is more prominent [9]. Therefore, in the teaching process of linear algebra, the mathematical software "Matlab" should be used to solve the calculation problem in "Linear Algebra". It is helpful to combine pen and computer calculation in the process of teaching. There are still many complicated calculation problems in linear algebra, which can be solved by Matlab software, saving a lot of calculation time and having a multiplier effect. In the teaching of linear algebra, more time can be saved, which is used to explain difficult content (such as linear correlation, linear transformation, vector space, etc.).

3.4. Combining Linear Algebra Video Teaching with Classroom Teaching

At a time when social media software is prevalent, video tutorials can be used to solve unresolved tasks in linear algebra classes or to answer questions. The advantage of video teaching is that teachers and students do not have to get together in the classroom. The time and place are very free, and the teaching videos can be played back and saved, which is conducive to students' review and repeated trials [10]. At present, social software of the live broadcast type can be utilized. For example, beauty shot, Yingke, and the like and so on. As long as the students and teachers are on the same software platform, teachers can record after-school practice videos at home or record mathematics that is conducive to expanding students' mathematical thinking. Students can use their free time to watch videos and learn linear algebra. Students can ask questions to the teacher through the video platform. When the teacher sees the student's question, they can record a video to solve the problem. In addition to uploading pre-recorded videos, the video platform can also broadcast live video. Therefore, the linear algebra teaching video can also be carried out in these two forms. For the answer to the after-school exercises or the students' questions, the teacher can upload a 5-10 minute video upload, and the students can watch as needed. According to the teaching content, the teacher can use the form of live broadcast for about 1.5 hours. In this cases, teachers and students can communicate with each other. Moreover, this kind of video teaching teacher is provided free of charge, and the students can understand the hard work of the teacher and enhance the friendship between teachers and students [11].

4. CONCLUSION

Through the teaching reform of linear algebra, students can more easily accept the boring theorems and definitions in linear algebra, which allows students to enter the collaborative state of mathematical modeling in advance. Besides, it allows students to learn on the e-learning platform and deepen linear algebra and the link to the actual problems. There is still a lot of researched space for the teaching reform of linear algebra using the

network platform. I hope that the research in this paper will benefit all the later studies.

REFERENCES
[1]Pei Wang, The practice of mixed teaching mode in the "linear algebra" classroom, Education observation (first half of the month), 2017, (23): 110-111 (2017-12-05).
[2]Xiaoxia Wang, Wencheng Wang, Fengqun Zhao, Wenyan Guo, Design and implementation of flipping, discussion and inquiry linear algebra teaching schemes, Mathematics Research and Study, 2017, (20): 17+19.
[3]Wenxia Yang, Lang He, Sijun Peng, Reform and Practice of Linear Algebra Hybrid Teaching Based on SPOC and Flip Classroom, University Mathematics, 2017, 33 (04): 44-50.
[4]Guoli Wu, On the Reform of Linear Algebra Teaching Based on the Concept of "Flipping Classroom", High Teaching Journal, 2017, (09): 61-62.
[5]Huiqin Wu, Research on College Mathematics Teaching Based on Flipping Classroom Teaching–Taking Linear Algebra as an Example, Modern Vocational Education, 2017, (12): 128.
[6]Hongyan Shi, Yaowei Wang, The Application of Mathematical Modeling Thought in the Teaching Reform of Mathematics Public Course–Taking Linear Algebra as an Example, Neijiang Technology, 2017, 38 (04):55-56.
[7]Yunlong Han, A preliminary study on the teaching reform of "linear algebra" in the mode of MOOC, Curriculum Education Research, 2017, (05): 154.
[8]Zhongzhi Liu, Applied Undergraduate "Linear Algebra" and Matlab Teaching Reform, Journal of Hunan Institute of Science and Technology, 2012, 33(08): 7-12.
[9]Dandan Li, Zhen Zhang, Problems in the process of teaching and learning in linear algebra, Chinese and foreign entrepreneurs, 2013, (02): 221.
[10]Xiaopeng Yue, Xiaoran Meng, Study on Integrating Mathematical Modeling Thought into the Reform of Linear Algebra Teaching, Journal of Science of Teachers' College, 2011, 31 (04): 77-79.
[11]Hongmei Zhang, Research on Matlab Experimental Teaching of Linear Algebra, Science & Technology Prospect, 2017, 27 (22):223+225.

Attribution Research on the Effectiveness of Core Socialist Values Communication

Fucheng Liu*, Liping Ma
Institute of Information Technology of Guilin University of Electronic Technology, Guilin 541004, China
*E-mail: 282924504@qq.com

Abstract: In order to improve the effectiveness of the Core Socialist Values, this paper draws on the communication audience theory to do attribution analysis about the factors affecting the effectiveness of communication, the audience, the content of communication, the media, the communication environment and the feedback of communication. In this condition, it can clear the reasons for the effects of communication, and effectively improve the effectiveness of the dissemination of Core Socialist Values.
Keywords: Core Socialist Values; The Effectiveness of Communication Influencing Factors; Attribution

1. INTRODUCTION

Since the 18th National Congress of the Communist Party of China, the Party Central Committee with Xi Jinping as the general secretary has repeatedly stressed that it is necessary to cultivate and carry forward the Core Socialist Values as the basic project of strong gathering and strengthening the foundation. Besides，he also emphasizes that it is important to constantly consolidate the basis of ideological and morality of socialism with Chinese characteristics. This paper explores the dissemination of Core Socialist Values from the perspective of communication audience theory, analyzes the constraints that hinder the satisfaction of audience needs and influence the effectiveness of Core Socialist Values. It is expected to enrich the study of effective dissemination of Core Socialist Values.

2. AUDIENCE ANALYSIS OF CORE SOCIALIST VALUES BASED ON AUDIENCE THEORY

Audience refers to the recipient or recipient of the information dissemination process. According to different goals and standards [1], the audience is usually divided into ordinary audience and specialized audience; realistic audience and potential audience; readers, listeners, audiences, online users; instructional audience, consulting audience and dialogue audience; rational audience and an indulgent audience.

2.1. The Ordinary Audience and Specialized Audience

The ordinary audience and specialized audience are divided based on the audience's attention to information, selectivity and content needs. Ordinary audience refers to information recipients who do not deliberately screen the disseminated information and have a general interest in various media and content. They have no specific interest or demand for information. Contrary to ordinary audiences, specialized audiences refer to more targeted audiences who have specific interests in information, have predetermined receiving goals and directions, and have specific requirements for content. This inspires us that in the process of carrying forward and cultivating Core Socialist Values, we must let the general public receive Core Socialist Values as much as possible, such as playing in different time periods of television and organizing activities in the community. The school holds contests of knowledge and strives to transform them into specialized audiences for Core Socialist Values.

2.2. The Realistic Audience and Potential Audience

The realistic audiences and potential audiences are divided based on their own characteristics and media usage. A realistic audience is an audience that is more faithful and stable to a certain type of media content. A potential audience refers to an audience that may become a certain media content according to its social status, needs, beliefs, culture, etc., or have a potential demand and willingness for a certain media content. But they have not become loyal and stable audience. This inspires us to selectively promote and nurture Core Socialist Values and fully tap potential audiences of Core Socialist Values according to different levels of people.

2.3. Readers, Listeners, Viewers, and Online Users

Readers, listeners, viewers, and online users are simple and intuitive audience segmentation based on the differences in media access. The reader receives information through the print medium. The listener receives the information through the broadcast. The viewer receives the information through television, video, etc. The online user receives the information via the Internet. This inspires us to make full use of the various media that can be used to carry forward and cultivate Core Socialist Values through various channels.

2.4. The Instructional Audience, Consulting Audience and Dialogue Audience

The instructional audience, consulting audience and dialogue audience are based on McQuay's theory about the enthusiasm and participation of the audience in the process of communication. An instructional audience usually refers to a group that has a large number of people, is more dispersed, and accepts information unilaterally but hardly sends out

feedback. A consulting audience is a group of people who can decide when and where they want to disseminate information. A dialogue audience is a group of people who can receive information on an equal footing with the communicator. Core Socialist Values aims to point the way for the development of the country, society and citizens. The communicators must set their own responsibilities and obligations, and disseminate Core Socialist Values to the audience on an equal footing so that the audience of the Core Socialist Values are dialogue audience.

2.5. The Rational Audience and Indulgent Audience

The rational audiences and indulgent audiences are divided based on the degree to which people have been involved in media content and involvement. In the process of using the media, it can effectively carry out self-regulation and moderation, and has limited dependence on the content of the communication. The audience that does not affect their normal life because of the use of a certain medium is called a rational audience. Indulgent audiences have strong dependence on the media, are highly involved, and are indulgent to the media content, which affects their normal life audience. The Core Socialist Values are a positive value that does not make the audience an indulgent audience.

3. CONSTRAINTS AND ATTRIBUTION ANALYSIS AFFECTING TEH EFFECTIVENESS OF CORE SOCIALIST EVALUES COMMUNICATION

The process of information dissemination from the generation to the dissemination and the effect is very complicated. This process has a variety of intermediate links and intermediate factors, which may affect the effect of communication. In other words, the effect of information dissemination is inevitably affected by the actual process of communication. The final result of the interaction between the various elements involved in the process of communication is the concrete manifestation of the effect of communication. "The dissemination effect of the Core Socialist Values is directly related to whether the systemic ideology system and the system of the values system can be truly occupied, and whether it can truly fulfill the responsibility of defending the soil in the party's ideological work."[2] In order to better enhance the communication effect, it is necessary to analyze the factors affecting the spread of Core Socialist Values from the source to the audience.

Communicators refer to the promoters of communication behaviors, and they use some means or tools to actively send information to others. [3] Core Socialist Values are proposed by the Communist Party of China and the state, and spread from top to bottom by governments at all levels and various administrative units. The communicator determines the channels of communication and the trade-offs of the information to be disseminated. Therefore, the communicator can have an impact on the effect of the communication.

3.1. The Theory of "Gatekeeper"–The Communicator Determines The Content Of Information Dissemination

The communicator is at the head of the communication process, controlling the content, flow and flow of information and the reaction of the audience. Luin called the communicator's control role in the process of information dissemination a "Gatekeeper" theory. The "Gatekeeper" theory tells us that the communicator decides whether information can enter the mass communication channel. In today's society, the media has been highly developed, but many of the media have published eye-catching stories about celebrities, vulgar events, or facts that are inconsistent with the facts. Most of the schools, governments or other official institutions are actively practicing and disseminating Core Socialist Values. Furthermore，there are very few self-medias that truly invest time and energy to spread Core Socialist Values.

3.2. "Sleep Effect" Theory-The Credibility and Authority Od the Communicator Affecting the Audience's Acceptance

Information that the audience usually asks for is true and reliable, but in the face of many disseminated information. Ordinary people do not have the time and energy to identify and distinguish the true and false information. Even if there is time, there is no need to identify. Therefore, the credibility and visibility of the communicator will affect the effect of information dissemination. When the audience accepts the information, they always need to know the publisher of the information. If the source is reliable, the information dissemination will have a positive effect. If the source is not reliable, the audience is likely to refuse to listen, even if the audiovisual will be skeptical to look at the content of the information. Based on the concept of "credibility effect", Hoffland puts forward the theory of "sleep effect" in another experiment, which shows that the credibility of information source has a very important impact on the short-term effect of information. Hoffland points out: "The higher the credibility of the source, the stronger the persuasion effect; the lower the credibility, and the weaker the persuasion effect." The popularity is commonly referred to as the "celebrity effect". Generally speaking, the higher the visibility of the communicator, the stronger the communication effect. Just as the audience is very willing to believe the news reported by CCTV or People's Daily, because CCTV and People's Daily are authoritative, and the information published is highly credible. The actual dissemination of Core Socialist Values will undergo a top-down process. In this process, the quality of the various communicators is uneven, and the credibility and visibility of the lower-level communicators are declining for the grassroots. Ultimately it affects the spread of socialist core values.

3.3. Dissemination of Sudience Factors

The audience is the end of information dissemination, but the process of information dissemination is not over. The audience will have a strong subjectivity, contact, understanding and memory of the media and information. These three processes determine the audience's acceptance of the information. In short, the selective psychology of the audience is prominent, affecting the effective dissemination of Core Socialist Values. Selective contact means that the audience tends to approach media and content that are consistent or similar to their original position, viewpoint or attitude, and avoid content that is different or opposite to their original position, viewpoint or attitude. Selective understanding means that after receiving the information through selective contact, the audience will tend to understand or interpret the new information according to their original knowledge. If the information content is inconsistent with their original knowledge, it will misinterpret the new information to make it consistent with its original knowledge. Selective memory means that the audience tends to remember long-term information that is consistent with their own attitudes and interests, and forgets information that is inconsistent with their own views. Based on this, we can divide the audience of Core Socialist Values into different groups of people. There are some audience who never contact with Core Socialist Values.

Since the reform and opening, China's economic level has been highly developed, and people's living standards have generally improved. However, there are still a small number of people who are worried about eating and drinking, and some are still illiterate. Most of these people live in remote mountain villages with inconvenient transportation. They know very little about the outside world and have difficulty accessing Core Socialist Values. Only listen to the audience of Core Socialist Values. The state is vigorously promoting Core Socialist Values, and can see relevant slogans in the streets and all walks of life, affecting the audience. But this influence is passively accepted by the audience, and they will not deliberately explore their intrinsic value.

3.4. Factors of Communication Content

Basic content of Core Socialist Values is "three advocacy". The value requirements at the national level are Prosperity, Democracy, Civility, Harmony. The value requirements at the social level are freedom, equality, justice, and Rule of Law. The value requirements at the individual level are Patriotism, Dedication, integrity and friendship. These 24 words answer the question of what kind of country and society we want to build and what kind of citizens to cultivate, which points the way for the development of our country, society and individuals.

However, the Core Socialist Values based on the "three advocacy" cannot meet all the needs of all audiences. By 2020, China can achieve the goal of a comprehensive well-off society. Up to now, there are still many poor people who are either low-level or low in ideological and political consciousness. According to Maslow's theory of demand, only a lower level of demand is met to produce more advanced requirements. In the absence of personal quality of life, it is difficult for people to have a higher level of pursuit. In addition, there are also self-interested people in the non-poor population. This group of people believes that building a country and society is something the government should do, and it has nothing to do with the individual's personal behavior. Therefore, we will not consciously cultivate and practice the socialist core China, and will affect the effectiveness of the Core Socialist Values.

3.5. Media Factors

Information media can be divided into three categories: visual media, auditory media and audiovisual media. The dissemination of Core Socialist Values mainly relies on the dissemination of governments at all levels, schools and other places. The methods of communication used are almost all television, video and other methods. The dissemination methods are outdated and the models are backward, which greatly reduces the dissemination effect of Core Socialist Values.

From the visual media, the oldest is the print media. It is also the fastest and most widely spread, with newspapers and magazines as the most. However, the times are changing. When printing technology and paper media dominate the world, the timeliness of newspapers has become the preferred way for people to obtain the latest information. After the emergence of mobile smartphones, the timeliness of newspapers has disappeared. Advanced impact of information technology on newspapers has made newspapers unrelenting, and new media attached to information technology has changed people's reading habits. Nowadays, young people are exposed to new media such as computers and mobile phones in very young age. This is the normal state in their lives. They are used to manipulating and using digital media, and there are fewer and fewer opportunities for traditional media. People's dependence and choice on the media is largely determined by the development of habits. These "digital aborigines" have abandoned traditional reading habits, and young groups have no paper reading habits, which inevitably makes reading such reading. The way is almost extinct among teenagers. According to the changes of the times, and the advancement of various technologies. More information can be viewed on the mobile app, making it easier to read. Therefore, although the spread of visual media such as newspapers and magazines has not been eliminated, in the face of the new era and big data, they have no doubt left behind, so as to affect the better dissemination of Core Socialist Values.

3.6. Dissemination of Environmental Factors

According to social classification theory and social

relationship theory, people will unconsciously belong to different groups based on certain characteristics. The group exerts pressure on individual life and affect the attitude of the audience to receive information, especially in economic and social poor areas. For the economically undeveloped rural areas, in the process of connecting the various aspects of farmers and society, there is a lack of effective attention and research on the information media, especially the mass media. In addition, it is insufficient for the poor area to develop the social ideological foundation and life foundation of the development of the mass media. Besides, it is lack of attention for some factors such as the cultural basic, social traditions and ethnic customs in the original areas to resist and transform the original mass culture. That is to say, it is lack of sufficient attention to the underlying behavior of society. So the spread of Core Socialist Values has been influenced by specific circumstances. In addition, Core Socialist Values indicates what kind of country and society we want to build and what kind of citizens to cultivate. However, not all groups expect China to develop in this direction, such as Taiwan independence. Such a group inevitably affects the acceptance and recognition of the Core Socialist Values by the individuals in the group, thus restricting the spread of Core Socialist Values.

4. CONCLUSION

With the advent of the "Internet +" era, the widespread use of online and new media technologies has brought unprecedented opportunities and challenges to the spread of Core Socialist Values. From the perspective of the audience theory of modern communication, the author regards the dissemination of Core Socialist Values as the audience. Besides, the author also regard the process of the dissemination of Core Socialist Values as the acceptance process of the broad audience. The organic integration of the results of communication studies and the dissemination of Core Socialist Values is conducive to the formation of new perspectives and new ideas for the dissemination of Core Socialist Values, the promotion of innovations in the concepts, models and methods of the dissemination of Core Socialist Values, and the effective improvement of the socialist core. In the long term, it can broadcast the Core socialist Values effectively.

ACKNOWLEDGMENT

REFERENCES

[1]Kejun Su, Introduction to Communication Studies, Jilin: Jilin University Press, 2017: 251-253.
[2]Lin Zhu, Li Zhang, Zhengke Liang, Analysis of the Spreading Effect and Effective Communication Strategy of Core Socialist Values, Journal of Ideological Theory Education, 2015(11): 81-84.
[3]Qingguang Guo, Communication Course, Renmin University of China Press, 2007: 157.

Author brief introduction:
1. Fucheng Liu (1986.1-), male, Shaoyang, Hunan, Lecturer, Master of Information Technology, Guilin University of Electronic Technology. Research direction: ideological and political education.
2. Liping Ma (1983.10-), female, Yichang, Hubei, associate professor and master of Institute of Information Technology of Guilin University of Electronic Technology. Research direction: ideological and political education.

Network Communication Situation and Optimization Path of Socialist Core Values in the Age of "Internet +"

Liping Ma
Institute of Information Technology of Guilin University of Electronic Technology, Guilin 541004, China
E-mail: 641867631@qq.com

Abstract: The network communication of socialist core values in the era of "Internet +" faces complex realities: the liberalization of information dissemination weakens the control of the dissemination of socialist core values; the virtual nature of information dissemination undermines the spread of its Credibility; the openness of information dissemination reduces the pertinence of the dissemination of it. In view of the situation above, we need to actively construct an optimized path for socialist core values network communication: consolidate the guiding position of socialist core values, strengthen the party's leadership over ideology; strengthen the supervision of information and improve the orderliness of the network environment; Strengthen the construction of the communicator team and improve the communication power of professional talents.

Keywords: Socialist core values; Communication; Situation; Path

1. THE REAL SITUATION OF THE SPREAD OF SOCIALIST CORE VALUES IN THE ERA OF "INTERNET+"

1.1. Liveralization of Information Dissemination Weakens the Control of the Dissemination of Socialist Core Values

The prints are faster and more advanced than the military and tanks [1]. The special media of the network has great autonomy and broad freedom. On the open platform of the Internet, various kinds of thoughts spread widely and swiftly. The security of ideology is an important part of national security. The Western countries headed by the United States have always used ideological infiltration as a long-term strategic task of subverting the socialist countries. With the advent of the era of online media, Western countries use the Internet as their main tool, and widely use television, radio, mobile phones and other media to promote the ideology of Western countries and broadcast Western values. Western countries attempted to quietly establish their "cultural imperialism" through the gentle means of "peaceful evolution", in an attempt to promote their "universal values" in the world to realize their goal of "Westernization" and "differentiation". Today, the penetration of ideologies in Western countries has intensified and has become a serious threat to our mainstream ideology.

"Networking has intensified the struggle between socialism and capitalism in the field of ideology, making the task of popularizing Marxism in contemporary China more difficult." [2] The arrival of the "Internet +" era has made information dissemination more convenient and faster. Western countries use online media to spread all kinds of information to China, promoting their Western ideology, values and lifestyles, shaking the foundation of traditional culture in China. They use various platforms and media to infiltrate culture at the ugly aim of subverting socialism in China. People using the internet are unconsciously influenced by Western ideology, especially young people. As the world outlook, outlook on life and values of the youngest are in the period of formation and development, their mind is not mature enough. Besides, they lack of ability to think and judge independently, and their political beliefs have not yet formed and stabilized. Therefore, young users are easily tempted and induced by some reactionary information and decadent ideas in the context of information liberalization, showing a westernization tendency in terms of ideas, value orientation and lifestyle. The liberalization of information dissemination has made various anti-Marxist trends of thought sneak in by the network platform, seriously weakening the control of information dissemination of socialist core values.

1.2. The Virtual Nature of Information Dissemination Undermines the Credibility of the Dissemination of Socialist Core Values

The virtuality and concealment of information dissemination in the network leads to the retreat of the true identity of the communicator, weakening the moral constraints in the real society, and repeatedly appears the phenomenon of network morality. The network is a dazzling and colorful world composed of various elements such as words, pictures and sounds. It brings a lot of convenience and color to production and life of people. However, the Internet is a double-edged sword, and it is also releasing its harm while exerting its unique charm. The biggest feature of the network is virtuality and concealment. In the virtual network world, the communicator can hide his true identity and use the virtual identity, age, gender,

occupation and other information to spread the network.

American economist Esser Dyson pointed out: "The digital world is a brand new territory that can release indescribable production, but it can also become a tool for terrorism and scams, or base camp of a big lie and malicious slander."[3] Today, China is going through the social transformation, various social contradictions are prominent, people have greater pressures on life, and there are many negative feelings in the heart such as sense of loss, dissatisfaction and frustration. In the face of repeated social injustices or ugliness, people express strong dissatisfaction and indignation, and tend to use online media to dispel negative feelings such as depression, anger, sadness and helplessness. People are venting their emotions to the fullest. "Sometimes even using language violence, the Internet has become a hotspot for language dumps and violence and pornography. This kind of online speech filled with emotions and extremes has made online public opinion irrational." [4] Due to the lack of network social information supervision mechanism, some ulterior communicators can spread bad information by virtue of their virtual network identity, and successfully escape moral responsibility and rules. The "no-blame" state of information allows the communicator to distribute all reactionary, false and violent information unscrupulously, seriously jeopardizing the credibility of the spread of socialist core values.

1.3. The Openness of Information Dissemination Reduces the Pertinence of the Dissemination of Socialist Core Values

The emergence of the network has made the information fissile and explosive, greatly expanding the scope of information dissemination and increasing the speed of information dissemination. In the age of online media, information dissemination is open, and information is vast and diverse, making people dazzled. The information is stored in digital storage, and the storage capacity expands with the development of storage technology and has theoretical infinity. Compared with the traditional one-dimensional communication mode of socialist core values, the open information dissemination method greatly expands the depth and breadth of information, enriching the amount of information, and providing the audience with a greater choice of information.

However, the massive amount of information brings the benefits of increasing the amount of information and expanding the choice of the audience, and it also poses a huge challenge for the audience to efficiently select favorable information. Firstly, the vast amount of information is mixed, and the audience is inevitably invaded by heterogeneous information. In the online world, information is complex and open, and everyone can get the information they need in the network. The nature of information is scientific and non-scientific, positive and negative, correct and wrong. When the audience chooses favorable information, in the situation that a large amount of heterogeneous information is mixed, it will inevitably receive harmful information that lacks value. This will have a serious impact on the value of information disseminated by the Internet, forming obstacles to the dissemination of socialist core values, and bringing negative influences to the transmission and acceptance of scientific theories. Secondly, the huge amount of information increases the difficulty of selecting truly beneficial information for the audience. Among the vast amounts of information disseminated by the Internet, there is a large amount of spam that has neither positive value nor obvious harm to the audience. Although this kind of information does not directly affect the audience as harmful information, it wastes the time and effort of the audience and reduces the efficiency of the audience's access to favorable information on the network in the process of selecting the truly beneficial information. The vast amount of information on the Internet often makes the audience incapable of choosing the favorable information, thus losing the information and judgment and discriminating power, and unable to effectively select the information content that is beneficial to their own learning and development. The information disseminated by the core values of socialism is scientific and correct. The openness of the network cannot guarantee the value of all information. The huge amount of information makes it difficult for the audience to identify the science of information, thus reducing the aim of socialist core values.

2. THE "INTERNET+" ERA OPTIMIZES THE PATH CONSTRUCTION OF SOCIALIST CORE VALUES

2.1. Consolidate The Guiding Position of the Core Values of Socialism and Strengthen the Party's Leadership over Ideology

The Communist Party of China is the core of leadership for socialist cause in China. In the era of "Internet +", it is especially necessary to strengthen leadership over ideology. Political parties are closely related to ideology. Political parties are the carriers of ideology. Ideology is the tool used by political parties to achieve social integration and social control. The socialist ideology led by Marxism, as the fundamental guiding ideology of the party, has played a huge role in the historical process of socialist revolution, construction, and reform, and greatly promoted the progress and development of society. Fully recognizing the long-term, complex and sharpness of the struggle in the ideological field, we cannot relax the party's leadership over ideological affairs at all times, and it is a necessary guarantee for the healthy development of the socialist cause. As Jiang Zemin pointed out: "Ideology and culture positions, Marxism, the ideas of the proletariat will not be occupied, and various non-Marxist, non-proletarian and even

anti-Marxist ideas will be occupied." [5] In the era of "Internet +" era, information is disseminated freely, and the Internet has become a venue for various trends of thought and ideology. Some western countries pursuing hegemonism and power politics have continuously promoted cultural colonial policies. It is infiltrated and subverted China culturally, seriously threatening cultural security and the stability of mainstream ideology in the country. Therefore, the party must strengthen its leadership over ideology, make full use of the Internet and various new media, broadcast the main theme of socialist core values, and occupy the main front of the spread of socialist core values. The party should strengthen the construction of mainstream websites and digital platforms and increase the influence of theoretical propaganda. The dissemination of socialist core values is inseparable from theoretical propaganda, and it is necessary to give full play to the dissemination of mainstream media and websites and excellent digital works. At present, there are less and less the mainstream website brands which used to promote the socialist core values, and it is necessary to greatly increase the authoritative brands such as People's Daily, Guangming.com, and the Communist Party of China. Many of the existing websites are old-fashioned, boring, single-form, unattractive and appealing, and do not give full play to the influence of the network. In addition, the phenomenon of "homogeneity" in network theory propaganda is serious. Many publicity websites have similar content, and the form is similar, lacking independent innovation and local characteristics.

2.2. Strengthening the Supervision of Information and Improving the Order of Network Environment

The openness and liberalization of information in the "Internet +" era has brought great convenience and benefits to the audience, and it has also brought unprecedented challenges to the healthy and orderly development of the network environment. Due to the lack of sound information supervision mechanism, various reactionary speeches and false information are spread in the online world. Various pornographic and violent information are flooding, and many negative information attracts the attention of the audience and erodes the soul of the audience. Although the network society is a virtual space, it is ultimately used by people, serving people, and the network society is still a part of human society. Therefore, it is necessary to use the morality and law in human society to regulate people's behaviors and behaviors in the network society. No rules, no standards. The liberalization of information does not mean that you can do whatever you want. The openness of information is not equal to being able to do anything. Even in the virtual online world, netizens must abide by ethical and legal regulations and use the network scientifically and rationally.

Socialist core values network communication requires a healthy and orderly environment and atmosphere, creating a communication situation that can guide, infect and motivate the audience, and help the audience choose and accept the socialist core values actively. First of all, we must strengthen network legislation and ensure the healthy and orderly operation of the socialist core values dissemination platform. Incorporate the supervision of information into the legalization track, and severely crack down on all kinds of phenomena that use the Internet to spread harmful information or even engage in criminal activities, and strictly enter from the source of information. It is conducive to provide legal protection for the legitimate rights and interests of citizens' network activities by establishing sound and complete network laws and regulations. Secondly，it is to purify the network environment and strive to build a green online space and service platform. It is necessary to advocate online moral self-discipline actively. It should exert the role of social supervision, build a service platform based on the characteristics of the audience structure and network applications, highlight the social service functions of the Internet, and create a network cultural space that integrates functions of education, service, entertainment, etc., and build a harmonious, warm and friendly happiness home. Finally, it is to carry out public supervision and social education. It is necessary to strengthen the education of socialist core values, guide netizens to abide consciously by network ethics and laws, strictly regulate their own online behaviors, and develop good online behavior habits.

2.3. Strengthening the Construction of the Communicator Team and Improving the Communication Power of Professional Talents

The effective dissemination of the core values of socialism cannot be separated from a professional technical team with a firm political standpoint and exquisite business capabilities. The overall quality of the professional and technical team has a great impact on the form, path and effect of the socialist core values. In today's "Internet +" era, we must strengthen the construction of professional and technical teams and improve the spreading ability of professionals.

Above all, we must improve the theoretical quality of professional talents. Professionals who disseminate socialist core values must improve their theoretical literacy, consolidate the theoretical foundations of Marxism, firmly grasp the basic principles, viewpoints and methods of Marxism, and be able to connect theory with practice and apply what they have learned. In the process of spreading socialist core values, we can closely combine the basic theories of socialist core values with the specific ideas and life of a wide audience, and guide the audience to learn and absorb the core values of socialism. If the communicator does not proceed from the actual situation and specific needs of the audience, it will not

arouse the interest and enthusiasm of the audience beyond life, reality, and demand. Finally, the implementation of the socialist core values will be empty talk.

Besides, it is suggested to improve the level of new media technology for professional talents. At present, many socialist core values communication workers are unable to use new media technologies in the specific process of communication due to the lack of network knowledge and skills and communication experience, which leads to the lack of appeal and motivation to the audience for the popularization of Marxism. The lack of theoretical literacy of communicators and the lack of new media technology have become a major obstacle to the spread of socialist core values in the era of "Internet +". The communicator occupies a dominant position in the process of disseminating the entire socialist core values, and masters the complete operation of information collection, content editing, form selection, and feedback tracking. Therefore, in the era of "Internet +", professionals who have spread the core values of socialism must keep pace with the times, follow the trend of the times, actively learn network knowledge, master various new media operation techniques, and use modern information technology to spread Marx. The comprehensive quality of the professional and technical talents disseminated by the socialist core values can be improved, and the socialist core values can be better disseminated. Thus, the audience can be guided to select and absorb the essence of the socialist core values effectively, improving the effectiveness of the audience's choice of information.

REFERENCES
[1]P. Samuel, Huntington, Political order in a changing society, Wang Guanhua et al., Trans. Sanlian Bookstore, 1989: 14.
[2]Naiyun Gao, On the Internet Communication Situation and Strategy Optimization of Marxism Popularization, Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition), 2012(6): 202.
[3]Esser Dyson. The life design of the digital version of the 2.0 version, Haikou: Hainan Publishing House, 1998: 17.
[4]Xin Zou, The Reality and Path Choice of Marxism Popularization Communication under the View of Network Society, Theoretical Circles, 2013(10): 152.
[5] Jiang Zemin's Selected Works (Volume 3), Beijing: People's Publishing House, 2006: 97.

About the author: Liping Ma, female, Han, Yichang, Hubei, (1983.10-), Associate professor, Master, mainly engaging in the study of college students' ideological and political education. (Guilin, Guangxi 541004).

The Construction of "Learning, Service and Innovation" Grassroots Party Organizations in University Libraries

Junli Zhang
Institute of Information Technology of Guilin University of Electronic Technology, Guilin, 541004, China
E-mail: 20675470@qq.com

Abstract: The report of the 18th National Congress of the Communist Party of China and the report of the 19th National Congress of the Communist Party of China respectively proposed to strengthen the construction of service-oriented grassroots party organizations. The grassroots party organizations of university libraries actively responded to the call of the party, and analyzed the situation of the grassroots party organizations in the university libraries. It also proposed that problems left over from history should be solved, and the significance of the "learning, service, and innovative" grassroots party organizations in the construction of university libraries should be explored, specifically learning from "micro", adding new vitality, "micro" services, building a new platform, and "micro" innovation. The construction of grassroots party organizations in the library needs to be discussed from three aspects of expanding new space.
Keywords: Grassroots party organization; Library in the university; library service

1. INTRODUCTION

The report of the 18th National Congress of the Communist Party of China first proposed "strengthening the construction of grassroots service-oriented party organizations." The 19th National Congress of the Communist Party of China further proposed "focusing on improving organizational strength and highlighting political functions." This pointed out the direction for the construction of grassroots party organizations in the new era. In addition, the corresponding literature of the library party construction is statistically analyzed through the CNKI full-text database. The number of research on the party construction of the library and the publication of the papers are too small, which can reflect the lack of understanding of the library on the importance of party building work[1-3]. Innovation for the construction of Party is not enough to play its due role. Minority party members lack interest in party affairs. Based on the theoretical connotation of grassroots party organization construction, this paper discusses the hot issues of the construction of "learning, service and innovation" grassroots party organizations in university libraries.

2. THE STATUS QUO OF THE CONSTRUCTION OF GRASSROOTS PARTY ORGANIZATIONS IN UNIVERSITY LIBRARIES

Many college library members do not have a sense of initiative in self-learning and self-improvement. They just attend a meeting and do nothing to improve after that. In the long term, a lazy atmosphere is formed. Many university leaders believe that as long as the librarians do a good job in sub-divisions and obey organizational arrangements, they are competent librarians. Whether there is work innovation or whether to conduct scientific research is not the focus of leadership. Some university librarians will take the initiative to write papers for projects in order to qualify for the title. However, once the title is evaluated, they will immediately relax their professional research and academic pursuits and forget to study.

In response to these burnouts, the leaders of libraries in all colleges and universities must attach great importance to them, encouraging librarians to write essays to do projects, giving certain support to the policy, giving sufficient protection in funding and giving appropriate allocations in time. Let the librarians enhance the awareness of scientific research and devote themselves in scientific research consciously.

3. THE SIGNIFICANCE OF "LEARNING, SERVICE AND INNOVATION"GRASSROOTS PARTY ORGANIZATIONS IN THE CONSTRUCTION OF UNIVERSITY LIBRARIES

Educational experts say that "the 21st century is to create a century of educational revolution and learning revolution based on human creativity", emphasizing that "learning to study" is the concept of survival in the 21st century. Libraries in university must keep pace with the times, from document collection functions to information management functions to knowledge management functions. While the university library serves the teaching and research, it also needs to conduct academic research. Moreover, with the construction of learning, service and innovative party organizations, the importance of the scientific research work of the library is becoming more and more prominent. It has become an opportunity for university libraries to build a learning, service and innovative party organization. Therefore,

strengthening the construction of university-based learning, service-oriented and innovative party organizations has important implications for libraries to adapt to new situations and meet new challenges.

4. THE CONSTRUCTION OF GRASSROOTS PARTY ORGANIZATIONS IN THE "LEARNING, SERVICE AND INNOVATION" OF LIBRARIES IN UNIVERSITY

4.1. "Micro" Learning Adding New Vitality

At a time when new media is prevalent, the party group's learning has gradually changed from concentrated learning to using online learning, studying the spirit of the party's important meeting. At present, due to the development and use of the "learning power" software, it replaces the learning of the party members in the WeChat. In the "learning powers", party members learn new knowledge and new ideas according to actual conditions. Without affecting normal work, party members can expand their horizons of study, understand national events, and understand the basic line of the party in each period. Due to the nature of the work of the library, there are few opportunities for concentrated learning. The emergence of "learning a powerful country" solved the conflict between the study and work of library members. In this way, while the library members are learning, they constantly improve their own quality and improve the service level of the library. They can learn from the original passive learning to active learning and from the original passive service to the active service[4].

Librarians choose the "Chinese University MOOC" online video teaching platform in the professional work. This platform has a variety of courses, such as homework, discussion, exam and certificates. It is just like the platform in the school. This kind of learning can make up for the shortcomings of librarians who are unable to go out to study because of the nature of their work. In the "Chinese University MOOC", there are many courses on information literacy, such as: "Information Search" by Huang Ruhua of Wuhan University, "Information Literacy of Information Literacy: New Engine of Efficiency Improvement and Lifelong Learning" by Sichuan Normal University, and the "Information Literacy General Tutorial: A Compulsory Course for Digital Survival" in Pan Yantao of Sun Yat-Sen University and so on.

Libraries are not only limited to various services, but also they should do their own academic research, and promote the innovative development of various services with the help of scientific research. The academic research of the library has infiltrated into all aspects of service work. Whether it is interviewing, cataloging, document sorting, and reference consulting and so on, all daily service work is all academic[5]. It is necessary to study and master its laws in order to do a good job. Since academic research is necessary, it is inseparable from learning. Librarians need to conduct in-depth learning in a certain field to achieve the level of academic research. In response to the problem that the librarian's network resource service is not deep enough, the library conducts corresponding lectures and focuses on practical operations. SO librarians can more easily understand the use of various network resource retrieval skills, and conduct business knowledge training according to the corresponding contents of each database to facilitate the encouragement of books. Librarians have a deep understanding of the business and proficiency in the use of the database, which fully reflects the higher level of service quality of librarians. At the same time, it also strictly requires party members to play an exemplary role in the actual work, so that the library the service can make progress.

4.2. "Micro" Service Building A New Platform

While strengthening their own learning, library members are also improving the services of the library. The traditional service of the library has not kept up with the development of information. It should be based on the creation of a service-oriented party organization, and take the initiative to focus on the work of talent training and scientific research in the school. Therefore, the library members should gradually develop information services, keeping up with the pace of the times and using data and new media[6]. Besides, it expands the content of the service and tries to meet the information needs of readers, providing various information services through WeChat. For example, the graduation season provides a reference system for the examination of the papers, and provides information services such as library overview and collection distribution for the new students. Serving the masses is the purpose of the party to carry out the mass line education and practice activities. Through the convening of various special organization life meetings, the library party members and the non-party members of the masses have established close ties. The party members of the library first unified their thoughts, solicited opinions extensively, and carefully searched for problems in the branches. Party members of the library take the lead in conducting talks with non-party members, exchange ideas between party members, sincerely find their own problems, communicate ideas and enhance understanding, and let each party member invest in the work of serving the readers in a full state. There are many kinds of activities such as regularly conduct symposiums, talk about initial activities, etc. In the process of interaction between party members and readers, they can understand the readers' views on party members and the needs of the library, summarize opinions and suggestions, constantly adjusting the mode and connotation of library services. Besides, they can give full play to party members. Pioneer model role is to meet the various needs of readers.

4.3. "Micro" Innovation Expanding New Space

On the occasion of the "4.23 World Study Day" every year, the library will hold a series of reading activities. In order to expand the scope of reading and enrich the content of the activities, the organizers will rack their brains and make effort to innovate useful activities suitable for readers. Large-scale events are an opportunity with service-oriented party members as the backbone. It continue to make innovation in the activities of readers, and the establishment of a service network by the student groups of various colleges and universities providing one-stop consulting services for teachers and students to concentrate on the services of the library. Therefore, it can display and all-round promotion to create a special service platform for the library "Resources and Service Promotion Month".

At the same time as the various service innovations in the library, expanding the reading space and improving the reading environment are also a way of library service innovation[7]. Students like to write homework in the library, check materials, review various exams, etc. It can provide a comfortable reading environment, which can indirectly improve the learning efficiency of students. Therefore, the various work of the library requires the innovative research of the librarians. The librarians work in the first line of the library. The functions and services can be improved. The librarians know the situation best. The premise of innovation in the work of the library is that librarians must overcome laziness, can't be unconcerned, and hang high. This requires party members and librarians to take the lead.

5. CONCLUSION

The construction of service-oriented party organizations is an important measure to unite the party's heart and people's hearts. It innovates social management, and builds a harmonious society under the new historical conditions. It is a concentrated expression of the idea of building the party for the public and governing for the people. The grassroots party organizations of university libraries adhere to the goal of building a "learning, service, and innovative" grassroots party organization, and solidly promote the construction of "learning, service, and innovative" grassroots party organizations, closely surrounding the service of readers. The central work, firmly establishes the "reader first, service first" work philosophy, which always puts the readers to provide quality and efficient information services in the first place. It is an effective way to improve the current status of party building work in college libraries. The grassroots party organizations in the library should take the "maintenance of party building around services, do a good job in party building and promote services" as the main line of work, and provide a strong organizational guarantee for the sustainable development of the library industry.

REFERENCES

[1]Weili Mei, Xizhen Peng, The Construction of Service-oriented Party Organization in University Libraries–Taking the Party Building Work of the Library of South China Agricultural University as an Example, Culture and Education Materials, 2018, (17): 83-85.

[2]Hong Yu, Yongjin He, Jun Zhang, Di Zhou, Yisheng Wu, Hang Liu, Pengyun Li, Analysis on the Innovation Construction of Service-based Grassroots Party Organizations in University Libraries–From the Perspective of Serving Readers, The journal of Technology and Entrepreneurship, 2016, (04): 95-98.

[3]Junli Zhang, Librarians' Spiritual Food, Contemporary Education Practice and Teaching Research, 2016, (01): 167.

[4]Xiaoqun Lin, Analysis on the Construction of Service-oriented Grassroots Party Organizations in University Libraries, Study Theory, 2013, (23): 189-190.

[5]Junli Zhang, Xiaodong Cai, How does the library help schools to cultivate innovative talents, Science and Technology Vision, 2013 (04): 25.

[6]Xiaodong Cai, Junli Zhang, Research on Talent Training Model Based on School-enterprise Combination, Science and Technology Information, 2012, (30): 18.

[7]Yanxia Tang, My Opinion on the Construction and Development of Learning University Libraries, Sci-Tech Information Development & Economy, 2009, 19 (33):29-31.

Research of Railway Police Specialty Comprehensive Reform and Establishment

Huang Zhenzhen*
Railway Police Department, Railway Police College, 450053 Zhengzhou, Henan, China
*E-mail: huangzhenzhen@rpc.edu.cn

Abstract: Railway police specialty education is on the leading, basic and strategic position in the entire railway public security work. This paper expounds the guiding ideology of the comprehensive reform and establishment of railway police specialty in the new era, and then puts forward the method for comprehensive reforming and establishing railway police specialty, which provides an important reference for the railway police training.
Keywords: Railway Police, Specialty Establishment, Training, Police Technology

1. INTRODUCTION

Railway is the main power transmission system between Chinese cities and the basis for ensuring the vitality of national security and social development. The safe operation of railways is of great significance for safeguarding national security, social development, people's livelihood and social stability. By the end of 2018, the national railway operation mileage reached more than 131,000 kilometers, of which high-speed rail was more than 29,000 kilometers. In 2018, the national railway completed 3.37 billion passengers and completed the delivery of goods of 4.022 billion tons, forming the world's most modern railway network and the most developed high-speed rail network. With the rapid increase of operating mileage, the continuous expansion of the scale of the network, the continuous improvement of the level of operational intelligence, the increasing intensity of passenger flow, and the profound changes in the domestic and international security situation, security issues have become increasingly Hotspots of social concern. [1-2]

The Railway Police College is directly affiliated to the Ministry of Public Security and the only institution in China that trains railway public security professionals. Now this college is fully promoting transformational development and characteristic development, building railway policing, railway policing, waters policing, airspace policing, traffic management engineering, anti-smuggling police, which is called six majors for the completion of the Transportation Police University[3]. The purpose of this paper is to explore the path of comprehensive reforming and establishing a railway police specialty with distinctive characteristics, rich connotations, solid foundation and sustainable development.

2. COMPREHENSIVE REFORM OF RAILWAY POLICE SPECIALTY

The Railway Police Specialty has refined the education history of railway police and specialized personnel in the past 70 years in China, brought into play the advantages of subordinate universities, continuously strengthened the construction of connotation and characteristics, kept abreast of the new demands of security development in the field of national transportation, continuously deepened the comprehensive reform of specialty, consolidated the advantages of railway security, and achieved remarkable results.

Politics first, the ideological and political work should be carried out in the whole process of education and teaching. Taking morality as the foundation, loyalty and vigilance education as the core, the ideological and political work and the whole process of personnel training are deeply integrated, and the ideological and political courses and courses are innovated. The ideological and political elements and functions contained in the railway police specialty are systematically sorted out, so as to achieve loyalty to the Party, serving the people, impartiality in law enforcement and strict discipline.

Strengthen training and highlight the construction of professional connotation and characteristics. Focusing on the cultivation of professional core competence and meeting the needs of security posts in the field of transportation and transportation, strict management of teaching process, deepening the comprehensive reform of curriculum system, teaching content, teaching methods, teaching evaluation and teaching materials, a number of network-shared courses and characteristic courses have been created, with scientific research promoting teaching and undertaking five national priorities. The research and development plan and the national social science planning project have presided over more than ten provincial and ministerial teaching reform projects, edited and published "Railway Fire Course" and other national undergraduate public security planning textbooks, as well as "Railway Policing" and "Railway Guard" and a number of school planning textbooks with distinctive features, have formed a professional curriculum system and textbook system which are combination of innovation and characteristics.

Emphasizing coordination and strengthening the mechanism of professional practice education.

Introducing the latest experience, vivid cases and theoretical research results of public security practice into classroom and textbooks; implementing the "two thousand plan" to organically integrate regular practice training of teachers with the teaching of public security actual combat instructors in schools; strengthening the construction of training facilities and training bases around the core competencies of professional posts and actual combat needs, 9 training rooms (fields) such as railway dangerous goods security inspection have been built, and improving and expanding them. And practice teaching bases have been established in 18 railway public security bureaus and more than 20 provincial and municipal public security bureaus throughout the country. The four-in-one extracurricular practice teaching mode of security for large-scale activities + vacation probation + professional practice + graduation practice has been implemented, which runs through the whole process of specialty training.

Focus on quality and build the standard system of public security education in transportation industry. [4] Combining closely with the needs of the growth of police talents in the new era and the training objectives of applied and innovative police talents, a standard system of education for railway police specialty has been established. Three students participated in the National Police Academy Skills Competition and won 1 first prize and 2 second prize. The construction has achieved remarkable results.

Promote openness and create a new pattern of international professional training. Following the national development strategy of the Belt and Road Initiative [5], deepening the measures of "introducing and leading out", training of foreign railway security police in Southeast Asia, Central Asia and East African, integrating international talent training into the whole process of teacher and talent training, and striving to expand the internationalization path of professional development.

3. ESTABLISHMENT OF RAILWAY POLICE SPECIALTY

Railway police specialty centers on personnel training, advocating and requiring teachers to establish them by virtue, learn by virtue and teach by virtue, so as to better take on the responsibility of guiding students' healthy growth.

In recent years, measures such as introducing and training both, encouraging teachers to visit schools for further study, regular grass-roots exercises, building innovative platforms, selecting practical instructors, and improving the training mechanism of characteristic teams have been adopted. The construction of teaching staff has achieved remarkable results, and a high-quality teaching staff with scientific academic background, reasonable title and age structure has been formed.

Construct the trinity of "teaching and research room + Research Center + expert studio" and give full play

to the function of grass-roots teaching organization. Consolidate the advantages of traditional teaching and research departments and build characteristic teaching and research departments. Regularly carry out team support, leader selection, youth backbone training and other programs to promote the institutionalization and standardization of grass-roots organizations, and enhance the collaborative innovation ability of talents, disciplines, teaching, scientific research and actual combat.

4. CONCLUSIONS

The Comprehensive Reform and Establishment of the Railway Police Specialty should be guided by the guiding ideology of the establishment of higher education disciplines in the new era, adapt to the needs of economic establishment and public security work development, fully consider the special needs of the railway industry for the quality of police personnel, and coordinate modern science and technology to develop new challenges to the professional competence of police professionals, to study the main body of railway security, the rules and countermeasures of security activities. We should focus on the integration of full-time teachers, railway police practical experts, researchers in research institutes, and the experts in enterprises who are "four forces", in order to strengthen the high-quality application-type police characteristics talents, actively promote the open sharing of railway police resources, and comprehensively Reform and Establish the Railway Police Specialty.

REFERENCE:

[1]Darya Pyatun. Psychological representation of an emergency situation in the professional activity of railway employees [P]. Proceedings of the II International Scientific-Practical Conference "Psychology of Extreme Professions" (ISPCPEP 2019),2019.

[2]Dewei Li,Winnie Daamen,Rob M. P. Goverde. Estimation of train dwell time at short stops based on track occupation event data: A study at a Dutch railway station [J]. Journal of Advanced Transportation, 2016,50(5).

[3]Chen Dongsheng. Discussion on Transportation Police [J]. Journal of Railway Police College, 2018,28(03):5-17.

[4]Anzhelika Yefremova,Lydmyla Shesterova. The factorial structure of professionally-applied physical fitness of students of railway specialties [J]. Slobožans′kij Naukovo-Sportivnij Visnik,2017,57(1).

[5]Zhifeng Zhao. Research on development characteristics of railway logistics specialty under "the Belt and Road" strategy [J]. Research on Modern Higher Education,2017,3.

On the Role of Art Education in Cultivating College Students' Personality and Innovative Ability

XueJun Huang
College of Music, Hengyang Normal University, Hengyang, 421002, China
E-mail: crazy258kj@163.com

Abstract: In the development of human civilization, human beings use science to understand the external world and examine their spiritual world through art. From the singing and dancing of exorcism and charm of primitive people to all kinds of modern art today, art has always been the most sincere and powerful embodiment of the direct needs of human life and the most vibrant creative instinct of human beings. Therefore, the value of art education is not only reflected in the improvement of individual's aesthetic quality, but also in the stimulation of individual's creative impulse by the dynamic factors such as artistic perception, artistic emotion and artistic imagination, which are inherently generated by art learning. Art education has potential incentive effect in the cultivation of College Students' personality and innovative ability.

Keywords: Art education; college students; personality; innovative ability

1. INTRODUCTION

Art is a form of production, a special form of spiritual production. It plays an irreplaceable role in cultivating people's sentiments and enriching people's spiritual life. Art education is to teach students art knowledge, skills and spirit as the content of education. However, it is not simply to inculcate and give, but to enlighten students' wisdom and constantly tap their potentials.

2. CULTIVATION OF COLLEGE STUDENTS' PERSONALITY BY ART EDUCATION

With the development of reform and opening up and education, people's quality education has attracted more and more attention. Quality education is a kind of education that aims at scientific research, exam-oriented education and highly professional education since feudal education. It emphasizes on cultivating people's basic abilities by desalinating practicality and specialty. As far as quality education through art is concerned, it is actually a comprehensive humanistic quality education in the form of art education.

2.1. The Relationship between Art and Personality

The relationship between art and personality is very close. It is generally believed that one's temperament, taste and accomplishment can be seen from his works of art. Every successful painter has his own style, which to a large extent reflects the individual and personality of the painter. Chinese painting circles have a set of phrases: "painting is like a human", referring to the wind from painting. The spirit of the author can be seen in his appearance. Luo Dan said: the beauty of art is character and expression. Generally speaking, the more distinctive the painter is, the more distinctive his style is [1].

Temperament, taste and accomplishment constitute the personality of a person. From its broad connotation, the concept of personality refers to the dignity, value and moral quality of an individual, and it is a unique mode of integration that constitutes a person's thoughts, emotions and behaviors; in terms of education, personality is equivalent to the concepts of "personality" and "body and mind"; in psychology, it refers to the psychological stability of an individual. Quality, including the needs, motivations, interests and beliefs of people embodied in personality tendencies; personality in philosophical concepts is synonymous with feeling, emotion and will; in art, the value of personality also exists, for example, Chinese painting pays great attention to the influence of personality on paintings. However, the link between artistic creation and personality is more reflected in the characteristics of psychological structure.

2.2. Art's Cultivation of Personality

The cultivation of personality in art education is also reflected in art appreciation. "If you want to enjoy art, you have to be an artistic person." Art appreciation is the acceptance of works of art. This acceptance is not passive, but active, including the appreciator's perception, experience, understanding, imagination, recreation and other psychological activities. Art appreciation is an activity of aesthetic recreation, which can "purify the soul of the appreciative subject, sublimate the spirit, and obtain aesthetic pleasure in the spirit and personality of the appreciative subject." The artistic image not only displays the beauty of nature and the beauty of life, but also embodies the feelings of artists. But the implication of artistic image is often hidden, leaving room for the appreciative person to imagine. In this space, the artist's personality and the personality of the appreciant have a dialogue.

3. CULTIVATION OF COLLEGE STUDENTS' INNOVATIVE ABILITY BY ART EDUCATION

3.1. Art Education Is Conducive to the Cultivation of

College Students' Innovative Ability

Innovative ability is not a single ability, but a comprehensive ability composed of many different abilities. This comprehensive ability is a collection of psychological elements such as human feeling, perception, attention, memory, imagination, emotion and understanding. To a certain extent, the level of innovation ability depends on the psychological quality of human beings. The unique artistic thinking ability fostered can promote people's creative psychological quality in the process of subtle influence.

Modern education mostly emphasizes cognitive education, and emotional education is often neglected. Knowledge education can only let people know what to do and how to do things, but it can not make a person really do, and emotional education can stimulate people to act. Of course, there are two sides to emotions. "Anything that can satisfy the needs aroused by oneself or promote such needs to be met will cause a positive emotional state, which will be consolidated as a stable emotion. Anything that fails to meet this need or may hinder it from being met causes a negative emotional state, which is also consolidated as an emotion. It is because emotions are "messy everywhere, good and lovely, bad and bad." Therefore, students need emotional education, whether it is the creation, interpretation or appreciation of works of art, intentionally or unintentionally accompanied by strong emotions of individuals. In art education, through the penetration and catalysis of artistic emotions, students' hearts can often be guided from a calm state to an exciting state, thus making their thinking extremely active and arousing a high degree of creative enthusiasm [2].

3.2. Artistic Thinking Is Conducive to the Development of College Students' Innovative Ability

Artistic thinking is a creative image thinking. Through art education, it can help to improve college students' non-logical thinking abilities such as image thinking, intuitive thinking and inspiration thinking, so as to promote the cultivation of College Students' innovative ability. In addition, the cultivation of College Students' creative personality is positively related to art education.

Creative thinking is creative thinking. It is the core of creative ability. Without creative thinking, there will be no creative activity. From the point of view of the mechanism of creative thinking, innovative thinking is either expressed in the form of gradual change, logical thinking or abrupt change, and non-logical thinking. Practice shows that most innovative thinkers adopt the second way. In the process of mutation, intuition and inspiration play a decisive role. Intuition and inspiration are inseparable. From the point of view of human consciousness, inspiration is actually the saturation of directional conscious thinking. Due to the lack of relevant knowledge and information to prompt the pursuit of goals, the effective conscious

thinking stops, and the related subconscious which originally settled in the mind leaps from the closed consciousness to the negative induction. On the threshold of consciousness, the knowledge information needed to prompt the pursuit of goals emerges, which reopens the logical channel of thinking to the pursuit of goals and makes the solution of problems present realistic possibilities. Intuition and inspiration have the characteristics of directness, jumping, sudden, etc. They are non-linear in the process of thinking. It is this non-linear interaction that breaks the fixed cycle, forms the sudden change of thinking and is conducive to creation.

3.3. Cultivation of College Students' Innovative Ability by Different Forms of Art Education

The implementation of art education is inseparable from the practice of individual practice. Creativity plays an important role in all aspects of art learning. Art creation is one-time creation, art reproduction and expression are two-time creation, art appreciation is three-time creation, and creative thinking has been fully developed in the practice of three-time creation. In addition, through art practice activities, students can internalize the acquired knowledge of art theory and various skills into their own quality and ability, and promote the transfer of ability and knowledge, so as to stimulate people's creative consciousness and cultivate people's innovative ability in a subtle way. Because the material media and artistic language used by various art categories are different, so here through music, dance, painting, these three more common forms of art education to elaborate the practice, different forms of art on the cultivation of College Students' innovative ability is also different.

Instrumental music learning in music education is very helpful to develop human tactile sensitivity, sense of proportionality and sense of moderation. It is not only a long-term practice of fingers, but also contains numerous precise thinking processes, which can activate the brain nerves. Taking the piano as an example, the requirement of skill training of piano involves a considerable degree of coordination and synchronization between brain and body. Playing the piano requires the coordination of ten fingers and other parts of the human body to complete the performance. As we all know, Bach's piano Fugue is a polyphonic work feared by ordinary pianists. In addition, music is the art of time, converting notes into sound in an instant, and putting the first note into the second one in time, so that the notes can be played continuously [3].

3. CONCLUSION

Based on the theories of pedagogy, psychology and art, this paper proposes that art education can promote the development of College Students' innovative ability. As the only subject that starts with concrete image, art education plays an irreplaceable role in cultivating people's innovative ability. In the process of students' personal participation in artistic creation,

artistic expression and artistic appreciation, art education uses psychological factors such as sensation, perception, imagination, emotion, image thinking, intuition and inspiration thinking, and at the same time, students' creative potential is also subconsciously activated in varying degrees. At present, there are few empirical studies on the cultivation of College Students' innovative ability in art education, and there are still some deficiencies in relevant data. The suggestions on the implementation of art education need practical testing and feedback. These shortcomings need further study and further improvement in the future.

REFERENCES
[1]Wang Jianhong, editor in chief. An introduction to art, Beijing: culture and Art Press, 2000:4.
[2]Huang Xiting, Personality psychology, Hangzhou: Zhejiang Education Press, 2002:7.
[3]Chen Ling, Personality building is the basic point of moral education in Colleges and universities, Journal of Anhui Polytechnic Normal University, 2002(10):112-115.

Research on Ability Training of Campus Football Coach under New Situation

Shanfang Feng
Graduate School of Education, Shandong Sport University, Jinan, Shandong, China
E-mail: 1798494140@qq.com

Abstract: Campus football is an important path to train football reserve talents and provide excellent football players, which plays a positive driving role in the progress of a state football. In recent years, China has gradually realized shortage in football reserve talents, and begun to actively develop campus football. In this background, shortage in Chinese basic football coaches has become increasingly prominent. In this paper, study methods, such as document consultation, experts interviewing, questionnaire survey and logistic analysis have been integrated and conclusion has been made on formers' research achievement. And meanwhile, studies have started from training strategies of campus football basic coaches on the basis of problems in the development of campus football, and analysis has been made on current situation of training and problems in training process of ability training of campus football basic football coaches; finally, summarization has been made on corresponding training strategies. Results indicated that exploration on issues in current basic football coaches from the perspective of the development of campus football could carry out relative training in a more targeted manner; and further pursue the best path during exploring to develop new pattern basic football coaches for long-term development of Chinese campus football. In this paper, training strategies have been finally put forward as follows: firstly, perfect training system of football coaches and enhance professional accomplishment and comprehensive ability of football coaches comprehensively through expanding training channels of campus football coaches; and meanwhile strengthen training of basic football coaches' ability through mutual exchange of football coaches.
Keywords: campus football; football coach; football development; ability training

1. INTRODUCTION

1.1. Research Background and Status

With increasing development of Chinese economy and social culture, Chinese sports have made great progress and acquired significant performance. The development of football, however, is undesirable. Howe to attempt to develop football and improve overall level of Chinese football has become urgent in present development process of football. Presently, there are many problems in Chinese sports, such as lacking of adolescent football players, deficiency in reserve football players. Key to solve these problems and improve Chinese football development level is to make great efforts to train adolescent football players full of vigor, and further train and select excellent football reserve talents and enhance overall level of Chinese football [1-3].

Speed up development of adolescent campus football development is a concrete measure in the implementation of national education policies. It is helpful for the development of adolescent both physically and physically and training of football talents; and also foundation works – improving development level of Chinese football and realizing China's football dream. China has introduced multiple relative policies to speed up the development of campus football. In 2009, Ministry of Education and General Administration of Sport of China have jointly issued "Notice on developing national adolescent campus football abilities", decided to realize "football to start with children" in the way of "combination of education and sports", and formally launched national adolescent campus football activities on October.14th in the same year; with the introduction of "General planning on China's football reform and development" on March. 16th, 2015, campus football has been upgraded as national strategy for facilitating the progress of adolescent football [2-5]. At present, China has laid great emphasis on the progress of campus football, Ministry of Education put forward that it would perfect relative policies and gradually formed into incentive system for the long-term development of campus football; they advocated to take various measures, such as regarding students specialty-football as an item of assessment on students' comprehensive quality, making records and using them as references for enrollment in schools of higher levels. To start football with children, take campus football as entry point and gradually carry forward new policies on football are of important significance in the popularization and development of campus football; and meanwhile, the development of campus football is beneficial to adolescent all-round development of moral, intellectual, physical, aesthetics and labor education, and to training of China's football talents, which is of an important strategic significance in the development of China's football. With the rapid development of China's sports, shortage in basic football coaches has become

increasingly prominent. Thus, attention has gradually been attached to training of basic football athletes [3, 4].

China has always attached great importance to the development of football and increasingly introduced various policies to increase guidance on talents; and meanwhile relative policies have had strong appeals to basic excellent football talents that drove them to engage in the progress of campus football. Lots of funds and resources have been input into campus football-training of basic football coaches have been continuously strengthened, national football and campus football have been actively promoted and national people have been driven to engage in them. Ministry of Education has put forward national adolescent campus football work plan in 2017, indicating characteristic campus football schools will strive for fulfilling the task of establishing 20 thousand schools in advance, strengthen construction of training base for campus football coaches, establish six to eight training bases of campus football coaches relying on qualified colleges and institutions, and employ domestic professional football lecturers and foreign teachers to train campus football coaches in a large-scale in 2017; at the same time, in this year, it is expected to complete training plan of 3000 campus football coaches, improve level of basic football coaches, every characteristic football schools should equip with one to two high leveled football teachers or coaches that possess Level D and above certificate; in addition, it plans to hire 120 high leveled foreign football teachers to teach in Chinese elementary and secondary schools. From the perspective of implementation of national policies, increasing ability training of basic football coaches is the key to develop campus football [5].

As the foundation of "Football pyramid", campus football is the foundation of sustainable development of National Football League System. In recent years, China has gradually combined football with education. Ministry of Education and others, totally six sectors have clarified and clearly required to record football learning conditions into the student files as references of assessment on students' comprehensive quality to perfect incentive system that students participate in football; and meanwhile it reinforces the administration of general knowledge course education on football talented students, speeds up perfection of various enrollment policies to stimulate students to engage in learning and training of football in a long time; it allows rational flow of football talented students when higher schools accept students, so as to gain better conditions and environment of specialty development; it gradually studies on and perfects administration methods and enrollment policies on university high leveled football teams and increase number of university football teams in high level, which could expand the scale of enrollment in a certain scope. In addition,

there are criteria to football education abide by. "National adolescent campus football education guide (trial)" and "Students' football skills ranking assessment criterion (trial)" will formally carry out in this year.

Major obstacle affects the development of campus football is shortage of excellent football teachers. There is a common saying in China "The best way to learn is to learn from the best", level of football coach decides that of campus football development in a large part. China's campus football development confronts with shortage of basic football coaches and also extremely insufficient basic excellent football coaches. China has introduced some policies-hiring retired athletes and coaches to participate in the development of campus football by purchasing service and specially inviting teachers. Football coaches should put forward and set up a full set of perfect, precise and scientific training methods on the basis of combination of personal development experience so that drive the progress of campus football.

Campus football has implemented for quite a while, football coaches' training classes has been run in different sizes across the country, however, with regard to the running conditions, training period in many training classes are shorter that achieve nothing. To fill the gap of basic football coaches in quantity and quality, Chengdu, for instance, totally organized 18 periods of various campus football instructors, coaches and administrative staffs training class with total number of 561 participants in 2016. Most of football coaches took training class to get the knowledge of training on football talents, however, due to short training duration and some part of misbehaved people with the purpose of participating in training to cope with work, they didn't learn useful football knowledge and skills in the training process. Besides, there are many shortcomings in current football coach hierarchy, from which examination and assessment system of basic football coaches are not sound. These affect effective implementation of football coaches' training and meanwhile restricts in the progress of campus football.

1.2. Research Objectives and Significances

Organization of "Campus football" is a very important activity in the development of China's sports. Many sectors, such as Ministry of Education, have introduce various policies, continuously perfected relative laws and regulations, and formed into incentive system for campus football long-term development; increased personnel and material input in campus football development and continuously facilitated the development of campus football; and at the same time strengthened training of basic football coaches, took various measures simultaneously, increasingly upgraded development level of campus football so that promoted overall level of China's football.

Status of campus football development has great impacts on overall level of China's football. Various

factors affect the development of football technical level, from which, coaches play controlling role in the process of exercise training and is the key factor in the level of football training level. Thus, precondition to improve China's football development level is to strengthen training of basic football coaches. With regard to this, China bases on problems in campus football, starts from the training strategy of campus football basic coaches, makes analysis of status and existing problems in the process of China's campus football basic football coach ability training, summarizes corresponding training strategies, and further finds best path to training, cultivates more excellent basic football coaches so as to impel adolescent football and even China's football reform and development.

2. RESEARCH OBJECTS AND METHODS

2.1. Research Objects

Development of campus football has great impacts on overall level of China's football. There are various influence factors in the development of campus football, from which football coach plays an important role in its process of development; basic football coach training is the precondition to develop campus football. In this paper, it takes training strategies of Chinese campus football basic football coach's ability as research objects, bases on existing issues in the organization of campus football, focuses on studying the training of basic football coaches.

2.2. Research Methods

For training of basic coaches, there are various research methods, including document consultation, experts interviewing, questionnaire survey, and logical analysis and so on.

2.2.1. Document consultation

Widely consult and collect relative documentation through platform as library and network, make analysis and sort out data according to research objects and purposes as research contents to provide firm theoretical foundation.

2.2.2. Experts interviewing

For problems in basic football coach training, interview with relative experts and leaders, consult and interview on relative problems.

2.2.3. Questionnaire survey

Sort out relative data and get conclusion through questionnaire survey.

2.2.4. Logical analysis

Apply knowledge and methods in logistics to carry out classification and analysis, induction and deduction, and meanwhile analysis and synthesis on consulted documents. In addition, make logical reasoning and analysis of relative theories.

3. RESULTS AND ANALYSES

3.1. Basic coach's ability training in the view of the development of campus football

3.1.1. China's campus football policy interpretation

After the 18th National Congress of the Communist Part of China, China has successively addressed various policies, such as "Overall plan of China's football reform and development" (hereinafter referred to "Plan") and "China's football medium and long-term development program (from 2016 to 2050)" (hereinafter referred to "Program"), which directed the development of football, making plan of football development more clearly and concrete. "Plan" has put forward three-stage development strategy for China's football, formulated near, medium and far-term development objectives; "Program" has formulated concrete time for the implementation of " Three-stage", implementation of near-term development objectives from 2016 to 2020, medium-term development objectives from 2021 to 2030, and far-term development objectives from 2031 to 2050, respectively. "Program" has set up clearly "guidepost" for future development of China football, and meanwhile determined development planning for national football. The determination on football long-term development provides supports of powerful laws and regulations for China football development. According to "Program", every characteristic football school should establish above one football site, and meanwhile ask and encourage university to establish over one standard football field. "Program" has also put forward ambitions goal-repairing, reconstruction and new construction of 60 thousand football fields across the country during the period of "the 13th five-year planning", and meanwhile required that every administrative region (except for minor mountainous areas) at country level should establish two football fields with social criterion. Football field is hardware foundation for football development. Continuously perfect field system to build firm hardware foundation for the development of Chinese football development.

China has successively addressed various measures, such as six sectors (including Ministry of Education) issued "Opinions on implementation of speeding up adolescent campus football"-increasing supports of adolescent football development. China's campus football development gains vigorous supports and promotion of nation. Campus football development has various positive influences and roles, which not only can cultivate adolescent comprehensive quality, bring beneficial to construction of strengthening football reserve talents teams, improve overall level of China's football development; but moreover enhance comprehensive quality of China's population. Nation's relative ministries and commissions have stipulated complete and well-articulated system, improve adolescent football quality and ability by campus football, and increasingly provide new blood for China's football by layers of screening. Campus football provides a platform that adolescent can show their specialty, and meanwhile contributes to development and cultivation of talents. Campus football not only could promote healthy development of adolescent, but also plays a driving role in the

popularization of China's football, which has an important impact on the development of China's football level.

3.1.2. Current situation of China's campus football

3.1.2.1. Current situation of "Campus football" urban layout

In 2011, Adolescent campus football office put forward to add four layouts of cities and institutions on the basis of existing 44 ones across the country. So far we have 48 layouts of cities and institutions across the country in total, from which 5 provinces running campus football, and 29 layouts of cities running campus football at the level of province. At present, there are totally 77 campus football activity cities, which basically cover all provinces within the mainland of China.

3.1.2.2. Current situation of "Campus football" matches

At present, elementary and secondary school's league football match launches in 48layouts of cities across the country, from which conditioned cities have pioneered to carry out that in high school and college. To further impel campus league football match, national campus football office invites specialized inspection and assessment group of campus league football match. In accordance with related regulation of execute solution of campus football activity, there should be no less than 60 primary schools and 30 junior high schools hold league in municipalities;
.

while no less than 16 primary schools and 16 junior high schools hold league in other layouts of cities; and at the same time, as stipulated, primary schools that engage in league should hold no less than 18 matches whereas junior high schools hold no less than 14 matches every year. Assessment group carried out practical investigation on the organization of campus football in all regions, 95% of 42 assessed cities followed requirements through two-round assessment.

3.1.2.3. Current situation of "Campus football" coaches

Campus football coaches are not only organizers and implementers of campus football activities, but also impellers that guide and teach students to engage in campus football activities. Thus, campus football coach plays a very important role in campus football. However, comprehensive level of them is a key constraint in the development of campus football. As shown in Table 1 investigation research, China's football coaches should improve their comprehensive level. Most of campus football coaches are young and middle-aged sports teachers though, few of them accepted professional football training, even no such teacher in some schools. Football coaches mainly select athletes by experience; they could not assess and select the best athletes in an all-round manner. Therefore, it is necessary to carry out professional football training on campus football coaches

Table 1. Main evidence for basic football coaches' select athletes (N=40)

Indicator	Select by experience	Physical quality	Football basic skills test	Transfer by school	Recommendation by acquaintance
Number of People	15	8	9	2	6
Percentage(100%)	37.5	20.0	22.5	5.0	15.0

3.1.2.4. Current situation of "Campus football" coaches' training

Campus football coaches used to have lower job levels, they usually have level C coach qualification, less have that of level A; the serious shortage of professional football coaches exist in elementary and secondary school. To strengthen professional training of adolescent in training process, top priority should be laid on the professional skills' training on coaches. We should perfect assessment system of football coaches, require the football coaches to continuously make summary in the process of training and teaching, improve their abilities of self-updating and self-learning, enable them to increasingly improve their professional accomplishment, reinforce their learning and grasp scientific training methods so as to make the training of football coaches an effective path to facilitate campus football.

3.1.2.5. Current situation of "Campus football" field

By far, there is an overall deviation in China's campus football field, only exceptional schools of good economic conditions have natural grass fields; most of schools have artificial grass fields and even just soil.

3.2. Basic Coaches' Ability Training in the View of Existing Problems in Campus Football Development

3.2.1 China campus football's problems and analysis

3.2.1.1. Cultural loss and education problem

In way of teaching, teachers or football coaches sometimes only focus on improvement of students' physical agility while ignore other crucial factors in football, such as team spirit, struggling consciousness and cooperation; they only lay emphasis on improvement of professional skills while ignore students' development both physically and psychologically, which tends to result in students' love for football and reduce their enthusiasm in participation; "ideology of playing for medals" tend to focus on result of competition while ignore mutual cooperation between students and team spirit that students learn from participating in football . These goes against original intention of launching and popularizing campus football.

3.2.1.2. Football coaches' problem

With regard to configuration of football coaches, it has defined in "National characteristic campus football school basic standard (trial)" that they should equip with sports teachers that satisfy teaching demands and

also have at least one specialized football sports teacher. In accordance with current data, campus football coach has an overall shortage at present, from which it goes well in the east and bad in the center, whereas the situation of the west is somehow better the center. Besides, there are lots of problems in actual teaching process, such as there are uneven teaching ability in football coaches, mistakes in way of teaching-only focusing on training skills but ignoring cultivation education in psychology and

ideology. Meanwhile, salaries of football coaches are rather lower by compared to other teachers. Most of football coaches haven't been regarded as regular employee under the government supporting institution–they could not enjoy government subsidies and have no work guarantee, their social benefits were lower. Investigation result as shown in Table 2–42% football coaches are dissatisfied with their current salary.

Table 2. Basic football coaches opinions on salary

Indicator	Very satisfied	Satisfied	Normal	Dissatisfied	Quite dissatisfied	Total
Number of People	5	6	18	21	0	50
Percentage(100%)	10.0	12.0	36.0	42.0	0.0	100.0

3.2.1.3. Fields and facilities' problem

To speed up China's adolescent campus football activities, we should speed up construction of fields and facilities and related mating equipments for campus football so that provides material foundation for elementary and secondary school opening relevant football course. By far, through a certain period's construction, campus football has had some achievements, there are still lots of problems, especially for seriously imbalance in urban and rural football fields. Relative data indicated that the proportions of not equipped outdoor football fields among urban elementary and secondary school, junior and senior high school were 60.3%, 49.4% and 22.1%, respectively. Whereas that in rural elementary school and junior high school reached as high as 62.8%, 64.5% respectively. Lots of schools have equipped with outdoor football fields though, texture of fields are worrying- 10.2% urban senior high school still used football fields in cement or mud, which increased potential safety hazard when students engaged in football.

3.2.1.4. Funding problem

Campus football's development needs field construction and relative equipment, while also lots of funding. No corresponding supportive funding means that there would not be enough infrastructure and equipment. Thus, funding in a certain scale is needed for developing campus football activities.

3.2.1.5. Safety problem

Adolescent safety problem has always the focus of

society. Campus safety should be focused at ordinary time and teaching activities. Safety is the precondition to organize all campus activities including sports events. Thus, football teaching and training process should strengthen safety education and control on students, instruct students to carry out correct warm-up activities, use field and facility safely and get the knowledge of safety matters in exercising process. We should make efforts to strengthen safety education before risk occurring, and meanwhile work hard to perfect relevant insurance system so as to alleviate schools and parents' burden.

3.2.1.6. Conceptual problem

We strengthen the reform of education system, and meanwhile should transfer social recognition on the way of education. Education is not only teaching students' professional knowledge, but also reinforcing students' development in moral, intellectual, physical and aesthetics. Thus, society should get rid of one-sided recognition on sports; they ought not to regard sport as an exercise that hinders students learning in gold learning period. Besides, football is not only an interest of students, but moreover has an important impact on facilitating students' development in all aspects. Schools and teachers should also make greater efforts to spread the positive significance of football activities in students growing among student' parents. We investigated on problems in campus football organization, investigation results are as shown in Table 3.

Table 3. Influence factors of campus football

Factor	Elementary and secondary school(pieces)	Sort of order
Cultural loss and education problem	29	1
Football coaches' problem	21	3
Fields and facilities' problem	28	2
Funding problem	16	4
Safety problem	12	5
Else	8	6

From Table 3, it is clear that top three factors that affect campus football are 'Cultural loss and education problem', 'Fields and facilities' problem', 'Football coaches' problem', from which the last one covers a larger part. Thus, we should make greater

efforts to training of football coaches so as to impel the progress of campus football.

3.2.2. China campus football coaches confronted problems and analysis

For adolescents, major obstacle affects the

development of campus football is shortage of excellent football teachers. There is a common saying in China-"The best way to learn is to learn from the best", level of football coach decides that of campus football development in a large part. China's campus football development confronts with shortage of basic football coaches and also extremely insufficient basic excellent football coaches. The development of campus football should solve the problem of faculty, which not only is huge gap in quantity, but moreover the needs in qualified coaches of high quality.

China campus football witnesses a historical period for rapid development. On the level of nation, China has addressed many relative policies, and schools also provide vigorous supports for sports development. There is coexistence of opportunities and challenges, China's campus football development still confronted with many problems, for instance, campus football cultural loss, backward football training way, shortage of campus football coaches and their deficiency in comprehensive ability. Thus, China advances campus football and meanwhile should strengthen training of campus football coaches- offering not only supports in policies but also professional and normalized professional training and continuing studies. Besides national policy support, China should also proactively mobilize social strength to increase funding, fields

and equipment supports on campus football. Comprehensive utilization of various social resources is an indispensable part in sustainable development of campus football.

3.3. Necessity of Basic Coaches' Comprehensive Quality Training in the View of Campus Football Development

China has carried out training of football coaches for nearly 30 years, and training system of coaches are also increasingly perfect. China opened 5 sessions of level A football coach training class in 1995. After that, under the guidance of Asian Football Confederation in 1996, China football coaches' training has moved toward normalization and international, dividing the cultivation levels into Level A (advanced) Level B (middle) and Level C (elementary). Three level coach training system has therefore increasingly perfected. To further improve China professional football team level, China strengthened cultivation of elite coaches and football association opened professional training class. In order to facilitate national adolescent football and sustainable development, football association added Level D (Beginner) training and training class for campus football coach. The implementation of relative training has greatly improved professional level of campus football coach and further normalized campus football coach group. China football association training situation is as shown in Table 4.

Table 4. China football association training situation table

	Start training time (year)	Number of training periods	Number of training people
Level C	1996	197	5818
Level B	1996	58	1615
Level A	1989	20	520
Professional	2001	4	68
Coach and lecturer	1998	8	221

Campus football has implemented for quite a while, football coaches' training classes has been run in different sizes across the country, however, with regard to the running conditions, training period in many training classes are shorter that achieve nothing. To fill the gap of basic football coaches in quantity and quality, Chengdu, for instance, totally organized 18 periods of various campus football instructors, coaches and administrative staffs training class with total number of 561 participants in 2016. Most of football coaches took training class to get the knowledge of training on football talents; however, due to short training duration and some part of misbehaved people with the purpose of participating in training to cope with work, they didn't learn useful football knowledge and skills in the training process. Besides, there are many shortcomings in current football coach hierarchy, from which examination and assessment system of basic football coaches are not sound. These affect effective implementation of football coaches' training and meanwhile restricts in the progress of campus football.

Campus football coaches undertake great responsibility, they should closely focus on

psychological development features of adolescents and formulate adaptive football training plan according to the adolescent psychological and physiological features. In training of campus talents, roles of basic football coaches are mainly two aspects, manage team and train player. Basic football coaches should find potential talents in the process of adolescent learning, and then carry out comprehensive and systematic training on them to enable them to acquire excellent football skills and also develop them into the person with positive, firm and tenacious willpower. Thus, basic football coaches should not only promote football players' physical and psychological quality and football skills in an all-round manner, but also implement tactic arrangement and skills training by utilizing different players' superiorities. All of these are essential quality for basic football coaches.

3.4. Requirement of Development of Campus Football on Coaches' Comprehensive Quality

To enable adolescent students to grow healthily both in physiology and psychology, there are requests on comprehensive ability of campus football coaches, in which football coaches are not only required to

possess excellent professional skills but also should possess of higher ideological accomplishment, while also possess higher ideological, ability and professional quality. Among them, ideological quality takes the lead, it decides the orientation of football training, ability quality is the main part that decides height of students' development to a great level, and knowledge quality is the foundation that affects cultivation of students' overall accomplishment. The three are foundation of each other and supplement each other.

3.4.1. Ideological quality

Ideological quality contains ideology, willpower and character.

Football coach should not only have professional skills, but also possess strong sense of responsibility and mission, as well as enough enthusiasm and patience on football; in teaching and training, they should be endowed with creative spirit and dare to practice and possess firm belief and unyielding spirit ; they should not only pursue the final results but moreover focus on students' psychological counseling and quality cultivation; they should possess self-contribution spirit for football and meanwhile guide students to develop into noble character; they should insist on principle of socialism, target of cultivate excellent players for socialist country and be able to resist against various temptation and keep the faith.

3.4.2. Ability quality

3.4.2.1. Football coach's ability comprises of basic ability and special ability.

Basic ability includes cognitive ability, planning ability, communicative ability, organizing ability and teaching ability. Qualified football coach should be able to keep observation on students' learning and training situation, make proper arrangement on teaching task, well communicate with students, fully learn students' psychological and learning conditions and make proper adjustment on teaching and training plan as circumstance may require. And meanwhile, they should possess ability to organize relevant football matches, stimulate students' interest and fighting spirit by relative matches. Most importantly, football coach should possess good teaching ability, being capable of instructing football professional theories and skills to students correctly.

3.4.2.2. Special ability

Special ability refers to football coach should have acute thinking ability, which specifically is recognition ability on player mode, sensibility on player's feedback information and creativity in differential treatment. Football coach should be able to find player's physical quality, features and types of playing skills and tactics, players' feedback information to orders and release next order reasonably according to such information, sensibility to player's feedback information that has an important impact on every training or match; At the

same time, coaches should make individualized teaching, they give their creativity into play and formulate differential training methods adapted to individuals according to students features. The creativity is a comprehensive reflection of abstraction and summarization of thinking, refined observation and perception.

3.4.3. Knowledge quality

Football coach should have perceptual and theoretical knowledge on football, while they also should master relevant basic theoretical knowledge. They should have certain experience on football, had better participate in matches of higher level. The perceptual knowledge is beneficial to coaches' understanding on players and facilitate communication between players and coaches; football development has a profound history, football coaches therefore should form enough knowledge into football development history, development tendency, technical development trend and advanced training methods and management methods, and be able to form into a set of theoretical system suitable for teaching objectives with combination of personal teaching and training experiences; except for getting knowledge of professional knowledge, they should also master corresponding sports anatomy, sports physiology, sports medicine, sports psychology, theories of sport training, sport pedagogy, sports management science, sports surveying and other disciplinary basic theoretical knowledge so that give comprehensive advantage of multiple-disciplinary into full play.

3.5. Strategic Analysis of Ability Training of Campus Football Basic Coaches

Basic coach is a key factor to campus football; however, loss of basic coach is universal, while the deficiency of professional sports teachers in schools makes campus football difficult to develop. Campus football coach is a systematic engineering, which requires various sectors to go deeper cooperation, active coordinate and formulate corresponding measures to perform relevant training. Education bureau may let universities to open more courses suitable for campus football coaches and cultivate more professional campus football coaches. Finance department may provide more economic guarantee for training of campus football coaches. With strengthening of cooperation, Ministry of Education and Sports Bureau should intensify policy guidance and formulate corresponding evaluation system, closely cooperation in all aspects, increase social recognition and attention to training of basic football coaches, reinforce quality of coaches training, strive for cultivating a great deal of excellent football coaches to continuously offer new blood for the development of campus football.

Meanwhile, we should expand training channel of campus football coaches. We should vigorously train existing teachers in elementary and secondary schools, while also proactively absorb professionals to engage

in campus football coach group, entrust physical institutes with training on football coaches, absorb social sports instructors and invite them to join the team of campus football coaches, and improve ability of football coaches by exchanging. Besides, we should further perfect training system of football coaches, continuously perfect evaluation system of basic football coaches, strengthen supervision on training and cultivate more qualified coaches.

3.5.1. Physical institute directed mode

Regarding campus football coach training, China may take corresponding measures in the policy of higher education, such as it may consider to adopt order cultivation mode in the setting of sports major to specially train football coaches for campus football. By far, campus football has a promising start; it cooperates with physical institute to train football coaches. This is a win-win cooperation mode for both employers and schools, which may solve undergraduates' problem of employment while also, solve social large-scale demands on professional campus football coaches. To satisfy the demands of elementary and secondary school on football coaches, it may open campus football coach training class targeted. In doing so, students could targeted learn in their four-year learning, and meanwhile carry out exploration on students' skill learning, theoretical knowledge learning and teaching and training methods. Students are required to improve their theoretical skills, while also practice in relevant schools, learning from practice and finding problems so that make improvement targeted for future teaching and training. At the same time, various physical institutes should utilize their own advantages, increase cooperation with elementary and secondary schools inside the regions, open targeted coaches training class for current sports teachers in these schools, make full use of personal superiorities and resources to make contributions to the development of campus football while also mine social demands and increasingly upgrade personal development level.

3.5.2. Cultivation mode-introducing retired athletes into campus

Campus football coach is an urgent need in China at present though, how to arrange for retired athletes is also a problem for China that is a great contradiction and also a waste of talents and social resources. Presently, eliminated football players from professional team, players that unable to go into first-tier team and players couldn't join the professional team as they just graduate from football school have accepted professional and complete football training. It would be a great waste if they could not be properly arranged.   If we fully mine the retired players' superiority, carry out relative training and theoretical knowledge cultivation on them, let them to form an all-round knowledge of adolescent psychology and growing and assess them, dispatch qualified retired players into elementary and secondary schools to work as football coaches, which would not only solve the problem of their arrangement but also save time and resources in training new coaches. Meanwhile, retired players often possess higher level, bring their talents into full play, let them guide campus football training at high level and then may cultivate and mine more excellent football reserve talents.

4 CONCLUSIONS AND SUGGESTIONS

4.1. Conclusions

Campus football should improve basic football coaches in quantity and quality, expand the way of coaches training and enhance their comprehensive ability. Campus football is dedicated to cultivate excellent reserve talents for competitive national football industry. At present, development of football in China is rather backward, while it has risen steadily in recent years. Despite influences of some external factors, it has great connections to football players' individual quality and professional training. Football coaches are the main forces in football competitive reserve talents' training in campus football, their comprehensive ability directly affects cultivation of China's football reserve talents and the progress of China's football. In this paper, analyses were made on training of basic football coaches, how basic coaches to teach campus football and basic football coaches' training methods from the perspective of the demands of campus football development. Training should mainly make great efforts to train football coaches from two training modes, such as directed mode in physical institutes and introducing retired athletes into campus; in addition, cooperation and exchange should carry out among various sectors to provide supports for ability training of football coaches in all aspects.

4.2. Suggestions

4.2.1. Campus football should improve football coaches in quantity and quality

For numerous adolescents, the most important problem lies in the development of campus football is shortage of excellent football teachers. As the saying goes, "The best way to learn is to learn from the best", how about "campus football", level of teachers is very important. Faculty should be solved in the progress of campus football, which is shown as the huge vacancy in quantity and moreover the needs in qualified coaches of high quality. China should introduce some policies-hiring retired athletes and coaches to participate in the development of campus football by purchasing service and specially inviting teachers. Football coaches, however, should put forward and set up a full set of perfect, precise and scientific training methods on the basis of combination of personal development experience so that drive the progress of campus football.

4.2.2. Further optimization should be made on training system of campus football coaches

Campus football has implemented for quite a while,

football coaches' training classes has been run in different sizes across the country, however, with regard to the running conditions, training period in many training classes are shorter that achieve nothing. To fill the gap of basic football coaches in quantity and quality, all kinds of campus football instructors, coaches and administrative staffs training class are therefore run.

4.2.3. Promote football coaches' professional accomplishment and comprehensive ability in an all-round manner

Requirement of football coaches' comprehensive quality covers ideological, basic professional work and professional skills' quality. As a campus football coach, one should grasp the psychology of children and adolescent, get the knowledge of their growing characteristics, organize football training suitable for them. In the training of campus talents, roles of basic football coaches are mainly two aspects, manage team and train player. Basic football coaches should find potential talents in the process of adolescent learning, and then carry out comprehensive and systematic training on them to enable them to acquire excellent football skills and also develop them into the person with positive, firm and tenacious willpower. Thus, basic football coaches should not only promote football players' physical and psychological quality and football skills in an all-round manner, but also implement tactic arrangement and skills training by utilizing different players' superiorities. All of these are essential quality for basic football coaches.

4.2.4. Expand training channel of campus football coaches

Campus football is an important link in the reform of China football and also the indispensable foundation of its development. Training of campus football coaches is crucial to popularization and promotion of campus football. As cooperation goes deeper, Ministry of Education and Sports Council could cultivate more excellent football coaches with closely cooperation in manpower, materials and financial resources through policy guidance and evaluation system to make contributions to campus football.

Moreover, we should vigorously train existing teachers in elementary and secondary schools to make campus football to go into the good path in faculty, entrust physical institutes with training on football coaches, absorb social sports instructors and invite them to join the team of campus football coaches, and improve ability of football coaches by exchanging. Besides, we should further perfect training system of football coaches, continuously perfect evaluation system of basic football coaches, strengthen supervision on training and cultivate more qualified coaches.

REFERENCES

[1]Wendong Gu, Cultivation of Grass-roots Football Coach from the Perspective of Campus Football, Journal of Guangzhou Physical Education Institute, 2013, 33(1):124-128.

[2]Hongliang Ma, Qiang Wu, Jixi Zhang, Huke Si, Education Reform and Practice Development of the Campus Football: Feasibility Study on Establishing China (Shanghai) Football Education College, Sports Science Research, 2017(1):89-94.

[3]Zhongming Dong, Thoughts on Shanghai School Football Activities Development Mode, Journal of Hubei Sports Science, 2014(11):1002-1004.

[4]Ke Sun, Fengjie Qiao, Li Lin, Social Cultural Perspective of Chinese Football Reform. Journal of Wuhan Institute of Physical Education, 2016, (3):11-16.

[5]Namei Song, Xiao Liang, Yongbin Lin, Li Zheng, Structure and Cognition Discrepancies of Middle School Football Culture, Journal of Beijing Sport University, 2017, 40(2):30-37.

Effects of Biochar Fertilizer on the Growth of Maize Seedlings and Roots

Zhihui Wang, Dawei Yin, Zuotong Li[*]
College of Agronomy, Heilongjiang Bayi Agricultural University and Heilongjiang Engineering Technology Research Center for Crop Straw Utilization, Daqing 163319, Heilongjiang, China
*E-mail: lzt123455@126.com

Abstract: Biochar fertilizer refers to the mixture of biochar and plant-essential nutrient elements. This paper studied the effects of chlorophyll content, root growth and activity of maize seedlings with two kinds of three kinds of biochar fertilizers (low, medium and high) and three kinds of application rates on plant height through potting at three and six leaves respectively. The results showed that the high application rate of biochar (F1) was more suitable for the growth and root activity of maize, and the medium application rate of biochar (F2) was more suitable for the growth and root activity of maize.

Keywords: biochar fertilizer; maize; plant growth; root system

1. INTRODUCTION

At present, the use of chemical fertilizer per unit area in agricultural production in China is 1.6 times the world average level, and the amount of chemical fertilizer is increasing sharply. As a result, the large-scale agricultural soil environment is becoming very harsh, the crop yield dropping, and the fertilizer utilization efficiency is low gradually, which leads to the accumulation of not only a large amount of chemical fertilizer, but also the decline of soil organic matter, soil compaction, and crop yield. Both have become factors limiting the sustainable development of agriculture [1].

Biochar is a solid product produced by thermal decomposition of agricultural waste biomass in anoxic or low-oxygen environment, mostly powdery particles. The unique physical properties of biochar make it have a strong pore structure and specific surface area, which can load fertilizer and extend fertilizer efficiency [2]. As a soil amendment, biochar is directly applied to the soil to improve soil quality and improve soil productivity through physical, chemical and biological aspects [3,4]. The carbon-based fertilizer prepared by mixing biochar with fertilizer can not only improve the soil structure by using its own characteristics, but also eliminate the problem of insufficient nutrients of the biochar itself [5].

In recent years, the use of biochar as a soil fertilizer slow-release carrier has attracted much attention, and the products developed using biochar have broad application prospects. However, there are still some differences and limitations in the application of biochar based on biochar as a fertilizer carrier in different types of soils and different crops. To this end, this experiment uses a certain process to prepare two kinds of biochar based fertilizer for the cultivation of corn on alkalized meadow soil, in order to provide a scientific basis for the rational application of biochar based fertilizer in corn planting.

2. MATERIALS AND METHODS

2.1. Test Material

The experiment was conducted at the Agricultural College of Bayi Agricultural University, Daqing City, Heilongjiang Province. The potted soil contains 21.6g/kg of organic matter, 160.65mg/kg of total nitrogen, 9.74mg/kg of available phosphorus, 145.6mg/kg of available potassium, and pH 7.72. Tested corn variety Zheng Dan 958. Biochar was purchased from Liaoning Jinhefu Agricultural Development Co., Ltd. and used after screening. Biochar fertilizer was developed by the research group. The test was set up with 6 treatments (as shown in Table 1) and 5 replicates. Three seeds were sown per pot, and one seedling was planted after emergence.

Table 1. Test treatment.

Deal	Biochar fertilizer 1			Biochar fertilizer 2		
	F1-L	F1-M	F1-H	F2-L	F2-M	F2-H
Fertility (pot)	4.49 g	8.98 g	13.4 7g	4.49 g	8.98 g	13.4 7g

2.2. Measurement Item

Plant traits were observed in the three-leaf stage of the three-leaf stage. Plant height, root length, root activity, chlorophyll content, wet weight of the plants, and dry weight after drying at 90 ° C for 8 hours were determined.

2.3. Data Analysis

Statistics and analysis were performed using Excel 2015 software and Spss21.0 data processing system. The significance test was performed using the Duncan new complex range method.

3. RESULTS AND ANALYSIS

3.1. Effects of Different Biochar Fertilizers on Seedling Height of Seedlings

It can be seen from Fig. 1 that in the F3 group of the plant growth three-leaf stage, the plant height can be promoted with the increase of the biochar fertilizer content, but the three high-application biochar fertilizer inhibiting plants in the F2 group. High growth, the inhibition effect is not obvious. From the comparison of F1 and F2, it can be seen that F2-L is

slightly higher than F1-L plant at low application rate, indicating that the biochar fertilizer content of F2 can promote the growth of plant height, but in the comparison of H group. It can be seen that F1 is higher than F2 and there is a tendency to increase continuously, so it is indicated that for plants, the high application rate of biochar fertilizer 1 is more suitable for the plants themselves. It can be seen from the six-leaf stage that the three treatments in the F1 group also promoted the height of the plant with the increase of the application amount of the biochar, but the F2 group gradually decreased.
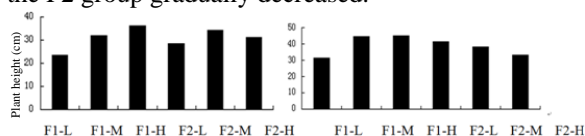

Figure 1. Effects of Different Biochars on the Average Plant Height of Three-leaf and Six-leaf Stages of Maize Seedlings

3.2. Effects of Different Biochars on Chlorophyll Content of Maize Seedlings

It can be seen from Fig. 2 that different biochar fertilizers are very sensitive to chlorophyll in corn seedling stage. When the application rate of biochar fertilizer is changed, the chlorophyll content changes greatly. During the three-leaf stage of plant growth, the three treatments in the F1 group increased the chlorophyll content with the application of biochar fertilizer. However, the three treatments in the F2 group decreased with the application of biochar fertilizer, and the chlorophyll content gradually decreased. However, when the plants grew to the six-leaf stage, the chlorophyll content of the F1 group decreased, while the F-M treatment of the F-M treatment increased rapidly and the content was the highest.
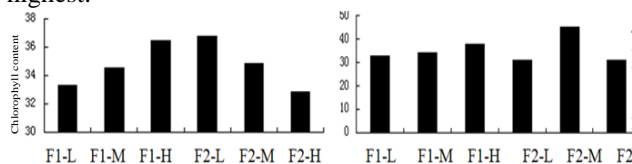

Figure 2. Effects of Different Biochars on Chlorophyll Content in Three-leaf and Six-leaf Stages of Maize Seedlings

3.3. Effects of Different Biochars on Root Length of Maize Seedlings

It can be seen from Fig. 3 that in the three treatments of F1 group, the appropriate amount of biochar fertilizer can increase the root length of the plant, and the three treatments in the F1 group are larger than the roots in the F2 group, so the carbon fertilizer F1 is higher than the carbon fertilizer. F2 is more suitable for the growth of plant root length. The three roots in the F1 group had little difference in root length at the six-leaf stage, but in the F2 group, the experiment increased first and then decreased with the increase of dosage.
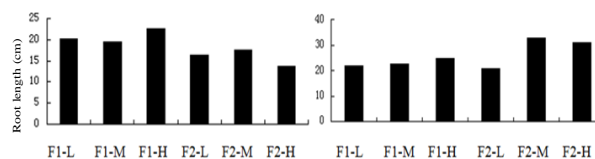
Figure 3. Effects of Different Biochars on the Average Root Length of Three-leaf and Six-leaf Stages of Maize Seedlings

3.4. Effects on Root Vigor of Maize Seedlings

It can be seen from Table 2 that in the three-leaf stage of maize growth, the three treatments in the F1 group showed that the total absorption area or the active absorption area of the roots showed that F1-M and F1-H showed a continuous increase trend compared with F1-L, and were treated from the F2 group. It can be seen that the root absorption area of F2-H is lower than that of F2-L treatment, indicating that the high application rate of bio-carbon fertilizer F2 has no promoting effect. The trend of root area absorption in the six-leaf stage of maize growth was similar to that in the three-leaf stage, and the root activity of the six-leaf stage was not much changed compared with the three-leaf stage.

Table 2. Effects of Different Biochar Fertilizers on Total Absorption Area and Active Absorption Area of Maize during Three-leaf and Six-leaf Stages

Deal	Total absorption area (m2)		Active absorption area (m2)	
	Trefoil	Six-leaf period	Trefoil	Six-leaf period
F1-L	0.541	0.564	0.116	0.679
F1-M	0.558	0.579	0.154	0.892
F1-H	0.622	0.598	0.155	0.751
F2-L	0.645	0.502	0.164	0.921
F2-M	0.586	0.683	0.186	0.561
F2-H	0.554	0.488	0.171	0.414

4. CONCLUSION AND DISCUSSION

Biochar can be directly applied to the soil as a soil amendment, but biochar itself can be used as a nutrient in crops. It is difficult to replace biochemical fertilizer with biochar [6, 7]. The use of biochar as a fertilizer carrier and compounding with fertilizer to produce biochar fertilizer is a very valuable and promising research. Bio-carbon fertilizer not only supplements the defects of insufficient bio-carbon nutrients, but also gives the fertilizer a slow-release function, improves the fertilizer efficiency, and realizes the improved function and carbon fixation of the biochar on the soil while supplying the nutrients of the crop [8, 9].

At present, there are reports on biochar as a fertilizer carrier at home and abroad. Studies have shown that biochar combined with fertilizer or biochar combined with fertilizer can significantly improve crop efficiency [10, 11]. In this study, we determined the plant height, leaf chlorophyll content, root length, root activity and other indicators of maize during the three-leaf stage, six-leaf stage plant height, and the plant height and chlorophyll of the three-leaf and

six-leaf corn plants. The content, root length, total root absorption area and active absorption area all showed an upward trend with the increase of carbon fertilizer application. The effect of biochar fertilizer 2 on plant chlorophyll content and total root absorption area decreased with the increase of carbon fertilizer application rate, while plant height and root length increased first and then decreased. During the growth of the six-leaf stage, with the increase of biochar application rate, the root length, chlorophyll content and total root absorption area of maize increased first and then decreased. The research of Lu Yijia et al. has similar conclusions [12]. Bio-carbon fertilizer can effectively promote corn growth and delay plant wilt; improve soil structure, increase ground temperature, increase soil moisture content, and improve corn water and fertilizer use efficiency.

In this study, the high application rate of F1 was more suitable for corn plant growth and root development. The medium application rate of biochar F2 was more suitable for corn growth and root development. Reasonable application of biochar fertilizer can provide a good soil environment and sufficient nutrient supply for crop growth, reduce fertilizer use, save input costs, improve fertilizer utilization, and promote crop growth, which is important for realizing crop production and cost-effectiveness significance [13-15].

REFERENCES
[1]Marx M C, Wood M, Jarvis SC, A microplate fluorimetric assay for the study of enzyme diversity in soils, Soil Biology &Biochemistry, 2001, 33(12/13): 1633-1640.
[2]Srivastava S C, Singh J S. Microbial C, N and P in dry tropical forest soils: Effects of alternate landuses and nutrient flux, Soil Biol Biochem, 1991, 23(2): 117-124.
[3]Wang M, Strategies for achieving high irrigation and fertilization efficiency for spring maize under mulched drip irrigation in semi arid area of Jilin province, Beijing: China Agricultural University, 2017.
[4]Day D, Evans R, Lee J W, Utilization of CO2 for the creation of a valuable and stable carbon co-product from fossil fuel exhaust scrubbing, Abstracts of Parers of the American Chemical Society, 2004, 227(1): 1093-1093.
[5]Li B, Fan CH, Zhang H, et al., Combined effects of nitrogen fertilization and biochar on the net global warming potential, greenhouse gas intensity and net ecosystem economic budget in intensive vegetable agriculture in southeastern China, Atmospheric Environment, 2015, 100: 10-19.
[6]Chen W F, Zhang W M, Meng J, Advances and Prospects in Research of Biochar Utilization in Agriculture, Scientia Agricultura Sinica, 2013, (16): 3324-3333.
[7]Gul S, Whalen JK, Thomas BW, et al., Physico-chemical properties and micobial responses in biochar-amended soils: Mechanisms and future directions, Agriculture, Ecosystems and Environment, 2015, 206: 46-59.
[8]Yuan J J, Tong Y A, Lu S H, et al., Effects of biochar and nitrogen fertilizer application on soil fertility and jujube yield and quality, Journal of Plant Nutrition and Fertilizer, 2017, 23(2): 468-475.
[9]Mehmood K, Li JY, Jiang J, et al., Effect of low energyconsuming biochars in combination with nitrate fertilizer on soil acidity amelioration and maize growth, Journal of Soils and Sediments, 2017, 17: 790-799.
[10]Blackwell P, Krull E, Butler G, et al., Effect of banded biochar on dryland wheat production and fertilizer use in southwestern Australia: an agronomic and economic perspective, Aust J Soil Res, 2010, 48: 531-545.
[11]Huang Z, Qu S H, Bai L, et al., Effects of different straw mixing biochar on nutrient and enzyme activity of saline soil, Research of Soil and Water Conservation, 2017, 24(4): 290-295.
[12]Lv Y J, The experimental study of influence of biochar fertilizer on soil properties, maize growth and water and fertilizer use efficiency, Inner Mongolia: Inner Mongolia Agricultural University, 2014.
[13]Liu Y, Li Z H, Zou B, et al., Research progress in effects of biochar application on crop growth and synergistic mechanism of biochar with fertilizer, Chinese Journal of Applied Ecology, 2017, 28(3): 1030-1038.
[14]Li B, Singh B, Agronomic performance of a high ash biochar in two contrasting soils. Agriculture, Ecosystems and Environment, 2014, 191: 99-107.
[15]Gao H Y, Chen X X, Zhang W, et al., Physicochemical properties and efficiencies of biochar and biochar-based nitrogenous fertilizer, Journal of Northwest A＆F University (Natural Sciences), 2013, 41(4): 69-85.

Reform and Practice of Curriculum Teaching Based on Specialty Norms

Guangjian Chen*, Xiaofang Liu, Jihong Chen
School of Computer Science, Sichuan University of Light Chemical Industry, Zigong, 643000, China
*E-mail: 8326127@qq.com

Abstract: With the promotion of undergraduate curriculum evaluation in domestic colleges and universities, Compiler Construction Principles curriculum group are also actively preparing. Given the problems that students are difficult to learn and teachers are difficult to teach in the actual teaching process of this course, the author, combining own teaching experience for many years, probes into a series of reform methods of theories and experiment teaching with the teachers and students of computer college to lay the foundation for the course evaluation of computer specialty and make some contributions to the cultivation of computer engineering applied talents in college.
Keyword: Specialty norm; Training objectives; Compiler Construction Principles; Experiment

1. INTRODUCTION

Computing science, also known as computer science and technology research, covers the general research on computing problems. The software foundation of one of the seven branches of discipline classification is a larger discipline category, and Compiler Construction Principles is one of the directions of the software foundation discipline. As a core major course in computer science and a master of language processing methods and translation techniques, Compiler Construction Principles involves the ideas, principles, methods and techniques of advanced language processing and translation that are not only closely related to the "advanced programming language", but also have a profound impact on many aspects, including natural language processing and machine translation, switch circuit analysis and design in digital system logic design, knowledge representation and automatic reasoning in artificial intelligence, pattern recognition and target image recognition in image processing [1].

As a matter of fact, mastery of the Compiler Construction Principles will allow computer-specific student "to benefit from life". Students can not only understand the internal working principle of the compilation system, deepen their understanding of the programming language, but also improve their computer thinking ability, practical ability and comprehensive use of professional knowledge. Because of the complexity of compiling system, its theory is more and more abstruse, and classroom teaching can not arrange more periods. According to

the previous teaching feedback, most students hold that the content of Compiler Construction Principles is boring, abstract and complex. Although some algorithms can be applied, students cannot understand the Principles, which leads to the failure of experiments and the vicious circle of teachers' difficulty in teaching and students' difficulty in learning. Therefore, some colleges and universities listed the Compiler Construction Principles course as a professional elective course, or even directly deleted it from the talent training plan, which undoubtedly will reduce the training requirements, weaken the computer thinking ability of students, and cause a great negative impact on the further development of students. Combining the above mentioned, classroom teaching method is the key to improve the teaching of Compiler Construction Principles. Therefore, how to construct a new and effective teaching mode is a subject worth studying [2].

2. PLANNING & SETTING REASONABLE CURRICULUM REFORM OBJECTIVES

The Compiler Construction Principles curriculum reform sets the following reform objectives: First, the reform of teaching content should not be avoided because of the difficulty of knowledge points. The integrity and systematicness of knowledge system must be considered. Second, to grasp the main problems of this course, and to combine with the characteristics of the course, and to choose a variety of teaching methods and means to stimulate the interest and enthusiasm of students, so that students can learn in a relaxed and pleasant atmosphere to improve learning efficiency; Thirdly, focusing on the combination of theories and practices, if the theories learned can be put into practical application, on the one hand, it can improve students' practical ability and master the key technology of compiler construction, on the other hand, it can also test the theories in practice. Fourthly, the manner of course assessment should be diversified to reflect students' mastery of the knowledge of this course. Fifthly, a small compiler is designed to cultivate students' ability to research, design, compile and debug the compilation system, which lays a necessary foundation for students to have the ability to construct and debug large programs and the study of subsequent courses [3].

3. OPTIMIZING TEACHING CONTENT

The author believes that the course of Compiler

Construction Principles should focus on the specific process of compilation, and the main teaching contents should include the following five parts: For lexical analysis, teachers should first clarify the task of lexical analysis, and then focus on the design process of lexical analyzer, such as preprocessing, advanced search of word symbols, state transition diagram and the realization of state transition diagram, and then introduce the correlation between regular expression and automaton theories, and finally explain the principle and usage of lexical analyzer automatic generator tool. As for the grammar analysis, teachers should first explain the necessary knowledge context-free grammar of grammar analysis, and then divide it into two categories: top-down grammar analysis and bottom-up grammar analysis. Top-down syntax analysis includes LL (1) grammar and recursive descent method, and the focus of bottom-up grammar analysis is LR analysis. As for the semantic analysis and intermediate code generation, teachers shall first introduce the basic knowledge of semantic analysis: attribute grammar and grammar-guided translation, and then focus on type checking and explain it through examples. As for the generation of intermediate code, teachers mainly shall introduce various forms of intermediate language, such as the semantic action of translating assignment statement into intermediate code. As for the optimization, although the optimization can be carried out in various stages of compilation, the author suggests that the optimization is carried out on the intermediate code after syntactic analysis before the generation of the target code, and such optimization does not depend on the specific computer. As far as target code generation is concerned, it usually takes intermediate code after semantic analysis or optimization as input and produces equivalent target program as output. Hence, the author suggests that teachers should focus on a simple register allocation strategy code generation algorithm, so that students can understand the code generation.

4. IMPROVING TEACHING MODE

The author adopts heuristic teaching methods according to the objective rules of teaching tasks and learning, and adopts various methods to motivate students' learning initiative and enthusiasm by focusing on inspiring students' thinking and encouraging them to learn in an active and efficient manner in the teaching process of Compiler Construction Principles, the specific approach is to: teachers should change the cramming teaching mode in the traditional teaching, adopt the problem-solving teaching mode for the chapters with relatively simple content, and put forward heuristic questions about these chapters in advance. The teacher should allow the students to understand the corresponding concepts and theories through addressing problems and establish a good knowledge structure, and teachers should carefully answer the questions raised by the

students during the learning process.

Moreover, teachers should allow the students to discuss the theories on the subject and encourage them to conclude their own conclusions as they go along, thereby deepening their understanding of the theories.

As the practicality and visualization of case teaching can just make up for the problem that the teaching content of Compiler Construction Principles is too abstract, Therefore, teachers may adopt case-based teaching, the main form of which is examples, generally representative examples or comprehensive exercises, accounting for about 2 / 3 of the classroom time. Teachers should reasonably combine the technique of the blackboard, the powder pen and the multimedia teaching, and adopt the slide show related algorithm theories to increase the capacity of the knowledge point. Furthermore, teachers may utilize the form of a board to teach the appropriate examples to appropriately reduce the speed of the teaching to allow students to have sufficient time to think and understand, for example, the teacher can introduce a combination of these knowledge after introducing the reciprocal transformation between the automaton, the regular grammar and the regular expression.

5. STRENGTHENING EXPERIMENT LINK

Due to the Compiler Construction Principles course has high practical requirements, students should master some important algorithms in experiment and integrate data structure, advanced language and other contents to finally improve the comprehensive application ability of knowledge.

5.1. Design Experiment Content

Since experiment plays an important role in the teaching process of Compiler Construction Principles, the experiment designed by the course group is divided into the following two levels.

First, teachers design several independent experiments, including lexical analysis, grammatical analysis and semantic analysis in the course of curriculum learning. As the students' knowledge is discrete at this time, they are only required to write the corresponding programs according to the knowledge modules they have learned, so that the students can master the algorithm deeply by thinking and writing the programs.

Second, after the course, teachers design a comprehensive experiment that requires students to complete a compiler for a subset of the C language, which requires students to concatenate most of the knowledge of Compiler Construction Principles to form a whole concept to complete the whole process from lexical analysis to code generation, so as to grasp the main functions of the compilation system and improve the comprehensive ability as a whole.

5.2. Standardize the Form of Assessment

The author suggests that experiment scores should account for 25% of the total score to balance theories and experiments. In accordance with the principle of

fairness, the author proposes performance evaluation method which combines stage assessment and summary examination, and each experiment score is given by the teacher interview and based on the students' understanding of experiment theories content and the idea of realizing the algorithm, and and ask it to analyze the specific source code, so as to judge the degree of students really master knowledge to avoid plagiarism. In the stage of summarizing examination, the student applies actively and adopts the form of public defense, and the excellent defense can get bonus points.

6. CONCLUSION

Through the reform and innovation in teaching content, teaching method and teaching practice, the latest achievements made in scientific research activities are integrated into teaching in time to promote the continuous improvement of teaching level and ensure that the curriculum construction is always at the advanced level and lay a good foundation for the further development of the curriculum. Compiler Construction Principles curriculum plays an important role in the computer curriculum system, which determines the long-term nature of its curriculum construction and reform, and also plays an important role in the training of computer professionals. Exploring the teaching method of the course and improving the teaching quality are the problems that must be paid attention to by the computer educators, and it is also a problem that is always worth discussing. According to the actual situation of computer specialty, we should make reasonable use of modern means and consider many factors comprehensively, so as to push the teaching reform of this course to a more scientific development road.

REFERENCE

[1] Zhang Jingmin, Li Xia, Wang Shenwen. Hybrid Teaching Reform Based on Compiling Principles of Professional Norms [J]. Education and Teaching Forum, 2017 (2):102-103..

[2]Lei Yu, The Course Teaching Reform and Practice of Compiler Construction Principles, China Electric Power Education[J], 2010, (28):71-72.

[3]Wang Zhongce, Teaching Reform and practical Exploration of "Compiler Construction Principles" course, Science and Technology Innovation Herald, 2010, (34):148-148.

The Use of Costume Crafts in Fashion Design

Siyun Chen
Guangdong University of Science & Technology, Dongguan, 523083, China
E-mail:41006836@qq.com

Abstract: The rapid development of China's economy has driven the rapid development of China's garment industry. Fashion design not only pursues style and style, but more importantly, it pays attention to the rational use of clothing technology. As an important part of fashion design, clothing technology can not only make clothing personality distinct, but also improve clothing quality and enhance brand recognition. It also adds infinite charm to clothing, increases artistic effects, and improves the aesthetic level of consumers.
Keywords: clothing crafts; clothing design; application

1. INTRODUCTION

China has a very long history, and many fashion designs have a very profound historical heritage. Apparel craftsmanship is a vital part of the overall design of clothing [1]. In the design of clothing, there are many different forms of clothing and crafts, which adds infinite charm to the clothing. Paying attention to costume crafts will help to develop design thinking, update design concepts, and form the distinctive personality and style of the works, so that the costumes produce rich and unique artistic aesthetic effects [2].

2. THE EXPRESSION OF CLOTHING CRAFTS IN FASHION DESIGN

(1) Weaving process, the weaving process is a process of processing the paper strips, leaves, stems, skins, etc. of the plants, so that the strips are staggered or hooked together and organized by hand. Most of the colorful patterns of woven crafts are formed during the compilation process, and some of the weaving techniques themselves form patterns. The most common weaving techniques in our lives are weaving, wrapping, nailing, and knotting. Weaving process can choose tools such as needles and crochets according to different needs. We can weave large and heavy fabrics with needles [3]. We can weave delicate and delicate fabrics with crochets. Of course, under the hands of weaving masters, we can weave them with both needles and crochets. Exquisite work. The application of the weaving process to the design of the garment not only can be embellished by its special effects, but also can show the elegant and simple artistic features of the garment design, which is very worthy of reference for the fashion designer. (2) Printing and dyeing process, printing and dyeing, is a kind of processing method, which forms a beautiful pattern by performing a series of manipulations on the surface of the fabric. A long time ago, the folks in

China had a long history of printing and dyeing. The printing and dyeing process included blue prints, color prints, batiks, tie dyes, smudges, etc. These processes are very popular because the fabric can be turned into a simple and elegant flower cloth by hand, so that it can be passed down to the present and lasted. These dyeing techniques of the printing and dyeing process make full use of the vegetable dyes, which are environmentally friendly, original, simple and natural. They are well adapted to the contemporary design theme of returning to nature and nostalgic thoughts, and are very popular among contemporary fashion designers. Moreover, the printing and dyeing process has the characteristics of non-reproducibility and contingency in the production process, and it has unique characteristics. There are many famous designers from the world to learn from their skills. Many modern print and dyed designs not only combine the work of dyeing and dyeing with modern art, but also combine the printing and dyeing technology with the weaving technology and the embroidery technology mentioned below. These unique designs are infused with traditional craftsmanship. Not only can attract the attention of the audience, promote the concept of fashion, but also better introduce different design elements for the fashion industry, and provide materials for future design. (3) Embroidery technology, embroidering is to embroider needles, such as silk, cashmere, thread, etc., according to the design of the pattern, on the silk, cloth and other fabrics on the needles, to form patterns or words with embroidery. Embroidery occupies a large proportion in various national costumes in China. It is the main method of decoration on clothing and has a long history. In the Ming and Qing Dynasties, the scale of the embroidered dynasty of the feudal dynasty gradually expanded, and the folk embroidery also developed further. It has produced Suzhou embroidery, Guangdong embroidery, Hunan embroidery and Sichuan embroidery, known as the "four famous embroidery". In addition, there are also Jing embroidery, Lu embroidery, Miao embroidery, Han embroidery, Qian embroidery, Gu embroidery, etc., which have unique styles and artistic characteristics. For example, Su embroidery has the characteristics of exquisite embroidery, ingenious craftsmanship, bold ideas, fresh and lively, beautiful patterns, etc., fully demonstrating the regional culture of Suzhou, and once there is an ancient sentence to evaluate Su embroidery: "Shanshui can be divided into far and near, the pavilion has a present The body of the

scorpion, the characters can have a vivid and vivid feeling, the flowers and birds can report the state of relatives and sorrows; the main characteristics of Yue embroidery are the contrasting colors, the rich and varied lines, and the rich layout of patterns; The composition is rigorous and gives a strong sense of image impact. It has a famous saying that "the distance is magnificent and the spirit is close to the gods." The style of the embroidery emphasizes the brightness, delicateness, smoothness, rigor and clarity,

and the composition gives a feeling of heartyness. Loved by people. Of course, the embroidery in other minority areas of China is also unique, rich in color, embroidered and embroidered, and the embroidery style has its own characteristics, which is enough to compete with the four famous embroidery. Coupled with the fashion trend of Chinese national style in recent years, more and more designers like to find design inspiration from the embroidery process of ethnic minorities (Figure1).

Figure 1 Liang Zi's Qiang Embroidery Blum arine's work of 2010 Milan Fashion Week in Spring and Summer

3. CHARACTERISTICS OF CLOTHING CRAFTS

The craftsmanship of the costumes began with its development. After a long history, it has been done by hand. From the simple embroidered combination of embroidery, to the modern complex sequin embroidery, color embroidery, fabric styling and other different handicrafts, they need to be finished with their own special skills. Different costumes and crafts have different technical performances. Therefore, the skill is the characteristic that the craftsmanship has in the process of decoration and beautification. For example, the color embroidery is characterized by a variety of different needle patterns and a combination of colors, which show the effect of fine and colorful, magnificent and colorful; the knot of the ropes expresses the decorative patterns with various knots formed by different knitting techniques. Rhythm and rhythm, etc., all of which must rely on exquisite craftsmanship to make the beautification of the costumes more distinctive and attractive. The decorative parts of the costumes and crafts have a close relationship with the style and style of the garments, and are usually beautified in the collar, sleeves, shoulders, chest, waist and back. Material selection should be based on the fabric and design requirements of the garment, and the corresponding cloth, thread, ribbon, lace, beads, sequins, leather, etc. should be selected, and these materials can be

skillfully used. After careful design and combination, the ideal decoration can be achieved effect. The performance techniques often vary according to the clothing wearing occasions. For example, dress dressers who attend the party need to show their identity and status with brilliance, often using gorgeous sequin embroidery, unique fabric shapes, three-dimensional floral decorations, etc. The technique and the decorative effect are prominent; relatively speaking, the clothing at home is relatively simple, generally with a soft printed fabric, and some elegant embroidery can be embellished at the neckline. These indicate that the handicrafts are subordinate to the clothing, and leaving the clothing becomes a tree without roots. Costumes and crafts are a unique manifestation of each national culture and aesthetic taste. During a long historical period, the people of countries, regions and peoples of the world have different living environments, geographical climate, customs and cultural backgrounds. Under the influence of it, it has produced and formed various costume art. The costume craftsmanship is one of the important signs of this feature. According to their different aesthetic tastes and hobbies, people use different handicrafts to decorate their costumes, showing the characteristics of various ethnic groups in costume art.

4. APPAREL CRAFTSMANSHIP IN THE DESIGN

OF CLOTHING

4.1. Grasp the Mood

To achieve a perfect combination of modern clothing design and craftsmanship, we must start from the artistic conception of design. There must be something, but we can't add more snakes. We should reasonably grasp the scale. It can express a simple style in the design appearance, which has both the modern fashion concept and the true meaning of Chinese culture. It reflects the true design concept from the color. Highlight the charm from the cultural connotation. But we can't overdo it. In the design, we should also add some elements to make the design look more refined. Just like the poet said, the makeup is always appropriate.

4.2. Originality and Locality Combined

The combination of tradition and modernity is the design technique and principle often used in modern clothing design. It must have its own principles and insist on locality. Locality refers to the absorption of the necessary design elements from a large number of traditional handicrafts, inspiring creative inspiration and strengthening the design concept. The innovation of traditional handicrafts can be mainly reflected in the two aspects of the beauty and connotation of fashion design. The innovation of formal beauty I believe that design should be boldly integrated into the national culture of the world, so that it can be used for the purpose of "foreign use"; In the first place, we should conduct in-depth research and meticulous work on Chinese culture, and strive to explore the profound connotation of traditional Chinese handicrafts in the costume culture and its great application value in the rapid development of today's economy and society.

5. CONCLUSION

In today's fast-developing and fast-changing era, fashion designers can only flexibly integrate traditional handicrafts and modern popular techniques, and perfectly penetrate and apply them. While inheriting the essence of traditional handicrafts, they can also develop and innovate, and combine and interact with each other. Learning from it, we can design a costume that is more cultural and more reflective of cultural connotations.

REFERENCES

[1]Liu Yi, Innovative application of traditional handicrafts in fashion design, Modern Decoration (Theory), 2016, (02): 236-237.

[2]Cai Yuanzhuo, Innovative Application of Traditional Costume Elements in Modern Fashion Design, Art Science and Technology, 2016, 29(02): 149.

[3] Yang Li, A preliminary study on the innovation of national costume decoration technology, China National Expo, 2017, (05): 11-12.

On The Design and Marketing Strategy of Chinese Clothing

Xiaoxiu Liu

Guangdong University of Science & Technology, Dongguan, 523083, China
E-mail:1197481025@qq.com

Abstract: The rapid development of China's economy, the improvement of people's living standards, and the increasing demand for wear. Chinese-style clothing carrying the traditional Chinese cultural connotations is more and more loved by the Chinese people. It is no longer just a ceremonial costume to go abroad or participate in some formal occasions, but also become a daily life wear. Therefore, the clothing industry has always been engaged in Chinese clothing. Constantly explore innovation and research.

Keywords: Chinese clothing design; marketing strategy

1. INTRODUCTION

China has a very long clothing culture. Chinese clothing bears the traditional cultural connotation of China and has unique charm. It is the most important feature that distinguishes it from other types of clothing [1]. Under the background of digitalization and information technology to promote industrial innovation, how Chinese clothing uses Chinese elements to carry out innovative design of clothing and carry out targeted brand marketing is a key concern of current clothing people [2].

2. CHINESE CLOTHING DEFINITION

Chinese clothing is relative to Western-style clothing. Styles, fabrics and decorations are unique in China. Chinese-style clothing embodies the Chinese people's value orientation and aesthetic pursuit, and carries many excellent Chinese traditional cultures [3]. It is one of the Chinese international logos. (1) For the concept of Chinese clothing, we all say the same thing. One of the more recognizable ones is that Chinese clothing is a general name for a kind of clothing with obvious "Chinese elements" or flat structure cutting style or clothing style charm. Traditional costumes and modern costumes with the above characteristics, of which "Chinese elements" refer to the decorative techniques, fabrics, styles and color characteristics unique to China. However, in the 21st century, people's aesthetic and consumption levels are constantly improving, so the definition of Chinese clothing should be supplemented by a broader scope. Chinese clothing is defined as the general name of a kind of clothing with obvious "Chinese elements" or national style charm derived from the characteristics of Chinese national culture, or modern clothing with the above characteristics, in which Chinese elements refer to Chinese nationalities. Unique decorative crafts, fabrics, styles, color features, etc. (Figure 1).

Figure 1 Chinese traditional elements buckle, embroidery, tie dye

3. CHINESE CLOTHING MARKETING STRATEGY

3.1. Establish Chinese Clothing Brand and Culture

Brand culture, in short, is to give the brand a deep connotation as a way to promote the establishment of its distinctive brand positioning, and to promote the high recognition of the brand spirit by means of effective communication channels. Form consumer loyalty to the brand [4]. China's traditional costume culture is the source of Chinese clothing, and its development is also achieved by people's high sense of identity with Chinese traditional culture. However, from an objective point of view, the formation of cultural identity is a long process, so it is extremely important to find a culture that suits oneself according to its own brand characteristics. Brand culture is the core of a brand. It is a direct representation of the lifestyle. It is an important link between traditional

and modern life. It is the cultural accumulation that the brand has accumulated over the long-term development process. Brand, traditional culture and corporate personality. The image is included [5]. Taking a famous brand as an example, its brand name and concept pursue consistency with the nature of China's natural and simple national spirit. It is the search and exploration of the beauty of harmonious rhythm between people, clothing and nature. A concrete form of understanding and expression of traditional culture [6]. Silk culture is the core culture of a brand and the most direct expression of the concept of nature. For example, the design of the crepe series clothing is based on the texture and texture of the crepe fabric itself as the main design source and foundation. At present, a brand endorsement is crepe, which conveys its own concept of environmental protection and spiritual value through simple aesthetics.

3.2. Strengthening the Style of Clothing

Chinese traditional culture is a kind of metaphorical culture. Art emphasizes lyricism, clothing pursues the spiritual meaning and cultural taste of the constituent elements; ignores the existence of "sex", gives up the performance of the human body curve, does not emphasize the sensory stimulation elements, widens the belt, and conceals the human body. The pursuit of spiritual meaning beyond the form is intended to express solemn and subtle beauty. Therefore, the clothing style prefers the elegant charm and the elegant beauty of elegance. In order to achieve this effect, most of the Chinese-style clothing is mainly based on a loose and large-scale sleek and long-lasting style, emphasizing smooth lines and layers, avoiding narrow and complex segmentation structures, which not only gives the wearer a sense of comfort, but also clothing. A new morphological structure will be created as the actor moves.

3.3. Establishing the Position of Chinese Clothing Brand

Brand positioning is an important foundation for Chinese clothing design. China has a large population. Usually consumers can be divided into high, medium and low grades. Consumers of different grades have different requirements for the price, quality and brand value of clothing products. It can also be positioned on the basis of age, and can target consumers as children, youth and old age; it can also be divided into different occupations, and can be divided into teachers, workers, college students and so on. Therefore, in the positioning of the brand, in addition to looking for consumers, it must also make detailed and accurate judgments on the psychology and motivation of Chinese clothing, so as to clarify the different needs of consumers and carry out corresponding services in a targeted manner. Thereby meeting their needs. However, analyzing consumer purchase behavior does not require us to satisfy the needs of all consumers, but based on the positioning

of Chinese clothing brands, in order to find suitable and matching consumer groups, and to carry out systematic operation, meet the needs of this part of the consumer group. In addition, when positioning consumers, we must also pay attention to the reasonable control of costs, in order to obtain the maximum benefit with the least investment.

3.4. Brand Positioning

Before the design of Chinese clothing, it is also necessary to locate the potential consumer groups of the products. The positioning of the consumer objects is also multi-faceted, such as age, children, youth, and old age; from the gender, there are men and women; At the consumer level, there are high and low points; according to occupations, there are teachers, retired employees, students, and so on. Look for consumers and judge their consumer psychology and motivation to buy Chinese clothing, seek their different needs and continue to meet. Of course, the analysis of consumer behavior does not require us to meet the needs of all consumers, but to find the most suitable consumer groups that best match the Chinese clothing brands, and concentrate on meeting the needs of these consumers. The positioning of consumers can save operating costs and achieve maximum benefits with minimal investment.

3.5. Establish Effective Communication of Chinese Clothing Brands

Effective Chinese clothing brand communication through a variety of brand communication methods. Whether brand communication is effective or not is related to the public's awareness of the brand, which is the key to the rapid development of the brand. At the same time, the effective dissemination of the brand can fully promote the docking of the brand and the target market, and it will also be of great help to the later brands to occupy the market and expand the market. Brand communication is an important means to spread your personality to the masses. It is a key link in the formation of brand culture. It has diverse characteristics, such as the use of advertising to spread, the use of public relations and the communication between interpersonal relationships are the most common brand communication the way. At the same time, brand communication based on multiple ways can also make consumers have a certain sense of dependence on product consumption, and gradually evolve into an important part of consumers' daily life, which in turn exposes consumers' internal cultural identity. To accomplish the purpose of marketing.

3.6. Clothing Color

In general, the Chinese people's choice of color and aesthetics can be compared with the aesthetics of the Song Dynasty. It is a positive literati style, elegant and pure, with simple tones and elegant style. From the analysis of CCS color system, it can be divided into two color matching modes, different hue of the same hue, or different hue of the same hue, and the

whole is biased to the middle and low purity, and the middle and low brightness of the cloudy area. The hue is not limited, but the cyan, dark green, azure, scallion and sauce brown are especially representative of the color characteristics of Chinese clothing. The overall size of the clothing is plain, and only the same color and contrast color are used in the details. The so-called "green branches are red, and there is no need to move the spring."

4. CONCLUSION

Chinese-style clothing is a kind of clothing that carries the traditional Chinese cultural connotation. It has unique charm. It is not only a clothing product, but also an art work that inherits the traditional Chinese culture. Therefore, in the process of clothing design and marketing, we must The combination of ethnic elements and fashion elements is constantly innovating, accurately positioning and effectively spreading Chinese clothing, and forming a new Chinese-style clothing to occupy the clothing market in a targeted manner. In short, how to use Chinese elements better, and what kind of marketing method to achieve effective communication of brand and brand culture is still the focus of future fashion designers and fashion people.

REFERENCES

[1]Wei Yuan, Analysis of marketing strategy of medium and high-end Chinese clothing brands in Shanghai area, Shandong Textile Economy, 2018, (01): 56-58.

[2]Zuo Yuping, How to market Chinese clothing brands, China Textile, 2016, (07): 115.

[3]Li Zehou, The course of beauty, Beijing: Life·Reading·Xinzhi Sanlian Bookstore, 2015:150.

[4]Zhao Chao, Yunxiang clothes, Sichuan: Sichuan People's Publishing House, 2004: 149.

[5]Cheng Yifu, Comparison of Eastern and Western Patterns, Sun Jiliang, translated. Beijing: China Textile Press, 2002: 131.

[6]Huang Nengqi, Chen Juanjuan. The Origin of Chinese Costume Art, Beijing: Higher Education Press, 1994: 17.

A Research on Blended Learning Model in College English Teaching

Qingxia Chen
Guangdong University of Science and Technology, Dongguan, 523083, China
*E-mail: 52212504@qq.com

Abstract: The rapid development and wide application of information technology, especially the Internet, have provided space for the development of higher education and new opportunities for the college English teaching reform. After studying the connotation of blended learning, this paper discusses it from four aspects: teaching concept, teaching resources, teaching design and teaching evaluation in order to realize the value of blended learning to the greatest extent and foster suitable talents for the society of the new era.
Keywords: College English teaching; Blended learning; Teaching concept

In the 21st century, the rapid development of information technology, especially the rapid development and wide application of the Internet, has brought tremendous changes and challenges to people's life and learning, and has also provided a new space for the leapfrog development of higher education. The rich network resources provide the possibility and opportunity for college English teaching to closely follow the pace of China's education development and carry out a new round of college English teaching reform. In recent years, MOOC and Micro-class have become popular in the field of education. Flipped classroom has almost become a hot favorite in our country's education. These new teaching methods enrich our college English teaching, providing college English teaching a large number of teaching resources, providing teachers and students a learning environment free from time and space limit, and providing students new ways for autonomous learning. Since the new teaching methods enrich our traditional college English teaching, can these new teaching methods replace the traditional teaching methods? Can E-Classes replace the traditional form of college English classes? If the new teaching methods can not completely replace the traditional college English teaching, how can we arrange the new and traditional teaching methods in college English classroom? Is there any better college English teaching model which can adapt to the development and need of the information-based education era? These are the problems college English teachers should consider and solve.

1. CONNOTATION OF BLENDED LEARNING

Experts and scholars at home and abroad have slightly different explanations for blended learning. The concept of blended learning was first proposed by American scholars Smith J and Alert Massie in 2002. They combined the pure technological environment of E-learning with the traditional learning concept. According to Singh and Reed, experts from the American Association for Training and Development, blended learning is a way of learning that transfers appropriate learning content to appropriate learners at the right time by combining appropriate media technology and learning style, to achieve higher learning benefits with less learning input.

In China, Professor He Kekang, a scholar from Beijing Normal University, believes that "blending learning is to combine the advantages of traditional learning methods with those of online learning" [1]." That is to say, teachers should not only play a leading role in guiding, inspiring and monitoring the teaching process, but also fully reflect students' initiative, enthusiasm and creativity as the main body of the learning process. He emphasizes the combination of traditional learning methods and network learning methods to complement each other's advantages in terms of learning methods and the roles of teachers and students in the learning process. Professor Li Jiahou of Shanghai Normal University says that "blended learning means to optimize the selection and combination of all teaching elements in order to achieve the teaching objectives. In teaching activities, teachers and students use various teaching methods, modes, strategies, media and techniques skillfully in accordance with the needs of teaching to achieve an artistic realm" [2]. Professor Li Jiahou's definition tends to emphasize the integration and optimization of different teaching elements in the teaching process so as to make comprehensive use of them.

In the light of the above definition, blended learning is a way of learning in which teachers and students integrate various ways and means to transfer and acquire knowledge in the process of learning. It includes face-to-face teaching in traditional classroom teaching, network resource learning and new-developed network courses. The combination of traditional teaching and online learning can fully mobilize students' autonomous learning ability.

2. THE BLENDED LEARNING MODEL OF COLLEGE ENGLISH

College English, as a public course covering all non-English majors in a university, involves a wide

range of majors. The students' English proficiency is uneven and their self-learning ability and participation are different, which are the problems that must be faced in college English teaching reform. The development of information technology has provided space for the development of education in China, and also brought opportunities for college English teaching reform, which has brought college English teaching reform into a new stage. That is to say, the combination of face-to-face teaching and web-based learning has become the direction of teaching reform in the new era.

2.1. Teaching concepts

The development of network technology has provided a brand-new learning space for teaching, and blended learning has created a highly interactive and participatory learning environment for students' knowledge construction. The teaching idea of "teacher-led face-to-face instruction + student-centered autonomous learning", emphasized in blended learning, has improved the traditional teaching method of "teacher-centered" and avoided the uncontrollability of the simple "student-centered" learning method [3]. According to the actual learning needs of students, blended learning makes use of the rich network resources and the dual advantages of classroom teaching to enable students to achieve higher learning benefits. Also it gives full play to students' learning subjectivity and autonomy, internalizes students' knowledge and skills, and promotes students' collaborative ability and problem-solving ability.

2.2. Teaching Resources

The network environment provides a large amount of learning resources for teaching, yet as a public basic course designed for students of all majors, if college English teaching is separated from the textbooks, the teaching will be unplanned and disordered. Textbook-based teaching can be more systematic and comprehensive. In the blended learning model, teachers can search for learning resources on the network and pass them to the students according to the topic and content of the teaching unit. Also the teachers can encourage students to search for appropriate learning materials through the network independently after learning the content transmitted. Therefore the students can better understand the learning resources and the content of the unit, and further improve their mastery and application of the English language. In a word, under the blended learning model, the teaching content is based on textbooks and through the effective network resources, then stimulates students' learning interest and enthusiasm.

2.3. Teaching design

Aiming to optimize teaching effect and based on certain theories, teaching design is a process using systematic methods to analyze teaching problems, determine teaching objectives, establish plans to solve teaching problems, and then try out, evaluate and revise the plans. In blended learning model, teaching design is a process of scientific overall planning for various teaching elements in order to improve the effectiveness of blended learning. The designer should first analyze the teaching objectives of the teaching units, clarify the knowledge points and cognitive objectives of each teaching unit, and design reasonably according to students' cognitive level and interest points. The designer should clarify the teaching concept of "teacher-led + student-centered", comprehensively consider the teaching objectives, teaching methods, teaching environment and other factors according to different teaching contents, and then design teaching activities which are beneficial to students' learning. Learning activities of a teaching unit can be one kind of activity or a combination of various activities. Learning under the network environment has the characteristics of problematization of learning content and collaboration of learning methods. Therefore, learning activities under the blended learning model can be problem-solving, collaborative learning, interactive learning and autonomous learning, etc. In the process of activities, the designer should observe and record the activities and provide guidance. The follow-up presentations can be completed by means of network environment or multimedia equipment in classroom, which is a process of cultivating and developing students' language organizational ability, logical thinking ability, cooperative learning ability, as well as interpersonal communication ability. Therefore, blended learning design is a process of integrating the advantages of network learning and face-to-face communication to obtain an efficient teaching plan.

2.4. Teaching evaluation

Teaching evaluation is the evaluation of teaching activities, teaching processes and teaching results based on certain teaching purposes. The evaluation of blended learning should also adopt a multi-element and blended evaluation system. Students, the main body of blended learning, can be evaluated by combination of formative evaluation and summative evaluation. In the process of blended learning, network learning breaks the traditional way of communication between teachers and students. It is not solely face-to-face communication between teachers and students. Therefore, it is difficult for teachers to accurately grasp the students' self-study situation and learning effect. Using formative evaluation, through student self-evaluation, student mutual evaluation, teacher evaluation and other ways to evaluate teaching is more conducive to maintaining students' learning enthusiasm and encouraging students' creativity. At the same time, summative evaluation is also indispensable. It is conducive to testing the macro-learning effect of students at a certain stage, so that teachers can understand and let students understand their own learning situation, so as

to better guide the blended learning in the future.

3. CONCLUSION

With the development of information technology and the rapid development of network technology, new possibilities have been created for teaching, changing our teaching environment, enriching our teaching resources, and bringing new language learning modes and new teaching behaviors to college English teaching. As teachers, we should change the previous "teacher-centered" teaching concept, take students as the main body, take teaching design as the premise, rely on network resources, integrate online and offline teaching modes, maximize the value of teaching, and cultivate suitable and creative talents for the society of the new era.

REFERENCE

[1]He Kekang. Seeing the New Development of Educational Technology Theory from blended Learning (I). E-Education Research, 2004, (3):5-10.

[2]Yang Fang, Wei Xing, Zhang Wenxia. An Analysis of the blended Learning Model of College English. Computer-assisted Foreign Language Education, 2017, (2): 21-28.

[3]Yang Yongfang. The Application of Blended Teaching Model in Open English Teaching of Open University. Journal of Guangxi Open University, 2010, (4): 28-32.

Elementary Research on the Importance of Teachers' Moral Cultivation on PE Teachers

Feng Yang*, Zhihe Mao
School of Physical Education, Hunan University of Arts and Science, Changde 415000, Hunan, China
*E-mail: beeyang@qq.com

Abstract: As the foundation of national rejuvenation, education is crucial to our country. Teachers are the leaders with important tasks on education. Therefore, the teachers' moral cultivation is crucial to standardize, inspire, and educate students. Physical education, in particular, seems to be insignificant in education, but it can enhance students' health, active students' thinking, and lay a foundation for students to learn other subjects well. Therefore, good moral cultivation is very important for physical education teachers. On this basis, this paper carries out a detailed study and puts forward some personal views, starting from the analysis of the importance of teachers' moral cultivation to physical education teachers. The author hopes to provide reference if needed.
Keywords: Teachers' moral; Cultivation; PE teachers

It takes ten years to cultivate trees, but a hundred years to cultivate men. The impact of education on society is self-evident. As an important person who inherits the educational mission, whether a teacher has good moral cultivation is of great importance to the future success of students. Based on this, this paper mainly explores the importance of teachers' moral cultivation to PE teachers from the following two aspects.

1. GOOD MORAL CULTIVATION IS VERY IMPORTANT FOR PHYSICAL EDUCATION TEACHERS

As we all know, the teachers' moral cultivation possessed by PE teachers refers to the professional moral cultivation in practical teaching activities [1]. It includes the following: sports professional quality, education ideology, respect consciousness, and emotional consciousness.

The sports professional quality mainly refers to the sense of responsibility that PE teachers have when guiding students to engage in PE activities. PE teachers should innovate the curriculum according to the new curriculum reform while helping students keep fit. As we all know, the purpose of college physical education is for the health of students, which makes safety the first priority. The duty of PE teachers is to spread sports knowledge and skills to students in the process of improving students' physical quality. It can be seen that PE teachers are strictly required for their sports professional quality.

Education ideology mainly refers to the educational

responsibility of PE teachers [2]. Different from teachers of other subjects who only need to explain knowledge based on textbooks, PE teachers should be equipped with strong practical abilities. In addition, physical education focuses on the individualized development of students. Sports skills formed in the process of sports is an important achievement of PE teachers. Therefore, it is necessary for physical education teachers to respect students, interact with students and understand their real thoughts based on the student-oriented educational thought. In this way, they can optimize and adjust their own teaching mode and better realize the educational function of physical education.

Respect consciousness means that PE teachers should establish an equal and harmonious teacher-student relationship model in the PE teaching process. This requires physical education teachers to fully observe the individual differences of each student in the class, including their attitudes towards sports, and formulate targeted PE teaching programs to stimulate the potential of each student in sports. For example, PE teachers should encourage students who are strong in a certain sport and establish programs with certain difficulty to expand the athletic ability of such students. For students who are not so good at such sports, PE teachers should respect them and show no sarcasm in words but appease their emotions. In this way, these students could form a healthy attitude to sports and try to go beyond their potential.

Emotional consciousness means that PE teachers should infuse all professional emotions into PE teaching, inspire students with their own perfect moral accomplishment, and help students develop the courage to struggle for better through learning sports knowledge and master sports skills. Furthermore, students are able to use this spirit in the study of other subjects to provide spiritual motivation for students' further learning and development in the future. At the same time, this also reflect the traditional Chinese moral values in education.

2. EFFECTIVE MEASURES TO IMPROVE MORAL CULTIVATION OF PE TEACHERS

At present, in order to effectively improve the moral cultivation of PE teachers, the following three optimization measures are established to lay a theoretical and practical foundation for physical education in China.

2.1. Improve PE teachers' professional skills and

sense of responsibility through programs and activities

First, improve the professional skills of PE teachers [3]. Specific measures are as follows: First, colleges should guide PE teachers to understand the real value of physical education. PE teachers should be able to show students that the inner value embodied in sports is way more important than sports skills after receive theoretical training and moral cultivation training of various modes. In this way, PE teachers can formulate better PE teaching plan to promote the all-round development of students. Second, colleges should hold regular PE teaching summary to analyze the shortcomings of each PE teacher during the teaching activities. Therefore, PE teachers are able to pay full attention to their shortcomings to design better teaching pace, highlight the intrinsic value of PE teaching, change the previous teaching model and make some innovation. In this way, they can better improve their professional skills and form a high quality teaching team.

Second, improve the sense of responsibility of PE teachers [4]. Most PE teachers are just course teachers, not teachers in charge of the class. Therefore, PE teachers should be equipped with strong sense of responsibility. Here are measures to improve their sense of responsibility: First, colleges should constantly strengthen the ideological and moral level of PE teachers and improve moral cultivation through charity activities and moral cultivation competitions. Second, colleges should constantly encourage PE teachers. In view of the innovative teaching of PE teachers, college leaders should praise and support them to enhance their confidence in PE teaching. Third, colleges should also improve the salary and welfare of PE teachers and help them with personal problems including housing, medical care, and supporting the old and the young based on their own conditions. In this way, they can devote themselves to their work, enhance their sense of responsibility, and guide students with more enthusiasm and perfect moral cultivation.

2.2. Enhance teaching introspection and analysis and develop high moral values of PE teachers

At the present, in the vast majority of colleges in China, physical education teachers are generally insufficient in idea and teaching, with lacking professional dedication, which serious affects the quality of college education. In order to completely reverse this situation, we need to start from the root by improving the moral concept of PE teachers and helping PE teachers to establish good image, so as to strengthen their professional skills.

Some measures to strengthen high moral values are as follows: Firstly, college leaders and PE teaching teams must learn and understand the ideology of PE teachers in teaching. PE teaching teams should make careful analysis of the teaching plan summarized by each PE teacher to improve the moral cultivation of

PE teachers. Second, PE teachers themselves should learn to introspect and summarize in view of actual progress of teaching. They should not only pay attention to appropriate words and deeds during teaching process to show good influence, but also maintain a good appearance, consistent words and deeds to make students love sports more. Third, on the basis of good spirit and appearance, PE teachers should try to maintain an equal teacher-student relationship and achieve the organic combination of seriousness and humor during the teaching process. What's more, PE teachers should play a leading role and win the support and love of students with their own practical action.

2.3. Hold teachers' moral cultivation evaluation activities and constantly encourage PE teachers to improve their moral cultivation

Colleges can carry out teachers' moral cultivation evaluation activities to improve the moral cultivation of PE teachers. To be more specific, first, colleges can carry out PE teachers' skills and knowledge competition on a monthly and quarterly basis. In the competition, PE teachers are able to consolidate their comprehensive teaching skills through the examination of theoretical knowledge and practical sports ability, so as to improve teachers' moral cultivation. Second, colleges should also hire professional PE teaching experts to share teaching experience to PE teachers and urge PE teachers to update their own knowledge system and teaching mode by putting more time and energy into optimizing PE teaching. Third, PE teachers should create a relaxed and pleasant sports atmosphere for students in PE class. For example, they can design games during warming up and exercise to bring students closer and help students relieve pressure. By enhancing the PE teachers' moral cultivation, the teaching quality and efficiency of the college is promoted.

3. CONCLUSION

In general, college physical education is an effective way to implement quality education in China. Therefore, we should attach great importance to the moral cultivation of PE teachers. To this end, colleges should improve PE teachers' professional skills and sense of responsibilities through programs and activities; enhance teaching introspection and analysis and develop high moral values of PE teachers; and hold teachers' moral cultivation activities and constantly encourage PE teachers to improve their moral cultivation. I hope this paper can provide reference and enlightenment for PE teachers in China to improve their moral cultivation.

REFERENCES

[1]Zheng Jiuzhou. On the Construction of Ethics of Young College Teachers. Modern Business Trade Industry, 2017, (18): 145.

[2]Ma Zhiqiang. Elementary Discussion of Moral Cultivation of Teachers in Colleges and Universities. Time Education, 2017, (9): 226.

[3]Guo Yagang. Professional Ethics and Moral Cultivation of Teachers in Colleges and Universities. Da Guan, 2017.

[4]Shi Xiuli. On the construction of the professional ethics of college PE teachers. Journal of Liaoning Teachers College (Natural Science Edition), 2017, (03): 65-66.

The Influence of Yoga Exercise on Female College Students' Physical Self-esteem

Gaojie Zhang, Xiumei Liu
Department of Physical Education, Zhoukou Normal university, Zhoukou, 466001, China
*E-mail:396010945@qq.com

Abstract: purpose: In order to reveal the characteristics and laws of yoga practice on female college students' self-esteem, to analyze the correlation between body self-esteem and yoga technical achievement, and to reveal the influence of body self-esteem on yoga achievement. Methods: fifty female college students in Zhoukou normal University were trained in yoga. The effect of yoga exercise on their body and mind was measured with body self-esteem scale before and after training. Results: 1. After eight weeks of moderate yoga training, the studentsundefined sense of physical value, physical attraction, athletic ability, physical fitness and physical condition were all significantly improved. Not only can form the good body shape, but also has the positive influence to the personundefineds psychological state. It is found that yoga exercise can effectively relieve physical stress, promote physical and mental health, and improve the physical self-esteem of ordinary female college students. Although eight weeks time is not long, but has the positive promotion to the female university studentundefineds body self-esteem. Good physical self-esteem requires long-term exercise. 3. Yoga practice can improve physical self-esteem while improving yoga performance. The achievement of yoga is closely related to athletic ability and expressive ability. Persisting in long-term yoga exercises not only improves exercise but also reduces stress, relaxes mood, builds self-confidence and improves your performance. Conclusion: through eight weeks of moderate yoga practice, female college studentsundefined physical self-esteem was significantly improved, and their body shape and mental state were also positively affected.
Keywords: female college students; yoga practice; physical self-esteem

1. RESEARCH PURPOSES

With the development of society, yoga has been popular in the world in recent decades. Yoga is a popular aerobic exercise that is popular among the masses. As an emerging sporting event, it is deeply loved by college students with its distinctive rhythm and varied movement characteristics. Physical self-esteem is the individual's satisfaction or dissatisfaction with different aspects of the body. With the development of society, people have put forward higher requirements for their own qualities, and people are paying more and more attention to their mental health. Some research results show that college students do have different levels of psychological problems, and the mental health of college students has become a problem that cannot be ignored. In this paper, we mainly understand the changes of physical self-esteem of college students who study yoga through experimental methods and questionnaires. This paper uses the Physical Self-Esteem Scale (PSPP) to measure the influence of yoga exercise on the body and mind before and after training. It reveals the characteristics and laws of the body self-esteem of college students who study yoga, and provides a theoretical reference for the improvement of their individuality and the improvement of their physical self-esteem. Through the correlation analysis between yoga technical achievement and physical self-esteem, it reveals the influence of physical self-esteem on yoga performance and the law.

2. RESEARCH OBJECTS AND METHODS

2.1. Research Object

Taking the effect of yoga practice on the physical self-esteem of female college students as the research object, 50 students who volunteered to participate in yoga practice were recruited at Zhoukou Normal University.

2.2. Research Methods

2.2.1. Literature method

Through literature search and web search, a large number of relevant materials and books on the research of yoga on college students' self-esteem are reviewed.

2.2.2. Experimental method

The subjects were given a medium-intensity yoga exercise three times a week, one hour each time, and the exercise lasted for 8 weeks. The physical self-esteem scale was used to measure the effects of yoga exercise on the mind and body before and after 8 weeks.

2.2.3. Questionnaire survey

Use the Body Self-Esteem Scale to measure the effects of yoga on your body and mind before and after training. Evaluation of the level of physical self-esteem This article uses the scholar Xu Xia 2001 Chinese revision of the "Physical Self-esteem Scale" (PSPP) for Chinese college students. The results showed that the cloned Bach coefficient of the body self-esteem scale and each subscale ranged from 0.73

to 0.85. Explain that the letter and validity of the Body Self-Esteem Scale meet the research requirements.

2.2.4. Mathematical statistics

This study will establish a database of data collected before and after the experiment, statistical analysis of the statistical data of the questionnaire using statistical soft SPSS17.0, and complete the relevant table drawing.

3. RESULTS AND ANALYSIS

3.1.Descriptive Statistics of Physical Self-Esteem Before The Experiment

Before the experiment, the body self-esteem scale was used to measure the body self-esteem of 50 subjects, and the descriptive statistics of the body self-esteem of the subjects were made, so that the subjects gave an accurate evaluation and objective understanding of their physical self-esteem. It also compares the changes in body self-esteem after the experiment. See Table 1

Table 1 Statistical analysis of the current status of physical self-esteem of the subjects before the experiment

Dimension	Minimum value	Maximum	Mean	Standard deviation
Exercise capacity (subscale)	2	17	15.61	.52583
Physical condition (subscale)	1	18	15.94	.50641
Physical attractiveness (subscale)	2	20	18.39	.31652
Physical fitness (subscale)	3	16	15.83	.44621
Physical self-worth (primary scale)	2	17	16.06	.43125

The results in Table 1 show that the average score of body self-esteem of the subjects was 16.06, which indicates that the subject's body self-esteem level is low. From the five dimensions of physical self-esteem, the highest score is the physical attractiveness of 18.39; then the physical self-worth is 16.06; the average of athletic ability and physical condition and physical fitness are not much different, 15.61, 15.94, respectively. 15.83. This indicates that the subject's attractiveness and self-worth are better relative to athletic ability and physical fitness. The physical condition and physical fitness are low. The researcher believes that his body is poor, his self-confidence is insufficient, he is unwilling to participate in sports, and he is doubtful about whether his constitution can participate in sports.

3.2. Descriptive Statistics of Physical Self-esteem after Experiment

Through eight weeks of moderate-intensity yoga training, the five dimensions of physical self-esteem of the subjects also changed accordingly. See Table 2

Table 2 Statistical analysis of the status quo of body self-esteem of the subjects after the test

Dimension	Minimum value	Maximum	Mean	Standard deviation
Athletic ability	5	21	18.11	.62421
Physical conditions	6	23	18.33	.57678
Physical attraction	4	22	20.22	.40641
physical fitness	5	20	17.56	.50325
Physical self-worth	6	21	17.83	.49153

The results in Table 2 show that the five dimensions of body self-esteem have increased after the trial. Among them, the average score of physical self-esteem of the subjects was 17.83, and the self-worth of the body was improved compared with that before the experiment. The highest score was the body attractiveness of 20.22. It can be seen that the exercise ability of the subjects after the test was significantly improved. The second score is the physical condition of 18.33. The physical fitness of the research subject is improved and the physical quality is improved accordingly. Physical condition and physical attractiveness were also significantly enhanced before the experiment. Self-confidence is improved, physical fitness is improved, and research subjects are more willing to participate in sports.

3.3 The effect of yoga on the physical self-esteem of female college students

The same comparison was made on the scores of the subjects' self-esteem. The results showed that after 8 weeks of moderate-intensity yoga training, the body self-esteem of each subject changed significantly, specifically to each dimension of physical self-esteem.

Table 3 Total scores of body self-esteem before and after the experiment and the mean, standard deviation and non-parametric test of each dimension (N=50)

variable	Before the experiment	After the test	Difference	Z	P
Self-worth	15.61	18. 11	2. 50	-2.786	0.005**
Athletic ability	15. 94	18. 33	2. 39	-2.914	0.004**
Physical conditions	18. 39	20. 22	1. 83	-2.493	0.013*
Physical attraction	15. 83	17. 56	1.73	-2.134	0.033*
physical fitness	16. 06	17. 83	1.77	-1.968	0.049*
PSPP total score	81.83	92.06	10.23	-3.007	0.003**

Table 3 shows that before and after the experiment, the body's self-worth increased by 2.5, exercise capacity increased by 2.39, physical condition increased by 1.83, physical attraction increased by 1.73, and physical fitness increased by 1.77. The five dimensions of physical self-esteem have improved. The biggest change is the body's sense of self-worth, followed by athletic ability, the third is physical condition, the next is physical fitness, and the smallest is physical attractiveness. The average number of PSPP total scores before and after the experiment changed from 81.83 to 92.06, an increase of 10.23. There was a highly significant difference in the total score of body self-esteem before and after the experiment (P<0.01), and there were highly significant differences in each dimension, which was significantly higher than that before the experiment. After eight weeks of yoga practice, all dimensions of physical self-esteem have improved, and each dimension has a highly significant change. It shows that through a yoga exercise can effectively improve the physical self-esteem of female college students. In order to observe the changes in the body self-esteem of female college students in the whole process of exercise, the experimental study used the scheme of measuring PSPP in different time periods. The effect of the body self-esteem level of college students is better with the extension of the yoga exercise cycle. In particular, the change in athletic ability is significant, and the sense of physical self-worth has also changed a lot. Different female college students have different scores before and after the experiment. Yoga is suitable for intensity training and body shaping functions, which can stimulate female college students to actively participate in training enthusiasm. This experiment uses medium-intensity yoga training, which has a significant impact on improving female students' motor skills and physical fitness. The main reason is that yoga exercise can achieve a large exercise load in a beautiful music accompaniment and a relaxed and pleasant atmosphere, consume excess body fat, improve body shape, thereby enhancing the feeling of physical attractiveness and improving the level of self-esteem.

Therefore, the experiment proves that through a period of yoga exercise, female college students can change their body shape from the heart, and the body also gets relatively different changes, which also makes female college students have more understanding of body self-esteem.

4. CONCLUSIONS AND RECOMMENDATIONS
4.1. Conclusion
(1) After eight weeks of moderate-intensity yoga training, the students' physical value, physical attractiveness, athletic ability, physical fitness and physical condition are significantly improved.
(2) Through eight weeks of moderate-intensity yoga practice, not only can a good body shape be formed, but also a positive impact on the person's mental state.

It is found that yoga exercise can effectively relieve physical stress, promote physical and mental health, and improve the physical self-esteem of ordinary female college students. Although the eight-week period is not long, it has positively promoted the physical self-esteem of female college students. Good physical self-esteem requires long-term exercise.
(3) Yoga exercises can improve yoga performance while improving physical self-esteem. Yoga performance is closely related to athletic ability and performance. Insist on long-term yoga exercise not only can improve exercise ability but also reduce stress, relax mood, enhance self-confidence and enhance your performance.

4.2. Suggestions
(1) It is recommended to establish college students' yoga clubs and societies in colleges and universities, strictly control the professional qualities and teaching plans of yoga instructors, standardize yoga classes, increase students' communication opportunities and cultivate their good habits for lifelong exercise.
(2) It is recommended to establish a college student yoga competition system in each university. It can be divided into professional group and amateur group, individual group and group group. The awards are set to mobilize the active participation of college students. Through competition performance, the level of self-esteem of college students is improved, and the pressure of learning and life is reduced.
(3) Because the level of physical self-esteem is the result of five dimensions: physical self-worth, athletic ability, physical condition, physical attractiveness and physical fitness. Therefore, according to the gender characteristics of girls in the university classroom, it should be strengthened. The training of the body attraction dimension closely related to body shape, appearance and temperament. Attract more girls to participate in sports.
(4) In the yoga classes of colleges and universities, teachers should reasonably and effectively design the teaching content and exercise intensity. After a period of study, students can organize positive communication and adhere to the changes that they bring to their bodies and minds after yoga. Organizing students to actively communicate and discuss can not only enhance students' feelings but also stimulate students' passion for practice.

REFERENCES
[1]Xu Xia, Yao Jiaxin, Revision and Test of College Students' Physical Self-esteem Scale, Sports science, 2001, 21(2):78-87.
[2]Shen Jianhua, Xiao Feng, The shaping of city image in large-scale sports events, Journal of Shenyang Sport University, 2004, 23(6): 23-30.
[3]Li Jianmin, The Influence of Physical Exercise on College Girls' Physical Self, Journal of Sports Adult Education, 2007, 23(4): 41-42.
[4]Li Xuzhi, Liu Yanping, The Influence of Physical

Fitness Skills on Fitness Activities of Urban Residents, China Sport Science and Technology, 2003, 39(5):54-63.

[5]Hu Weifang, A study on the self-concept of college students, Psychological Science, 2004, 27(5): 43-51.

[6]Sun Yanlin, Zhang Xiao, Ji Chengshu, etc., Research on the Influence of Physical Activities on College Students' Self-Description, Journal of Tianjin Physical Education Institute, 2004, 19(1):22-24.

[7]Tian Lumei, Zhang Xiangkui, Yu Haifeng, Research on Physical Self-esteem and Overall Self-esteem of Athletes and Non-athlete College Students, Probe Psychology, 2003, 23(4):26-31

[8]Chen Yan, Zhang Wei, et al., Analysis of the current research status of Chinese adolescents' body self-esteem, Xi'an Sports Journal, 2004, 23(5): 45-47.

[9]Li Xiaodong, Zhang Weiwei, Research progress on self-esteem and its relationship with sports, Journal of Beijing Sport University, 2007, 30(5): 620-622.

[10]Zhang Yinggen, The Influence of Physical Exercise on College Students' Physical and Mental Health, Sports science, 2011, 3(1):22-27.

[11]Zhang Liwei, Mao Zhixiong, The Relationship between Physical Exercise and Mental Health (Review), Guangzhou Journal of Physical Education, 2012, 4(3): 42-47.

[12] Zhang Weiwei, Ren Weiduo, Research progress in sports psychology, Beijing: Higher Education Press, 2000, 1 (2): 78-81.

Analysis on the Change of Urban Heat Island Expansion

Sheheryar khan[1], Weidong Li[2,]*, Fanqian Meng[2], Liye Dong[2], Ruifeng Yue[2], Ullah Inam[2]
[1]College of Information Engineering, Henan University of Technology, Zhengzhou, China
[2]College of Information Engineering, Henan University of Technology, Zhengzhou, China
*E-mail: 3sadmin@gmail.com

Abstract: The MODIS021KM data with the spatial resolution of 1 km, after geometric correction of MODIS remote sensing data by split window algorithm using the two factor models inversion to get data and extract the urban heat island isoline, from 1992 to 2013 DMSP/OLS and from 2012 to 2016 NPP - VRRIS night light data to extract the contour and get the presumption of the urban area. The study shows that from 2005 to 2016 the economic development center of Zhengzhou gradually moving eastward, urban area has grown from 262 square kilometers from 2005 to 2016. On the basis of using MODIS and NPP night lights from 2012 to 2013 are the two data methods to extract urban area in order to achieve the effect of the mutual authentication. 2013 NPP data extraction of Zhengzhou city covers an area of 375.73 square kilometers and MODIS data to extract the city covers an area of 390.67 square kilometers while according to the bureau of statistics of Zhengzhou city covers an area of 365.61 square kilometers published in 2013. The accuracy reached 97.3% of the urban area using NPP data which is higher precision compared with the MODIS. Using MODIS data on urban heat island inversion in 2012, set the heat island threshold temperature which is 23.5 degrees Celsius of Zhengzhou city covers an area of 354.78 square kilometers, using the data from the NPP lights at night in the same year concluded, covers an area of 370.88 square kilometers in Zhengzhou city which is more than The heat island area of 16.1 square kilometers. The inversion temperature value of the same point is applied to the DN value of NPP and the R2 result is 0.902.
Keywords: Zhengzhou; UHI; split-window; algorithm; Inversion; The Contour method

1. INTRODUCTION

The heat island effect refers to the low temperature in the suburbs, while the temperature in the city center is much higher than the temperature in the suburbs. Between this, the city center becomes a so-called "hot island." The urban heat island is caused by the increase of impermeable surfaces such as roads surface, and building's rooftops in the city and the reduction of the green area. Urban heat island effect causes high temperature weather in urban areas to continue to occur. In addition, more and more citizens choose to drive and emit a lot of greenhouse gases, making the urban heat island effect more seriously.

The rapid development of the city has changed the composition of the urban surface. The original natural performance has now been replaced by cement and asphalt, and the thermal characteristics of urban and rural surfaces have undergone tremendous changes. The surge in the number of migrants in Zhengzhou has brought about a generally higher surface temperature in urban centers than in suburban land temperatures. In the summer season, the temperature is high, and the heat island effect is more harmful. Because the heat island brings about the continuous flow of air, it will accumulate pollution sources in the city center and increase the pollution of the city.

With the rapid development of remote sensing technology, remote sensing data is now an important data because of its timeliness and availability. Both DMSP/OLS nighttime lighting data and NPP nighttime lighting data can indicate the intensity of human activity within the study area, and nighttime lighting data contains a wealth of information.

Dr. Oke [1] proposed the concept of "heat island intensity", the difference between the average value of suburban temperature and the average urban temperature. According to the research, the average temperature of the suburbs is generally 0.5 degrees Celsius-1.0 degrees Celsius lower than the average urban temperature. [2] After research, Berlin, Germany is the world's strongest heat island, and the heat island intensity reached 13 degrees Celsius [3]. In August 2004, the US Geological Survey proposed the Geospatial Analysis and Monitoring Program and the LRS Program [4, 5] to better eliminate the harm caused by the urban heat island effect. The US Energy Administration's statistical report also pointed out that the United States spends tens of billions of dollars a year to pay for the damage caused by the heat island effect. Nowadays, the urban heat island effect is on the front burner for the Governments of all countries. At present, the technique of inverting surface temperature from satellite remote sensing images has become a common method in the study of heat island effect. Wu Yijin [6] and so on used the actual measurement method to obtain the relationship between urban heat island and pavement composition and underlying surface; Chen Zhenghong et al [7] collected the 46 years from 1960 to 2005, Wuhan,

The data of the weather stations around it and the analysis of the temperature changes in Wuhan City, the Wuhan Island began to appear in the heat island effect in 2000. Miao Junfeng [8] studied the relationship between the sea breeze circulation and the urban heat island. Zhang Jianming and others have studied that green space and water bodies can well alleviate the heat island effect [9].

2. STUDY AREA AND DATA

2.1. Research Area

Zhengzhou is located between 34°16′-34°58′ north latitude and 112°42′-114°14′ east longitude. It is located in the plain of the Yellow River and in a typical temperate monsoon climate. The difference in the four seasons is obvious. [10] Zhengzhou is the provincial capital of Henan and the economic center of Henan. Zhengzhou has convenient transportation and is a hub of China's railway transportation. Since 1992, Zhengzhou's industry has developed rapidly. Especially with a large number of enterprises such as Foxconn, which settled in Zhengzhou, a large number of migrants have poured into Zhengzhou. Frequent human activities have led to an increasingly significant heat island effect in Zhengzhou. The population of Zhengzhou reached 9.51 million in 2017, and the population density reached 1327 people per square kilometer.

Figure 1 Zhengzhou area overview

2.2. Data

DMSP/OLS night light data: The DMSP satellite is located in a sun-synchronous orbit and can orbit the Earth for 14 weeks a year. In addition, the OLS sensor carried by the DMSP satellite has two channels, so the OLS sensor can obtain at least four data readings per day. DMSP/OLS night lighting data products have been used for 21 years [11]. This study mainly uses the annual average data of DMSP/OLS stable light source for night light data, which is convenient for the next study. First, the DMSP/OLS data needs to be converted into a Lambert isometric conical projection by using ArcGIS software, and then re-sampled to obtain 1km $\times$ 1km pixels. In addition, ENVI ROI Cropping and ArcGIS raster cropping can be used to eliminate background noise. Finally, the Zhengzhou administrative division map is used as a mask to extract the Zhengzhou night light area.

NPP night light data: NPP night lighting data comes from NGDC. NPP satellites have been officially put into use since April 2012, but NPP nighttime lighting data does not filter out noise interference other than flare, but the advantages of this sensor are mainly reflected in the wide angle used. Radiation detector [12] because the detector can eliminate the super saturation of the light, the image clarity of the satellite is improved a lot. The NPP data is one per month. The time starts from April 2012. When processing data, it is necessary to convert the projection of NPP nighttime light data into an area of Albers projection. This study is devoted to the use of NPP-VRRIS nighttime remote sensing data to extract the approximate range of Zhengzhou City, and can be fitted with the area of Zhengzhou Heat Island to obtain a correlation. This paper can use the 2012 MODIS data as a mask to tailor the 2012 NPP data to better eliminate the background noise of NPP data.

MODIS data: The MODIS data of this paper comes from the Geospatial Data Cloud Platform of the Computer Network Information Center of the Chinese Academy of Sciences (http://www.gscloud.cn); this paper need to use the MODIS data to invert the surface temperature and obtain the inversion of the surface temperature. Research on the heat island effect of Zhengzhou. Using MODIS02 1KM data, and using the window algorithm to invert the surface temperature of Zhengzhou City. Through processing, the DN value of the MODIS remote sensing data can be converted into the thermal radiation intensity value by sensor calibration, because the MODIS02 1KM data comes with calibration parameters. In addition, it is necessary to calculate the atmospheric transmittance parameter. After research, it can be found that Zhengzhou's atmospheric transmittance can be expressed by the water vapor content in the atmosphere, and the water vapor content in Zhengzhou atmosphere can be calculated from the second and 19th band reflectance in the MODIS02 1KM data. In order to obtain the surface temperature, it is also necessary to calculate the surface specific emissivity. The collected remote sensing data is first classified. This paper divides the surface of Zhengzhou City into three different types of coverage: water, town, and natural surface.

Auxiliary data: The supplementary data in this paper is the data of population, population density, urbanization rate, etc. in Zhengzhou Municipal Bureau of Statistics. By computing the average DN value of the MODIS nighttime light data [13], the relationship between MODIS nighttime lighting and population is obtained. The Zhengzhou City Statistics Bureau published the relevant relationship between Zhengzhou City population, built-up area, urbanization rate, population density and the average DN value of DMSP/OLS nighttime lighting data.

3. RESEARCH METHODOLOGY

Surface temperature is a very important data for the study of urban heat island effect, and it also plays a significant role in the exchange of surface and atmospheric energy, especially in the fields of

geological exploration, meteorological climate, ecological protection, agricultural production [14], etc. This article is mainly used to invert the MODIS 02 1KM data.

3.1. Split Window Algorithm

In the beginning, the window algorithm was designed by remote-sensing experts specifically for the fourth and fifth channels of NOAA/AVHRR because of the 31st and 32nd bands of MODIS and the 4th and 5th channels of NOAA-AVHRR. The range [15] is very close, so the MODIS02 1KM data can be used to invert the surface temperature using the window algorithm. The window algorithm is now very mature, and the accuracy of the inversion surface temperature is also very high. The window algorithm is based on the Planck's equation and uses data from the atmospheric window of 10~13μm, and because of the MODIS02 1KM remote sensing data, the two adjacent thermal infrared channels (31st and 32nd bands) are for the atmosphere. The degree of absorption is different. The thermal radiation measurement values of these two channels are calculated by some formulas to eliminate the influence of the atmosphere as much as possible. After calculating the surface specific emissivity of the natural surface, the inversion surface temperature can be obtained. The 31st and 32nd bands of MODIS and the two hot channels of AVHRR have similar central wavelength bands, which provides a theoretical basis for inversion of surface temperature by MODIS02 1KM data.

LST (Land Surface temperature): The surface temperature, is a key parameter for studying the heat island effect. The window algorithm is suitable for data with two thermal infrared bands, which is especially suitable for processing MODIS remote sensing data. Therefore, this paper adopts the window algorithm.

The window algorithm formula is as follows:

$$T_s = A_0 + A_1 T_{31} - A_2 T_{32} \qquad (1)$$

Where Ts represents the surface temperature, unit Kelvin, T31 and T32 refer to the brightness temperature of the 31st and 32nd bands of MODIS, respectively, in degrees C; and A0, A1, A2 are the three fixed parameters required by the Split-window algorithm.

Where Ts represents the surface temperature, unit Kelvin, T31 and T32 refer to the brightness temperature of the 31st and 32nd bands of MODIS, respectively, in degrees C; and A0, A1, A2 are the three fixed parameters required by the Split-window algorithm.

$$A_0 = [D_{32}(1 - C_{31} \times D_{31})/(D_{32}C_{31} \times D_{31}C_{32})]a_{31} \times \qquad (2)$$
$$[D_{31}(1 \times C_{32} \times D_{32}) \ / \ (D_{32}C_{31} \times D_{31}C_{32})]a_{32}$$

$$A_1 = 1 + D_{31} / \ (D_{32}C_{31} \times D_{31}C_{32}) + [D_{32}(1 - C_{31} \times D_{31})/(D_{32}C_{31} - D_{32}C_{32})]b_{31} \qquad (3)$$

$$A_2 = D_{31}/(D_{32}C_{31} - D_{31}C_{32}) + [D_{31}(1 - C_{32} - D_{32})/(D_{32}C_{31} - D_{31}C_{32})]b_{32} \qquad (4)$$

Where a31, b31, a32 and b32 are constants, which are determined by the band characteristics of MODIS. In the process of solving the surface temperature, the values are determined according to different conditions, such as a_{31}=-64.60363, b_{31}=0.440817，a_{32}=-68.72575, b_{32}=0.473453.

The demand is for three coefficients A0, A1, A2, and the following formula is needed:

$$C_i = \mathcal{E}_i \, \epsilon_i \, （θ） \qquad (5)$$

$$D_i = [1 - \epsilon_i （θ）][1 + (1 - \mathcal{E}_i) \epsilon_i （θ）] \qquad (6)$$

Where i is the 31st and 32nd bands of MODIS, $\epsilon_i(θ)$ is the atmospheric transmittance when the viewing angle is θ; $\mathcal{E}_i$ is the surface specific emissivity of the band i. Atmospheric transmittance is a basic parameter for calculating surface temperature and is usually replaced by the amount of water vapor in the atmosphere. After research, we can find that MODIS 2nd and 19th bands can be used to calculate atmospheric water vapor content.

Therefore, with this formula to calculate the water vapor content of the atmosphere

$$w = （ （0.02 - a\log （b_{19}/b_2） /0.6321)^2 \qquad (7)$$

B19: 19th band reflectivity

B2; second band reflectivity

In the calculation of atmospheric transmittance, water vapor is the most important consideration. The formula is:

$$C_{31} = 2.89198 - 1.88366 \times \exp\{-[w/(-21.22704)]\} \qquad (8)$$

$$C_{32} = -3.59289 + 4.60414 \times \exp\{-[w/(-32.70639)]\} \qquad (9)$$

w is the water vapor content.

In this paper, the atmospheric transmittance of the 31st band can be calculated using the tool in ENVI. The expression is:

$$2.89798 - 1.88366 \times \exp （b_1 / 21.22704) \qquad (10)$$

B1: Atmospheric moisture content.

32-band atmospheric transmittance expression:

$$-3.59289 + 4.60414 \times \exp(b_1 / 32.70639) \qquad (11)$$

B1: Atmospheric moisture content.

The surface specific emissivity mainly depends on the composition and structure of the surface covering the surface. For MODIS remote sensing data, the surface of the MODIS data is roughly divided into three types: water surface, town and natural surface. For surface temperature inversion, this paper can use the method of mixed pixel decomposition to calculate the ground surface specific emissivity. The following formula can be used in the calculation of the surface specific emissivity of MODIS images:

$$\mathcal{E}_i = P_v R_v \mathcal{E}_{iv} + （1 - P_v） Rx\mathcal{E}_{iv} + (1 - P_v) Rx\mathcal{E}_{ix} + d\mathcal{E} \qquad (12)$$

Where $\mathcal{E}_i$ is the surface specific emissivity of the I (i=31, 32) band of the MODIS image; $\mathcal{E}_{iv}$ and $\mathcal{E}_{ix}$ respectively

For the surface emissivity of vegetation and bare soil in the I band, $\mathcal{E}31v$=0.98672, $\mathcal{E}32v$=0.98990, $\mathcal{E}31x$=0.96767, $\mathcal{E}32x$=0.97790; [16]

Pv is the vegetation coverage of the pixels, Rv and Rx are respectively Radiation ratio of vegetation and bare soil. The definition is as follows:

Rv is the vegetation radiation ratio

Rs is the bare soil surface radiation ratio

$$R_v = 0.92762 + 0.07033 P_v \qquad (13)$$

$$R_x = 0.99792 + 0.08362 P_v \qquad (14)$$

$$\text{Vegetation coverage } P_v = \frac{NDVI - NDVI_s}{NDVI_v - NDVI_s} \qquad (15)$$

NDVI can be expressed by the reflectivity of the first and second bands in MOD021KM:

$$NDVI = \frac{B_2 - B_1}{B_2 + B_1} \qquad (16)$$

It is necessary to estimate the thermal radiation interaction correction like $d\varepsilon$, $NDVI_v$ for the value of dense vegetation cover, and the value of $NDVI_s$ bare soil pixel vegetation. Since the thermal radiation interaction reaches a maximum when the vegetation and the bare soil are half each, the following formula can be used for estimation.

When $P_v = 0$ or $P_v = 1$, $d\varepsilon$ is the smallest, $d\varepsilon = 0$

When $0 < P_v < 0.5$, $d\varepsilon = 0.003796 P_v$

When $1 > P_v > 0.5$ Time，

$d\varepsilon = 0.003796$（$1 - P_v$）

When $P_v = 0.5$ Time，$d\varepsilon = 0.001898$

It is worth pointing out that when $\varepsilon_i > \varepsilon_{iv}$, $\varepsilon_i = \varepsilon_{iv}$; $\varepsilon_i < \varepsilon_{ix}$, then $\varepsilon_i = \varepsilon_{ix}$

With these parameters, this paper can calculate the intermediate parameters of C31, C32, D31, and D32, and the surface temperature obtained by the distance is one step closer.

$$C_{31} = \varepsilon_{31} * b_{31} \qquad (17)$$

$$C_{32} = \varepsilon_{32} * b_{32} \qquad (18)$$

$$D_{31} = (1 - b_{31}) \times (1 + (1 - 0.996) \times b_{31} \qquad (19)$$

$$D_{32} = (1 - b_{32}) \times (1 + (1 - 0.996) \times b_{32}) \qquad (20)$$

B31: 31-band atmospheric transmittance

B32: 32 band atmospheric transmittance

In this paper, the image DN value is scaled to the thermal radiation intensity, and the Planck function is used to solve the brightness temperature of the star.

$T_i = k_{i2} / \ln$（$1 + K_{i1}/I_i$）

In the formula, Ki1 and Ki2 are constants, and the brightness of the 31 and 32 bands is as shown in the figure below.

The 31-band bright temperature K31 is:

$$1304.413871/a\log（1 + 729.541636/b_{31}） \qquad (21)$$

The 32-band bright temperature K_{32} is:

$$1196.978785/a\log(1 + 474.684780/b_{32}) \qquad (22)$$

This paper wants to calculate the A0, A1, A2 parameters, the expressions are:

$$A_0 = b_4 \times (1 - b_1 - b_3) / (b_4 \times b_1 - b_2 \times b_3) \times$$
$$(-64.60363) - b_3 \times (1 - b_2 - b_4) / (b_4 \times b_1 - b_3 \times b_2) \times$$
$$(-68.72575) \qquad (23)$$

$$A_1 = 1 + b_3 / (b_4 \times b_1 - b_3 \times b_2) + b_4 \times (1 - b_1 - b_3) / (b_4 \times b_1 - b_3 \times b_2) \times 0.440817 \qquad (24)$$

$$A_2 = b_3 / (b_4 \times b_1 - b_3 \times b_2) + b_3 \times (1 - b_2 - b_4) / (b_4 \times b_1 - b_3 \times b_2) \times 0.473453 \qquad (25)$$

Which，b$_1$：C$_{31}$

B$_2$：C$_{32}$

B$_3$：D$_{31}$

B$_4$：D$_{32}$

Bring the above parameters into equation (1) to calculate the temperature value:

$$T_s = b_0 + b_1 \times b_{31} - b_2 \times b_{32} - 273 \qquad (26)$$

Get the inversion of the surface temperature results. Ground temperature inversion results and inspection: This paper selects the MODIS remote sensing data on February 9, 2012. The inversion of the remote sensing surface temperature is up to 2.49 degrees Celsius and the highest is 9.3 degrees Celsius. It is close to the actual temperature on February 9, 2012, the highest temperature difference is 0.3 degrees Celsius, and the lowest temperature difference. It is 0.49 degrees Celsius and meets the standards of temperature and low temperature.
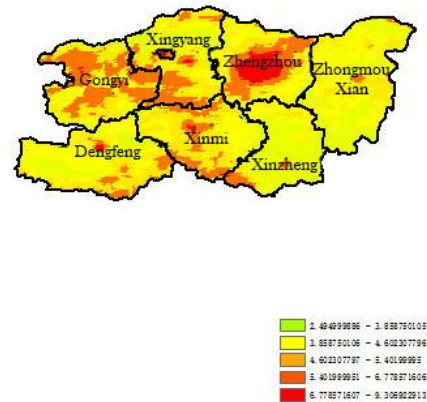
Figure 2 Zhengzhou ground temperature on February 9, 2012

Using the threshold method to extract the Urban Area: In this paper, the relevant auxiliary data is used to compare and extract the threshold, and the statistical information such as the built-up area of the city published by the state is used to determine the optimal threshold, and then the threshold is used to obtain the required information.

Heat Island Classification Method: In order to understand the spatial distribution of Zhengzhou heat island more clearly, this paper can use the method of mean-standard deviation equal spacing to divide Zhengzhou city into six grades [16].

$T_s >= u + std$, Special high temperature zone

$u + 0.5std <= T_s < u + std$，High temperature zone

$u <= T_s < u + 0.5std$，Sub-high temperature zone

$u - 0.5std <= T_s < u$，Medium temperature zone

$u - std <= T_s < u - 0.5std$，Secondary temperature zone

$T_s < u - std$, Low temperature zone

In this paper, the area of the heat island in Zhengzhou City from 2012 to 2013 is calculated according to the mean-standard deviation.

Table 1. Area of Heat Island in Zhengzhou City

Month	Area (unit: square kilometers)
1	294.7465
2	310.9836
3	394.9174
4	343.2368
5	357.9310
6	327.9722
7	437.7536
8	355.4603
9	363.5791
10	336.7519
11	310.9836
12	322.6323

According to statistics, the heat island effect in Zhengzhou was the lightest in January, and the Zhengzhou heat island effect was the most serious in July.

Table 2 Areas of heat islands in Zhengzhou

season	Area (unit: square kilometers)
spring	365.3617
summer	373.7138
autumn	337.1048
winter	309.4541

4. RESEARCH RESULTS AND ANALYSIS

4.1. Comparison of heat island area and auxiliary data
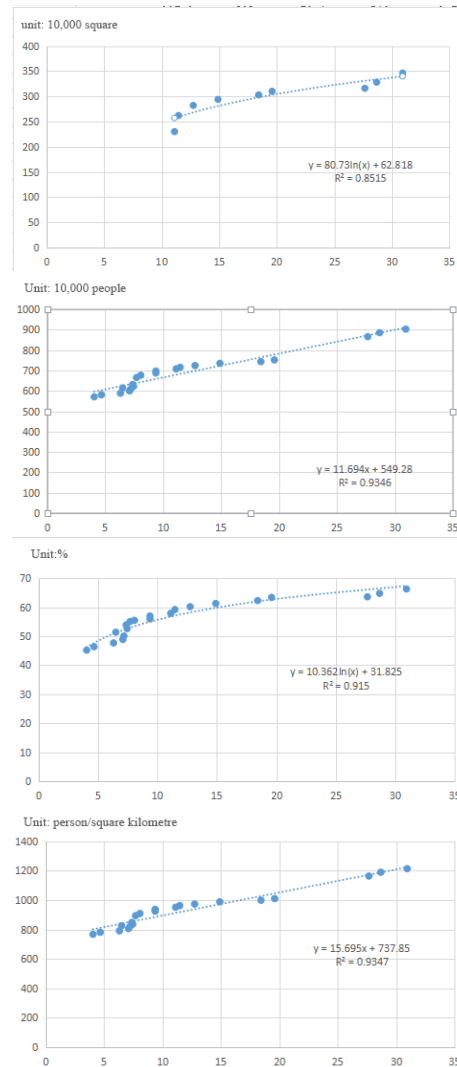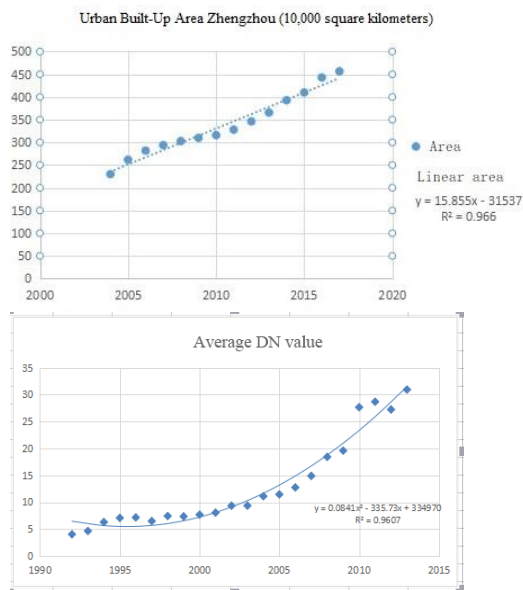
Figure 3 Trend line diagram of the built-up area

The published area of Zhengzhou built area is computed with the year to play a predictive role. It can be seen from the above Figure 3 that the year and area can be in a linear relationship, which provides a basis for the prediction of this paper. Statistics on the area of built-up area using the average DN value of each year for applying, the average DN value of night light data in Zhengzhou. By applying the average DN value to the year, it is found that the computing relationship between them is very good. R^2 reached 0.9607. The average DN value is applicable to the Zhengzhou built-up area, and R^2 reaches 0.8515. It is indicating that they are closely related and logarithmic. The average DN value of the light can be applied to the population of Zhengzhou, and a linear relationship is found. The linear coefficient reached 0.9346 which is good. The average DN value can also be applied to the urbanization rate and found to be logarithmic, with a computed coefficient of 0.915. The average DN value can be smear on the population density and found to be linear, with a computed factor of 0.9347.

By applying the equation, the computing coefficient between the average DN value and the auxiliary data

can be obtained by computing the coefficients, and their computing coefficients are all above 0.9, and the resulting degree is good.

4.2. Comparison of DMSP/OLS and NPP nighttime lighting data

This article uses DMSP/OLS night light and NPP night light. The two coincidence time is from April 2012 to December 2013. This study selected DMSP/OLS and NPP for the whole year of 2013. The number of night lights, focusing on comparing DMSP/OLS nighttime lighting data with NPP nighttime lighting data to extract the size of Zhengzhou built-up area.

Comparison of DMSP/OLS night lights and NPP night lights in 2013: As shown in Figure 4-2-a, the area within the red line indicates the 2013 DMSP/OLS built-up area. The 2013 DMSP/OLS night lighting data extracted from this paper covers an area of 390.67 square kilometers, which was announced by the Zhengzhou Bureau of Statistics. In 2013, the built-up area was 365.61 square kilometers, and the accuracy reached 93.6%. The accuracy of the built-up area was statistically high by the auxiliary data method. As shown in Figure 4-2-b, the area within the black line indicates the 2013 NPP built-up area. This paper first averages the 12-month NPP nighttime lighting data in 2013, and extracts the NPP built-up area of 375.73 square kilometers. The Zhengzhou Bureau of Statistics announced that the built-up area in 2013 was 365.61 square kilometers. The accuracy has reached 97.3% and the accuracy of NPP is higher than DMSP/OLS. As shown in Figure 4-2-c, red is the DMSP/OLS nighttime light data, and the black line is the NPP nighttime light data. The area of the two is relatively similar, but the accuracy of NPP is higher because the NPP sensor uses wide-angle radiation. The detection is more accurate. The built-up area of the NPP sensor gradually extends eastward, which is closely related to the gradual development of Zhengdong New District. This shows that the area where the DN value of the night light is large, human activities are more frequent, which also leads to an increase in the surface temperature. In addition, this paper represents the approximate range of Zhengzhou City by extracting the isotherm.
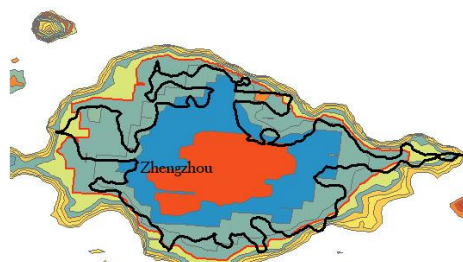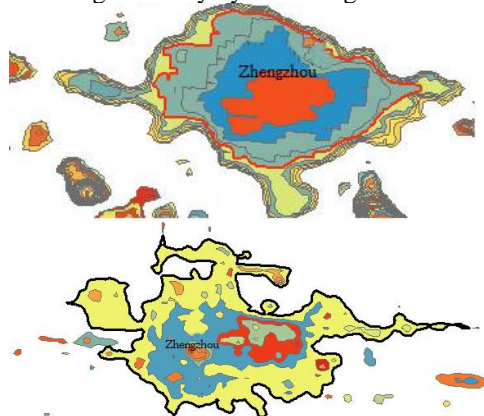
Figure 4 Built-up area

Zhengzhou City Boundary Map: The auxiliary method is used to determine the wheel clasp of the DMSP / OLS night light urban built-up area, as shown in Figure 4-a. Zhengzhou 1993, 1999, 2005, 2011, 2013 Zhengzhou outline change map, we can clearly see that the Zhengzhou Center is gradually shifting, and Xinzheng Airport has developed rapidly in 2011. As can be perceived from Figure 4-b, the area of Zhengzhou City in 2014 has a larger trend than the area of Zhengzhou City in 2013. It can be observed from Figure 4-2-c that the speed of the expansion of the built-up area of Zhengzhou City to the east has slowed down in 2015. It is known from Figure 4-d that in 2016, the Zhengzhou built-up area expanded significantly in the Zhengzhou built-up area in 2015.

Figure 5 Zhengzhou Boundary

4.3. Comparison of MODIS night light data and heat island

As shown in Figure 5-**a**, for the DMSP/OLS nighttime lighting data, the red boundary line is the built-up area of Zhengzhou City. For the nighttime light data of NPP, the black boundary line is the built-up area of Zhengzhou City, and the blue boundary line is the heat island range. . This paper chooses to invert the 2013 DMSP/OLS data, because in 2013 there are both MODIS data and NPP data to better analyze the relationship between NPP, DMSP/OLS, and heat island regions. As a result, it was found that the heat island region is closer to the NPP data although it is between the DMSP/OLS data and the NPP data. The NPP detector is clearer than MODIS. It was found that the built-up area of Zhengzhou City's main urban area in 2005 was as high as 262.16 square kilometers, and the similarity of extraction was 99.93%. It was found that the area of Zhengzhou built-up area in 2010 was 317.90 square kilometers, while the actual Zhengzhou built-up area was 316 square kilometers. The result extraction similarity was 99.4%. It was extracted that the area of Zhengzhou built-up area in 2012 was 360.12 square kilometers, while the actual Zhengzhou built-up area was 346.3 square kilometers, and the extraction similarity was 96.16%.The statistical data of Zhengzhou built-up area and Zhengzhou built-up area mined in 2005, 2010 and 2012 are very close, but the defect of DMSP/OLS night-time remote sensing data is that the light value is too saturated.
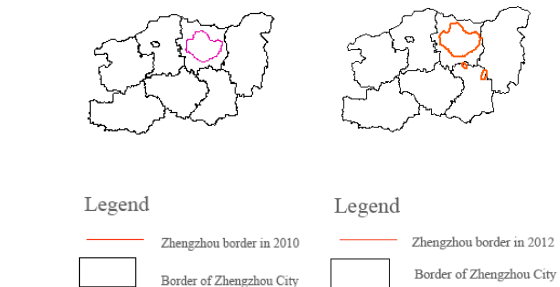
Figure 6 Figure 4-3-1 2013 MODIS, NPP, heat island comparison

4.4. Linking NPP 2012 Data To Heat Island Data
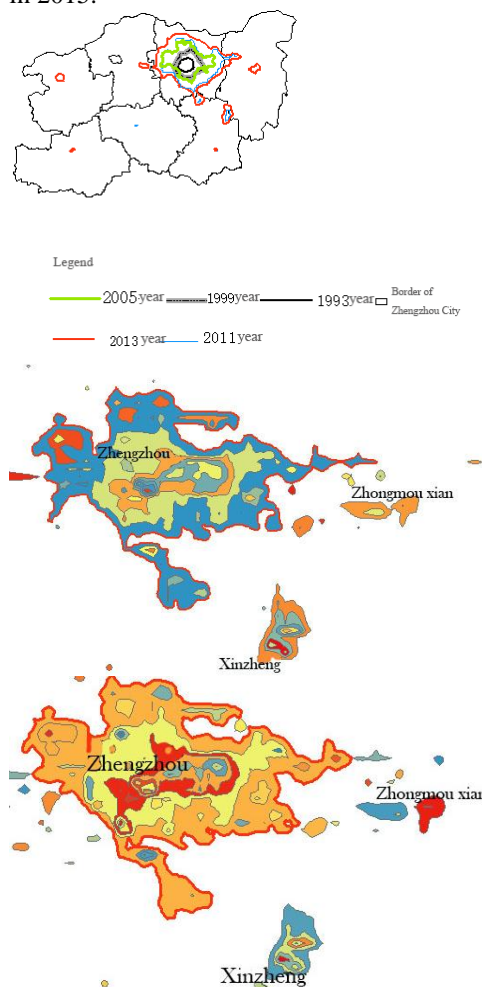
The heat island area of Zhengzhou City obtained by the method of mean-standard deviation is extracted, the contour is hauled out, the element is turned, and finally the mask is cut. The surface temperature obtained by night lighting and inversion in May 2012 was separately cut out, and then the overlay table of ArcGIS was used to obtain the attribute table after the intersection, and the relevant computing analysis was done.
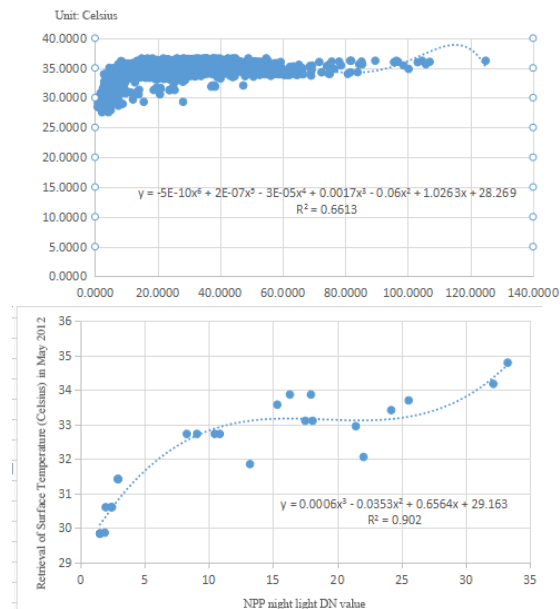
Figure 7 Figure 4-4-1 Figure of Zhengzhou Heat Island and NPP

The DN value of each grid of the NPP remote sensing image was computed with the DN of the inverted temperature, and the computing degree was found to be 0.902, and the computing was good. It shows that the temperature is highly correlated with the night light.

Table 3 Regression statistics

Regression statistics	
Multiple R	0.515018663
R Square	0.265244224
Adjusted R Square	0.264891992
Standard error	14.02073292
Observation values	2088

Table 4 Regression analysis

	DF	SS	MS	F	Significance F
Regression analysis	1	148033.0416	148033.0416	753.0385856	0.000000
Residuals	2086	410067.8648	196.5809515		
Total	2087	558100.9064			

Table 5 P-value

P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper95.0%
0.000000	-152.2847427	-128.5813531	-152.2847427	-128.5813531
8.2602E-142	4.466140525	5.153613268	4.466140525	5.153613268

The significance test results are good by using the Significance F and P-value results in the significance test table less than 0.01.

5. CONCLUSION

In this paper, the DMSP/OLS and NPP nighttime light data extraction contours are used respectively to obtain the estimated urban area. Using the MODIS021KM data, the urban surface temperature is pulled out and the contour is extracted by the window algorithm. The research shows that the economic center of Zhengzhou gradually moving eastward, the urban area expanded from 262 square kilometers in 2005 to 443.04 square kilometers in 2016. On this basis, the urban area was extracted by using the nighttime lighting data of MODIS and NPP in 2012-2013. The results show that the area of the DMSP/OLS night lighting data in 2013 was 390.67 square kilometers, and the Zhengzhou Bureau of Statistics announced in 2013. The built-up area is 365.61 square kilometers with an accuracy of 93.6%. In 2013, the NPP data extraction area of Zhengzhou City was 375.73 square kilometers. The accuracy of urban area estimated by NPP data reached 97.3%, and the accuracy was higher than MODIS.

On this basis, using the 2012 MODIS data for urban heat island inversion, set the heat island threshold temperature to 23.5 degrees Celsius to obtain Zhengzhou city area of 354.78 square kilometers, using the same year NPP night lighting data, the Zhengzhou city area is 370.88 square kilometers. Compared with the heat island, 16.1 square kilometers, through the statistics of 2012 and 2013: Zhengzhou City's heat island effect in July was the most serious, reaching 437.7538 square kilometers, the heat island effect in January reached the peak of 294.7465 square kilometers. The heat island effect of Zhengzhou Spring and Summer Festival is serious, and the heat island effect of Zhengzhou City is relatively light in autumn and winter.

The appropriate result of the DN value with the temperature in the same geographical coordinates is 0.6613, which indicates that the temperature of the brighter night area is also high, and the relationship between the temperature of the city center and the DN value is higher, which can reach 0.902. Using the average DN value and the area of Zhengzhou built-up area, the population of Zhengzhou, the urbanization rate of Zhengzhou, and the added value of Zhengzhou industrial industry, respectively, the correlation coefficient between the above statistics and nighttime lights exceeded 0.9, indicating nighttime lighting data. There is a close connection with human social activities. In the subsequent research, further research on the correlation between nighttime lighting data and heat island effect has important practical significance for exploring the relationship between urbanization process and various human social activities.

REFERENCES

[1]Oke T R.Boundary layer limate, Cambridge: Great Britain at the University Press, 1987, 3.

[2]Michael Heinl,Albin Hammerle, Ulrike Tappeiner,Georg Leitinger. Determinants of urban–rural land surface temperature differences – A landscape scale perspective, Landscape and Urban Planning, 2015, 134(07):432-436.

[3]Aneesh Mathew, Sumit Khandelwal, Nivedita Kaul. Analysis of diurnal surface temperature variations for the assessment of surface urban heat island effect over Indian cities, Energy & Buildings, 2018, 159(10):617-621.

[4]Yilong Han,John E. Taylor,Anna Laura Pisello. Toward mitigating urban heat island effects: Investigating the thermal-energy impact of bio-inspired retro-reflective building envelopes in dense urban settings, Energy & Buildings, 2015, 102(13):537-543.

[5]Yue Wen Ze,Liu Xue. [Assessment on heat island effect based on urban regulatory planning.], Ying yong sheng tai xue bao = The journal of applied ecology, 2016, 27(11).1432-1436.

[6]Wu Yi into, Wang I, Chuiwu, Li Chengzun, Zhang Zhende. Main forming mechanism of urban heat island in Wuhan, Journal of the Central South College of Nationalities (Natural Science Edition), 1998 (04): 77-80.

[7]Chen Zhenhong, Wang Haijun, Ning. Asymmetric

changes of urban heat island intensity in Wuhan, Progress in climate change research, 2007 (05): 282-286.

[8]Miao Jun. Progress in numerical simulation of the interaction between urban heat island and sea breeze circulation, Journal of Atmospheric Science, 2014, 37 (04): 521-528.

[9]Zhang Jianming and so on. Spatial and temporal evolution of urban heat island effect in Lanzhou City under Valley Topography, Geography Science, 2012, 32 (12): 1530-1537.

[10]Duan Jinlong, Song Xuan, Zhang Xuelei. Spatial and temporal evolution of Zhengzhou urban heat island effect based on RS, Journal of Applied Ecology, 2011, 22 (01): 165-170.

[11]Cao Ziyang, Wu Zhifeng, Quanyao request, Huangningsheng.Dmsp/ols Night Lighting images correction and application of China Region, Journal of Earth Information Science, 2015, 17 (09): 1092-1102.

[12]Yang Ni, Wu Lianglin, Deng Woods, Zhang Chao. Spatial method of provincial GDP statistics based on dmsp/ols night lighting data-a case study of Guangxi Zhuang Autonomous Region, Geography and geographic Information Science, 2014, 30 (04): 108-111.

[13]Liu Bing, Wei Kangxia, song towering.Dmsp/ols Night Lighting Data application and evaluation of spatial pattern in urban system--a case study of urban spatial pattern in Jiangxi Province in recent 16 years, Resources and environment of the Yangtze River Basin, 2012, 21 (11): 1295-1300.

[14]Tangliangbo, Tri Haishan. Improvement of extraction method of urban construction land based on npp-viirs night lighting data and Landsat-8 data–a case study of Guangzhou, Mapping and spatial Geographic information, 2017, 40 (09): 69-73.

[15]Mauke, Tang Huajun, Chen, Chiu Yubao, Zhihao, Li Manchun. A split window algorithm for inversion of surface temperature from aster data, Remote sensing information, 2006 (05): 7-11.

[16]Gao Fang, Zhihao, Xu bin. Basic parameter estimation method for inversion of surface temperature with MODIS data, Study of arid Areas, 2007 (01): 113-1

Effects of Balloon Volleyball on Blood Sugar and Cardiopulmonary Function in Adolescents with T2DM

Chunqi Zhao
Institute of Physical Education, Zhoukou Normal University, Henan, 466001, China
E-mail:henan234@sina.com

Abstract: Objective: To explore the intervention effect of balloon volleyball on blood sugar and cardiopulmonary function in adolescent patients with type 2 diabetes mellitus (T2DM). Methods: 132 adolescent patients with type 2 diabetes who were treated in our hospital from August 2015 to July 2016 were selected as the subjects by experiment, test and mathematical statistics. After six weeks of balloon intervention in summer 2016, the related indexes of patients were compared and the intervention effect of balloon volleyball was evaluated. Results: The levels of blood sugar, insulin and C-peptide in the observation group were significantly lower than those in the control group (P < 0.01); the level of HbA1c in the observation group decreased after the intervention, but there was no significant difference between the two groups (P > 0.05); the maximal oxygen uptake, forced expiratory volume (FEV1), vital capacity (FVC), FEV1/FVC ratio in the observation group and the control group were significantly lower than those in the control group (P > 0.05). The left ventricular systolic non-volume (ESV), left ventricular end-diastolic volume (EDV) and cardiac output (CO) were also improved compared with the control group (P < 0.01). Conclusion: 1. Balloon volleyball can effectively improve patients' sugar metabolism ability. It has certain hypoglycemic effect, can effectively improve the insulin sensitivity of adolescents with type 2 diabetes mellitus and reduce the body's resistance to insulin; 2. Balloon volleyball exercise can play a better role in promoting the cardiopulmonary function of adolescents with type 2 diabetes mellitus, can significantly improve the absolute and relative maximum oxygen uptake of patients, has a certain weight loss effect, and is metabolic to patients. The improvement of physical fitness and quality of life are of great significance. 3. Balloon volleyball is a sport that can improve the cardiopulmonary function of obese adolescents and metabolic physical fitness of obese adolescents. Balloon volleyball should be one of the intervention items selected in the formulation of exercise therapy and exercise intervention prescription for adolescents with type 2 diabetes mellitus, which is worthy of rehabilitation medical workers and sports. Instructors to promote and apply.
Keywords: Balloon volleyball; Type 2 diabetes mellitus; Adolescents; Blood sugar;

1. RESEARCH PURPOSES

In recent years, due to changes in lifestyle and dietary structure, the global prevalence of diabetes mellitus has shown an increasing trend. Type 2 diabetes mellitus is mainly caused by environmental and genetic factors such as obesity, reduced exercise, genetic susceptibility, etc. [1]. Insulin resistance is the main factor in the early stage of onset. With the progress of the disease, the progressive secretion of insulin is insufficient [2]. The clinical symptoms are chronic elevation of blood sugar, accompanied by disorders of protein metabolism and lipid metabolism. In China, the incidence of type 2 diabetes among adolescents caused by obesity shows an increasing trend year by year [3]. Although the prevalence of type 2 diabetes among adolescents in type 2 diabetes mellitus is still lack of authoritative epidemiological investigation data, some studies show that as early as 2007, type 2 diabetes mellitus in China is still in short supply. The proportion of diabetes in children and adolescents has increased from 3% 15 years ago to more than 45% [4]. Therefore, how to reduce the incidence of obesity has become a key factor to reduce the prevalence of diabetes in adolescents.

For most obese patients, changing their static lifestyle through scientific and rational exercise is the most ideal, efficient and far-reaching intervention method [5]. It can not only reduce the incidence of obesity, but also has great significance for metabolic syndrome caused by insulin resistance in some patients. A large number of research data on diabetic exercise therapy also confirm that exercise intervention can significantly improve the glucose, lipid metabolism and insulin resistance of type 2 diabetes mellitus [6]. But most of these studies are for middle-aged and elderly people, and the selection of exercise items and the way of exercise are not uniform, the controllability and comparability of the items are slightly insufficient, and there is little research on adolescent patients. The intervention effect of balloon volleyball, which is popular among obese adolescents, has not been reported. Balloon volleyball is a mass fitness project which is created by China and has a grassroots background. It integrates sports, leisure and entertainment [7]. It was founded

in 1984 by retired employees of China Railway Administration. Because the project is easy to learn and interesting, after 30 years of development, the group of people who like to participate has expanded from the elderly to all ages, especially the obese and overweight people. Therefore, the purpose of this study is to explore the intervention effect of aerobic metabolic energy-supplying balloon volleyball on adolescents with type 2 diabetes mellitus, and further improve the quality of life and health of adolescents with type 2 diabetes mellitus and obese adolescents.

2. RESEARCH OBJECTS AND METHODS

2.1. Objects of Study

132 cases of adolescent type 2 diabetes mellitus in Zhoukou City from August 2015 to July 2016 were selected as the study subjects. 132 cases of adolescent type 2 diabetes mellitus in this group met the diagnostic criteria of type 2 diabetes put forward by American Diabetes Association in 1997 [8]. Age, sex, weight, blood lipid, blood sugar and other general data of the two groups were tested. There was no significant difference between the two groups (P > 0.05), and they were comparable.

2.2. Research Methods

2.2.1. Experimental method

(1) All the selected patients were examined carefully, and the contraindications of exercise test prescribed by the American Academy of Sports Medicine (ACSM) were excluded from the examination [9]. With the approval of the Ethics Committee of the Chinese Medical Hospital, all the selected patients were required to sign the Informed Consent Letter, which was completed with the assistance of the patients' families. (2) During the summer period from July to September 2016, the patients in the observation group were given 6 weeks' exercise guidance and training of balloon volleyball 3-5 times a week, and the exercise intensity was maintained between low and medium intensity (30-80% HRR) according to their physical condition. Each exercise lasted 90 minutes, including 5 minutes for preparation activities and 5 minutes for sorting out activities.

Such as blood pressure, blood sugar, heart rate monitoring, as well as emergency and complications. (3) Sports taboos: prohibit sports on an empty stomach; carry candy with you to avoid hypoglycemia; choose loose sportswear, wear sports shoes suitable for size, etc.

2.2.2. Testing method

The following indicators were detected by the same method at 48 hours before and after intervention (the specific test steps were based on the standardized operation of the relevant instructions). The blood glucose indicators were measured by the automatic biochemical analyzer SELECTRA-EPLUS in Witteau, Netherlands (during the experiment, the end blood glucose of special individuals was measured in real time by Luokang full-activity blood glucose analyzer according to the need); and the blood glucose of special individuals was measured by Beijing. The M240172 gamma-ray radioimmunoassay instrument produced by Sino-Western Yuanda Technology Co., Ltd. tested insulin and C-peptide; the glycosylated hemoglobin test instrument was BI0-RAD Bole D-10 glycosylated hemoglobin test instrument in the United States; the lung function was measured by COSMED lung function test instrument in Italy; the heart function was measured by Acuson S2000 color Doppler ultrasound of Siemens Company in Germany; and the maximum oxygen uptake was obtained by Sweden. Monark 839E power bicycle is produced and tested with YMCA scheme [9].

2.2.3. Mathematical statistics

IBM SPSS Statistics 20 statistical software was used to analyze all the statistical data in this paper. Measurement data were expressed by mean, standard deviation and standard error of mean. There was significant difference between groups of measurement data using paired sample t test with $P < 0.05$ as the difference.

3. RESULTS AND ANALYSIS

3.1. Effect of Balloon Volleyball on Glucose Metabolism in Adolescents with T2DM

Table 1 Descriptive statistical tables of blood sugar indicators in observation group and control group after intervention

Test Indicators	Groups	Numbers	Mean	Standard Deviation	Mean Standard Error
C-peptide (ng/ml)	control group	66	3.011	0.540	0.066
	Observation group	62	3.719	0.312	0.040
Blood sugar (mmol/L)	control group	66	6.753	0.599	0.074
	Observation group	62	6.493	0.425	0.054
Glycated hemoglobin (%)	control group	66	6.677	0.201	0.025
	Observation group	62	6.641	0.175	0.022
Insulin（μU/ml）	control group	66	10.717	0.709	0.087
	Observation group	62	9.554	0.351	0.045
Insulin resistance index	control group	66	3.221	0.398	0.049
	Observation group	62	2.757	0.211	0.027

Table 2 Independent T-test results of blood sugar indices in observation group and control group after intervention

index	F	Sig.	T	df	Sig.	Mean variance	Standard error	95% confidence interval	
								Minimum	maximum

C-peptide	19.353	.000	-9.010	126	0.000	-0.708	0.079	-0.864	-0.553
Blood sugar	9.779	.002	2.821	126	0.006	0.260	0.092	0.078	0.443
Glycated hemoglobin	1.803	.182	1.085	126	0.280	0.036	0.033	-0.030	0.102
Insulin	16.830	.000	11.640	126	0.000	1.162	0.100	0.965	1.360
Insulin resistance index	21.462	.000	8.156	126	0.000	0.464	0.057	0.351	0.576

The results showed that the fasting blood sugar, insulin, C-peptide content and insulin resistance index in the observation group were lower than those in the control group after 6 weeks of balloon volleyball exercise, and there were significant differences between the two groups (P < 0.01). The mean glycosylated hemoglobin of the two groups was higher than that of the American glycosuria in 2014. The diagnostic criteria of ADA (6.5%) were slightly lower in the observation group than in the control group, but there was no significant difference between the two groups (P > 0.05). It suggests that balloon volleyball has a certain effect on reducing blood sugar, can effectively improve the insulin sensitivity of adolescents with type 2 diabetes mellitus and reduce the body's resistance to insulin.

The results of this study are consistent with the views of many scholars. For example, the results of Li Suying [10] showed that the fasting blood sugar of the patients in the observation group was significantly lower than that of the control group after one year of exercise intervention (P < 0.05). The results of Lu Dajiang [15] showed that the type 2 diabetes patients in the Mulanquan group, the fast walking group and the fitness path group underwent 14 weeks. Fasting blood glucose decreased after exercise (P < 0.05). The results of Song Aihua et al. [11] also showed that 6 weeks of moderate intensity aerobic exercise intervention could significantly improve the glucose and lipid metabolism and insulin resistance of type 2 diabetic patients in community. However, Zheng Xiajing etal.[12] also obtained inconsistent results with this study. They found that the serum insulin and C-peptide levels of the selected elderly patients with type 2 diabetes mellitus increased significantly after 6 weeks of exercise intervention (P < 0.05). The reason for the inconsistency between the two results may be related to the subjects of exercise intervention. For middle-aged and elderly people, the hypoglycemic

effect may be related to the increase of insulin secretion, while the hypoglycemic mechanism of adolescents may be related to the improvement of the quality of insulin secretion. In addition, there was no significant change in the mean value of HBA1c in the observation group and the control group (P > 0.05), which may be related to the stable content of glycosylated hemoglobin in vivo, because the value of HbA1c can generally be maintained for 120 days, usually reflecting the blood sugar control situation of patients in the past 8-12 weeks, so it is not easy to occur in the short term. Significant changes were observed.

The reason why balloon volleyball can reduce insulin resistance and improve glucose metabolism in adolescents may be that exercise increases the number of glucose transporter 4 (GLUT-4) on skeletal muscle cell membrane and increases its receptor sensitivity [13], while skeletal muscle cells are sensitive to glucose. Glucose utilization is achieved through GLUT-4 on skeletal muscle cell membrane, which can transfer extracellular glucose into cells and promote glucose energy metabolism. On the other hand, it may be related to the energy supply characteristics of "aerobic metabolism-based exercise" in balloon volleyball[14]. Studies have confirmed that [15] when the human body is engaged in moderate strength. About 70% of energy supply comes from fat during aerobic exercise. Long-term balloon volleyball exercise not only avoids the accumulation of lipids in skeletal muscle cells, pancreatic cells and hepatocytes, but also reduces the toxicity of lipids to skeletal muscle cells, pancreatic cells and hepatocytes, thus improving skeleton. The effects of muscle cells on glucose uptake, insulin sensitivity and high-quality insulin secretion by pancreatic cells were studied.

3.2. Effect of Balloon Volleyball on Cardiopulmonary Function in Adolescent Patients with T2DM

Table 3 Independent sample T test results of cardiopulmonary function indexes in observation group and control group

index	F	Sig.	T	df	Sig.	Mean variance	Standard error	95% confidence interval	
								Minimum	maximum
Absolute maximum oxygen uptake	5.234	.024	-4.504	126	.000	-0.201	0.045	-0.289	-0.112
Relative value of maximal oxygen uptake	5.344	.022	-5.323	126	.000	-2.454	0.461	-3.366	-1.541
FEV1	6.196	.014	-16.176	126	.000	-0.336	0.021	-0.377	-0.295
FVC	6.739	.011	-3.490	126	.001	-0.139	0.040	-0.218	-0.060
FEV1/ FVC	.426	.515	-9.095	126	.000	-0.069	0.008	-0.084	-0.054

ESV	11.802	.001	85.851	126	.000	19.857	0.231	19.400	20.315
EDV	33.840	.000	37.811	126	.000	40.692	1.076	38.563	42.822
CO	.142	.707	-11.215	126	.000	-1.454	0.130	-1.710	-1.197

The statistical results showed that the absolute and relative maximum oxygen uptake of the patients in the observation group increased to a certain extent after six weeks of intervention, and there was a significant difference between the two groups (P < 0.01).

Maximal Oxygen Uptake (VO2max) refers to the maximum oxygen intake and utilization per unit of time (usually in minutes) by the body during long-term strenuous exercise with a large number of muscle groups [16]. The absolute and relative maximal oxygen uptake of adolescents with type 2 diabetes mellitus in the observation group were significantly improved after intervention (P < 0.01), and the one-second forced expiratory volume (FEV1), vital capacity (FVC), FEV1/FVC ratio, left ventricular systolic non-volume (ESV), left ventricular end-diastolic volume (EDV), and cardiac output (CO) were also improved. The results showed that 6 weeks of balloon volleyball exercise could promote the cardiopulmonary function of adolescents with type 2 diabetes mellitus. This result is also consistent with the views of many scholars, such as Wang Juan and other [17] people's research results show that 60-70% moderate intensity aerobic exercise can significantly improve the cardiopulmonary endurance of type 2 diabetes mellitus, and the longer the exercise intervention time, the more obvious the effect of intervention.

The enhancement of cardiopulmonary function and maximal oxygen uptake in the observation group showed that the ability of the body to transport and utilize oxygen under the same intensity was enhanced, and more oxygen could be collected to do work, thus greatly improving its work efficiency. With the continuation of exercise period, the enhancement and improvement of cardiopulmonary function and maximal oxygen uptake (oxygen consumption), patients can consume more fat during exercise, which not only helps patients to control their weight better, but also improves their metabolic fitness and quality of life. The promotion is of great significance.

4. CONCLUSIONS AND SUGGESTIONS

Balloon volleyball can effectively improve patients' sugar metabolism ability. It has certain hypoglycemic effect, can effectively improve the insulin sensitivity of adolescents with type 2 diabetes mellitus, and reduce the body's resistance to insulin.

Balloon volleyball can play a better role in promoting the cardiopulmonary function of adolescents with type 2 diabetes mellitus. It can significantly improve the absolute and relative maximum oxygen uptake of patients. It has a certain weight loss effect. It is of great significance to improve the metabolic fitness of patients and the quality of life.

Balloon volleyball is a kind of exercise which can improve the cardiopulmonary function and metabolic fitness of obese adolescents. Balloon volleyball should be one of the intervention items selected in the formulation of exercise therapy and exercise intervention prescription for adolescents with type 2 diabetes mellitus, and it is worth carrying out by rehabilitation medical workers and sports instructors. Promotion and application.

REFERENCES

[1]Yan Wanjun, Wu Yun, Wei Weiwen, et al., Guidelines for Sports Rehabilitation of Chronic Diseases, Yanji: Yanbian University Press, 2012: 34-41.

[2]Liu Chang, Liu Aihua, et al., Editor-in-chief. Sports and Metabolic Diseases, Shenyang: Liaoning Science and Technology Press, 2015:22-23.

[3]Wu Zhijian, Wang Zhuying, Song Yan, etc., Meta-analysis of the improvement effect of different exercise prescriptions on type 2 diabetes mellitus patients, China Sports Science and Technology, 2017, 01:73-82.

[4]Liu Yuntao, Pan Jingfang, Jian Lei, et al., Study on the correlation between serum lipoxygenin A4 level and peripheral neuropathy in type 2 diabetes mellitus, Chinese Journal of Diabetes, 2019, 02:112-115.

[5]Wan Yanping, Childhood Obesity and Metabolic Syndrome, Shanghai: Shanghai Science and Technology Education Press, 2018:3-5.

[6]Luo Zuchun, Daixia, Ma Xiaojun, etc., Effects of aerobic and resistance exercise on HbA1c and blood sugar in pre-diabetic population, Chongqing Medical College, 2017, 08:1148-1150.

[7]China Volleyball Association/Special Committee on Balloon Volleyball of China Elderly Sports Association. China Balloon Volleyball, Beijing: People's Sports Publishing House, 2018:1-5.

[8]Zhang Quancheng, Lu Wen, Advanced Physical Fitness and Exercise Prescription, Beijing: National Defense Industry Press, 2018:1-14.

[9]Translated by Wang Zhengzhen, ACSM exercise test and exercise prescription guide, Beijing: People's Health Publishing House, 2010:90-94.

[10]Li Suying, the effect of exercise therapy on blood sugar in patients with type 2 diabetes mellitus, Jilin Medicine 2014, 35 (17): 3834-3835.

[11]Lu Dajiang, Study on the effect of different fitness methods on type 2 diabetes mellitus, Journal of Medical Research, 2018, (10): 51-56.

[12]Song Aihua, Han Yuqin, Xia Yinfang, et al., Effects of moderate intensity aerobic exercise on blood sugar metabolism and related indicators of type 2 diabetes mellitus patients in community, Nursing Research, 2018, 35 (08): 3354-3355.

[13]Huang Qin, Zhao Xiaoshan, Sun Shining, et al., Analysis of TCM constitution and cardiovascular risk

factors in 367 patients with type 2 diabetes mellitus in community, Chinese Journal of Traditional Chinese Medicine, 2019, 01:229-232.

[14]Liu Chang, Editor-in-Chief Liu Aihua, Sports and Metabolic Diseases, Shenyang: Liaoning Science and Technology Press, 2015, 35-36.

[15]Wang Anli, Sports Medicine, Beijing: People's Sports Publishing House, 2014:214-220

[16]Wang Ruiyuan, Su Quansheng, Sports Physiology, Beijing: People's Sports Publishing House, 2012:173-174.

[17]Wang Juan, Wang Zhengzhen, Zhang Xianbo, The effect of regular exercise on cardiopulmonary endurance of diabetic patients–Meta-analysis, Journal of Beijing Sports University, 2018, 36 (03): 50-56.

Forest Owners' Intent to Practice Multi-Use Forest Management:
A Study Case of Collective Forest Tenure Reform in Sanming, China

Shi Yang Wu, Tian Zhi Wei*
Department of Economics and Management, Beijing Forestry University, Beijing, 100083, China
*E-mail: bjtzw@sina.com

Abstract: Multi-use forest management is a new sustainable approach to forest management in China. In this study, the theory of planned behavior is applied to explore the factors that influence forest owners' behavioral intentions toward practicing multi-use forest management in the context of collective forest tenure reform in China. Questionnaires were collected from 481 heads of households in Sanming and analyzed using the path analysis. Our findings suggest that forest owners' intention to practice multi-use forest management may be predicted from attitudes, subjective norms, and perceived behavioral control factors. In addition, the socio-economic characteristics, such as education level and forestland area owned, affected forest owners' behavior. The results indicated that income level and the inheritable use right to the next generation most strongly promote an intention to practice multi-use forest management. Forest owners with a higher education level, larger forestlands, and a younger age had a positive intention to practice. The results also suggest that raise forest owner's income from MFM, improving satisfaction with current policy on multi-use forest management, and giving active participating villagers a key post in forest development should therefore be taken into consideration to enhance forest owners' practice in multi-use forest management.
Keywords: Theory of planned behavior, multi-use forest management, collective forest tenure reform, path analysis

1. INTRODUCTION

In China, the collective forestland area is 27.37 million hectares, accounting for 58% of the nation's total forestland area and contributing an ever-increasing share of timber and wood fiber to industry. Moreover, the forests are also vital to hundreds of millions of rural residents and provide products for farmers' livelihoods, including timber, fuelwood, fruits, vegetables and job opportunities

When a resolution on the Development of Forestry (Document No. 9) was issued by the central government of China 2003, it triggered the most recent wave of collective forest tenure reform in China [1]. It was a mammoth nationwide undertaking that involved transferring the titles of 27.03 million hectares of forestland and affected half a billion farmers. It started with granting the farmers ownership of the collective forest and use rights on the land for 70 years with the opportunity for an extension. First-time forest owners took the forefront as forestry managers because they are essential in natural resource management. Various policy reforms and implementation of the devolution of rights to farmers have been introduced. Especially, MFM, as a sustainable approach to forest management, it aims to supply two or more forestry products and services to maximize multiple stakeholders' utility altogether through cooperation management. It is a suitable trend for current forests constructed in China. Therefore, despite the relevant changes in the forest tenure, including different forest management, public opinion of the developing multi-use forest management (MFM) has risen in China since the collective forest tenure reform.

Having received considerable attention in past decades, MFM is increasingly being implemented in different parts of the world [2-4].MFM emphasizes the maintenance of biodiversity, productivity, regeneration capacity, and vitality, and the potential of these to satisfy ecological, economic, and sociocultural values without jeopardizing the long-term stability of forest ecosystems[2]. It is praised as the most equitable strategy for satisfying demands from multiple stakeholders, and it represents a common and prime management objective under the sustainable forest management paradigm [3]. MFM as a sustainable approach to forest management, it aims to supply two or more forestry products and services to maximize multiple stakeholders' utility altogether through cooperation management. Thus, the implementation of multi-use principles in forest management should be enhanced.

A huge change has been observed in that forest owners play a much greater role than before in forest management in comparison to state-centered control approaches. Understanding of their needs and benefits from forest is important for the success of policy initiatives in promoting successful forest management [5]. If policy instruments are to be effective, they

should acknowledge and address the factors that underlie forest owners' attitudes towards MFM and explore how these factors interact to influence practice MFM. For this reason, researchers have recently used different methods to seek a deeper understanding of the intention and behavior of forest owners [6, 7]. Several studies have used the theory of planned behavior (TPB), as a framework for understanding the antecedents of a given behavior or behavioral intention related to natural resources. To date, the TPB model has been successfully used in environmental studies to analyze local people's attitudes and intentions toward conservation and development projects [8] and practice forest management [9]. From a planning perspective, attitudes, social norms, and past behavior accounted for 42% of the variance in planners' intentions to seek information on rare and endangered species during planning processes [10]. When all variables were included in the model, of the three original variables, attitudes and subjective norms were equivalent in their predictive ability, while the effect of PBC was not significant. To sum up, these studies have shown that the three components each had a significant impact on respondents' intention to supply wood [11]. Specifically, measured the intentions of reforestation decisions among Finnish forest landowners and found that attitudes were the strongest of the three original variables included in the model, with norms and PBC contributing albeit small but equal amounts of additional explained variation [12]. Additionally, other studies also found that attitude was the strongest factor as well as education, and knowledge predicted willingness to pay for ecosystem restoration [13].

2. MATERIALS AND METHODS

2.1. Study Framework

The TPB is an extension of the theory of reasoned action (TRA) [14]. The TRA model, however, could not fully explain the behaviors over which people have incomplete volitional control. Therefore, the TPB model adds perceived behavior control into the original model to predict the behavior directly or indirectly via the intentions [15]. The TPB posits that intentions may be assumed to capture one's motivations for practice and that they reflect how much of an effort an individual will put into the behavior. The underlying intentions consist of three antecedent beliefs: attitude towards the behavior (global positive or negative evaluations about performing the behavior), subjective norms (perceived social pressure regarding performing the behavior), and perceived behavioral control (control beliefs and perceived power of performing the behavior; see Figure 1). In general, the more favorable the attitude and subjective norms, and the greater the perceived behavior control, the stronger one's intention to perform the behavior [16].
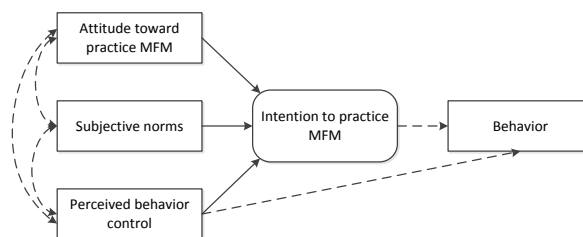
Figure 1 The theory of planned behavior

2.2. Study Area

Sanming City is located at latitude 25° 29′–27° 07′ N and longitude 116° 22′–118° 39′ E in the northeast part of Fujian Province; it covers approximately 22,928.8 km2 and includes nine prefectures and two districts. Sanming is also a typical collectively owned forest region. More than 80% of the forestland belongs to the rural collective and to individuals. In addition, about 80% of the population lives in the rural hilly area, and their income from forestry accounts for 23.2% of the total income. (Sanming Forestry Administration, 2012)
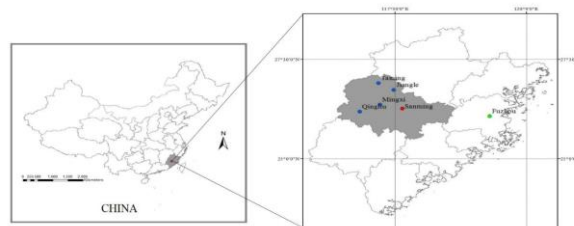
Figure 2. Location of the study area in Sanming city, China

Sanming has also participated in a leading innovative pilot for forest tenure reform all over the country since the late 1980s (Sanming Forestry Administration 1989). Now, forest owners have the right to decide how to dispose of their forestland and whether or not to practice MFM. Because there are so many different types of forest management, the forest owners carefully assess which management alternative will be most efficient in their settings.

2.3. Data collection

The questionnaire for this study was designed with reference to previous studies [9, 12]. A preliminary informal questionnaire concerning practice MFM was used in a group discussion to elicit information relevant to the TPB model in the four collective forest tenure reform villages.

According to planned behavior theory, attitudes, subjective norms, and perceived behavioral control can be measured either directly or indirectly via concepts, normative beliefs, and control beliefs. Thus, they are the product of belief strength and outcome evaluation. However, the theory becomes much more complicated, reducing the explanatory power of the model [17]. Therefore, in this study, attitudes are directly defined as the evaluation dimension of practice MFM, and the subjective norms are measured by the impact of the views of important reference groups [18, 19]. In addition, the perceived behavioral control is measured by subjective judgments

concerning the general ability and necessary resources related to engaging in MFM, which may often quite accurately reflect the available resources and opportunities. For the other factors that contribute to practice MFM, the socioeconomic characteristics can be expected to affect all the components in the TPB model.

It was divided into two related sections, the first section of the questionnaire including the social and economic characteristics of the forest owners: gender, age, and educational level, total per capita income, relative forest income, and others.

The second section measured the elements of the basic TPB model, which is the central part of the questionnaire. The questionnaire of this study was designed with reference to previous studies [9, 12] [19]. All the variables were rated on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).Intention to practice multi-use forest management measured with "I will practice multi-use forest management." suggested by Ajzen [16].

Attitudes toward multi-use forest management were measured by dimensions like bad-good, worthless-valuable, harmful-beneficial, disappointing-satisfying, and like-dislike. As follows: (1)"MFM can raise forest owners' income," (2)"It creates a feeling we are passing something good to the next generation," (3)"I am satisfied with current policy on MFM," (4)"We get a feeling that we can protect the local environment with MFM," and (5)"MFM can give me sustainable forest products and services."

Subjective norm was measured with three statements: (1) "Friends' opinion important to me think that I should practice MFM," (2) "Villagers' opinion I value consider that I should practice MFM," and (3) "Families' opinion is important to me think that I should practice MFM."

Perceived behavior control was measured with five statements in self-efficacy. As follows: (1) "I have enough time to practice MFM," (2) "I have enough labor to practice MFM," (3) "According to my judgment, the forestland quality is good to planning trees," (4) "According to my experience, it is difficult to control forest fire in MFM." and (5) "According to my experience, it is hard to control pest conditions in MFM."

2.4. Date Analysis

We collected data from 503 heads of farm households living in the four collective forest tenure reform villages included Taining, Mingxi, Jiangle and Qingliu in Sanming city (resulting in 481 valid questionnaires) in the summer of 2017 through formal and informal survey techniques. The respondents were interviewed in isolation so that they would not influence each other's answers and, hence, the related stakeholder involvement. The respondents were selected randomly from a list of the households provided by the local forest ministry.

Conventional methods for data analysis were used in this study. Prior to path analysis, all valid data were numbered, registered, and analyzed using the Statistical Package for Social Sciences (SPSS) 17.0. Having collected the data, 25 value missing at random was replaced by using Maximum Likelihood [20]. Next, the data was distributed using descriptive statistical analyses. Reliability analyses are subjected to assessment of the internal consistency of the items using Cronbach's alpha coefficient. Additionally, Pearson's bivariate correlations were analyzed among all the measures to identify variables that would be suitable for the final model measured. After that, experiments were conducted using path analyses estimated with the Analysis of Moment Structure (AMOS) 19.0 to test causal relationships. The results may be interpreted in terms of the significance of single coefficients and in terms of the goodness of fit of the whole model [21].

3. RESULT

3.1. Summary of the TPB Constructs

As the directly measured TPB constructs show in Table 1 (the standard deviations of the sets of TPB items), the majority of forest owners (82.2%) intended to practice MFM (5-7 on Likert scale), and over half of them (57.4%) had a positive attitude towards MFM. Perceived behavior control is high for 65.8% of the respondents, and 55.9% of forest owners thought they should practice MFM because their important referents favor it. Except the two variables, raising forest owners' income and the inheritable use right to the next generation, the indirect effect of the other variables were higher than direct effect. Therefore, it was said that the attitudes, subjective norms and perceived behavior control beliefs played key roles in forest owners' intention to practice MFM.

3.2. Summary of There Respondents' Socioeconomic Characteristics

The respondents were overwhelmingly male (80.2%). In China, the male is the head of the family, representing the household and family interests and assuming responsibility for handling official business with outsiders, such as responding to questionnaires. The education level is low: 89.7% of respondents had finished primary school, and of these, only 14.4% had finished high school and better. The majority (76.73%) of respondents were engaged in forest management or agriculture, or both. About 50.05% of households earned less than $10,000 yuan per year, and 81.7% of respondents indicated that their forest income is less than $1000 yuan per year.

3.3. Reliability

We conducted a reliability test to assess the reliability standards of the attitude, subjective norms, and perceived behavioral control. The reliability test provided an indication of the average correlation among all of the items that make up the scale to determine the "internal consistency" [22]. Cronbach's alpha coefficient is the most commonly used

indication of internal consistency. Values range from 0 to 1, with higher values indicating greater reliability. In this study, the Cronbach's α was 0.82, which is higher than the acceptable 0.7 threshold for field research [23].

3.4. Construct Validity

The results from assessing the construct validity of the model were presented in Table 3 (Pearson's correlation coefficient). As it indicated, we can assess the relationships between the intentions and the variables (socioeconomic characteristics, attitude, subjective norm, and perceived behavioral control) and correlations among the TPB constructs. In particular, attitude had the strongest positive correlation with the behavioral intention, which was followed by the overall perceived behavior control towards MFM, and the opinions of the key reference group had a weak correlation with their willingness to practice.

For the socioeconomic characteristics, we found that respondents' education level, crop yield, and forest area are correlated with their attitude toward practice MFM at a relatively low level: 0.217, 0.147, and

0.153, respectively. Only the forest area showed a low level of correlation with each of the dimensions of the components in TPB model, and significant but small correlations were found between attitude and education. According to Table 3, forest owners with a higher education level, larger farmlands, and more dependence on crop yield appear to have a positive attitude about practice MFM. On the other hand, the age of household head and household size are negatively associated with the dimensions concerning the antecedent beliefs but not significantly. As a result, this model has construct validity.

3.5. Construct Validity

In order to evaluate the whole model fit, we employed the AMOS modification indices (MI) as a reference and improved the goodness fit between the model and data. The model fit indices of the TPB model are given in Table 4, in which, as a whole, the Chi-square statistics for this model were 131.2 df = 92. Hayduk [24] considered that $\chi^2/df < 3$ can be viewed as the best goodness of fit. The value of $\chi^2/df = 1.43$ demonstrates an excellent model fit.

Table 1. Summary of global measures of TPB constructs

Variable	NO.	Min	Max	Mean	SD	Direct effect	Indirect effect	Evaluation of outcome (5-7)%	Cronbach's α
Intention	452	1	7	5.49	1.693			82.2	0.82
Attitude	452	1	7	4.58	1.458	0.18	0.00	57.4	0.88
MFM can raise forest owners' income	452	2	7	4.89	1.013	0.41	0.13	66.8	
It creates a feeling we are passing something good to the next generation	452	2	7	3.97	0.903	0.39	0.05	22.7	
We get a feeling that we can protect the local environment with MFM	452	2	6	3.17	0.904	0.00	-0.09	29.7	
MFM can give me sustainable forest products and services.	452	2	6	3.36	0.888	0.00	0.02	36.7	
I am satisfied with current policy on MFM.	452	1	7	4.67	1.354	0.00	0.40	58.9	
With MFM, we can get more preferential policy and support from the government.	452	2	7	4.16	1.113	0.00	0.12	36.7	
Subjective Norms	452	1	7	4.91	1.581	0.13	0.00	55.9	0.72
I will practice	452	1	7	3.92	1.384	0.00	0.04	32.2	

MFM as influenced by my friends.									
I will practice in MFM as influenced by the villagers.	452	1	7	4.41	1.387	0.00	0.06	48.6	
I will practice te in MFM as influenced by my family.	452	1	7	3.80	1.274	0.00	0.07	26.3	
Perceived Behavior Control	452	2	7	5.12	1.469	0.16	0.00	65.8	0.78
It is difficult to control fire and pests in MFM.	452	2	7	4.07	0.849	0.00	0.01	12.4	
I have enough time to do the work of MFM.	452	2	7	4.57	1.050	0.00	0.04	46.5	
My forestland quality is good for developing MFM.	452	2	7	5.00	1.088	0.00	0.00	63.8	
I have enough labor to practice MFM.	452	1	7	4.98	1.583	0.00	0.00	78.2	

Table 2. Summary of the socioeconomic characteristics

Socioeconomics characteristics	Min.	Max.	Mean	S.D.
Age of head	20	77	48.67	11.72
Education	0	5	2.62	0.91
Household size	1	15	5.04	1.94
Healthy	1	3	1.18	0.47
Crop yield (kg)	0	54000	2033.57	4615.76
Forestland area (ha)	0	15	2.26	6.16
Total per capita income	0	575300	16103.16	41352.38
Forest per capita income	0	525000	3600.4	37024.19

Generally, the judging criterion for model fit—such as goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), normed fit index (NFI) and comparative fit index (CFI)—is considered to be 0.9 and above [25]. The value of 0.08 and below is acceptable for the Root Mean Square Error of Approximation (RMSEA) index [26], while a root mean square residual (RMR) of < 0.5 and a parsimony goodness-of-fit index (PGFI) at > 0.5 are considered to represent a good model fit [21].

The model fit is good except for AGFI and NFI, which do not exceed the cutoff values. However, those indices are close to the cutoff values, implying that the model is acceptable, and the data for the TPB constructs can be explained by the assumed model.

Table 3 Correlations between variables explaining the intention to practice MFM

	Intention	Attitude	Subjective Norms	Perceived Behavior Control
Attitude	0.323**			
Subjective norms	0.26**	0.299**		
Perceived behavior control	0.304**	0.285**	0.335**	
Gender	0.61	0.135	0.168*	0.065
Age	-0.075	-0.062	0.038	-0.094
Education	0.72	0.217**	0.118	0.11

Crop yield	0.64	0.147*	0.108	0.059
Forestland area	0.160*	0.153*	0.190**	0.156*
Total per capita income	0.095	0.091	0.056	0.069
Forest per capita income	0.078	0.032	0.024	0.08
Household size	-0.064	0.14	-0.033	-0.075

Table 4. Fit indexes for the overall model

Fit indexes	χ^2/df	GFI	CFI	AGFI	NFI	RMSEA	RMR	PGFI
Result	1.43	0.93	0.92	0.88	0.79	0.05	0.17	0.56
Judging criteria	< 3	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9	≤ 0.08	≤ 0.5	≥ 0.5

3.6. Path analysis

After providing some initial understanding of relationships among the antecedent variables with the correlation statistics, we used a path analysis to test the causal relationships between all the variables of the TPB model and to explore the effect of each variable on the intention and antecedent beliefs. As shown in Figure.3, intention is constructed by attitude, subjective norms, and perceived behavior control. According to the strength of the modeled effects, attitude toward the behavior had the greatest effect on the behavioral intention (0.18), followed by perceived behavior control (0.16). The subjective norms had the smallest and weakest impact on intention (0.13). Furthermore, the path diagram illustrated that increasing the income and the inheritable use right to the next generation had a strong positive impact on intention: the path coefficients were 0.41 and 0.39, respectively. Forest owners' satisfaction with current policy was also very important for MFM with an indirect effect of 0.4.

Raising income, satisfaction with current policy on MFM, and obtaining more preferential policies and support were most strongly positively correlated with the attitude toward practice MFM. The inheritable use right to the next generation, protecting the local environment, and supplying forest products and services had the expected positive significant but low correlations with global attitude. Considering forest owners' positive attitudes toward practice MFM, more than two-thirds of the owners (66.8%) considered that MFM could raise their income, and 58.9% owners were satisfied with current policy concerning MFM. In addition, more than one-third of the owners believed that MFM might help them get more preferential policies and support from the government.

Villagers and friends were significantly correlated with subjective norms. Moreover, the villagers were assumed to be the most influential advisor group (0.5), while for the global measure of perceived behavior control, only the time was moderately correlated with PBC, and the correlations for owners' perceived control of forestland quality and labor were not significant.

Though more than half of the owners thought their forestland quality was good for developing MFM and that they had enough labor to practice multi-use forest management, these considerations were not significantly correlated with PBC. Note that the model excludes the two non-significant paths and that the R^2 value for intention equals 0.38, which indicates that both TPB models based on the measured variables have the potential to predict the intent to practice MFM, accounting for a small proportion of the variation. R^2 is interpreted as the amount of variation in the dependent variable that is explained by the independent variables' coefficient of determination.
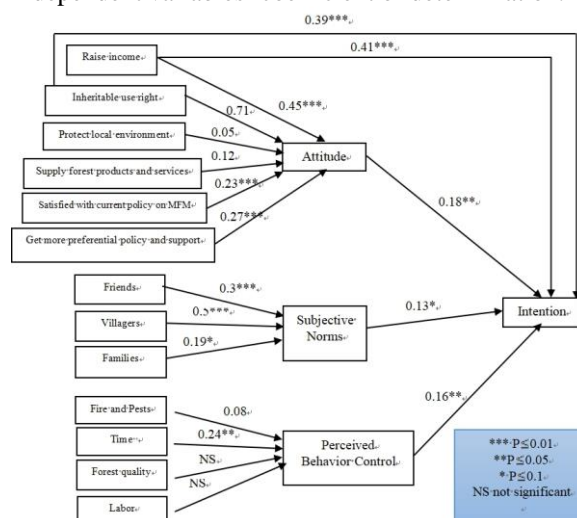
Figure 3 Path analysis of the factors explaining the intention toward MFM

4. DISCUSSION

This study explored the relationship between attitudes, subjective norms, perceived behavioral control, and the behavioral intentions of forest owners toward practice MFM in the context of forest tenure reform, using the TPB framework. It is significant that although the TPB model was developed mainly to predict actual behavior, it is applied in this study to describe behavioral intentions, taking into account the roles of forest owners in developing a new forest management. We found that TPB is a useful theoretical model, confirming the mainly role of attitude as an influence over intent to practice MFM, as predicted. This observation is similar to Karpinnen's finding [12]. Thus, it may be possible to predict people's behavior in order to offer effective guidance for management decisions, as well as provide baseline data for assessing the efficiency of new policies [27]. In addition, the subjective norm has

been cited as the weakest predictor of intention. Our finding on this point is consistent with observations made by several other scientists [28, 29].

Overall, the components of the attitude seemed to function as expected in the models. Two factors had the strongest effect in motivating forest owners to practice MFM: first, rising income was the main contributor to forest owners' positive attitude, suggesting that practice MFM would be stimulated if opportunities were provided for increasing forest owners' incomes. Several studies have revealed that local communities become willing to engage in forest management only if there are many opportunities for local people to use and benefit from the forest resources [30]. Second, the inheritable use right to the next generation also played an important role in stimulating practice because forest resources are traditionally regarded among forest owners as a significant asset to pass down the generations. They believe that with much active practice in forest management, they can create more benefits from the forest to pass to the next generation. However, the corresponding perceived control behavior was significant only if the non-significance of forestry quality and labor variables was excluded. This result contrasts with Lise's [31] finding that the best chances of practice in forest management can be found among farmers who perceive the quality of the forest as good. In contrast, the forestland quality and labor did not have a significant effect on forest owners' intentions toward practice, despite the finding of Chhetri [32] that presented the opposite view: forests in good condition and good labor prospects also inclined land owners to practice forest utilization activities.

In this study, we found that some other factors are associated directly or indirectly with intent to practice MFM. In terms of the direct measure of the socio-economic characteristics' effect on forest owners' attitude and intentions, the better educated forest owners that have more forestland showed a more favorable attitude toward practice MFM. Education level has been a significant variable associated with a favorable attitude in other studies also [9, 31]. Better educated people are assumed to be more aware of the potential benefits to be derived from the forest than are illiterate individuals. A higher age had a more negative impact on the farmers' attitude and subjective norm, implying that old people may be less likely than younger farmers to practice MFM and that forest-related work requires more physical strength.

A greater amount of owned forestland area had a positive effect on farmers' intention toward practice MFM. This finding suggests that MFM in the Sanming area has the support of "large" forestland owners and that respondents with access to larger forestland areas are more likely to be engaged in multi-use forestry activities because they can benefit more from scale economy advantages. However, the average annual household forest and agricultural income was 15294.949 yuan, though there was extreme variation between the maximum and the minimum values. This variation results from the fact that some forest owners subsist entirely on their farm work and forest production, so there is no significant relationship between their annual income and their intention to practice MFM.

5. CONCLUSIONS AND POLICY IMPLICATIONS

Multi-use forest management (MFM) is a new potential conservation and development alternative that can simultaneously satisfy multiple forest stakeholders, raise local forest owners' incomes, and protect the environment [33]. The behavior of local forest owners will be a key factor in the process of developing MFM. Therefore, forest owners' attitudes and beliefs in practice are key factors in the success of such a policy. Understanding the factors that affect people's intentions will help in using proper incentives and, in turn, will increase the probability of farmers' engaging in MFM.

This study indicates that forest owners are favorably inclined towards practice MFM, that overall attitudes are positive, and that socioeconomic characteristics appeared to have small effect in influencing practice. These findings are meaningful because the results have been useful to the local government in Sanming city, China. In order to ensure substantial benefit for all forest owners, policies and programs for promoting MFM forestry should be designed to intensify or encourage these favorable beliefs, especially among forest owners who have lower incomes, who are unsatisfied with current policy on MFM, and who have little or no formal education. Clearly, the most important way to encourage practice is to make sure that forest owners in Sanming experience increasing income. In addition, to encourage such practice, the property rights in the collective forest should be ensured to the forest owners, satisfaction with MFM policies should be improve, and the villagers who have a strong positive intention to practice MFM should be given a key post in forest policy making in Sanming city and other collective forest tenure reformed areas.

This study provides empirical evidence of factors that motivate forest owners to engage in MFM and, therefore, gives suggestions for developing the local forest. It was based on a random sample of forest owners in rural settings under the collective tenure reform in Sanming city, China. While this study primarily relied on a quantitative research approach to analyze forest owners' intention and beliefs toward practice in multi-use forest activities, a more intensive integration of qualitative and quantitative data for a better interpretation of the key variables should be considered for future research.

ACKNOWLEDGMENTS

REFERENCES

[1]Wang, G.Y., Innes, J.L., Lei, J.F., Dai, S.Y., and Wu, S.W. 2007. China's forestry reforms. Science 318: 1556-1557.

[2]Baskent, E.Z., Terzioglu, S., and Baskaya, S. 2008. Developing and implementing multiple-use forest management planning in Turkey. Environ. Manage. 42: 37-48.

[3]García-Fernández, C., Ruiz-Pérez, M., Wunder, S. 2008. Is multiple-use forest management widely implementable in the tropics? Forest Ecol. Manag. 256:1468-1476.

[4]Fürstenau, C., Badeck, F.W., Lasch, P., Lexer, M.J, Lindner, M., Mohr, P., and Suckow, F. 2007. Multiple-use forest management in consideration of climate change and the interests of stakeholder groups. Eur. J. Forest Res. 126(2): 225-239.

[5]Kozak R.A., Spetic W.C., Harshaw H.W., Maness T.C., and Sheppard S.R.J. 2008. Public priorities for sustainable forest management in six forest dependent communities of British Columbia. Can. J. For. Res. 38: 3071-3084.

[6]Uliczka, H., Angelstam, P., Jansson, G., and Bro, A. 2004. Non-industrial private forest owners' knowledge of and attitudes towards nature conservation. Scand. J. Forest Res. 19: 274-288.

[7]Boon, T.R.E., and Meilby, H. 2007. Describing management attitudes to guide forest policy implementation. Small-Scale Forestry 6(1): 79-92.

[8]Wauters, E., Bielders, C., Poesen, J., Govers, G., and Mathijs, E. 2010. Adoption of soil conservation practices in Belgium: An examination of the theory of planned behaviour in the agri-environmental domain. Land Use Policy. 27(1): 86-94.

[9]Tesfaye, Y., Roos, A., and Bohlin, F. 2012. Attitudes of local people towards collective action for forest management: the case of participatory forest management in Dodola area in the Bale Mountains, Southern Ethiopia. Biodivers Conserv 21: 245-265.

[10]Sinclair, J., Mazzotti, F., and Graham, J. 2003. Motives to seek threatened and endangered species information for land-use decisions. Science Communi 25(1): 39-55.

[11]Leitch, Z.J., Lhotka, J.M., Stainback, G.A., and Stringer, J.W. 2013. Private landowner intent to supply woody feedstock for bioenergy production. Biomass and Bioenerg. 56: 127-136.

[12]Karppinen, H. 2005. Forest owners' choice of reforestation method: an application of the theory of planned behavior. Forest Policy Econ. 7: 393-409.

[13]Connelly, N. A., Knuth, B. A., and Kay, D. L. 2002. Public support for ecosystem restoration in the Hudson River Valley, USA. Environ. Manag. 29(4): 467-476.

[14]Ajzen, I., and Fishbein, M. 1980. Understanding attitudes and predicting social behavior. Prentice-Hall, Englewood Cliffs, N J.

[15]Ajzen, I. (1991). The theory of planned behavior. Organ. Behav. Hum. Dec. 50: 179-211.

[16]Ajzen, I. 2006. Constructing a TPB questionnaire: Conceptual and methodological considerations [online]. Available from http://www-unix.oit.umass.edu/~aizen/pdf/tpb.measurement.pdf [accessed November 10, 2007].

[17]Guo, D.B. 2004. Study of behavioral intention of different types of community resident recycling activities. Environ. Manag. 5(1): 19–39.

[18]Ye, G.L., Zhao, H.B., and Tang, K.Y. 2000. Study of behavioral intentions of Taipei residents' beliefs in resource recycling. Health Educ. 13: 53-72.

[19]Hsiao, N.Y., Lu, Z.S., Zhao, W.B., and Lai, Y.J. 2002. Assessment on internet tax filing: a preliminary study of the theory of planned behavior. Public Administration Press. 6: 67-86.

[20]Chiou, H.J. 2009. Principles and Practice of Structural Equation Modeling. China Light Industry Press, Beijing, China.

[21]Jöreskog, K., and Sörbom, D. 1996. LISREL 8: User's reference guide. Uppsala University, Scientific Software International, Inc., Chicago, IL.

[22]Pallant, J. 2007. SPSS survival manual: a step-by-step guide to data analysis using SPSS for Windows. 3rd ed. Open University Press, McGraw Hill, Berkshire, England.

[23]Cronbach, L.J., and Meehl, P.E. 1955. Construct validity in psychological tests. Psychol. Bull. 52: 281-302.

[24]Hayduk, L.A. 1987. Structural equation modeling with LISREL: essentials and advances. Johns Hopkins, Baltimore, MD.

[25]Hu, L.T., and Bentler, P.M. 1999. Cutoff criteria for fit indexes in covariance. Struct. Equ. Modeling 6(1): 1-55.

[26]McDonald, R.P., and Ho, M.R. 2002. Principles and practice in reporting structural equation analysis. Psychol. Methods 7: 64-82.

[27]Fiallo, E.A., and Jacobson, S.K. 1995. Local communities and protected areas: attitudes of rural residents towards conservation and Machalilla National Park, Ecuador. Environ. Conserv. 22(3): 241-249.

[28]Terry, D.J., Hogg, M.A., and White, K.M. 1999. The theory of planned behaviour: self-identity, social identity, and group norms. Brit. J. Soc. Psychol. 38: 225-244.

[29]Armitage, C.J., and Conner, M. 2001. Efficacy of the theory of planned behavior: a meta-analytic review. Brit. J. Soc. Psychol. 40(4), 471-499.

[30]Wunder, S. 2000. Ecotourism and economic incentives—an empirical approach. Ecol. Econ. 32(3): 465–479.

[31]Lise, W. 2000. Factors influencing people's participation in forest management in India. Ecol. Econ. 34(3): 379-392.

[32]Chhetri, B.B.K., Johnsen, F.H., Konoshima, M., and Yoshimoto, A. 2013. Community forestry in the hills of Nepal: Determinants of user participation in forest management. Forest Policy Econ. 30: 6-13.

A Study on the Application of Educational Psychology in Childhood
—— Taking piano teaching as an example

Qian Zheng
College of Music, Heng Yang Normal University, Hengyang, Hebei 421002, China

Abstract: Children's growth stage is divided into three stages: preschoolers, children in the lower grade of primary school, and children in the upper grade of primary school. Each stage has different psychological characteristics. Some of the most commonly used research methods in educational psychology are used: observation method, investigation method, and case law. The piano teaching for children in different stages will improve the quality education of children and make music serve children in a comprehensive way.
Keywords: child psychology; Educational psychology; Piano teaching

1. SUMMARY

In contemporary Chinese society, with the implementation of the "only child" policy in the 1980s, almost every household has only one child. Although the two-child policy was liberalised in early 2016, it still takes time to accumulate, and this makes many families do not want to lose on the "starting line" when it comes to nurturing the next generation. Education starts from the doll, people are more and more aware of the importance of quality education for young children. Quality education is to achieve the all-round development of morality, intelligence, body, beauty, and labor. At the same time, it pays attention to the development of individuality and the cultivation of creativity. Music is the main way to implement aesthetic education. Learning to play the piano involves the mobilization of many human organs, hands, eyes, feet, mouth, and brain. It exercises coordination ability, responsiveness, and memory, develops intelligence, and obtains the first choice of many parents in home music education. The main stages of children's development include preschool children, namely early childhood(4-6 years old), early primary school children, that is, early school age(7-8 years old), and upper primary school children, that is, teenagers(9-14 years old). The transition period from childhood to adolescence is an adolescence, also known as the "transition period." In the modern Chinese dictionary, the adolescence is divided into 10-15 and 16 years old. In the context of the advanced development of modern children, from a physiological and psychological point of view, the truly simple childhood period is before the age of 12-13 years. The author's teaching research in the childhood stage focuses on the childhood stage, that is, from early childhood to the end of the school year, that is, 12 and 13 years old. [1]

In the piano teaching of children's stage, whether to pay attention to the emotional experience of music and the performance of music with personality and innovative consciousness, make piano learning full of fun and vitality, and become the standard of a qualified piano teacher. From the perspective of education psychology, the author tries to explore how to better conduct piano teaching in children's stage.

2. RESEARCH METHODS IN PSYCHOLOGY OF EDUCATION

According to education psychology, edited by zhang dajun, there are two kinds of research methods in education psychology. The first is descriptive research method. The second is the experimental research method, which is a method to study the effects of manipulating some variables in the education teaching situation under strict experimental conditions. In brief, the research methods of education psychology mainly include: 1. Observation method; 2. Test method; 3. Investigation method; 4. Case law; 5. Measurement. The piano teaching mode in children's stage is divided into one-to-one, one-to-two, small-class and large-class. [2] Among them, one-to-one mode is the most professional and scientific mode adopted by many teachers. Due to the constant development and change of children's physiology, children's psychology also changes constantly and shows obvious stages, which requires teachers to make appropriate piano contents according to the characteristics of different stages. In children's piano teaching, the author mainly USES observation, investigation and case study.

2.1 Preschool children

Early childhood brain development is most rapid, 6 s brain weight has increased from newborn period 390 grams to 1200 grams (approximately 1400 grams) of adult, so 4 to 6 years old children's intelligence development is an important stage, is also the best stage of piano, the children like to listen to fairy tale, with close people, love small animals. With the development of language ability, I have preliminarily acquired the ability to perceive and imitate the melody, timbre and rhythm of piano works.

From the perspective of education psychology, observation is one of the most common and basic

methods. The most common occurrence of children in the piano enlightenment stage is that their minds cannot be continuously focused. Due to the poor stability of intentional attention at this time, they are easily distracted and transferred by external factors, and their attention can only be focused for five minutes. Teachers should be good at capturing the required behavior performance from the complicated situation, and make timely analysis and recording, so as to adjust their teaching process. Children's attention is not focused on piano learning. The first situation is: the piano works are boring and tasteless, and children feel no interest when playing. For example, there are many works in "little farm work", which teachers can make into interesting stories by themselves to enhance children's interest in learning the piano. I believe that through the experience of various forms of works, children will look forward to the performance of each work from now on. The 2nd kind of circumstance is: study place has interferon source, these interferon source may be oneself, for example did not rest the day before yesterday good, before class too excited; it may also be influenced by external factors. The best solution for teachers at this time is to relax them a little before learning. By directly observing the whole process of piano learning, the behavior changes of children's mental activities during learning are recorded, so as to understand their psychology.

For example, in the study of rhythm, children cannot understand the difference between the whole note, the binary note, the quarter note and the eighth note. Teachers can sing it as a nursery rhyme. Children can perceive accurately through visualized language and images. Children can also use the body rhythm to fully imitate: playing the rhythm, counting the beats loudly, or with the metronome fixed beat and speed, the time value of the specified notes can be played.

2.2 Elementary school children

After entering primary school, learning becomes the main activity of children, with the gradual expansion and deepening of the activity content. Its psychological process has also been rapidly developed. At this time, children can preliminarily identify things around them and begin to pay attention to some social phenomena. However, I don't have the ability to understand the learning content, and my observation of things is still on the surface, which is quite arbitrary and emotional. The way of thinking starts from image thinking to abstract thinking.

The investigation method collects the data of the internal psychology and explicit behavior of the subjects through various ways. Piano learning is a long learning process. After a period of study, children often get tired of piano practice, don't want to practice, avoid or even refuse to touch the piano. Teachers can investigate the reasons through various ways. For example, we can learn about the situation through face-to-face interviews, and learn about

children's piano practice at home through communication with parents. We can also analyze the situation of children's piano work. The author is a student, just play when momentum, a week can quantity and finish the assignment, but in the second grade, clearly feel learning efficiency drops, talk to the students, she is always easy, and I talk about some of her recent get honor, such as a judge on the battalion chief, swimming has been ranking, writing brush calligraphy teacher praise, go to the advanced placement and so on. Talking with parents again, my academic performance has also declined. I feel very tired when I come home every day. I often don't have time to practice the piano after finishing my homework. After the comprehensive survey, the author believes that on the one hand, the student should learn too much and "reduce the burden" properly; on the other hand, parents should build up their perseverance and courage in piano training. After a period of time, the student has made significant progress in piano learning. Questionnaire is the most widely used method in survey, but in piano learning, it is too one-sided, not strict and accurate. The study situation should be analyzed from the actual investigation.

2.3 Middle and senior children in primary school

Children at this stage are in the transition from childhood to adolescence. They can actively think about problems, form their own unique views and have their own ideals. With the continuous accumulation of learning content, my observation ability is constantly strengthened and I can observe things from many aspects. The emotional world is becoming more and more stable, and the emotional content is becoming more and richer, so they can control their own behaviors and become more mature. At this time, the piano learning and expansion process should be dominated by the emotional growth process of students, rather than the knowledge structure of piano.

Case method is to a person or a group of people to study the problem of the method, sometimes combined with a longitudinal follow-up study, in learning the piano, every little musician's personality and characteristics in the primary school, senior has slowly emerge, as the growth of the age, the feelings of the students gradually rich, they live in an environment given their different emotional experiences. At this time, most children can express simple emotion music. When arranging piano works, we should fully understand the psychology of every child and conduct case study. For example, in the ten episodes of amateur piano, there is a work, copland's cat and mouse, which is a title music. The music depicts the funny image of cat and mouse in a humorous and humorous tone. Such works, if technically speaking, have both smooth playing and fast skillful sound patterns, both need to strengthen the control of movement and clear the requirements of

sound. It may seem like a lot of trouble for an 11-year-old or 12-year-old to be able to explain so many details, but if you combine images, put a title on each paragraph, and then guide it, the technical problems are solved. Bars 5-8, rats; Section 9-13, cat; Section 14: cat and mouse; Section 15-20, rat hide cat; Bars 21-28, mice tickle the cat; 29-32 bars, rats flee; In sections 33-39, mice and cats hide from each other. In bars 40-50, mice and cats brag about each other. Section 51-58, cats chasing mice; in bars 59-62, the cat sets the mouse free. Section 63-71, cats chasing mice; Bars 72-80, rats; in sections 80-83, cats eat mice. Again, such as the famous students prepare to attend piano competition, I purposely set up the piano piece "the small sentinel of the south China sea", because his father was a soldier, I suggested that he take this piece of work to play to his father, also encouraged him to let father said more troops story to her, so as to deepen the understanding of this piece of work. In the end, the piano player won a good performance in the piano competition. In the process of case study, teachers not only established good relations with children and established a good image, but also let children fully trust teachers, so that piano learning could proceed smoothly. [3]

Other methods of education psychology, such as test method, measurement method also involve in the piano teaching, as long as it is suitable for children's psychological development, any teaching method is a feasible, children's piano teaching is learning the piano's golden period in one's life, believe that through the tireless efforts of piano teachers, will be able to make music service for children happy life, learn to enjoy the wonderful music and improve the quality of life, let the music comprehensive development of services for children.

References:
[1]Zhang Dajun. Psychology of education. Beijing: people's education publishing press, 2012.
[2]Department of sports health and art education, ministry of education. Children's song creation. Shanghai: Shanghai education press, 2003.
[3]Wu Yueyue. New edition of music teaching theory. Changsha: hunan literature and art press, 2008.

Research on the competitiveness of regional commercial banks based on factor analysis ——a case study of rural and urban commercial banks in Jiangsu and Zhejiang

Wenqiao Liang[1], Penghui Yang[2], Yuqi Chang[1], Chengbin Han[3]
[1] School of Finance, Anhui University of Finance and Economics, Bengbu, Anhui, 233030, China
[2] School of Statistic and Applied Mathematics, Anhui University of Finance and Economics, Bengbu, Anhui, 233030, China
[3] School of International Economics and Trade, Anhui University of Finance and Economics, Bengbu, Anhui, 233030, China

Abstract: Regional commercial banks are becoming an important part of China's banking system. With regard to the evaluation of the competitiveness of regional commercial banks, 20 commercial banks in Jiangsu and Zhejiang Province were taken as the research objects. The financial index data of sample banks from 2015 to 2017 were used to evaluate and compare the comprehensive competitiveness of the selected banks through factor analysis method. The results show that rural commercial banks in Jiangsu and Zhejiang Province are more competitive in safety and profitability, urban commercial banks are better in liquidity, and overall, rural commercial banks have stronger comprehensive competitiveness. Finally, suggestions were put forward on the development of regional commercial banks in Jiangsu and Zhejiang Province.
Keywords: Key words: regional commercial bank; bank competitiveness; factor analysis; MATLAB

1. INTRODUCTION

With the continuous advancement of China's financial reform, rural commercial banks and urban commercial banks have gradually grown and become an important part of the regional financial system, and play an irreplaceable role in promoting inclusive finance and serving local economy. Rural commercial banks are a joint-stock local financial institution, formerly known as rural credit cooperatives. China's rural commercial banks are formed by farmers, rural industrial and commercial households, corporate legal persons and other economic organizations in the region. They mainly provide financial services for the development of farmers, agriculture and rural economy. In 2019, the two sessions proposed to encourage and strengthen inclusive financial services, and effectively improve the financing tension of small and medium-sized enterprises. As an important part of the rural financial institution system, rural commercial banks shoulder the important responsibility of developing inclusive finance and supporting the development of "agriculture, rural areas and farmers" in the new era.

China's urban commercial banks are composed of local finance, urban enterprises, and residents' investment. The main function is to serve local economic development and provide financial services for the development of urban SMEs. The development of city commercial banks has been more than 20 years. Through the transformation of assets and government capital injection, the competitiveness of city commercial banks has further strengthened and become the "third echelon" of China's banking industry.

In the economically developed Jiangsu and Zhejiang regions, township and village enterprises are numerous and dynamic, and financial demand is relatively strong, providing a good financial ecological environment for the development of regional banks. There is no doubt that regional commercial banks are becoming an important part of China's banking system. According to official statistics, as of the end of March 2019, there were 6 rural commercial banks and 4 city commercial banks listed in the A-share market in Jiangsu and Zhejiang provinces. Jiangsu and Zhejiang regions have also become the gathering places of commercial banks and rural commercial banks in China's listed cities. In view of this, based on the analysis of domestic and foreign research literatures, this paper selects urban commercial banks and rural commercial banks in Jiangsu and Zhejiang provinces as research objects, and uses the financial indicators data of sample banks from 2015 to 2017 to select by factor analysis. The comprehensive competitiveness of banks is evaluated, and on the basis of this, the comparative analysis of the competitiveness of the two is carried out, and the suggestions for the development of regional commercial banks in Jiangsu and Zhejiang regions are given. It has important practical significance and theoretical research value.

2. RELATED LITERATURE REVIEW

At present, domestic research on the competitiveness of regional commercial banks is rare. Scholars' research on bank competitiveness is mainly concentrated in state-owned commercial banks and

joint-stock commercial banks. Jiao Yu [1] defines the competitiveness of commercial banks as the ability of banks to survive and develop in the market competition. Chen Yihong [2] believes that the core competitiveness of commercial banks is composed of profit creation ability, risk management and control ability and sustainable growth ability. Zhang Yingwei and Hu Xiaodong [3] used the analytic hierarchy process to select indicators from the aspects of basic resources, profitability, liquidity, safety and development capabilities to compare the competitiveness of banks across the Taiwan Strait. Fang Xianming [4] and other factors have tested the competitiveness of 16 listed commercial banks in China through factor analysis. Li Penglin and Zhang Xiuhua [5] used the grey relational analysis method to evaluate the competitiveness of banks through the combination of static analysis and dynamic analysis. Yin Hang [6] used the fuzzy neural network method to select 9 input variables such as profitability to evaluate the competitiveness of commercial banks. Zhang Hu et al [7] used the DEA model to explore the competitiveness of state-owned commercial banks and joint-stock commercial banks

from the perspective of efficiency. Wei Rongrong and Zou Xiaoyong [8] used factor analysis and cluster analysis to study the competitiveness of A-share listed city commercial banks and rural commercial banks. Mao Qiang et al. [9] used factor analysis to study the dynamic comprehensive competitiveness of regional commercial banks, and concluded that the dynamic comprehensive competitiveness of rural commercial banks is weaker than that of urban commercial banks. In summary, the evaluation method of bank competitiveness is mainly achieved by selecting financial indicators and constructing corresponding models. Combined with the availability of data, this paper selects eight indicators: capital adequacy ratio, core tier 1 capital adequacy ratio, non-performing loan ratio, net interest spread, cost-to-income ratio, provision coverage ratio, loan-to-deposit ratio, and liquidity ratio. Data from 10 rural commercial banks such as Jiangyin Rural Commercial Bank and 10 city commercial banks such as Jiangsu Bank, the data from 2015 to 2017, the data comes from the WIND database. The name of the regional commercial bank for this study can be seen in Table

Table 1 Names of sample commercial banks 2015-2017

Rural commercial bank	City Commercial Bank
Jiangyin Rural Commercial Bank	Jiangsu Commercial Bank
Wuxi Rural Commercial Bank	Nanjing Commercial Bank
Changshu Rural Commercial Bank	Ningbo Commercial Bank
Suonong Bank	Hangzhou Commercial Bank
Zhangjiagang Rural Commercial Bank	Wuxi Commercial Bank
Yangzhou Rural Commercial Bank	Wujiang Commercial Bank
Zhejiang Yiwu Rural Commercial Bank	Shaoxing Commercial Bank
Jiangnan Rural Commercial Bank	Zijin Commercial Bank
Jiangsu Hai'an Rural Commercial Bank	Zhejiang Tailong Commercial Bank
Yuhang Rural Commercial Bank, Hangzhou, Zhejiang	Zhejiang Chouzhou Commercial Bank

Sources of research data: WIND database, official website of 10 city commercial banks and 10 rural commercial banks and 2015-2017 annual report.

3. EVALUATION OF COMPREHENSIVE COMPETITIVENESS OF REGIONAL COMMERCIAL BANKS BASED ON FACTOR ANALYSIS

This paper uses factor analysis to evaluate the comprehensive competitiveness of regional commercial banks and compare different commercial banks. The data studied in this paper comes from the WIND database. Specifically, this paper selects 10 rural commercial banks such as Jiangyin Rural Commercial Bank from 2015 to 2017 (Jiangyin Rural Commercial Bank, Wuxi Rural Commercial Bank, Changshu Rural Commercial Bank, Su Nong Bank, Zhangjiagang, Rural Commercial Bank, Yangzhou Rural Commercial Bank, Zhejiang Yiwu Rural Commercial Bank, Jiangnan Rural Commercial Bank, Jiangsu Hai'an Rural Commercial Bank, Zhejiang Hangzhou Yuhang Rural Commercial Bank) and Jiangsu Bank and other 10 city commercial banks (Jiangsu Bank, Nanjing Bank, Ningbo Bank,

Hangzhou Bank, Wuxi Bank, Wujiang Bank, Shaoxing Bank, Zijin Bank, Zhejiang Tailong Commercial Bank, Zhejiang Chouzhou Commercial Bank) Capital Adequacy Ratio, Core Tier 1 Capital Adequacy Ratio, Non-performing Loan Ratio, Net Spread, Cost-to-Revenue Ratio, The eight indicators of provision coverage ratio, loan-to-deposit ratio, and liquidity ratio were used for empirical analysis.

3.1 Factor analysis

Factor analysis classifies variables with high correlation into one class, each class of variables becomes a factor, reflecting most of the information of the original data with fewer factors [10]. The specific steps of the factor analysis method are as follows:

1.1.1 Standardize the processing of raw data.

a_{ij} indicates the j index value of the i object, and $\tilde{x}_{ij}$ is the normalized index variable. Using $\overline{\mu_{ij}}$ and s_j to represent the sample mean of the j indicator and the standard deviation of the specimen, we can get:

$$a_{ij} = \frac{a_{ij} - \overline{\mu_{ij}}}{s_j} \ , i = 1,2,\cdots,20; j = 1,2,\cdots,8$$

$$x_j = \frac{x_j - \overline{\mu_j}}{s_j} \ , j = 1,2,\cdots,8$$

3.1.2 Calculating the correlation coefficient matrix
In order to facilitate the study, this paper sets the correlation coefficient matrix: $R = (r_{ij})_{8\times8}$,It can be expressed as:

$$r_{ij} = \frac{1}{20}\sum_{k=1}^{21} a_{ki} \bullet a_{kj} \ , i = 1,2,\cdots,8; j = 1,2,\cdots,8$$

In the above formula $r_{ii} = 1$; $r_{ij} = r_{ji}$, r_{ij} is the correlation coefficient between the i indicator and the j index.

3.1.3 Calculate the elementary load matrix
Calculate the eigenvalues of the correlation coefficient matrix R . $\lambda_1 \geq \lambda_2 \geq \cdots \geq \lambda_8 \geq 0$, Corresponding feature vector: $\mu_1, \mu_2, \cdots, \mu_8$,In these calculation formulas : $\mu_j = [\mu_{1j}, \mu_{2j} \cdots, \mu_{8j}]^T$, It can be seen that the elementary load matrix can be expressed as:

$$\Lambda_1 = [\sqrt{\lambda_1}\mu_1, \sqrt{\lambda_1}\mu_1, \cdots, \sqrt{\lambda_8}\mu_8]$$

3.1.4. Select the main factor
From the elementary load matrix, the contribution rate of each common factor is calculated, and m principal factors are selected. Rotating the extracted factor load residence to obtain a matrix:

$$\Lambda_2 = \Lambda_1^{(m)}T$$

In the above mathematical formula, $\Lambda_1^{(m)}$ is the first m column of Λ_1 ; T is an orthogonal matrix. On this basis, the construction of the factor model, the specific

mathematical formula is shown below.

$$\begin{cases} x_1 = \alpha_{11}F_1 + \cdots + \alpha_{1m}F_m \\ \qquad \vdots \\ x = \alpha_{81}F_1 + \cdots + \alpha_{8m}F_m \end{cases}$$

$$\Lambda_2 = \begin{pmatrix} \alpha_{11} & \cdots & \alpha_{1m} \\ \vdots & \ddots & \vdots \\ \alpha_{81} & \cdots & \alpha_{8m} \end{pmatrix}$$

3.1.5. Calculate factor scores and conduct comprehensive evaluation
In this paper, we can find a single factor score function by regression method. The specific mathematical formula is as follows:

$$F_j = \beta_{j1}x_1 + \beta_{j2}x_2 + \cdots + \beta_{j8}x_8, j = 1,2,3$$

The estimated value of the F_j score of the j factor for the i sample point:

$$F_j = \beta_{j1}a_{i1} + \beta_{j2}a_{i2} + \cdots + \beta_{j9}a_{i8}, j = 1,2,3$$

Based on the above formula, we can conclude:

$$\begin{pmatrix} \beta_{11} & \cdots & \beta_{31} \\ \vdots & \ddots & \vdots \\ \beta_{18} & \cdots & \beta_{38} \end{pmatrix} = R^{-1}\Lambda_2$$

$$F = (F_{ij})_{20\times3} = X_0 R^{-1}\Lambda_2$$

In the above mathematical formula, $X_0 = (a_{ij})_{20\times3}$ is a standardized data matrix for raw data; R is a standardized data matrix for raw data; Λ_2 is the load matrix obtained in the previous calculation step.

3.2 Analysis of the results of empirical research in this paper
First, the article uses MATLAB software to solve the eigenvalues of the correlation coefficient matrix. The specific data is shown in Table 2.

Table 2 Correlation coefficient matrix eigenvalue

Characteristic root	λ_1	λ_2	λ_3	λ_4	λ_5	λ_6	λ_7	λ_8
Result value	2.8482	1.7946	1.4488	0.7898	0.4672	0.3607	0.1844	0.1063

The data of the research is shown in Figure 1.As can be seen from Table 2, the correlation coefficient matrix has three eigenvalues greater than one. At the same time, by combining the gravel maps, we can choose three main factors, which are set to F1, F2, and F3.
Secondly, the MATLAB software can be used to solve the factor contribution after rotation and their contribution rate. The results of the specific calculation are shown in Table 3.
The calculated factor load matrix is shown in Table 4. The specific data is as follows:

Figure 1 The gravel diagram of the mathematical model

International Journal of Social Sciences in Universities

Table 3 Factor contribution and contribution rate

The name of the factor	F1	F2	F3
Contribution rate	35.6023	22.4324	18.1098
Cumulative contribution rate	35.6023	58.0347	76.1445

Table 4 Factor load matrix

Indicator/factor	F1	F2	F3	Commonality
Capital adequacy ratio (X1)	-0.0922	-0.1754	0.9061	0.8603
Core Tier 1 capital adequacy ratio (X2)	0.6139	0.1152	0.4503	0.5930
Non-performing loan ratio (X3)	0.9289	0.0507	0.0938	0.8741
Provision coverage ratio (X4)	-0.8597	-0.0862	0.0885	0.7544
Deposit-to-deposit ratio (X5)	0.3443	0.836	0.0426	0.8192
Liquidity ratio (X6)	0.2021	0.2348	0.7468	0.6537
Cost-to-income ratio (X7)	0.1164	0.8579	-0.0772	0.7555
Net interest spread (X8)	-0.148	0.8611	0.1341	0.7814

It can be seen from Table 3 that the cumulative contribution rate of the three factors is 76.14%, indicating that the three factors can cover enough information of the original data. F1, F2, and F3 were defined as safety factors, for-profit factors, and liquidity factors by observing the correlation coefficients of indicators and factors in Table 4.

The score functions for calculating each factor are:

F1=-0.1131X1+0.2510X2+0.4484X3-0.4275X4 +0.0787X5+0.0050X6-0.0258X7-0.1779X8

F2=-0.0900X1-0.0211X2-0.0771X3 +0.0496X4+0.3495X5+0.0719X6+0.3863X7+0.4115 X8

F3=0.5900X1+0.2266X2-0.0292X3 +0.1396X4 - 0.0226X5 +0.4522X6-0.0779X7 +0.0818X8

Using the contribution rate of each factor after rotation as the weight, by the comprehensive factor score formula, the specific formula is as follows:

$$F = \frac{35.60F_1 + 22.43F_2 + 18.11F_3}{76.14}$$

In the end, we calculated the comprehensive competitiveness scores of 10 city commercial banks and 10 rural commercial banks. The evaluation results of specific competitiveness data are shown in Table 5

Table 5 Scores and Rankings of 20 Regional Commercial Banks

Bank	F1	Ranking	F2	Ranking	F3	Ranking	F	Ranking
Jiangyin Rural Commercial Bank	1.5751	1	0.2058	5	1.1287	2	0.9423	2
Wuxi Rural Commercial Bank	-0.0901	13	-0.9177	17	0.3716	8	-0.2775	15
Changshu Rural Commercial Bank	-0.9085	17	1.1536	2	-0.5991	14	-0.0523	11
Suonong Bank	0.5037	7	0.1005	9	0.3282	11	0.3056	6
Zhangjiagang Rural Commercial Bank	0.8804	2	0.0733	11	-0.9714	17	0.0839	7
Yangzhou Rural Commercial Bank	0.8067	4	0.3883	4	-1.7248	19	-0.0251	9
Zhejiang Yiwu Rural Commercial Bank	0.6256	6	0.1254	8	2.1141	1	0.8348	3
Jiangnan Rural Commercial Bank	0.8532	3	-0.6488	15	0.0668	12	0.0800	8
Jiangsu Hai'an Rural Commercial Bank	0.3130	9	-0.8581	16	0.5004	6	-0.0764	12
Yuhang Rural Commercial Bank, Hangzhou, Zhejiang	-1.0074	18	-0.2726	13	-0.1941	13	-0.5149	18
Bank of Jiangsu	0.2136	11	-0.5361	14	-0.6422	16	-0.2958	17
Bank of Nanjing	-2.1332	19	-1.0869	20	-0.6081	15	-1.3341	20
Bank of Ningbo	-2.3951	20	-0.1040	12	0.4959	7	-0.7648	19
Hangzhou Bank	-0.1110	15	-1.0149	19	0.5640	5	-0.2702	14
Wuxi Bank	-0.0901	13	-0.9177	17	0.3716	8	-0.2775	15
Wujiang Bank	0.4926	8	0.1262	7	0.3333	10	0.3126	5
Shaoxing Bank	0.7520	5	0.4948	3	-1.8804	20	-0.0463	10
Zijin Bank	0.2556	10	0.0948	10	0.9285	3	0.3746	4
Zhejiang Tailong Commercial	-0.7174	16	3.4235	1	0.7754	4	1.2342	1

Bank							
Zhejiang Chouzhou Commercial Bank	0.1814	12	0.1707	6	-1.3586	18	-0.2332	13

As can be seen from Table 4, in terms of safety competitiveness, Jiangyin Rural Commercial Bank, Zhangjiagang Rural Commercial Bank, Jiangnan Rural Commercial Bank, Yangzhou Rural Commercial Bank and Shaoxing Bank rank among the top five, and there are four rural commercial banks. There is only one; in terms of profitable competitiveness, Zhejiang Tailong Commercial Bank, Changshu Rural Commercial Bank, Shaoxing Bank, Yangzhou Rural Commercial Bank and Jiangyin Rural Commercial Bank are among the top five, three are rural commercial banks, and two are urban commercial banks. In terms of competitiveness of liquidity, Zhejiang Yiwu Rural Commercial Bank, Jiangyin Rural Commercial Bank, Zijin Bank, Zhejiang Tailong Commercial Bank, Hangzhou Bank ranked in the top five, rural commercial banks have two, and city commercial banks have three; comprehensive competition The top five banks are Zhejiang Tailong Commercial Bank, Jiangyin Rural Commercial Bank, Zhejiang Yiwu Rural Commercial Bank, Zijin Bank and Wujiang Bank, two rural commercial banks and three urban commercial banks. In addition, among the top ten banks in total, there are six rural commercial banks and four urban commercial banks. According to the ranking results, rural commercial banks in Jiangsu and Zhejiang are more competitive in terms of safety and profitability, while urban commercial banks are superior in terms of liquidity. In general, rural commercial banks in Jiangsu and Zhejiang provinces have shown greater competitiveness.

4. RESEARCH CONCLUSIONS AND COUNTERMEASURES OF THE ARTICLE

Regional commercial banks are becoming an important part of China's banking system. In view of the evaluation of the competitiveness of regional commercial banks, this paper selects 20 urban commercial banks (Jiangsu Bank, Nanjing Bank, Ningbo Bank, Hangzhou Bank, Wuxi Bank, Wujiang Bank, Shaoxing Bank, Zijin Bank, Zhejiang Tailong Commercial Bank, Zhejiang Chouzhou Commercial Bank)and rural commercial banks(Jiangyin Rural Commercial Bank, Wuxi Rural Commercial Bank, Changshu Rural Commercial Bank, Su Nong Bank, Zhangjiagang, Rural Commercial Bank, Yangzhou Rural Commercial Bank, Zhejiang Yiwu Rural Commercial Bank, Jiangnan Rural Commercial Bank, Jiangsu Hai'an Rural Commercial Bank, Zhejiang Hangzhou Yuhang Rural Commercial Bank) in Jiangsu and Zhejiang as samples, based on the annual reports of these 20 banks 2015-2017, and selects 8 financial indicators from the security. In terms of profitability and liquidity, we conducted a scientific and reasonable evaluation of the competitiveness of these 20 banks. The research results show that regional commercial banks in Jiangsu and Zhejiang regions have shown good development prospects, and rural commercial banks have shown stronger competitiveness.

The conclusions of this paper are in line with the reality of the competition of real regional commercial banks. Due to the developed county economy in Jiangsu and Zhejiang provinces, the township enterprises are full of vitality, the rural financial demand is relatively strong, and the rural commercial banks are based on the local economic development. The branches are widely distributed in the towns and towns, which has the incomparable advantages of other banks, thus showing even more Strong comprehensive competitive strength. However, with the comprehensive advancement of inclusive finance, large banks and joint-stock banks in Jiangsu and Zhejiang have also taken the initiative to sink their businesses and continue to seize the rural financial market share, making the regional commercial banks face a more competitive situation.

Based on the research results of this paper, this paper proposes corresponding solutions. As the main force serving the local economy, urban commercial banks and rural commercial banks in Jiangsu and Zhejiang provinces should continue to take root, focus on regions and industries, and provide customers with personalized and differentiated financial services to create distinctive brands, without deviating from business positioning and Blind expansion. At the same time, in the new era of emerging technologies such as the Internet and big data, regional commercial banks should fully adopt Internet means, accelerate the development of e-banking services, continuously innovate online products and services, and actively build business big data models to broaden The size and coverage of financial services. In addition, rural commercial banks in Jiangsu and Zhejiang should continue to innovate rural financial service models, further improve the level of rural financial services, and actively implement the national rural revitalization strategy while improving their own stable competitiveness.

From the perspective of rural commercial banks, the rural commercial banks should follow the trend of the times, closely follow the pace of agricultural transformation and upgrading, and lay out the strategic opportunities for the development of rural commercial banks in advance. Give full play to the brand advantage of rural commercial banks in the county, and make good use of the state's policy support for "agriculture, rural areas and farmers" to consolidate and seize the county or rural market. In terms of market positioning, we will shrink the input of people, finances and materials in rural physical outlets, increase the scope of self-service equipment, increase the marketing promotion of e-banking products, and open up new

financial products suitable for rural use. Pay attention to the cultivation of financial compound talents who understand both computer network and banking business。

From the perspective of city commercial banks, city commercial banks should strengthen personnel training and improve internal management. In particular, urban commercial banks should establish a sound customer management system, use big data for analysis and documentation, conduct hierarchical management according to customer data characteristics and actual needs, develop differentiated service plans, and provide professional consultants. To meet the diversified needs of customers, the dedicated consultants can answer the questions raised by the customers in a timely and accurate manner, eliminate the doubts of the customers, establish a good interaction with them, and enhance the actual experience of the customers with more enthusiastic services. Provide deeper customized services to improve service quality and better maintain customer relationships.

REFERENCES

[1]Jiao Wei. Comparison of Banking Competitiveness. Beijing: China Financial Press, 2002.
[2]Chen Yihong. The Competence Elements and Comparative Study of the Competitiveness of China's City Commercial Banks.Southern Finance, 2017(8):90-99.
[3]Zhang Yingwei, Hu Xiaodong. Comparative Study on Competitiveness of Cross-Strait Commercial Banks Based on Analytic Hierarchy Process.Asia-Pacific Economy, 2014(4):91-96.
[4]Fang Xianming, Su Xiaotong, Sun Li. Research on the Competitive Level of China's Commercial Banks. Journal of Central University of Finance and Economics, 2014(3):31-38.
[5]Li Penglin, Zhang Xiuhua. Evaluation of Competitiveness of Listed Banks Based on Grey Correlation Analysis. Finance and Accounting Monthly, 2014(5): 37-41.
[6]Yin Hang. Evaluation of Commercial Bank Competitiveness Based on Fuzzy Neural Network. Finance and Economics, 2015(14): 171-173.
[7]Zhang Hu, Pan Pan, Fan Lili. Research on the Evaluation and Prediction of Commercial Bank Competitiveness from the Perspective of Efficiency. Soft Science, 2016(2):130-138.
[8]Wei Rongrong, Zou Xiaoyong. A Comparative Study on the Competitiveness of Commercial Banks and Rural Commercial Banks in China's Listed Cities. Financial Theory and Practice, 2018(5): 109-114.
[9]Mao Qiang, Wang Rui, Pei Qiang. Analysis of Dynamic Comprehensive Competitiveness of Regional Commercial Banks and Its Influencing Factors. Modern Economic Research, 2018(8): 48-53.
[10]Yu Liping, Guo Qianghua, Zhang Zaijie. Improvement of Information Loss in Factor Analysis in Science and Technology Evaluation.Statistics & Decision, 2019(5):5-10.

About the Author：Liang Wenqiao (1995-), male, School of Finance,Anhui University of Finance and Economics.

Research Status and Development Trend of Muscle Aging

Fengbin Liu
College of Physical Education in Dalian University, Dalian, China
E-mail: liufengbin2005@163.com

Abstract: As one of the important manifestations of degenerative changes in human function, muscle aging has received more and more attention. This article started from the perspective of muscle loss and summarized recent researches on the specific manifestations of muscle aging, possible mechanisms, and interventions, moreover predicted the future development trend of muscle aging. With the hope that we will overcome the negative influence of muscle aging as soon as possible, promote the rehabilitation of chronic diseases, prolong the healthy life of middle-aged and elderly people, and improve the quality of life.
Keywords:: aging; muscle aging; exercise intervention

1 .INTRODUCTION

With the development of the economy and the improvement of medical technology, the elderly proportion has increased in the population. More and more countries have entered aging society, and aging has become a new and prominent social problem. [1] Aging involves a very complex multi-link biological process. [2] Research on aging and aging-related diseases has been a global medical issue. To clarify the mechanism of aging from different perspectives, explore the essence of aging, find effective anti-aging drugs and methods, and then delay the emergence and development of aging is a research hotspot in the field of gerontology, which means important theoretical and practical significance. [2,3] In recent years, people have carried out multi-level and extensive in-depth research on aging and anti-aging which transits from the overall level and organ level to the cellular and molecular levels. However, due to the complexity of the aging process itself, some basic issues in its research field have not yet been fully answered.

2. MUSCLE AGING OVERVIEW

Modern science believes that aging is a side phenomenon in the process of human evolution. The degenerative changes in the shape and function of the motor system accompanying human aging are one of the important manifestations of aging. Where, the first aging tissue of the body includes muscles, and the decline of muscle function is also one of the important features for judgment of aging of human motor ability. [4-6] Therefore, in-depth study on the mechanism of muscle aging means great significance for improving motor system function of the elderly, promoting recovery of chronic diseases in the elderly and improving their quality of life.

Many studies at home and abroad have confirmed that after 30 years of age, people begin to experience progressive muscle loss with significant declined muscle quality. Such phenomenon is referred to as "muscle loss", or sarcopenia by the biological and medical circles. [7,8] This process is accompanied by the atrophy of muscle fibers, the slowed nerve conduction velocity, the gradually decreased maximum tension and contraction speed of muscle contraction, which finally leads to degraded limb movement, decreased muscle strength, slow movement, reduced balance capacity of the elderly, making them prone to fall and fracture. The decline in muscle function in the elderly is also closely related to many chronic diseases in the elderly, such as osteoporosis, metabolic diseases such as obesity and diabetes, as well as limb instability. [9-11]

3. MUSCLE AGING MANIFESTATION

3.1. Changes in Muscle Strength

The current general view is that a person's muscle strength reaches a peak in one's life at around the age of 30. From about 40 years old, muscle strength tends to decline year by year with age. Research findings show that[12,13]: When people grow to 65 years old, their muscle strength is only 50% of that at 20 years old; by the age of 75, the muscle strength decreases by 58% and 30%, respectively in elderly men and women. Foreign scholar Verlaan [14] has reached similar conclusions in physical testing of older people at different ages. In addition, due to aging changes in muscle strength, time phase of muscle contraction also changes with the change of muscle strength, and the time for the muscle to reach maximum intensity contraction and maximum diastolic velocity will prolong and slow down with age. Moreover, lower limbs have more obvious changes than the upper limbs. [15]

3.2. Changes in Muscle Mass

As the muscle strength decreases with age, the cross-sectional area and mass of the muscle also show a significant downward trend. Foreign scholars have found through CT scanning techniques that [16] after 30 years of age, the cross-sectional area of the quadriceps muscles of the human thigh begins to decrease, the muscle density decreases, and the fat content between the muscles increases. Japanese

scholar Takahashi K et al. [17] used MRI method to test the cross-sectional area of women's lumbar erector spinae and thigh quadriceps at different ages, and obtained similar conclusions. It is generally believed that there may be two reasons for the decrease in muscle mass. One is the reduction of the cross-sectional area of the muscle fibers, which applies to disuse atrophy of astronauts in the weightless state, patients who are bedridden for a long time. The other is a reduction in the number of muscle fibers, which applies to patients with muscular dystrophy. [4,13] The reduction in muscle mass in the elderly may be related to the above two changes, but the specific reasons have not been reported in the relevant literature.

In recent years, studies on muscle loss have received widespread attention. Similar to bone loss in osteoporosis, muscle loss starts around the age of 40 and significantly accelerates after age 65. The main characteristic is more obvious lower limb muscle loss than upper limbs, and more obvious loss of type II muscle fibers than type I muscle fibers. [7,8] It can be thus inferred that the decline of various functions, the negative balance of proteins, the decline of various hormone levels and the reorganization of motor units during the aging process may be related to muscle loss. [18,19] However, related research only stays at a qualitative level and quantification is difficult. Therefore, the quantitative relationship between muscle loss and muscle mass and the role of aging factors in it remains to be further studied.

3.3. Changes in Muscle Function

With the increase of age, the body cell volume, especially skeletal muscle cell volume, decreases, leading to a decrease in the basal metabolic rate of the body. Studies have found that [20,21], the increased fat in the muscle cells of the elderly, obesity in the elderly and related metabolic diseases such as diabetes and osteoporosis may be related to the decrease of basal metabolic rate. Marty [22] and other foreign scholars have found in studies on the elderly that, the declined muscle strength, the decreased muscle mass and the increased muscle cell fat content have a significant negative impact on muscle function. This suggests that in addition to the basic functions of motor function and maintenance function, muscle also plays an important role in metabolism, which deserves further research and discussion.

4.4. Changes In Muscle Related Hormones And Regulatory Factors

Currently known hormones and cytokines capable of promoting muscle cell production include growth hormone (GH), testosterone (T) and insulin-like growth factor (IGF).

GH is a potent anabolic stimulating hormone that activates protein kinases through cAMP, which in turn promotes RNA synthesis in tissue cells. GH affects the growth of the body through IGF-I. Many studies have confirmed that [23,24] changes in body

adaptation caused by exercise are closely related to the function of the GH-IGF axis. IGF-Ⅰ can stimulate the proliferation and differentiation of muscle satellite cells which are known as "muscle stem cells", the material basis for promoting myocyte production. [25] Latest studies have shown that: in addition to transmitting growth signals to muscle cells, IGF-I appears to inhibit genes that induce muscle loss, and muscle growth and atrophy may be regulated by IGF-1 and its related substances. [26] T is a common anabolic hormone that stimulates tissue uptake of amino acids, promotes nucleic acid and protein synthesis as well as muscle and bone growth. As the aging process intensifies, the secretion of growth hormone, testosterone and insulin-like growth factor in the body decreases gradually. The decrease in hormones and cytokines that promote protein synthesis may be associated with muscle loss.

However, the study by foreign scholars Sattler et al. [27] has drawn different conclusions. The growth of muscle mass and strength was not observed in elderly subjects supplemented with growth hormone. Whether this exogenous hormone supplement is effective or not requires further verification. Therefore, the relationship between hormones involved in protein synthesis and the reduction of related cytokines, the relationship between the decrease in muscle activity and muscle loss remain to be further studied.

4. POSSIBLE MECHANISMS OF MUSCLE AGING

4.1. Muscle Loss

Most studies at home and abroad have confirmed that: the protein anabolic rate in muscle will be gradually below the catabolic rate, which is positively correlated with age, while the muscle protein turnover rate is reduced. Such imbalance between protein synthesis and decomposition is regarded as one of the important reasons for muscle loss. [19,28] The reason for such phenomenon may be the combined effects of related hormones and regulatory factors, such as the decrease in hormones like insulin-like growth factors, growth hormones and testosterone that stimulate anabolism, the increase in interleukin-6, interleukin-1 and tumor necrosis factor, etc. that stimulate catabolism. In addition, the lack of adequate protein intake and exercise may also be responsible for muscle loss in the elderly.

Combining the recent studies, it is found that muscle loss is associated with a decrease in the number of satellite cells. Satellite cells play an important role in muscle cell repair and regeneration, which have declined self-production ability with the increase of age. [25] However, recent research confirms that [10] the mechanism of muscle loss caused by aging differs from that of muscle loss caused by disuse, pathology and denervation. Therefore, further research is needed to study the causes and mechanisms of muscle loss.

B. Nerve-Muscle Function Decline

The latest research found that [29] muscle aging is manifested not only as decreased number of myocytes and smaller volume of myocytes, but also as decreased motor units in the muscle. Studies by foreign scholars such as Zialaldini [10] and Piasecki [30] have confirmed that reorganization of motor units may lead to decreased neuromuscular function. The so-called motor unit reorganization refers to the process in which fast twitch fibers get rid of domination by large alpha motor neurons and are taken over by the adjacent small alpha motor neurons that dominate slow twitch fibers. As the age increases, the large alpha motor neurons have decreased function or lose activity, and the fast twitch fibers governed by it immediately shrink or inactivate, resulting in the loss of muscle fibers. However, how to rationally explain muscle aging through motor unit reorganization and clarify its mechanism deserves further study.

In recent years, research on muscle contractile proteins, especially myosin heavy chain (MHC) and muscle aging, has gradually aroused people's concern. MHC is an important component of myosin, while neuromuscular activity is an important regulatory factor in rapid and efficient expression of MHC isoforms. In general, with the increase of neuromuscular activity, MHC isoforms also transit from fast to slow type: MHC-IIb, MHC-IId/x, MHC-IIa, MHC-I. Conversely, slow-to-fast transition usually occurs in muscles of body under long-term suspension of the hind limb or weightlessness in space which need resist gravity to maintain posture.[31] Studies have shown that: the rate of myosin MHC synthesis is inversely related to age. That is, it decreases with age, and this decrease may be related to the decrease in MHC mRNA expression. [32] Choi et al [33] found in the studies on the elderly that, when protein level, MHC-I content increased, MHC-IIa and MHC-IIx contents decreased, and MHC-IIa and MHC-IIx mRNA had decreased expression. Hvid et al. [34] drew the opposite conclusion that there was no significant difference in MHC (I, IIa, IIx) and MHC mRNA expression between the young and the elderly. Studies have shown that muscle changes caused by aging are irrelevant with MHC and MHC mRNA. Further studies are needed to see whether muscle aging is related to MHC content and MHC mRNA expression, and study the specific pathways and mechanisms.

4.2. Gene Regulation Mechanism

In recent years, researchers have been trying to find the genes and molecules involved in the process of muscle loss. [35,36] Relevant studies found that after one of the two Foxo proteins of the transcription factor was injected into rats, the rats developed significant muscle atrophy within 1-2 weeks, while the other Foxo protein was required for muscle atrophy, though foxo protein itself would not cause muscle atrophy. At present, it is still too early to use Foxo protein as a regulator of muscle atrophy, and the regulatory genes and regulatory molecules involved in muscle loss and muscle atrophy wait to be further studied.

5. MUSCLE AGING INTERVENTIONS

5.1. Effects of Exercise on Muscle Aging

At present, the sports science community generally believes that regular resistance training can maintain and improve muscle strength of the elderly and enhance health and quality of life of the elderly. [37,38] American College of Sports Medicine (ACSM) also thereby advocated: "All people of all ages will benefit from regular resistance training." Exercise physiology believes that: the establishment and recovery of muscle function not only has obvious time dependence and requires necessary biological basis (blood supply and innervation), but also needs essential appropriate mechanical and mechanical environment. Scientific and timely external mechanical stimulation plays a good role in maintaining and restoring muscle function.

Muscle aging will exert an important impact on the health and quality of life of the elderly. Therefore, many foreign scholars have conducted abundant beneficial research and discussion on exercise and muscle aging, especially resistance training and muscle function. Da Boit [37] conducted short-term resistance training study among the elderly and found that functional indicators such as muscle strength and muscle mass increased significantly. De Oliveira Silva [38] et al. also reached similar conclusions in short-term strength training study on healthy elderly women. The above research proves that exercise training, especially regular resistance training, can make the muscle shape and function of the elderly adapt well, increase the muscle cross-sectional area, increase muscle strength, thereby improving muscle function and delaying muscle atrophy.

Although the anti-resistance strength training will play a positive role in the aging of the elderly muscles, most of the research stays at the qualitative level, and quantitative research is difficult. How to more accurately quantify the application conditions and programs of resistance training, and how to more objectively evaluate the effect of resistance training are worthy of further study.

5.2. Effects of Nutrition on Muscle Aging

After entry into the middle age, physical activity begins to decrease, metabolic rate decreases, functions of various organs and systems gradually decrease, and nutrients in the body are easily imbalanced. As an important factor affecting health, nutrients are closely related to the degeneration of the body and the occurrence and development of aging-related diseases.

Decreased muscle function is one of the important manifestations of human aging, and nutrient factors will directly affect muscle function and related central nervous system. Studies have found that [19,39],

muscle protein content declines with age, especially functional proteins such as contractile proteins, sarcoplasmic proteins, mitochondrial proteins and membrane proteins, which is also an important cause for the functional decline of aging muscle. However, there are differences in different research reports. The study by foreign scholar Boirie et al. [18] found that with the increase of age, the synthesis rate of nutrient-sensitive myoprotein decreased, while that of basic protein did not change significantly. Due to the reduction of protein and amino acids in the diet of the elderly, the ability of muscle to synthesize RNA is reduced, the amount of stored glycogen begins to decrease, making muscles easily fatigued and muscle contraction and diastolic patterns changed, which further exacerbates the trend of muscle decline. Malnutrition can also lead to a decline in the associated central nervous system function, accelerate the decline and attenuation of age-related motor control and regulation. Paddon-Jones [40] made useful investigation into the relationship between nutrition and muscle loss through human nutrition intervention experiments. It was found that high-protein diets during bed rest for the healthy could alleviate the protein anabolism below catabolism in muscles, thereby inhibiting muscle loss. It can be seen that nutrition, especially protein supplementation, is very important for muscle aging. What kind of protein can be supplemented to alleviate the muscle loss with age and how to effectively delay muscle aging by rationally supplementing protein are worthy of further study.

5.3. Effects of Other Measures on Muscle Aging

Over the years, in addition to the sports and nutrition interventions mentioned above, people have been exploring how to overcome the medical problem of global aging, and good results have also been achieved by clinical medicine and rehabilitation medical personnel in the application of drugs and rehabilitation related measures.

Domestic and international research on drug intervention of muscle aging mainly focuses on the development and application of drugs that promote the synthesis of muscle tissue. [41-43] Applicable objects also cover multiple levels, from general healthy middle-aged and elderly, sub-healthy middle-aged and elderly people to elderly patients in complete pathological state. The most widely used method in clinical treatment is hormone replacement and its adjuvant therapy. Muscle synthesis-stimulating hormones, cytokines and their analogues are also the most widely used clinical drugs, such as testosterone, growth hormone and insulin-like growth factor. However, a drug usually only regulates, improves or promotes certain functions of muscle tissue. Its efficacy is mostly transient and temporary. Long-term medication will cause side effects and many adverse consequences. Studies abroad have reported that long-term use of hormone replacement therapy may

lead to breast cancer and endometrial cancer in women, and the risk of prostatic hyperplasia and prostate cancer in men will also increase. [42,43] Therefore, how to safely and effectively apply hormone replacement therapy to combat muscle aging and improve the quality of life of the elderly deserve further study.

In recent years, the rehabilitation medicine community at home and abroad has conducted extensive and in-depth researches on physiological and pathological conditions such as muscle aging, myasthenia, muscular dystrophy and muscle atrophy. The researches cover clinical manifestations, mechanisms and modes of action, etc. In particular, the application of techniques and physical therapy commonly used in clinical rehabilitation has become a research hotspot in this field. [44-46] At the same time, with the increased incidence of senile cardiovascular and cerebrovascular diseases, the mortality rate is reduced, the disability rate is increased, and the number of stroke patients is increasing year by year. The resulting patients' muscle dysfunction, long-term bed rest and muscle atrophy and muscle hypofunction caused by limited activity have attracted more and more attention from clinical rehabilitation doctors, scholars and experts. There are diverse methods and means for improving patients' muscle strength, mass and function, but the mechanisms of pathological muscle hypofunction due to muscle aging, especially various causes, are relatively complex. Thus, clinical research in this field is still in its infancy. The specific treatment methods, means and mechanisms of action still demand further research and investigation.

6. The FUTURE DEVELOPMENT TREND OF MUSCLE AGING

The 21st century is the century of gerontology. The study on aging and anti-aging will undoubtedly become an important research field in gerontology. As one of the important manifestations of human degenerative changes, muscle aging will surely attract more and more people's attention. In traditional Chinese medicine, there has long been the guiding ideology of "curing a disease before its onset". Under this background, it is particularly important to strengthen medical publicity and medical care for the general population, especially the middle-aged and elderly people, prevent the aging of muscles and related system organs, and improve the public's awareness of muscle aging.

At the same time, the majority of medical workers and experts and scholars in the same field also need to further study the pathological mechanism of muscle aging, disease outcome and influencing factors on the basis of existing research results. Under the guidance of innovative theory and technology, comprehensive treatment and intervention methods can be adopted, such as the simultaneous use of drugs, exercise and nutrition, to prevent premature aging. Multi-layer,

multi-aspect efforts can be made to delay muscle aging, fundamentally overcome negative effect of aging, muscle aging on the humans as early as possible, prolong the healthy life expectancy of middle-aged and elderly people, improve their quality of life and benefit the people.

REFERENCE
[1]Zhenwu Zhai, Ruizhen Zheng. "Discussion on the Relationship between Population Aging and Macroeconomics,"Population Research, vol. 40, pp. 75-87, March 2016.
[2]Franceschi C, Garagnani P, Morsiani C, et al. "The Continuum of Aging and Age-Related Diseases: Common Mechanisms but Different Rates,"Front Med (Lausanne), vol. 12, pp. 61, May 2018.
[3]Simioni C, Zauli G, Martelli AM, et al. "Oxidative stress: role of physical exercise and antioxidant nutraceuticals in adulthood and aging," Oncotarget, vol. 9, pp. 17181-17198, Dec.2018.
[4]Tomé D."Muscle Protein Synthesis and Muscle Mass in Healthy Older Men," J Nutr. , vol. 147, pp. 2209-2211, Dec.2017.
[5]Adebusoye LA, Ogunbode AM, Olowookere OO, et al."Factors associated with sarcopenia among older patients attending a geriatric clinic in Nigeria，"Niger J Clin Pract., vol. 21, pp. 443-450, April 2018.
[6]Sheth KA, Iyer CC, Wier CG, et al. "Muscle strength and size are associated with motor unit connectivity in aged mice," Neurobiol Aging, vol. 23, pp. 128-136, Sep. 2018.
[7]Carvalho do Nascimento PR, Poitras S, Bilodeau M."How do we define and measure sarcopenia? Protocol for a systematic review,"Syst Rev, vol.7, pp. 51, Jan. 2018.
[8]Lee SY, Tung HH, Liu CY, et al. "Physical Activity and Sarcopenia in the Geriatric Population: A Systematic Review,"J Am Med Dir Assoc., vol.19, pp. 378-383, May 2018.
[9]Gadelha AB, Neri SGR, Oliveira RJ, et al. "Severity of sarcopenia is associated with postural balance and risk of falls in community-dwelling older women,"Exp Aging Res., vol.44, pp. 258-269, March 2018.
[10]Ziaaldini MM, Marzetti E, Picca A, et al. "Biochemical Pathways of Sarcopenia and Their Modulation by Physical Exercise: A Narrative Review,"Front Med (Lausanne), vol.4, pp.167, April 2017.
[11]Saggini R, Ancona E, Carmignano SM, et al. "Effect of combined treatment with focused mechano-acoustic vibration and pharmacological therapy on bone mineral density and muscle strength in post-menopausal women," Clin Cases Miner Bone Metab, vol.14, pp. 305-311, March 2017.
[12]Mithal A, Bonjour JP, Boonen S, et al. "Impact of nutrition on muscle mass, strength, and performance in older adults,"Osteoporos Int, vol.24, pp. 1555-1566, May 2013.
[13]Manini TM, Hong SL, Clark BC. "Aging and muscle: a neuron's perspective,"Curr Opin Clin Nutr Metab Care, vol.16, pp. 21-26, Jan.2013.
[14]Verlaan S, Maier AB, Bauer JM, et al. "Sufficient levels of 25-hydroxyvitamin D and protein intake required to increase muscle mass in sarcopenic older adults - The Provide study," Clin Nutr., vol.37, pp. 551-557, Feb.2018.
[15]Kubo K, Ishida Y, Komuro T,et al. "Age-related differences in the force generation capabilities and tendon extensibilities of knee extensors and plantar flexors in men,"J Gerontol A Biol Sci Med Sci, vol.62, pp. 1252-1258,Nov.2007.
[16]Lee SH, Park SW, Kim YB, et al. "The fatty degeneration of lumbar paraspinal muscles on computed tomography scan according to age and disc leve," Spine J., vol.17, pp. 81-87,Jan.2017.
[17]Takahashi K, Takahashi HE, Nakadaira H, et al. "Different changes of quantity due to aging in the psoas major and quadriceps femoris muscles in women," J Musculoskelet Neuronal Interact, vol.6, pp. 201-205,Feb.2006.
[18]Boirie Y and Guillet C. "Fast digestive proteins and sarcopenia of aging,"Curr Opin Clin Nutr Metab Care ,vol.21, pp. 37-41,Jan.2018.
[19]Shang N, Meram C, Bandara N, et al. "Protein and Peptides for Elderly Health,"Adv Protein Chem Struct Biol. , pp. 265-308,Dec.2018.
[20]Dagdeviren S, Jung DY, Friedline RH, et al. "IL-10 prevents aging-associated inflammation and insulin resistance in skeletal muscle,"FASEB J, vol.31, pp. 701-710,Feb.2017.
[21]Lee WJ, Liu LK, Hwang AC, et al. "Dysmobility Syndrome and Risk of Mortality for Community-Dwelling Middle-Aged and Older Adults: The Nexus of Aging and Body Composition,"Sci Rep, vol.7, pp. 8785,Jan.2017.
[22]Marty E, Liu Y, Samuel A, et al. "A review of sarcopenia: Enhancing awareness of an increasingly prevalent disease,"Bone, pp. 276-286,Sep.2017.
[23]Giannoulis MG, Martin FC, Nair KS, et al. "Hormone replacement therapy and physical function in healthy older men. Time to talk hormones,"Endocr Rev, vol.33, pp. 314-377,March 2012.
[24]Fengbin Liu, Bingcun Ma, Bin Zhao."Effects of 6-week weight-bearing running training and supplementation of soy peptide on the expression of IGF-I mRNA and GDF-8 mRNA in skeletal muscle of D-galactose-induced aging rats," Chinese Journal of Sports Medicine, vol.29, pp. 673-677,June 2010.
[25]Hatazawa Y, Ono Y, Hirose Y, et al. "Reduced Dnmt3a increases Gdf5 expression with suppressed satellite cell differentiation and impaired skeletal muscle regeneration," FASEB, vol.32, pp. 1452-1467,March 2018.
[26]Sonntag WE, Csiszar A, deCabo R, et al.

"Diverse roles of growth hormone and insulin-like growth factor-1 in mammalian aging: progress and controversies,"J Gerontol A Biol Sci Med Sci, vol.67, pp. 587-598,June 2012.

[27]Sattler FR, Bhasin S, He J, et al. "Durability of the effects of testosterone and growth hormone supplementation in older community-dwelling men: the HORMA Tria," Clin Endocrinol (Oxf), vol.75, pp. 103-111,Jan. 2011.

[28]Fengbin Liu, Bin Zhao, Wanjun Yan, et al. "Experimental study on the aging process of skeletal muscle in rats intervened by weight-bearing training and supplementation of soy peptide," Journal of Tianjin University of Sport, vol.25, pp. 33-37,Jan. 2010.

[31]Yanhong Su, Yue Zhou, Ruiyuan Wang. "Research Overview on Exercise and Myosin Heavy Chain,"Journal of Tianjin University of Sport, vol.23, pp. 328-332,April 2008.

[32]Straight CR, Ades PA, Toth MJ, et al. "Age-related reduction in single muscle fiber calcium sensitivity is associated with decreased muscle power in men and wome,"Exp Gerontol, pp. 84-92,Nov. 2018.

[33]Choi SJ, Lim JY, Nibaldi EG, et al."Eccentric contraction-induced injury to type I, IIa, and IIa/IIx muscle fibers of elderly adults,"Age (Dordr), vol.34, pp. 215-226, Jan. 2012.

[34]Hvid LG, Brocca L, Ørtenblad N, et al. "Myosin content of single muscle fibers following short-term disuse and active recovery in young and old healthy men,"Exp Gerontol, vol.87, pp. 100-107,April 2017.

[35]Son YH, Jang EJ, Kim YW, et al."Sulforaphane prevents dexamethasone-induced muscle atrophy via regulation of the Akt/Foxo1 axis in C2C12 myotubes,"Biomed Pharmacother., pp. 1486-1492, August 2017.

[36]Ribeiro MBT, Guzzoni V, Hord JM,et al."Resistance training regulates gene expression of molecules associated with intramyocellular lipids, glucose signaling and fiber size in old rats,"Sci Rep., vol.7, pp. 8593,Jan. 2017.

[37]Da Boit M, Tommasi S, Elliot D, et al."Sex Differences in the Associations between L-Arginine Pathway Metabolites, Skeletal Muscle Mass and Function, and their Responses to Resistance Exercise, in Old Age,"J Nutr Health Aging, vol.22, pp. 534-540,April 2018.

[38]de Oliveira Silva A, Dutra MT, de Moraes WMAM, et al. "Resistance training-induced gains in muscle strength, body composition, and functional capacity are attenuated in elderly women with sarcopenic obesity," Clin Interv Aging, vol.15, pp. 411-417,July 2018.

[39]Fielding RA, Travison TG, Kirn DR, et al. "Effect of Structured Physical Activity and Nutritional Supplementation on Physical Function in Mobility-Limited Older Adults: Results from the VIVE2 Randomized Trial,"J Nutr Health Aging, vol.21, pp. 936-942,Sep.2017.

[40]Paddon-Jones D. "Interplay of stress and physical inactivity on muscle loss: nutritional countermeasures," J Nut, vol.136, pp. 2123-2126, August 2006.

[41]Carvalho LP, Borghi-Silva A, Dupontgand S, et al. "Influence of menopausal status on the main contributors of muscle quality,"Climacteric., vol.21, pp. 298-302, Jun.2018.

[42]Liu DH, Kuo CH, Wang CT, et al. "Age-Related Increases in Benign Paroxysmal Positional Vertigo Are Reversed in Women Taking Estrogen Replacement Therapy: A Population-Based Study in Taiwan,"Front Aging Neurosci, pp. 404, Sep.2017.

[43]Magnussen LV, Hvid LG, Hermann AP, et al. "Testosterone therapy preserves muscle strength and power in aging men with type 2 diabetes-a randomized controlled trial,"Andrology, vol.5, pp. 946-953, May.2017.

[44]Xiaopu Sang, Khorchin, Xijuan Hao, et al. "TCM pathogenesis of muscle atrophy under weightless conditions,". Journal of Beijing University of Traditional Chinese Medicine (Clinical edition of Chinese Medicine), vol.19, pp 46-48,June 2012.

[45] Yin J, Yang L, Xie Y, et al. "Dkk3 dependent transcriptional regulation controls age related skeletal muscle atrophy,"Nat Commun, vol.9, pp 1752,May 2018.

[46]Frontera WR. "Physiologic Changes of the Musculoskeletal System with Aging: A Brief Review,"Phys Med Rehabil Clin N Am, vol.28, pp 705-711, April 2017.

Fengbin Liu (1981-), male, Han nationality, native of Dalian, Liaoning, associate professor, doctor, master tutor, research direction is the theory and application of sports health promotion.

Research on Four Areas Courses of Boys' Experimental Classes of Shanghai Eighth Middle School

Yang Yi
School of Literature and Language, Shanghai Normal University , Shanghai 200234, China
E-mail:474777009@qq.com

Abstract: In order to adapt to the trend of diversified education and solve the problem that boys are inferior to girls in learning, Shanghai Eighth Middle School has set up experimental classes for boys in an attempt to cultivate boys who are willing to learn and think well. Through the four areas courses implementation of "Idol Formation", "Difference Understanding", "Survival Experience" and "Digital Talent", the school will provide some reference for the development of diversified education in contemporary China.
Keywords: four areas courses; Boys' Experimental Classes; Shanghai Eighth Middle School

1. INTRODUCTION

With the influence of the education system and social factors, the "Boys Crisis" (boys are inferior to girls in learning) phenomenon has appeared. In 2012, Shanghai Eighth Middle School established the Boys' Experimental Classes. Through the four areas courses of "Idol Formation", "Difference Understanding", "Survival Experience" and "Digital Talent" to cultivate boys with noble and upright, happy to learn and good at thinking. The study of single sex education curriculum will provide some reference for the development of diversified education in contemporary China.

2. "IDOL FORMATION" ESTABLISHES BOYS' CORRECT IDEAS OF IDOL

"Idol Formation" is a special course for boys to introduce Chinese and foreign celebrities and guide them to establish a correct ideas of idols. Because boys are in adolescence, once they have some idols in mind, they will imitate or follow their idols' behavior patterns and lifestyles everywhere. In order to guide boys properly, teachers will recommend outstanding ancient and modern celebrities from China and abroad as examples of study and life.

2.1. Looking for idols in reading

The course requires reading heroic stories as a major theme throughout boys' three-year teaching. The bibliographies include *John Christophe*, *War and Peace*, and the excerpts from *Shih Chi*. Through personal heroism, national heroism and encyclopedia knowledge in Historical Records, it can imperceptibly influence the formation of their world view and life view. At the same time, novels of Kungfu and fantasy added in the teaching will be analyzed as important works in the composition classes.

2.2. Launching thematic discussions to imitation idols

In the thematic discussions of "Human Civilization Reflected by East and West" and "Philosophical Star Sky", students are required to "hold a person" (read through books). These imitated "characters" encompass all sectors of society from the literary, artistic and business circles.

Therefore, in the curriculum design of Boys' Classes, "Idol Formation" is the most important and decides the process of students' socialization. As American sociologists S. Sargent and T. Parsons said, "socialization is a process of making people more socialized through role learning to realize their roles" [1-4].

3. "DIFFERENCE UNDERSTANDING" RESPECTS DIFFERENT CULTURES

"Difference Understanding" course is a special course guided by teachers. Through reading and understanding classical literary works, it encourages boys to experience the value orientation differences in different times, and to think about the realistic social significance. Its purpose is to improve the thinking profundity of boys, learn to respect different cultures and civilizations, and help them form the value standards and independent spirit of judging things.

2.3. Contents and teaching methods

"Difference Understanding" course include four sections: the selected readings of Chinese and foreign cultural classics, the analysis of philosophical cases, the integrated training of thinking quality and the self-adjustment of thinking mode. They are shown in Figure 1.

Figure 1. "Difference Understanding" include four sections

In the process of teaching, teachers will use a variety of teaching media to deepen students' understanding of characters in different cultural backgrounds, and stimulate students to produce more intense ideas for thinking collision. Meanwhile, they will adopt the strategy of "double-teacher teaching" or "multi-teacher teaching", highlight the comprehensiveness and objectivity of the curriculum in the field of "Difference Understanding", and integrate the basic, expanding and researching curriculum in the quality training of male students [1-4].

The theme of "Difference" in teacher-student interaction needs to be sublimated. Through the interpretation of the times in which the events occurred, the students finally sublimated the interpretation of events or personalities to the expansion of the grand theme of "the comparison of eastern and western civilizations". Teachers' inner creativity and vitality will also be stimulated in the process of guiding students' curriculum.

2.4. The role of courses

Through the understanding of multicultural differences and multi-perspective interpretation, we can improve the stability of boys' psychological quality, cultural accumulation and thinking profundity. It helps students think independently and wisely to cope with various challenges in life.

Undoubtedly, this course has fully taken into account the characteristics of the growth of middle school students, helping them to establish a diversified classical reading concept. And through guiding students to "consciously perceive", they will find the fit point between the life of classical writers and their own life.

3. "SURVIVAL EXPERIENCE" CULTIVATES BOYS' WILL POWER

"Survival Experience" is a course designed to enable students to have basic survival ability. In addition to basic life skills, such as general electrical tools and simple household appliance maintenance, there are also practical activities such as field survival, orienteering and urban survival experience.

3.1. Physical Training

Through research, the school principal believes that sports as an important carrier to promote the healthy growth of boys, can reflect the advantages of boys. So long-distance running, fencing, back-style high jump, martial arts and Chinese chess were set up. The purpose is to cultivate students' sense of team work, responsibility and competition. Moreover, physical training can further strengthen the personality of boys.

3.2. Other survival experiences

This kind of self-challenging survival course plays an extraordinary role in the cultivation of boys' willpower and personality. In addition to physical training, students will also experience natural disasters such as "storm and tsunami" in the

classroom and learn to cope with them. With the high simulation environment of Intelligent Life Laboratory, Military Model Laboratory and Aeronautical Flight Simulator, students' experience of survival is more realistic.

Therefore, "Survival Experience" course can enable students to fully experience the difficulty of survival and learn to cope with the methods.

4. "DIGITAL TALENT" HIGHLIGHTS THE INITIATIVE OF LEARNING

As a web-based learning platform, "Digital Talent" course can meet the deeper learning needs of high school boys for computers. It includes four categories: basic reading, expanding reading, basic video and expanding video, and each part contains rich learning materials for students' self-study. The categories are shown in Figure 2.
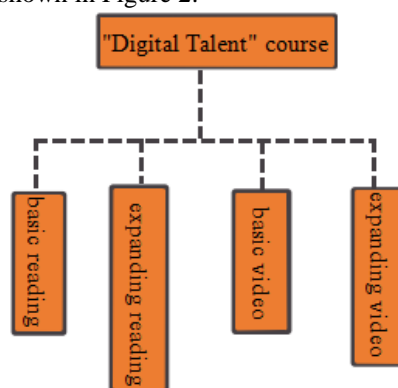

Figure 2. "Digital Talent" course includes four categories

4.1. Depends on boys' self-learning

Self-learning is a process of online learning for boys with certain guidance and support, but mainly depends on themselves. It focuses on learner autonomy and highlights students' learning initiative. "Digital Talent" course can divert boys' attention from online games and cultivate the skills in the information environment. It enables learners to learn more purposefully and actively.

5.2. Enhancing classroom interaction

Although the network platform provides a good opportunity for students to learn independently, it is still an extension of teachers' classroom teaching. Its greatest advantage is that it improves the classroom interaction in an all-round way, that is, it increases the interaction between teachers, students and students.

Teachers should not only answer students' questions and participate in learning groups, but also give individual guidance to each student and teach them in accordance with their aptitude. Even small lectures can be held for students with similar questions, and timely guidance can be given.

6. CONCLUSION

The four areas courses of "Boys' Experimental Classes" in Shanghai Eighth Middle School are set up around the cultivation of students' core literacy. They are not only pays attention to students' thinking,

aesthetic and cultural inheritance ability, but also cultivates students' cooperative spirit and inquiry consciousness.

In addition, in the courses of "Idol Formation", "Difference Understanding", "Survival Experience" and "Digital Talent", the students' self-adjustment ability and responsibility-taking ability have also been trained. Therefore, it is meaningful to popularize them as classical courses in a society that advocates diversified education and provide some enlightenment and reference for curriculum design of other schools.

REFERENCES

[1]Wang Yan. Influences of Peer Group on the Socialization of College Students and Its Countermeasures. Master's Degree Thesis of Chengdu University of Technology, 2011.

[2]Qian Liqun, Wang Shangwen. New Chinese Reader (Junior Middle School Volume 3). Guangxi: Education Publication of Guangxi, 2007.

[3]Qian Liqun. New Theory of Chinese Education. Shanghai: East China Normal University Press, 2010:147-148.

[4]The Boys' Classes in Huangpu District，Shanghai : "Survival Experience" will become a feature. [2019-05-08].http://sh.zhongkao.com/e/20120903/504 40f25aacb0.s html.

Coordination with Private Bank Crisis self-help and Other Crisis Disposal system

Yilin Song
University of Science and Technology Liaoning, Anshan, China
Email: yilins1224@163.com

Abstract: This Article aimed to define the position and function of Private bank crisis self-help in the bank crisis rescue mechanism system. It should be placed as the first action in the commercial banks crisis deposition system, and should be the preposition procedure. It have important significance to precaution shareholders morality risk, and to improve the pragmatically of private bank risk control and save the crisis. Bank crisis self-help system can be the composition part of bankruptcy reorganization, and one of the diversification commercial bank reorganization measures, exert effect together with other reorganization measures cooperatively.

Keywords: Private bank, Crisis self-help, Crisis disposal, Coordination

1. INTRODUCTION

Academics always hold a positive attitude to private bank crisis self-help, which centred with the shareholders enhanced obligation, and recognized that it can avoid shareholders moral crisis when bailed out the bank. It is an effective measure to avoid adding public funds burden. Professor Jackson(1994) recognized that the most import and of bank holding company enhanced obligation legal system is the solvency guarantee to the supervised subsidiary body, and been required more frequently to inject capital to bankruptcy subsidiary body or compensation damage of government, otherwise these damage will saddle on the public [1]. Havard (1995) recognized that financial holding companies have the ability to control the subsidiary body, and their decision are likely to the reason of subsidiary corporations' failure. But the shareholders limited obligation help the financial holding companies get rid of undertaking the failure consequence of subsidiary companies, and cause loss to public funds, deposit insurance or depositors. The Source of Strength principle, give the duty of maintain subsidiary companies' stabilization to financial holding companies, can avoided effectively the moral crisis of shareholders limited obligation [2]. FDIC(1998) recognized that compulsively required shareholders participate the salvation and recombine to bank, not only can avoid public funds get into private institutions, and also can avoid the moral crisis [3]. Laeven and Valencia(2008) recognized that since the seventies of the 20th century, in the mostly crisis, government have taken measures to serious public funds input measures such as

nationalization, establishing capital management company, and so on. But these measures produced the negative effects to government credibility and reputation [4]. Academics studied the content and effect of the bank crisis self-help and public rescue of the financial developed country, but not yet general discussion these questions revolve around developing country such as China.

Till February 2018, there are seventeen new private banks within China. The private shareholding ratio in other small and medium bank, include city commercial bank and rural commercial bank, have been more than half. Guo shuqing revealed in 2017 that the private capital ratio of equity structure have achieve 55% and 86% in city commercial banks , rural commercial banks and rural credit cooperative, when he was Chairman of the banking regulatory committee. Seen from various bank situations, although there are different situations in specific operating, they all established core strategy with serving small and micro customers, and have distinctive personality service and innovation in internet bank, technology financial service and rural financial service.

And about private banks risk spillover which is the most worried by policy setter, there are clearly regulatory requirements, private banks must have the system arrangement of self-support residual risk. China banking regulatory commission promulgated "Guidance on the supervision of private banks" in December 2016, and the guidance clearly defined "Private banks must set out rules in the articles of association that is the system arrangement of self-support residual risk, to promote share-holders help the bank increasing credit, and to implement shareholders take responsibility in bank disposal pro-gress." Essential private bank share-holders taking the residual risk, is that shareholders self-saved disposal to bank crisis. Banking is a high lever and high earning business, and that private bank shareholders self-support residual risk, reflect justice idea of beneficiary undertake the obligations. The system appears important significance in guidance investor reasoning invest to private bank, precaution shareholders morality risk, improving the pragmaticality of private bank risk control and save the crisis. Clearing the relationship of private bank crisis self-saved system and other crisis disposition system, and coordinate with enforcement and

perfection, that is the key of the system seamless insetting private bank system and playing its due role.

2. THE STATUS IN THE BANKS CRISIS SAVED SYSTEM OF PRIVATE BANK SHAREHOLDERS SELF-SUPPORTING RESIDUAL RISK

The subprime mortgage crisis that swept the world, bring lots of experience and lesson, the most important lesson is that large financial institutions choiced the road and model of crisis disposition. Ben Bernanke, then chairman of the Federal Reserve Board, considered that if there is one lesson from the crisis, it is that problems too big to fail must be addressed [5]. In the US, for example, the American government used public funds in crisis to save the financial institutions which is too big to fail, but others financial institutions including some small financial institutions have failed because they haven't gained the government saving. This government saving to institutions which is too big to fail have weakened the market discipline, and have contorted the economics motivation [6].

Like the United States, UK and other European countries also have implemented more than eighty rescue plan to recover the financial system stabilization. These plan bailed out the large banks include ABN Amro, Co-mmerzbank, ING, Lloyds HBOS, Royal Bank of Scot-land, UBS, thereout European countries have undertaken high public funds rescue cost. Although under the support of those government rescue measure, some banks have remained subsistence, the whole financial system and investors suffered heavy losses. The global financial capital value has reduced by $ 50 trillion, amount to the sum total of global annual GDP [7]. US, the UK and other European countries have slide economic depression in this crisis, although the US has revived in recent years, the European countries are in a slow process, some countries are still mired in debt and unable to extricate themselves. The reasons are not only high unemployment rate caused by financial crisis spreading to the real economy, consumers cutting down expense, corporation contracting investment, but also the high cost of rescue to financial institutions causing the huge budgetary deficit, and weaken the ability of government fiscal incentive to economy. The high cost of government rescue, and the broken financial market order, these elements must be considered in building the commercial banks rescue system. And the consideration can promote the formation of polybasic rescue measure system after the crisis.

United States Congress passed Dodd-Frank Act in July 2010, when President Obama said in his speech after signing the Act "Having this Act, American people will never again pay for Wall Street's mistakes, the area of taxpayer-funded bailouts has gone away forever." Although some American scholars considered that there are lots of compromise and deficiency in resolving the problems of too big to fail,

[8] different to past financial act, Dodd-Frank Act has built a polybasic rescue measure system to troubled financial institutions including financial institution self-rescue, market rescue, and government rescue. According to the Act, FDIC can be the receiver of every financial institution based on the finance minister's appointment, and can exercise the orderly liquidation power, restrict government rescue, "insure procedural justice, protect financial institution clients' asset, reduce moral hazard." [9]

About the self-rescue measures, the Act stipulates the addition power of the Federal Reserve Board to some non-bank financial institutions and bank holding companies in Chapter Ⅰ, Section C, article 166 stipulates the advance relief demand, and requires financial holding companies take series of specific rescue Ⅱ action to growing financial destress, such as investment restriction, recapitalization, raising capital, related transaction res-triction, asset sale, to reduce the possibility of the com-pany bankruptcy and the potential damage of American financial stabilization. The Act stipulates the mar-ketization rescue measures in orderly liquidation section of Chapter Ⅱ. Article 204 stipulates that the orderly liquidation of financial company included protection depositors' rights and interests by deposit insurance, set up bridge financial companies to strip the systemic importance asset and business, and so on. Other else, article 214 stipulates that it is prohibited to make liquidation by use taxpayers' fund for any financial company which were took over by FDIC, and all the cost of liquidation must be compensation by using the company's assets, or be beard by financial industry fee, and taxpayer should not undertake any damage for financial institution orderly liquidation. This section is seemed as a clause of prohibition saving private financial institutions by public funds.

The rescue system for crisis financial institution by "Dodd-Frank Act", include the previous saving by financial holding company as the shareholder, the previous saving procedure and measures for crisis institution; deposit insurance and bridge institution as marketization rescue measures, the main measure for crisis institution; and government rescue should be tried to avoid. But we should know that government rescue measures are necessary in the whole rescue system. Look from other countries, government rescue is more powerful to dispose the systematic risk triggered by large financial institution crisis. Japanese Bank Act is a distinct example, that stipulates government rescue measure could be used to save the trouble financial institution which maybe result in the systematic crisis.

Shareholders undertake surplus crisis by themselves, as a self-rescue system for commercial banks, have the irreplaceable function in the commercial banks crisis deposition system, and should be placed as the first action, be applied antecedent to marketization rescue measure and government rescue measure. One

section, the self-rescue measure from banks inside is more efficient, another section, it can avoid the moral risk from banks inside.

3. SYSTEM CONNECTION BETWEEN SHAREHOLDERS SELF-RESCUE SURPLUS CRISIS AND DEPOSIT INSURANCE

Look from the system content, bank shareholders self-rescue surplus crisis has various forms. Known from the shareholders' commitment and articles of corporation, the forms of bank shareholders self-rescue surplus crisis include shareholders additional investment when the bank get into crisis, bank deferred payment guarantee, meet the regular's requirements to recover capital stabilization or capital deposition, limit equity exercise, force to equity transfer, and so on. These are shareholders undertake some obligation to bank, or limit the shareholders' equity. The legal relationship subject of shareholders self-rescue surplus crisis is shareholders, bank and regulator institution. Shareholders don't occur direct debt payment or damages compensation with depositors. The system of shareholders self-rescue surplus crisis protect bank interest, maintain bank operating stability, help bank out of crisis, and protect interest of depositors and other creditors. The content of deposit insurance system is that insurance company compensate the deposit loss to depositor when bank occur the risk or crisis within the scope of deposit insurance rules. Its legal relationship is the insurance legal relationship between deposit insurance company and depositors, and this system protect the interest of deposits, the direct object of system features is depositors and not bank. From this point of view, bank shareholders self-rescue surplus crisis system and deposit insurance system, both are started up by the condition of bank crisis, but they have different system object, system content and effect.

Look from the system implementation, the deposit insurance law mainly regulate the deposit insurance legal relationship, its main object is protect creditors interest by deposit insurance in bank crisis. In order to avoiding abuse of deposit insurance fund, some countries often endue deposit insurance company the supervision function to commercial banks. Deposit insurance company can propose regulatory requirement to commercial banks to use insurance funds more effectively. Especially, before use deposit insurance funds to rescue the bank crisis, deposit insurance company always requires commercial banks and shareholders to undertake part of crisis disposal responsibility, to share the bank failure loss.

U.S. Congress passed the bill of Federal Deposit Insurance Corporation Promotion Act in 1991 that regulated the system of Prompt corrective action, finally Federal Deposit Insurance Act stipulated the system in article 38. This system divided the capital of insured institutions into five types, well capitalized, adequately capitalized, under capitalized, significantly under capitalized, and critically under capitalized.

When the insured institution has the last three capital type, the regulatory institution mast straightway adopt a measure to correction the capital insufficient status. According to the different of capital insufficient level ,the regulatory apply the different measure, including strengthen regulatory, requirement mapping up capital restoration plan, limiting capital increasing, limiting getting rights and interests, limiting setting up branch office, limiting new business, limiting related-party transaction, limiting holding company distribution interests, limiting commercial action, forbidding repay subordinate debt, appointment property caretaker or receiver, and so on. Insured institutions must map up capital restoration plan to restore capital sufficient status within the prescribed time [10]. At the same time, the holding company should adopt measures to ensure the deposit institution comply with the capital restoration plan, until the bank achieve capital sufficient status on average level in continuous four quarters [11].

Learn from U.S., in the aspects of system coordination, it is a feasible system arrangement that stipulate bank shareholders self-supporting residual risk in the deposit insurance act. The system can effectively connect crisis self-supporting mechanism and deposit insurance system, and improve the systematic and effectiveness of commercial banks rescuing.

4. THE COORDINATION WITH SHAREHOLDERS SELF-SUPPORTING RESIDUAL RISK AND BANKRUPTCY REORGANIZATIONS

The commercial bank shareholders enhanced obligetions is that shareholders self-rescue to bank when the bank fall into crisis. Its purpose is to help bank restore normal status, and make bank continue to operate. The legal nature and behavioral performance of commercial bank shareholders enhanced obligations, is different with corporate bankruptcy liquidation system which aimed to split property to repay debt. And also different with bankruptcy conciliation which aimed to solve the claim and debt relationship of creditors and companies. But commercial bank shareholders enhanced obligations has the consistency with bankruptcy reorganization in system purpose and behavioral performance.

Bankruptcy reorganization is a procedure or system that can prompt debtor corporation to restore repaying ability, started by the application of interested party and utilize the rescue measure in bankruptcy act [12]. The start of bankruptcy reorganization, could be the application to the court by creditors or debtors, and also could be the mandate of supervision institutions according to the supervision authority. The specific measures of bank-ruptcy reorganization could be kinds of measures to restore the management capacity, such as exceeding or reduce debt, adjustment shareholders rights and interest, corporation transfer or merge, issuing new shares, adding investment, and so on. The behavior of commercial bank shareholders'

enhanced obligation are same to the shareholders' behavior in bankruptcy reorganization. Therefore the commercial bank shareholders' enhanced obligation can be included in the overall system of bankruptcy reorganization.

Germany bank reorganization legal system included Bank Reorganization Act, implemented in January 2011, Credit Institution Reorganization Act, and Bank Act Amendment. First, Bank reorganization Act is a comprehensive act, includes new act and revision to currant legislation. Credit Institution Reorganization Act stipulates restore and reorganization procedure of credit institution, and stipulates that the procedure of bank restore and reorganization are initiated by credit institution. The application should be submit to region Supreme Court by German Federal Financial Supervision Institution, and Supreme Court has the authority to adjudicate if execute restore of reorganization procedure [13]. The Act stipulates that credit institution should submit reorganization plan when the credit institution fall in the continue business risk, and perhaps bring obviously negative influence to the financial system and perhaps cause system risk. The measures could be claim transformation capital, forcibly modification company policy or transformation share right, institution capital partition, exceeding or reducing debt right. Second, Germany Bank Act stipulates in article 45 that German Federal Financial Supervision Institution could adopt measures to increase the adequacy and fluidity of freedom fund when credit institution capital can not achieve the claim of supervision, and German Federal Financial Supervision Institution also could command institution to submit reorganization plan, and the plan must define that how and when continuously restore the adequacy and fluidity of own funds [14]. By the regulation, the credit institution shareholders undertake the enhanced obligation, such as input capital to credit institution to restore institutions capital status, can be the composition part of credit institution reorganization plan.

5. CONCLUSION

Private bank crisis self-help have important signi-ficance to precaution shareholders morality risk, improv-ing the pragmaticality of private bank risk control and save the crisis. It should be placed as the first action in the commercial banks crisis deposition system, and should be the preposition procedure. Crisis self-help system can be the composition part of bankruptcy reorganization, and one of the diversification commercial bank reorganization measures, exert effect together with other reorganization measures cooperatively.

ACKNOWLEDGMENT

REFERENCES

[1]Jackson E. H. "The Expanding Obligation of Financial Holding Company". Harvad Law Review, pp.514-619, summer, 1994

[2]Havard J. C. "Back to the Parent: Holding Company Liability for Subsidiary Banks - A Discussion of the Net Worth Maintenance Agreement, the Source of Strength Doctrine, and the Prompt Corrective Action Provision", Cardozo Law Review, pp.2353-2413, April, 1995

[3]FDIC. "Managing the Crisis: The FDIC and RTC Exper-ience 1980-1994", https://www.fdic.gov/bank/historical/ managing/, pp.93,1998, last visited April 10, 2019

[4]Laeven L. & Valencia F. "Systemic Banking Crisis: a New Database", IMF Working Papers 8224, pp.1-78, 2008

[5]Bernanke S. B, "Cause of the Recent Financial and Economic Crisis, Statement before the Financial Crisis Inquiry Commission" Http://www. Federalreserve. Gov/ newsevents/ testimony/ bernanke20100902a.htm, last visited April 10, 2019

[6]Wilmarth E. A. "Reforming Financial Regulation to Address the Too-Big-to-Fail Problem", 35 Brook. J. Int. pp.707, 2010

[7]Arthur E. Wilmarth, "The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-To-Fail Problem" Regent Law Review, Vol. 89, pp. 951-1057, 2011

[8]Zheng Zhibin, Zhang Ting, "The problem of share-holders' equity in corporate reorganization and res-tructuring", Peking University Press, pp.8, 2012

[9]Song Yilin, Professor Professor of University of Science and Technology Liaoning, School of Economic and Law. Major research fields are financial law and company law.

[10]Federal Deposit Insurance Corporation Act, Article 38(e)(2)(C)

[11]Federal Deposit Insurance Corporation Act, Article 38(e)(2)(E)

[12]Zheng Zhibin, Zhang Ting, The problem of share-holders' equity in corporate reorganization and res-tructuring, Peking University Press, pp.8, 2012

[13]Deutsche Bundesbank, Basic Features of German bank regroup Act, Law Review of Corporate Reorganization and Restructuring, Volume3, Law Press, pp.318-319, 2013

[14]Deutsche Bundesbank, Basic Features of German bank regroup Act. Law Review of Corporate Reorganization and Restructuring, Volume3, Law Press, pp.323, 2013

Marketing Strategy Based on the Analysis of Consumption Characteristics in Network Era

Wenyi Hao

College of economics and management, Heilongjiang Bayi Agricultural University, Daqing, Heilongjiang, 163319, China
Email:4525271@qq.com

Abstract: With the rapid popularization of the Internet, people's clothing, food, housing, transportation and other consumer behaviors are closely related to the Internet. Online shopping has the characteristics of low commodity prices, fast and convenient logistics. Online shopping breaks through the time and space constraints, which makes the consumption behavior of the network era change significantly compared with the past. Nowadays, online shopping has become an important way of life for consumers. Enterprises should keep pace with the times and construct new marketing methods. Starting from the background of the Internet era, this paper emphatically expounds the changes of consumption characteristics in the Internet era, and then provides some beneficial suggestions for enterprises to carry out marketing activities combined with 4Ps theory.
Keywords: Network era; Consumption characteristics; Marketing strategy

1. INTRODUCTION

Online shopping has become a vital part of people's daily consumption behaviors. The emergence of e-commerce platform has changed the way how people shopping. More and more consumers buy the commodities they need through the Internet. Data show that in December 2018, the number of Chinese netizens reached 829 million, and the number of online shopping users reached 610 million. After years of rapid development, the online consumer market has gradually entered the stage of upgrading and upgrading. The "double upgrading" of supply and demand is becoming a new driving force for the growth of the industry. On the supply side, the integration of online and offline resources is accelerated, new modes such as social e-commerce and quality e-commerce are constantly enriching consumption scenarios, which driving the transformation and upgrading of retail industry, and also deepen the application of technologies, big data and block chain has effectively improved operational efficiency. On the demand side, the trend of consumption upgrading is obvious, and the characteristics of consumption stratification are increasingly prominent, which further promotes market diversification. At the same time, the international payment market has been accelerated and cross-border payment has developed rapidly. It can be said that with the continuous development of Internet technology, more and more consumers choose to shop online. Network marketing is gradually valued by most enterprises. Many large traditional enterprises begin to develop e-commerce business.

2. LITERATURE REVIEW

Agostini L (2016) pointed out in the Organizational and Managerial Activities in the Development Process of Successful SME Marketing Networks that the Internet era has brought tremendous development opportunities for enterprises. Enterprises should fully understand the use of the Internet, be good at using network technology, and constantly update the network marketing model, thus bringing huge economic benefits to the company [1]. Xu Yuanyuan and Sun Chao (2016) also believe that with the emergence of mobile Internet and the development of information technology, the whole world has ushered in the era of mobile Internet [2]. Corporate brand socialization marketing has gained new directions and ideas. Compared with traditional marketing, brand socialization marketing in the era of mobile Internet has more advantages, but enterprise marketing must be innovative to stimulate and reflect the elimination. In order to adapt to the transition from traditional marketing mode to network marketing mode, enterprises should readjust the commodities, services and concepts of consumer values from the aspects of consumers, products, markets and values. In terms of international trade, Mathews S and Bianchi C (2016) pointed out in Internet marketing capabilities and international market growth that the Internet has proven to promote internationalization factors, such as information accumulation and network opportunities. Overall, the ability of Internet marketing enhances the ability of the company to generate in-house, which in turn has a positive impact on the growth of the company's import and export market [3]. Yang Chunjian (2017) pointed out that the Internet economy and traditional marketing are deeply integrated, showing the characteristics of diversified development, which has caused a huge impact on the traditional marketing model, and the importance of online marketing has become increasingly prominent [4]. The proportion of netizens is prominent in the marketing target. Enterprise brand building, crisis

public relations and marketing are developing synchronously. The marketing channels are expanding due to product changes. At the same time, product price is also affected by software comparison. The convenience, scale, diversity and foresight of Internet economy bring new challenges to the transformation of traditional industry marketing strategy. Li Shan (2018) analyzed the new characteristics of marketing environment in the era of network economy. He believed that the market scope of enterprises in the era of network was greatly expanded, and the means of payment and transaction were obviously diversified. The new norms, functions, goals and mechanisms that emerge under the network background require that the marketing strategies of enterprises must be changed accordingly, that is, changing marketing concepts and guiding market consumption; adopting different marketing measures to meet the diversified needs of consumers; implementing channel flattening and opening up network marketing channels; building network platform and innovating marketing strategies [5].

With the rapid development of Internet information technology, traditional marketing concepts and strategies can no longer meet the actual needs of work. Many enterprises are facing severe competition challenges. At present, the problems of mixed online shopping, low application level of online marketing, unstable development, shortage of network marketing talents and imperfect network legal system still restrict the smooth development of enterprise network marketing. Especially, the insufficient grasp of consumption characteristics in the network era has seriously affected the smooth development of enterprise marketing activities. Only by accurately grasping the characteristics of consumption in the network era can enterprises effectively promote the operation and development of network marketing [6].

3. THE CHANGE OF CONSUMPTION CHARACTERISTICS IN THE INTERNET ERA

3.1. Increasing transparency of commodity information

Traditional marketing mainly uses consumers' ignorance of commodity information to make a difference. Compared with the traditional shopping methods, the degree of information asymmetry has been greatly reduced in the network era. The marketing paradigm based on information asymmetry has obviously failed, and the circulation and trading modes of commodities have changed greatly. Through the information storage and dissemination function of the network, consumers can conveniently query a lot of information related to products. Whether it is the function, price of goods or consumers' evaluation of purchased goods, it will make the information of goods more transparent. Therefore, in order to attract more consumers, businessmen often choose to publish more

information about goods on their own initiative. The behavior of businessmen publishing information on their own initiative makes the consumption in the Internet era tend to be symmetrical and information becomes more and more transparent.

3.2. Consumer choice is broader

In the traditional consumption era, the types of goods in physical stores are limited, and consumers are forced to choose the goods on the counter displayed by physical stores. Traditional marketing models are gradually being replaced by online consumption platforms. People don't need to go out. They just need a computer or a mobile phone to choose the products they need from hundreds of millions of products on the website. People can find their satisfied products by screening the brand, price, function and word of mouth of the products. With the continuous development of Internet technology, consumers have more choices. Businessmen have gained some initiative through the Internet. The promotion of goods is no longer limited by time and space. Businessmen can promote products and services to consumers through the Internet. In the network era, consumers like to pursue new and special things. In the process of brand pursuit, they will not choose a single brand. They will compare different brands and choose new, unique and suitable goods. The diversification of commodities will make consumers look forward to more other brands to experience different feelings. The large number and convenience of online shopping provide a platform for the diversification of consumers' choices.

3.3. Shopping time cost reduced significantly

At present, the passive marketing mode of traditional consumption can no longer adapt to consumers in the network era. With the acceleration of people's life rhythm, people not only require better quality and reasonable price of daily necessities, but also require fast, convenient and time-saving. Online shopping can make up for people's shopping restrictions in time and space, and realize fast shopping. As long as the demand for shopping is generated, the purchase behavior can be completed. This efficient consumption is also an important factor for more people to choose online consumption. In the Internet age, consumers can lock in suppliers through the Internet and actively communicate with them. Online consumption is no longer limited by time. Consumers can search the goods they want anytime and anywhere according to their own time. It not only saves time and energy for shopping, but also enjoys convenient service for delivery to home. Consumers' shopping can be more satisfied [7].

3.4. Individualized consumption trends increase

With the continuous development of society, people's quality of life and the pursuit of values are also constantly improving. People's demand for consumption is increasing. The commodities

produced on a large scale in the past are too common to be welcomed by everyone. Consumers in the Internet age prefer private customization, more creative products, and can highlight their own personality. They shop not only to meet the material needs, but also to meet the psychological needs, highlighting their distinctiveness. Traditional consumption is no longer adapted to the needs of current consumers, and the individualization of consumption will become a popular trend of consumption. Under the network conditions, the individualized demand information of consumers will be directly or indirectly conveyed to enterprises and manufacturers. Some enterprises and businesses will readjust their production and sales according to the feedback information of consumers. Some products can even be processed and redesigned according to consumers' ideas. Consumers can buy customized goods that make them satisfied and different.

4. THE MARKETING COUNTERMEASURE OF ENTERPRISES

4.1. Continuously strengthen product development

(1) Clear product positioning. With the continuous rise of online shopping, consumers have become accustomed to online shopping, and their product needs vary according to the types of consumers. We can divide consumers into different groups according to their needs, motivations and interests. Only according to the market segmentation, timely launch of products to meet consumer needs, network marketing can achieve better results.

(2) Pay attention to the development of personalized products. In the network environment, consumers can easily find the personalized products they want, and the cost of payment and search engine is relatively low. For businesses, whether they can stand out from a large number of product information depends on whether the company meets the needs of consumers for personalized products. In view of the growing demand for individualization of consumers, enterprises should always establish the concept of "consumer-centered". First of all, we must do our best to improve the commodity development ability of enterprises to meet the needs of different consumers. Secondly, the consumption characteristics of consumers are systematically analyzed, the consumption groups of enterprises are defined, and the products that meet the needs of consumers are adjusted at any time. Finally, enterprises keep communication with customers through the network at any time, follow up the development and design of products, and timely understand the evaluation of their own products, so as to improve products and carry out new product development. It can leave space for consumers to design products and increase their participation.

(3) Continuously improve product quality. In the network era, the products sold by enterprises must have quality assurance. Once consumers have purchasing behavior, it is enough to show that consumers have strong demand for this product. In the new online consumption mode, online consumers can not directly touch the products they want, and can not directly feel their functions and sense of use. It may lead to consumers' dissatisfaction when they buy and receive the product, and lead to consumers' loss of online shopping. To be confident, can express their dissatisfaction through the network, and then affect the overall sales of enterprises.

4.2. Flexible design of commodity price system

(1) Effective application of discriminatory pricing strategies. One of the advantages of online shopping is that the price is relatively low. Consumers and businesses are very concerned about the price. However, the application of low-cost strategy is obviously not feasible. In the process of marketing, merchants need to price the goods according to the needs of consumers, and formulate different pricing strategies according to the influencing factors, such as market changes or product costs. Businessmen can have different price orientations for different products in different periods. For special consumer groups, high-quality goods should match their prices and be good at applying market rules and consumer psychology.

(2) Timely price adjustment. If the commodities sold are affected by the season, the Bundling Strategy and the low price strategy should be adopted for the commodities that should be sold in the season. When bundling sales, bundled goods and the main commodities sold should have a certain relationship, such as complementary goods; for off-season goods, discount pricing strategy can be used, the discount level changes with the number of purchases.

4.3. Actively construct diversified sales channels

(1) Strengthen the use of "0" channels. Businessmen can adopt direct sales in Internet sales, avoid intermediate links, and conduct transactions through direct communication with consumers. But in the process of direct selling, we must be conscientious and responsible to consumers, not to deceive consumers in order to sell goods. Of course, businesses can also expand the market scope and increase the sales volume by developing some agents or looking for some like-minded partners to distribute.

(2) Make full use of third-party platform. The knowledge level of consumers in the network era is generally relatively high. It is not easy to be confused by various and colorful commodities. It pays more attention to the practical value of commodities. Taobao, Tianmao, Amazon and other third-party platforms have gathered a large number of businesses and consumers. Enterprises should make full use of third-party platforms with good commercial reputation, wide coverage and widely recognized by

consumers to carry out marketing activities. Enterprises should attach importance to the design of web pages on third-party platforms, establish virtual stores and build a comfortable online shopping environment.

4.4. Develop various promotional activities

(1) Strengthen media propaganda, especially the promotion of enterprise websites.

In the Internet era, the marketing of enterprises must pay attention to the publicity and development of websites. Web pages of websites must have their own characteristics. While setting up the corporate image, they can also attract the attention of new consumers, thus arousing the desire to buy. Through the use of search engines and other methods to promote corporate websites, can greatly improve the company's visibility.

(2) Strengthen brand propaganda with the help of advertising spokespersons.

Advertising is one of the most important ways to enhance enterprise marketing. If you

want to seize market share, you can combine advertising and online marketing, especially some traffic stars to endorse the product. Young consumers in the Internet age will have a strong sense of trust in vibrant, charismatic and energetic stars, which attracts more consumers to buy.

(3) Seize the opportunity and use various promotional means together.

The way of promotion in the Internet age should be flexible, novel and attractive. For

example, in traditional holidays, the purchase of half-price, time-limited discounts, promotional platform red envelope coupon activities and so on, can successfully get the favor of consumers, to meet their demand for commodity prices, can let consumers in a relaxed and comfortable atmosphere.

5. CONCLUSIONS

In the Internet era, online shopping has become an indispensable way of life, and people gradually change the way they used to consume. Under the background of the Internet era, the characteristics of consumers have changed significantly. Commodity information is becoming more transparent, consumers has a wider choose range, shopping costs are significantly reduced, and consumers' individualized consumption is realized. In this background, enterprises must carry out targeted marketing activities. One way is to continuously strengthen research and development of products, clarify products positioning, focus on individualized product development and constantly improve products quality. The second way is flexibly design the price system of commodities, effectively apply discriminatory pricing strategies and timely price

adjustment. The third way is actively build diversified sales channels, strengthen the use of "0" channels and make full use of third-party platforms. The fourth way is to carry out various promotional activities in parallel, strengthen media publicity, strengthen brand publicity with the help of advertising spokespersons, and timely use of a variety of promotional methods to carry out promotional activities. Based on the changes of consumption characteristics in the network era, enterprises should adjust their marketing strategies accordingly so as to occupy an advantage in competition and achieve sustainable development.

REFERENCE

[1]Agostini, Lara. Organizational and Managerial Activities in the Development Process of Successful SME Marketing Networks. European Management Review, 2016, 13(2): 91-106.

[2]Xu Yuanyuan, Sun Chao. Research on the Socialized Marketing Strategy of Clothing Brands in the Mobile Internet Era. Market Research, 2016 (10): 33-35.

[3]Mathews S, Bianchi C, Perks KJ. Internet marketing capabilities and international market growth. International Business Review, 2016, 25 (4): 820-830.

[4]Yang Chunjian. An Analysis of the Change of Marketing Strategies in the Network Economy Era. Commercial Economy, 2017(9): 82-83.

[5]Li Shan. On the Change of Enterprise Marketing Strategy in the Network Economy Era. Commercial Economy, 2018(9): 76-77.

[6]Yao Jun, Huang Jiaxin. An analysis of the current situation and Countermeasures of the development of enterprise network marketing in China. Times Finance, 2018(08): 180+191.

[7]Calm down. Consumption characteristics and marketing strategies in the network era. Journal of Hubei Polytechnic College, 2016(02): 67-69.

[8]Sun Yue. Consumption Characteristics and Marketing Strategies in the Internet Age. National Business Situation (Economic Theory Research), 2015(17): 30-31.

Research on the Innovation and Entrepreneurship Education System Based on Task Driven and Project-Oriented

Ying Liu
College of Geomatics, Xi'an University of Science and Technology, Xi'an, Shaanxi 710054, China
E-mail: liuying712100@163.com

Abstract: Colleges and universities are the cradles of talent cultivation and the forefront of the birth of science and technology. In the new era, innovation and entrepreneurship education, innovation and entrepreneurship platform construction and innovation and entrepreneurship talent training play a key role. Combining Xi'an University of Science and Technology in the west, aiming at the construction of remote sensing science and technology majors for the national space information infrastructure construction and development needs, the innovation and entrepreneurship education link will be incorporated into the undergraduate training program, mobilize all parties to actively and effectively integrate various resources, and vertically Scientific research projects, science and technology innovation competitions at all levels, college students' innovation and entrepreneurship projects, and student graduation design activities are closely related to the practice of college students' innovation and entrepreneurship, and the organic integration of teamwork and project promotion of college students' innovation and entrepreneurship activities. Clarify project implementation subjects, task requirements, reward and punishment measures and quantitative targets, and promote the overall advancement of college students' innovation and entrepreneurship practice with task-driven and project-oriented.

Keywords: Task driven; Project-oriented; Innovation and entrepreneurship; The education system

1. INTRODUCTION

1.1. Background of innovation and entrepreneurship education

Innovation and entrepreneurship education are flourishing with the advent of the era of the knowledge economy. It has become a new trend of higher education in the world. The new concept of innovative entrepreneurship education was first put forward at the International Symposium on Education for the 21st Century held in Beijing in November 1989, at which the new type of career and skill education was raised to the same status as the current academic and vocational education. The new concept of entrepreneurship education has been translated into entrepreneurship education. Innovation and entrepreneurship education have been developing rapidly in the world. At present, it has formed a fairly complete system, covering formal education from primary school, junior high school, senior high school, college, undergraduate to postgraduate [1]. "Innovation education is first and foremost life education, mission education, motive education, development and utilization of the greatest resources of society", comprehensive education, and education conforming to the development requirements of the times. It is based on the cultivation of noble moral sentiments and profound humanistic qualities, and on the cultivation of people's creative consciousness, creative passion and innovative spirit. The core of innovation ability is to cultivate innovative talents in line with the requirements of the development of the times [2-3].

1.2. Current problems

Improving the innovative spirit and innovative ability of college students is the requirement of college education in the new era, and it is also the key and difficult point to improve the quality of university teaching. The goal of talent training in colleges and universities in China is relatively simple. It can be divided into research-oriented and applied-oriented talents. The traditional educational concept leads to the inevitable choice of college students after graduation, except for employment and postgraduate study. It does not improve the innovation and entrepreneurship education to a higher level. Education is equally important, and graduates are therefore lacking the ability to innovate and start a business. This is a weakness of China's higher education, and it is also a serious challenge for higher education today [4-5]. The quality problem of talent cultivation is the fundamental problem of higher education work today. The key is to cultivate the innovative spirit and entrepreneurial ability of society. This is the weakness of China's higher education. The law of higher education development is that its objectivity is a full reflection of the social economy, an inevitable requirement of the demand and internal regularity of social economic development, and its realization form is the combination of higher education and science and technology, economy, culture and society. Scientific and technological innovation and humanities and social science research accelerate the transformation of scientific and technological achievements into real

productive forces, promote the advancement of advanced culture, and create hundreds of millions of high-quality laborers, tens of millions of specialized talents and a large number of top-notch innovative talents [6-8]. The report of the 17th National Congress of the Communist Party of China clearly stated that it is necessary to "promote employment with entrepreneurship to promote employment" and expand the employment development strategy. Education in the era of the knowledge economy is not only a student employment training office but an innovation and entrepreneurship education.

1.3. Major of remote sensing science and technology

Xi'an University of Science and Technology is a joint venture of the State Administration of Safety Supervision and Administration and the People's Government of Shaanxi Province to build universities, universities in the central and western regions of the country to implement basic capacity-building projects, and high-level universities in Shaanxi Province to build universities. The major of Remote Sensing Science and technology is classified as the undergraduate majors of Surveying and mapping and enrolled formally in 2013. Graduates who meet the graduation requirements are awarded a bachelor's degree in engineering. In the Thirteenth Five-Year Plan for the Development of Education of Xi'an University of Science and Technology, it is pointed out that the discipline orientation of the university is to strengthen the characteristics of geology, mining and safety, and related disciplines, highlight the advantages of engineering and technology disciplines, serve the whole country based on the west, serve the related industries of Geology and minerals and local economic and social development. Therefore, the specialty of Remote Sensing Science and technology upholds the discipline orientation of the University and combines In fact, its professional orientation is based on mine-oriented service, and outward expansion of service geographic information industry is the fundamental compound and innovative talent training mode. Remote sensing science and technology is one of the two undergraduate majors of Surveying and Mapping Science and technology. It is a new subject developed on the basis of cross-penetration and integration of Surveying and mapping science, space science, electronic science, earth science, computer science, and other disciplines. It has distinct professional characteristics. However, there are still some shortcomings in the implementation of innovative entrepreneurship education, the incorporation of innovative entrepreneurship education into the school personnel training system, and the innovative personnel training methods.

(1) The construction system of innovation and entrepreneurship education is incomplete. At present, only a few colleges and universities bring the innovation and entrepreneurship education of college students into the systematic learning and curriculum system because of the defects of the system.

(2) Practical teaching links such as experiment and practice basically belong to knowledge validation and repetition in known fields, lacking innovative experimental techniques, experimental design, experimental methods and the cultivation and training of the ability to independently engage in experimental work.

(3) At present, most of the teachers who can participate in vertical scientific research projects are graduate students, and only a few undergraduates have the opportunity to participate in scientific research projects. At the same time, teachers are less involved in students 'extracurricular innovative practice and entrepreneurial societies.

2. INNOVATION AND ENTREPRENEURSHIP EDUCATION SYSTEM BASED ON "TASK-DRIVEN, PROJECT-ORIENTED"

2.1. Conception of innovation and entrepreneurship education system

University students are the new force in implementing the innovation-driven development strategy and promoting public entrepreneurship and innovation. Based on this, as university educators, we should conscientiously implement the national decision-making plan, actively carry out teaching reform and exploration, integrate innovation and entrepreneurship education into talent training, effectively enhance students' entrepreneurial awareness, innovation spirit and creativity, comprehensively improve the quality of talent training, and provide strong talent support for promoting mass entrepreneurship innovation and building an innovative country.

In order to meet and serve the needs of economic and social development and national strategy, according to the goal of the construction of innovative colleges and universities, the innovative and entrepreneurial education links are integrated into the talent training plan of colleges and universities, the traditional teaching contents and methods are reformed, the innovative enthusiasm of college students to actively participate in various social practice activities, such as scientific research, technological development and subject competition, is stimulated, and the universities and the government are vigorously promoted. Social and industrial enterprises cooperate to educate people, carry out substantive and high-level international exchanges and cooperation, and build a new innovation and entrepreneurship education system. Explore converting students' innovative experiments, publishing papers, obtaining patents and independent entrepreneurship into credits, identifying students' participation in research projects and project experiments as class hours, and jointly incorporating students' innovative entrepreneurship education system. At the same time, students' extracurricular activities such as science and technology, culture, societies and social practice will be integrated to form a training system for students' innovative

entrepreneurship. It is also included in the training programs of various professionals, so that the results of various activities of innovation and entrepreneurship become part of student's graduation credits recognition, forming the interaction between the first classroom and the second classroom, and establishing a multi-level innovation and entrepreneurship system involving schools, colleges and student organizations.

2.2. Innovation and entrepreneurship education system based on "task-driven, project-oriented"

Starting from the reform of the training mode of innovative talents and aiming at cultivating students' innovative and entrepreneurial abilities, this paper establishes an innovative and entrepreneurial education system based on "task-driven and project-oriented", establishes and implements an innovative and entrepreneurial education system and an innovative and entrepreneurial training system for college students, so as to improve students' innovative and practical abilities. Specific contents include:

2.2.1. Constructing college students' innovation and entrepreneurship education system

(1) Setting up a series of innovative entrepreneurship courses (including compulsory and optional courses) in various professional training programs. The Ministry of Education issued the Notice on the Work of Employment and Entrepreneurship for Graduates of National Colleges and Universities in 2016, which clearly stated that all colleges and universities should set up innovation and entrepreneurship education courses from 2016, and set up compulsory courses and elective courses of innovation and entrepreneurship education for all students, which should be included in credit management. Compulsory and optional courses generally include innovation and entrepreneurship practice, entrepreneurship project management, scientific and technological paper writing and college students' entrepreneurship preparation.

(2) Setting up a series of lectures on innovation and entrepreneurship in the second classroom activities. Strengthen the content of scientific and technological innovation and social practice in the second classroom, and strengthen the training of innovation and entrepreneurship. To develop innovative entrepreneurship training programs for potential students, establish innovative entrepreneurship files and transcripts, objectively record and quantitatively evaluate students' innovative entrepreneurship activities. Priority should be given to supporting students involved in innovation and entrepreneurship to transfer to relevant majors.

2.2.2. Constructing and implementing innovation and entrepreneurship training system for college students

At present, the major of Remote Sensing Science and technology has three educational platforms: general education, professional education and comprehensive education. General education and professional education are completed in class, and comprehensive education is completed outside class (the second classroom). The training of scientific and technological innovation and entrepreneurship skills is mainly embodied in comprehensive extracurricular education. At this stage, the system construction is vague and the content is not clear, which makes it difficult to cultivate students' innovative and entrepreneurial ability. In the future stage of comprehensive education, it is proposed to integrate students' extracurricular activities in science and technology, subject competitions, humanistic literacy and ideological quality education, brand lectures, community activities, theoretical and humanistic competitions, literary and artistic sports activities, social practice activities, vocational skills training and other extracurricular activities to form a "college students' innovation and entrepreneurship training system", which includes scientific research and innovation training and innovation training. There are five aspects of Vocational training, scientific and technological competitions, humanistic literacy improvement and vocational skills training. Each project category consists of several specific activities.

(1) The training plan for scientific research innovation is mainly to organize and carry out various activities of scientific research (including students' application for scientific research projects, participation in teachers' research projects, etc.), technological invention, innovative experiments, open experiments and so on.

(2) The entrepreneurship training program mainly organizes entrepreneurship education and entrepreneurship practice activities. In particular, through various scientific research training, students should be guided to actively participate in the curriculum, and their practical ability and innovative and entrepreneurial consciousness should be continuously strengthened.

(3) the science and technology competition plan is mainly organized to participate in the National College Students' innovation and entrepreneurship training program, the "Internet +" College Students' innovation and entrepreneurship competition, Challenge Cup competition and geographic information, remote sensing technology and other skills competition.

(4) The Humanistic Quality Improvement Program is mainly to organize and carry out community activities, theoretical and humanistic lectures and public classes, as well as literary and artistic sports activities.

(5) Vocational skills training program mainly encourages students to participate in training and certification activities of instrumental professional skills such as foreign language ability and computer application ability.

The contents of the above five aspects will be incorporated into the training program of innovative talents in the form of credits or class hours as the graduation credits of students.

2.2.3. Establishment of operation and management mechanism for implementing innovation and entrepreneurship training system in universities

According to the principle of "overall design, separate

implementation", the training system of College Students' innovation and entrepreneurship implements the project responsibility system and adopts the method of "project management" to organize the implementation. The program will run through the whole training process, rolling every semester in the form of a second classroom activity project, so that students can choose relevant projects and their study time according to their hobbies, abilities and expertise.

(1) Establishing the implementation organization of innovation and entrepreneurship training for college students. Leading and guiding groups are set up at the school level and the secondary college respectively to coordinate the work. The relevant functional departments implement the management of the planned projects according to the work subsystem so that the implementation of the plan can be incorporated into the daily management of the school.

(2) To formulate the methods and rules for the implementation and management of University students' innovation and entrepreneurship training, as well as the methods and rules for the organization and implementation of various projects, such as the conversion of students' innovation experiments, publishing papers, obtaining patents and independent entrepreneurship into credits, and conversion coefficients.

3. PROSPECT OF INNOVATIVE ENTREPRENEURSHIP EDUCATION SYSTEM BASED ON "TASK-DRIVEN, PROJECT-ORIENTED"

With the deepening of China's higher education reform and the intensification of competition among universities, the quality of personnel training has become the main standard of the level of running a university, and also the main indicator of the competitiveness of universities. Therefore, universities hope to cultivate the best talents themselves. From the perspective of college student's self-development, in order to be based on society and successful in their career, they also put forward the requirements for innovation and entrepreneurship, and hope that they can become new talents who can both innovate and start their own businesses.

(1) As the cradle of talent cultivation and the frontier of the birth of science and technology, colleges and universities play a vital role in the construction of innovation and entrepreneurship platform and the cultivation of innovative and entrepreneurship talents. Combining with the construction goal of Remote Sensing Science and technology specialty of Xi'an University of Science and Technology based on the West and facing the needs of national spatial information infrastructure construction and development, the innovation and entrepreneurship

education is integrated into every link of students training. Through thinking training and practical training, students can acquire innovation experience and entrepreneurship experience, so that they have certain innovative and entrepreneurship literacy and ability.

(2) Mobilize the enthusiasm of all parties and integrate all kinds of resources effectively. Teachers' vertical scientific research projects, scientific and technological innovation competitions at all levels, college students' innovation and entrepreneurship projects and graduation design are combined to promote the organic integration of team operation and project-based innovation and entrepreneurship activities of College students. To clarify the main body of project implementation, task needs, rewards and punishments and quantitative objectives, and to promote the overall promotion of College students' innovation and entrepreneurship practice with task-driven and project-oriented.

REFERENCES
[1]Hao Jie, Wu Aihua, Hou Yongfeng. Construction and Enlightenment of Innovation and Entrepreneurship Education System in the United States. Research on Higher Engineering Education, 2016, (02): 7-12.
[2]Tan Xiaohui, Zhang Jianzhi, Guan Xiaozhou, etc. Research and Exploration of Innovation and Entrepreneurship Education System for College Students. Innovation and Entrepreneurship Education, 2015, 6(5): 25-27.
[3]Wei Yinxia, Huang Ke, Guo Qing. Research and Practice of Innovation and Entrepreneurship Education System in Local Engineering Universities. Experimental Technology and Management, 2015, 32(2): 14-17.
[4]Huang Linnan, Ding Lijian. Exploration of Creative and Entrepreneurial Education Model for College Students. Research on Higher Engineering Education, 2010(6): 158-160.
[5]Ma Huimin. Research on the Trinity Training System of College students' Innovative and Entrepreneurial Ability. Educational Theory and Practice, 2012(36): 12-14.
[6]Wang Lifen, Li Jiming, Wang Wenxian. Exploration on the Construction of Practice Platform for College Students. Educational Theory and Practice, 2014 (18): 22-23.
[7]Xu Jianke. Exploration on the cultivation methods of College students' entrepreneurship. Innovation and entrepreneurship education, 2014, 5(4): 26-27.
[8]Liu Wei. Thoughts on the Construction of Talents Training System of Innovation and Entrepreneurship Education in Colleges and Universities. Educational Science, 2011, 27(5): 64-68.

The Study of the Gender Discrimination from the Perspective of Multimodal Critical Discourse Analysis
A Case Study of the Image Construction of a TV Commercial Advertisement

Yue Shu, Leping Huang*
School of Foreign Languages, Tianjin University of Commerce, Tianjin, 300134, China
*Email: huangleping@tjcu.edu.cn

Abstract: The emergence of multimodal discourse analysis broadens the research perspective of discourse analysis. And its theory has been widely used in the advertising field, but few on the study of gender discrimination in advertising. The studies of gender discrimination are mainly based on the gender analysis perspective, feminist perspective, feminist media criticism perspective, consumer culture perspective. Therefore, applying the theory of multimodal discourse analysis to the study of gender discrimination, it will not only test the theory, but also increase the research perspective of gender discrimination. The study found that multimodal discourse theory is also applicable to the study of gender discrimination in advertising, and through this perspective, it could also find more forms of gender discrimination. In this paper, Kress and van Leeuwen's visual grammar will be used to analyze how the media use semiotic resources (images) to construct the ideology of gender discrimination in the TV commercial, and also analyze its causes. It shows that the traditional cultural restraint, the commercial characteristics of advertising, the low sensitivity of gender awareness in the media industry and the patriarchal culture, all these give rise to the gender discrimination phenomenon in advertising. Also, the study from "meaning" to "intention" reflects the new development trend of multimodal discourse analysis to multimodal critical discourse analysis.
Keywords: Multimodal critical discourse analysis; Visual grammar; TV commercial; Gender discrimination

1. INTRODUCTION

Nowadays, a single text symbol can no longer meet a variety of communication needs of people. Thanks to the continuous development of information technology, people's communication mode has reached multimodality and multimedia. So far, discourse analysis has been limited to the language itself, but has not noticed other semiotic modes such as speech, patterns, images, animations, etc. [1]. The emergence of multimodal discourse analysis breaks this limitation, broadens the scope of semiotics study, and comprehensively explains the process of meaning generation, thus enriching the analytical methods of discourse. As for Chinese research on multimodal discourse analysis, it begins with the scholars' introduction of foreign theories. The first paper introducing multimodal discourse analysis to domestic is *Characteristic Analysis of Multimodal Discourses* published by Li Zhanzi in 2003. After that, domestic research on multimodality is gradually increasing [2] and the theories and methods are gradually being applied to various social behaviors and discourse studies such as classroom teaching, court debates and even advertising field [3]. Among them, the multimodal research in the field of advertising mainly focuses on multimodal metaphors, intermodal relationships (textual relationships) and commercial effects constructed by modalities, but less on the gender discrimination. The gender discrimination and gender roles has been studied in the field of communication for a long time, but mainly from the feminist advertising perspective, feminist media criticism perspective and consumer culture perspective. Therefore, to study the gender discrimination in advertising from a new perspective will promote the development of gender discrimination research.

2. THE NEW DEVELOPMENTFROM MULTIMODAL DISCOURSE ANALYSISTO MULTIMODAL CRITICAL DISCOURSE ANALYSIS

"A modality is a special way of expressing information in a certain medium" [4], and the multimodality is a form of discourse in which two or more symbols are used together to construct meaning. Multimodal discourse analysis begins with the book *Reading Images* by Kress and van Leeuwen [5]. Kress & van Leeuwen believe that Halliday's three major metafunctions (conceptual, interpersonal, and discourse functions) are not limited to language systems, but are equally applicable to the analysis of

other semiotic resources, including images, colors, pictures etc. [6]. The image analysis framework of "visual grammar" is then proposed in the book with reference to the three major language functions in *Systemic Functional Linguistics* [7]. It is believed that images can embody three meanings: representation, interaction and composition. The emergence of multimodal discourse analysis enriches the means of studying the other semiotic resources.

However, Kress and van Leeuwen's multimodal discourse analysis is still concentrated on the meaning explanation of "modality", which is the same as traditional linguistic analysis, although this modality is replaced by linguistic symbols. Tian Hailong and Pan Yanyan [8] hold the view that multimodal discourse analysis has indeed solved the problem of interpreting image meaning to a certain extent, but it has not explained how the image was used by social activists to achieve their intention.

Machin [9-10] and other scholars have absorbed the theoretical principles and research methods of critical discourse analysis, and started to observe how the social activists use the multimodality to realize their own purposes. This shift from "meaning" to "intention" has realized the new development from multimodal discourse analysis to multimodal critical discourse analysis. Moreover, it is not only a study-focused change, but also reflects new research concerns in multimodal discourse analysis [8]. Critical discourse analysis aims to reveal how the discourse originates from social structure and power relations [11]. Its critical aspect is not limited to the language level, but extends to multiple semiotic resources [12]. This kind of revelation has the characteristics of criticism [13] and is driven by social issues. Like the development of discourse analysis which will eventually involve social criticism topics, studying the discourse order, ideology, social relations, social practice embodied in multimodal discourse is the inevitable development direction of multimodal discourse analysis [14].

3. THE CASE STUDY

3.1. The source of case

The corpus of this study comes from Huiwanjia ceramic commercial TV advertisement, which can be retrieved on the video playback platform Youku [15]. The video duration is about 45 seconds, which reproduces the experience of a family buying tiles, mainly through the male protagonist's perspective. Actually, the main purpose of this advertisement is to motivate consumer to purchase Huiwanjia ceramic tile, but in the transmission of information, it also connotes the phenomenon that the male's position at home is higher than the female. The media also covertly deliver the concept of gender inequality and ideology of gender discrimination through image construction. The implicit transmission of this ideology in advertisement is beyond the form of a single text symbol, so the analysis of other signs

seems to be particularly important. Multimodal discourse analysis advocates the use of compatible analytical frameworks to study the various models of discourse [14]. Based on the framework of visual grammar, this paper is aimed to analyze the representative, interactional and compositional meaning of the images in the advertisement, so as to find out how the ideology of gender inequality and gender discrimination buried in the advertisement.

3.2. The interpretation of image

Figures 1 to 7 are seven representative images selected from the advertisement, and the order of arrangement is their sequential order in the video. In the past, most of scholars have analyzed the meaning and intention of the static images, but few on the analysis of the dynamic features in the advertising video, which is due to the position of the elements in the dynamic three-dimensional space are not fixed [16]. Hopefully, the images' shot length selected below last about 1 second, with small shot movement. Therefore, the positions of these elements are relatively stable, which is convenient for static analysis.

Source: Figures 1 to 7 are all from Youku

Figure 1. The old father is worrying about piking tiles

Figure 2. Family members are going to pick tiles

Figure 3. The touch of the tile from old father

Figure 4. The close-up of old father's touch

Figure 5. The happy scene after selection of tiles

Figure 6. The old father's appreciation of tiles

Figure 7. The fruit preparation from protagonist's wife

3.2.1. The representative meaning of image

"The conceptual function of multimodal discourse in visual grammar is a kind of representation, which can be divided into two categories: narrative representation and conceptual representation" [17]. In terms of narrative representation, the figures overall represent the process of a family buying the tiles. Particularly in figure 7, it includes a set of action processes and reaction processes, such as the vector of the protagonist's wife handing the fruit plate and the protagonist pouring the tea. There are three reaction processes in figure 7 (the vector is constituted by the gaze). Firstly, the protagonist's wife smiles and looks toward the father; secondly, the child is happy to look at the fruit; thirdly, the protagonist and his father look at each other. In the aspect of narrative representation, the figure 7 seems to show that the family members become happier after purchasing the tiles. But it is a scene without mutual communication because there is lack of any communication with the protagonist's wife. From that we can see that the female's labor value is actually not getting the enough respect.

If narrative representation is to interpret its phenomenon, then the concept representation reflects its essence [18]. Conceptual representation includes classification, analysis, and symbolic processes. In the classification of the gender roles of the characters, according to figures 2, 5, and 7, it can be found that the ratio of male and female is out of balance. In these figures, the male characters include the protagonist, the protagonist's father, and the protagonist's son; while the female character is only the protagonist's wife. The ratio of male to female in a family should be balanced according to normal circumstances. However, the ration is very large in this advertisement. Moreover, almost all of the scenes are from the male's perspective, and the female shot is only in the final daily life part. In fact, the selection of tiles during the interior renovation in a family is something that deserves the whole family members to discuss. But this advertisement shows that the decision making right is in the hand of male: the protagonist's father. It can be seen that the media tend to emphasize that male is the core figure at home and his status is higher than the female.

Two types of participants are also involved in the analysis process: the carrier that represents the whole features and the carrier that represents the part [5]. Overall, the close-up of men in the advertisement is much larger than that of women. At the beginning of the advertisement, it is the male (the father of the protagonist) who is immersed in buying tiles and the person who makes the final choice is also the male (the protagonist's father). There is no shot that describes the attitude or opinion of the female in the choice of tiles. Only after selecting the tiles, we can see the wife's smile, which can be interpreted as subordination and obedience. Even if the protagonist's wife has her own ideas, she has no right to speak. Therefore, the advertisement constitutes an unequal phenomenon that men usually hold the main right in the decision-making of important matters, while women seem to have a maternal aura, but with few rights in family affairs.

The symbolic process tends to answer who the participants are and what they mean. The participation of specific characters in the advertisement has some symbolic meanings, and the lack of specific characters is also symbolic for the reason that every choice is based on ideology [19].

In the gender setting of the protagonist's child, the male is chosen, which implies the "son preference" ideology in the advertising media. Choice is an expression that conveys a sense of ideology. Whether the discourse can be accepted as truth is not only related to the content, but also related to the intention of the users [20]. The media often reflect the "male patriarchal" concept through the selection of statements because only in this way can they communicate well with the public and get the most recognition of people [21]. Through the mass media, the concept that child's gender is male in the family is unconsciously accepted by the public. And then this "son preference" view will become rooted in people's mind. The diffusion of this patriarchal concept has actually made the bias that male is better than female, and it is precisely because of the penetration of this concept that women's power is gradually lost.

Moreover, the neglect of the role of protagonist's mother also shows that the advertising media do not respect the role of female. The protagonist's mother did not appear in the entire video. Even when the final

shot fell on the family photo in figure4, there was no appearance of the protagonist's mother. It can be seen that the advertisement planner ignores the existence of female and does not respect woman in terms of character setting. The theme of this advertisement is "love", "caring", "families" and "home". And the most basic members of a family should include the protagonist, the protagonist's wife, the protagonist's child, the protagonist's parents and even the woman's parents. This kind of family is indeed called a "complete family" especially in the Chinese culture. However, in this advertisement, not only the protagonist's mother did not appear in the video, but even the family photo did not have the role of protagonist's mother, which will make people to consider that the protagonist is actually from a single-parent family, but logically it contradicts the concept of a "complete home". Therefore, it can be interpreted as the lack of awareness of gender equality in advertising media, and this consciousness is derived from the certain society.

3.2.2. The interactional meaning of image

The interactional meaning of the image is to explore the relationship between the image producer, the world presented by the image and the image viewer, and it also aimed to remind the image viewer of the attitude towards the characters [18]. The realization of the interactional meaning mainly through three aspects: contact (demand), social distance, and attitude [17]. The "contact" refers to the fact that the participants in the image interface with the gaze of the image viewer, thereby triggering the perception of the image observer. When an image participant provides information or presents information to an image viewer, it constitutes "offering."

From these images, we can see that the image participants do not look at the viewer so that they lack "contact". Instead, they are providing information to the viewer, called "offering". The information provided in figure 1 is the concern of the protagonist's father in the selection of tiles; the information provided in figure 2 is that the family chooses the tiles, the protagonist and the protagonist's father are at the forefront, the protagonist's wife is at the end, carrying the child; the same information provided in the following four figures is the recognition and appreciation of the protagonist's father to Huiwanjia Ceramics. The information provided in the last figure is that in the daily life scene, the family members are sitting on the sofa, waiting for the fruit from protagonist's wife. Based on the information these images provided, it can be found that the media constitute a gender difference between male and female, that is, "male is usually a representative of rationality and authority in the family; while female usually plays the role of domestic worker, sensible and attached to male" [22]. This may be a reflection that women are inferior to men in society and it also conveys the idea of depreciating or denying women's social values [23].

Woman is not born, but learned in the society. In the video, there exist some stereotypes for women. Traditional media always utilize female images to convey the specific information [24]. The roles of women in the video are limited to the family housework and their social values are from their daily domestic affairs. This display and dissemination of the image of such a good wife and mother represents woman's role in the society. In the traditional Chinese culture, women are in the position of housewives, mainly responsible for doing housework, cooking and preparing food and other trivial matters. The setting of these female images is inevitably adjusted by the patriarchal culture to cater to the expectation of male [22]. In addition, the advertisement producer's awareness of the setting of characters and the distinction of behaviors between male and female is formed in the family, influenced by the social environment, and is also the product of psychology and society [25]. Gender awareness is naturally reemerged and propagated through discourse, and then it becomes a consensus.

"Social distance" is determined by the size of the exact scene [26]. In general, the larger the range of shot framing and the farther the field of view means the farther the social distance is, and vice versa. Figure 1 is a close-up view of a facial expression of a male (protagonist's father) showing a close social distance. Figures 3, 4, and 5 also give a close-up from man's facial expressions and then to the exact body part, such a close-up shot gradually bridging the male social distance closer to the audience; while the female shot is almost always a distant view, as shown in figures 2 and 5. It can be seen that the close-up effect of the male shot makes the image construct a male close distance, while the female's such shot makes the female social distance far. This kind of image effect will make men more sensational and worthy in the audience's mind, so that the audience will gradually ignores the existence of women.

When it comes to the "attitude", it depends on the perspective of the image capture in the visual grammar. From the horizontal dimension, the frontal shot of the advertiser will reflect the attitude of the photographer to actively integrate with the image. The photographer's side shot reflects their passive participation and indifference; from the vertical dimension, the photographer's overhead direction shows his strong attitude. And if photographer looks up to shoot, it will express his admiration, and if he shoots at the same level of the image participant, that means he has the expectation of same status. On the other hand, the images of different angles can also remind the viewers' attitude towards the specific characters. In the video, if the old father appears, the shot is almost in the perspective of looking up, particularly in the figure1, 2, 3, 6, and7. The advertisement producer tends to remind the viewer of

his worship and respect for the old father, and also delivers the idea that the male is the main character in the family, occupying the main position.

3.2.3. The compositional meaning of image

The compositional meaning of images is constructed by the "layout" of various elements in the image, mainly in three related aspects: information value, saliency and framing (framework) [17]. As for information values, the elements that are distributed on the left and right sides of the image correspond to old information and new information. The elements distributed in the upper and lower positions are the ideal and true information. In terms of saliency, the specific character salience in the image can be achieved in a variety of ways, such as position (degree of foregrounding), frame size and color contrast. For example, elements in the middle of the image mean that they have main and dominant position, while the elements at the edge mean they have less important information. A border (framing) refers to the dividing line formed by different elements in an image to indicate whether the various elements belong to the same space.

Compared with the information value, the inequality between men and women is mainly reflected in the aspect of "saliency", that is, the position of men and women implied by different positional layouts. In the above figures, the specific characters in figure 1, 3, 4 and 6 have only male characters, and each has a foregrounding treatment for men. At this time, the male is obviously in the significant position. And both of men and woman are appearing in the figure 2, 5, 7, and their positional layout in the image will reflect the degree of saliency. In figure 2, the male (the protagonist and the protagonist's father) is at the center, which is not only due to the foregrounding of the male by the image creator, but also because the color of the male trousers itself is a relatively attractive dark color. This contrasts with the white, fresh, and elegant colors of the entire image, which will attract the viewer's attention. The woman (the protagonist's wife) appears in the picture as her first time, near the marginalized position and outside the center. Image creators use the different layouts of male and female to convey the concept that men's status in the family is higher than that of women. In figure 5, the protagonist's wife finally appears in the upper left position of the image, but it is intentionally blurred by the image creator. Instead, the focus of the shot is mainly on the foregrounded male (the protagonist's father and his son) in the lower right corner. From that we can see the male is still in the main position. The figure 7 is the scene of the protagonist's wife preparing the fruit for her family members. In the narrative sense, the protagonist's wife is the main character, and she should be placed in the most prominent position. On the contrary, the most prominent position is still reserved for males. The position of the female in the image is not at the absolute edge, but it is still inferior to male. The advertisement mainly highlights the status of men in the family through foregrounding and close-up of men, and also reflects the low status of women in the family through the marginalization or secondary position. All in all, women are not only overlooked and marginalized, but women's social values are gradually being ignored.

In addition, it can be seen from the image framing (mainly figures 2 and 7) that the entire space is divided into two parts. In figure 2, if we take the protagonist and his father as a whole, the protagonist's wife and his son as another whole, then the back of the protagonist and his father will form a vertical dividing line, separating the protagonist's wife and the protagonist's son from the space. For the space on the left side of the image, the protagonist and his father's eyes are all facing the tile on the left, so the vector direction is to the left; for the right space, the eyes of protagonist's wife is toward the left tile, so the eye vector direction is to the left. But her action vector is not to the left because she is holding her child whose eyes are looking at the right. The elements on the left and the right of this image seem to belong to the "same space", but actually they belong to the different world that males are active in family matters, and women are mainly responsible for bringing child and participating in the role of bystanders.

As for figure 7, the protagonist's wife forms a dividing line as a whole, dividing the space into two parts. For the left space, the protagonist and his father's eyes look at each other and form a "contact". And the protagonist's child's eyes are locked on the fruit on the right, so the vector is to the right; while the vector direction of the right space is to the left because the protagonist's wife is looking at the left with fruit. At this time, no eyes were gathered on the protagonist's wife, so the protagonist's wife did not form a "contact", instead formed a "providing", that is providing the information to the audience that she is busy with food preparation. It can be seen that the female character in the right space (the protagonist's wife) does not form any contact with the male character on the left side, so they do not belong to the "same space".

The compositional meaning of the image is based on the meaning of representation and interaction. In terms of representative meaning, the different genders are constructed in the advertisement by the differentiation and ratios; as for interactional meaning, the different behaviors between male and female are set and the attitudes of producer to male and female are shown; for the compositional meaning, the image of the male and female in the image is constructed in the unequal position: the male is in the main position and the female is in the marginalized position. All in all, the ideology of gender discrimination is buried in image construction.

4. The ANALYSIS OF GENDERDISCRIMINATION

4.1. Multiple forms of gender discrimination in TV commercials

Through visual grammar analysis of Huiwanjia ceramic advertisement, it can be found that the media use different visual representation forms to express the tendency of gender discrimination. Among them, the forms of gender discrimination can be summarized as: larger male proportion, more close-up of male, male child, main character's male setting; more looking up shots of male, female's marginal position, more female's external features that are irrelevant to the product, setting of incapable female role, and stereotypes for women. In order to verify whether these forms are suitable for the analysis of other advertisements which have the tendency of gender discrimination, ten TV commercial on the Tencent video platform are randomly selected under the reference of "standards of gender discrimination" [27]. The numbers 1-10 will be used to present ten Ads respectively. They are Cadillac XTS Ad, Jinding Tune and Oil Ad, Panyun Shampoo Ad, Libai Natural Detergent, Buying Car Creative Ad,Vida Ad, Oreo Ad, Junlebao Children's Milk Ad, Zhou Dasheng Jewelry Ad, Haier Ad. Then, the visual representation forms of men and women in these advertisements will be collected.

Table 1. Multiple forms of gender discrimination in ten TV commercials

Visual forms	1	2	3	4	5	6	7	8	9	10	all
Larger male proportion	0	-	1	0	-	1	1	1	0	1	5
More close-up of male	0	0	0	0	-	1	1	1	1	1	5
Malechild	1	0	-	-	-	1	1	1	-	1	5
Main character's male setting	1	0	0	1	1	1	1	1	1	1	8
More looking up shot of male	1	0	-	-	-	-	1	1	1	1	5
Female's marginal position	1	1	0	1	-	-	1	0	1	-	5
More female's external features	1	1	1	1	1	1	0	1	1	-	9
Setting of incapable female role	1	1	1	1	1	1	1	1	1	1	10
Stereotypes of women	1	1	1	1	1	1	1	1	1	1	10

(1 means yes; 0 means no; - means it cannot judge)

According to table 1, all these ten advertisers devalue women's social value through the stereotype for women and the setting of women's incompetent roles to deliver the ideology of gender discrimination. And most advertisers show the external characteristics of women and use women's external traits to attract more attention. In addition, different types of advertisements also skillfully use different proportions of men and women, the frequency of shots of men and women, and the gender setting of children to affirm the presence of men.

4.2. The causes of gender discrimination

Gender discrimination in a broad sense refers to the degrading attitude, inhibition behavior, and prejudice tendency of individuals with specific gender. It refers to the unfair attitudes and restrictive behaviors of human dignity, role evaluation and development opportunities, formed by social culture and based on physiological gender differences [28]. The penetration of gender discrimination ideology is invisible and exists in the "discourse" that maintains the unequal power relationship in the process of constructing social reality [29]. Influenced by economy, society and culture, the media may have weak attitudes to the gender discrimination and have not adopted any action to prevent this kind of social phenomenon. Instead, it has to some extent promoted the development of gender discrimination [27].

The difference in social roles and social divisions between media and audience creates their unbalanced relationship. The media have the right to speak, but the ordinary people are forced to accept information. The discourse refers to the language we used, including various genres used in social life, the words of different lengths and the symbols of the different meanings [30]. In CDA, Kress defined it as an organized and systematic statement that can deliver the value of an institution [31]. In this sense, the discourse is both about language and practice [32]. Advertising is a social practice and the different symbols used in can carry the will of the media. Once the media have produced words, it will give birth to the power. When using the concept of power to analyze social behavior, it includes two meanings: "the ability to act" and "the ability to dominate others" [33]. What the media have mastered is the power of dominance, that is, the right to control cultural symbols, and the conscious choice of certain information or themes [27]. In these images, the use of power has never disappeared, but becomes more obscured and difficult to capture" [34]. Through the image construction, the ideology of gender discrimination is buried so that audiences will accept it naturally and unconsciously. Ultimately the audience's thinking will be controlled by the media.

The career situation of female workers in advertising is worrisome. As competition in the media industry intensifies, the pressure on media personnel is increasing. Under the same pressure, women face the dual pressure of work and family for the reason that in the traditional Chinese culture the women have to bear the responsibility of caring for the family and looking after their children. After working for several years, the women have to give the birth to the child so

that they are forced to temporarily withdraw from work. And after they complete their "mission", they will find it so hard to return to the work especially in the same position as before. By contrast, men have a relatively large promotion space. The increased recognition of men for their unique physical advantages and job stability has motivated them to have a higher position in the media industry. In the media's senior and middle decision-making levels, the proportion of women just accounted for 4.4% and 9.6% respectively [35]. In the high level, the great disparity between male and female ratios means that most of the media's decision-making rights are in the hands of men, thus forming a patriarchal mechanism. Meanwhile, women's weak gender awareness and gender sensitivity make them gradually neglect their rights so that their status in the media industry becomes marginalized.

Specific commercial advertisements have specific audiences, and whether or not to cater to the taste or mentality of the target group becomes the key. The content of this TV commercial caters to the inherent thinking of the audience. Therefore, it has obtained people's maximum supports that the click rate and rating of the advertisement is increasing. Otherwise, how to attract the attention of more groups besides the target group has become the focus of planners. Gender discrimination is a phenomenon that exists in the real world. The media have some stereotypes towards women, and they have consumed women's external features and external values. They regard the women as the products and use women's unique charm to attract more attention [27]. From that way, it will not only cater to the women's role orientation in traditional culture, but also cater to men's expectation for women, and even caters to the media's special mentality that men are superior to women.

It is driven by economic benefits. Commercial advertising is a natural product driven by the market economy, and has its own operating rules. Its ultimate goal is to promote consumer to buy products. So the first thing need to do is to attract consumer's interest and attention. In the process of advertisement planning, the time and cost are the focus of advertisers. It means that how to maximize the attention or even recognition of the audience in the short time, and how to achieve the best result at the lowest cost is the key. The fierce economic competition has increasingly led advertising planners to use more women's external features to attract the attention of the audience. The media economy is essentially an "eyeball economy" [27], also known as "attention economy". It utilizes women's external values to attract more attention so as to promote more people to buy products. Meanwhile, it caters to the psychological needs and the backward interest of the audience (especially potential consumers), triggering their concern and discussion for the purpose of making profit [27]. In this way, it is easier to understand the phenomenon that the female dress, posture, eyes, movements all these contents in the advertisement are not related to the products but necessary for advertising. Driven by economic interests, the planners commercialize women and regard them as affiliates of goods. Also, the more emphasis on the female's outside value shows that their neglect and negation of women's real value.

The constant accumulation of stereotypes on female has made the view of gender inequality deeply rooted in the hearts of people. The stereotypes like "men are bread winners and women are house workers", "good wife and excellent mother" and "lack of talent in women is a virtue", all these prejudices will weaken the women's gender awareness to some extent and will also improve the men's status in people's sub-consciousness. Under this circumstance, the ordinary people are influenced by this view and deepen these stereotypes in return. The mass media industry is the carrier of popular culture. Media culture originates from social culture and promotes the progress of human civilization. The phenomenon of gender discrimination in the mass media field is largely a reflection of the real world intentionally or unintentionally [27]. Instead of delivering the gender equality awareness to the audience, the advertising has heightened the awareness of gender discrimination to the "art level." In Faiclough [36], ideology is a representation of a certain aspect of the world, and it plays a role in the social relations related to power, domination and exploitation. The media use different symbols to maintain the gender order, cover the unequal gender status, paralyze and even weaken women's gender consciousness to maintain men-centered culture solid and reasonable.

In addition, women feel that they are inferior to men because of men's physical nature and economic status especially in the old days. Generally, men have more physical advantages over women and also earn more money than women, leading to women's more reliance on them. Gradually, the unequal status gives rise to the emergence of gender discrimination. Gender discrimination in the advertisement may have negative impact on the whole society, which seriously hinders the development of women themselves, devalues women's social value and affects the harmonious progress of the whole society [27]. By constantly using different symbols of female's roles and characteristics, people's stereotypes on women's abilities, roles, and personalities will be deepened. The media use the various forms to represent content, construct meaning, embody, reflect and strengthen the concept of gender inequality and discrimination to achieve men's superior status.

5. CONCLUSION

The study starts from the explanation of image communication of a TV commercial and analyzes how the ideology of gender discrimination buried in it, and then criticizes this social behavior. It is expected

that the society can increase the supervision on advertising media; and the media could respect women's rights and recognize the social values of women. It is also expected that media workers can raise the awareness of gender equality, conveying the better values to the audience. Moreover, I hope that more and more women can join the media decision-making level to win more voice. The study applied the multimodal discourse analysis with gender discrimination research in the advertising field, analyzes a case, summarizes more forms of gender discrimination and finally explains why it happens. However, due to the lack of time, no more examples were collected and no horizontal and vertical comparative studies were conducted. Therefore, more studies are expected to make up for this gap.

ACKNOWLEDGEMENTS

REFERENCES

[1]Zhu Yongsheng. Theoryand methodologyof multimodal discourse analysis. Foreign language research, 2007, (5): 82-86.

[2]Liu Juan. A review of the research on multimodal discourse theory in China. Journal of Liaoning Technical University (Social science edition), 2015, (2): 209-213.

[3] Feng Dezheng, Zhang Delu, and O'Halloran. The progress and frontier of multimodal discourse analysis. Contemporary linguistics, 2014, 16(1): 88-99.

[4]Hu Zhuanglin. Multimodalization in semiotics, Language teaching and linguistic studies, 2007, (1): 1-10.

[5]Kress, G., van Leeuwen, T. Reading images: The grammar of visual design,"London: Routledge, 1996.

[6]TianHailong, Zhang, Xiangjing. Meanings in images and ideologies of media: A multimodal discourse analysis. Foreign languages research, 2013, (2): 1-6.

[7]Halliday, H. M. K. An introduction to functional grammar. London: Arnold, 1985.

[8]Tian Hailong, PanYanyan. From meaning to intention: New development of multimodal discourse analysis to multimodal critical discourse analysis. Shandong foreign language teaching, 2018, (1): 23-33.

[9]Machin, D. Introduction: What the multimodal critical discourse analysis is, Critical discourse studies, 2013, 10(4): 347-355.

[10]Machin, D. The need for a social and affordance-driven multimodal critical discourse analysis. Discourse and society, 2016, 27(3): 322-334.

[11]Xin Bin, Gao Xiaoli. Critical discourse analysis: goals, methods and dynamics. Foreign languages teaching, 2013, (4): 1-6.

[12]Gao Lina, Qi Li. A review of researches on multimodal critical discourses analysis. Journal of Huzhou University, 2017, (11): 82-86.

[13]Zhao Peng, Tian Hailong. Criticism of critical discourse analysis: Review and discussion. Nanjing social sciences, 2008, (8): 143-147.

[14]Li Zhanzi, Lu Danyun. Multimodal semiotics: Theoretical bases, research approaches and prospects. Foreign languages research, 2012, (2): 1-8.

[15]https://v.youku.com/v_show/id_XNjA4MjE2MD M2.html.

[16]Li Huiyan. Visual grammar and the overall meaning construction of multimodal public service advertising. Journal of Changchun University of science and technology (Social sciences edition), 2014, (5): 99-103.

[17]Li Dezhi. A visual grammar analysis of advertisement hypertext's multimodality. Foreign languages research, 2013, (2): 7-11.

[18]Zhang Jingyuan, Jia Peipei. Reflections on visual grammar, Contemporary foreign languages studies, 2012, (3): 38-42.

[19]Huang Leping. Critical discourse analysis of immigration speech by John McCain, Journal of Qiqihar University (Philosophy and social science), 2010, (11): 127-130.

[20]Guo Guanghua, Wang Yajiao. How the discourse of media works: A research review of western discourse. Hunan social sciences, 2015, (1): 202-205.

[21]Du Liping. Theories of mass communication, Beijing: Xinhua Publishing House, 1990.

[22]Wu Tingjun, Zheng Yue. The analysis of stereotypes in woman in TV commercials. Contemporary communications, 2004, (5): 68-70.

[23]Zhuang Zi. Culture media and female: Study on the stereotypes of gender impression in TV media. Journal of Huaihua University, 2008, (8): 62-64.

[24]Zhang Hengjun. Criticism of the contemporary media's stereotypes in woman. Press circles, 2012, (1): 50-53.

[25]Wang Zheng. The rise of woman. Beijing: Contemporary China Publishing House, 1995.

[26]Wang Min. Wolf Warriors II in the visual grammar and the image construction of the country. Journalism lovers, 2018, (2): 81-84.

[27]Zhang Yanhong. Media criticism from the perspective of feminism. Wuhan University, 2009.

[28]Sun Shudie. Gender discrimination in mass media. News enthusiast, 2003, (3):16-17.

[29]Liao Yiqing. A review of critical discourse analysis in gender. Foreignlanguage education, 2008, (5): 23-27.

[30]Tian Hailong. Discourse studies: categories, perspectives and methodologies. Shanghai: Shanghai Foreign Language Education PRESS, 2009.

[31]Kress, G. Linguistic processes in sociocultural practice. Oxford: OUP, 1985.

[32]Xin Bin. Foucault's theory of power and critical discourse analysis. Foreign language research, 2006, (2): 1-6.

[33]Foucault, M. Remarks on Marx. New York: Semiotext (e), 1991.

[34]Kress, G., van Leeuwen, T. Reading images: The grammar of visual design. London: Routledge, 2006.

[35]Hu Dahai. The absence and reconstruction of gender equality awareness in the media industry. News dissemination, 2011, (10): 53-55.

[36]Fairclough, N. Analyzing discourse: Textual analysis for social research. London: Routledge, 2003, (1): 1-191.

Registering Consultation of College Entrance Examination Based on Career Planning

Yang Liu, Wei Cheng*
School of Economics and Management, Heilongjiang Bayi Agricultural University, Daqing, China
*E-mail: 22088261@qq.com

Abstract: With the further deepening of higher education reform and the reform of enrollment system, the competition in college students is becoming increasingly fierce. College Entrance Examination is a form of transition from general secondary education to specialized higher education for high school graduates. With the acceleration of social development in China, the number of candidates in every provinces and cities is increasing, and the enrollment scale of colleges and universities is expanding. More and more high school graduates enter the university through the College Entrance Examination and find their ideal career through the university study time. The registering consultation of College Entrance Examination is an important way for the college entrance examination candidates to make their wish true and willingness choice for further study.

Keywords: College entrance examination; Registering consultation; Career planning

1. BACKGROUND

According to statistics data, 9.75 million students enrolled in the college entrance examination in China in 2018, He-nan Province was ranked first with 983,000 students. In recent years, with the increasing investment in education, the education industry has developed rapidly. At the same time, tens of thousands of parents of candidates encounter a variety of problems in many choices such as filling methods in the college entrance examination, but there is no such a targeted and well-served institution to answer their questions and puzzles. Similar, college entrance examination education consulting service companies are very scarce. At present, the consultation system market has shown one-sided, short-term and lack of long-term follow-up links, resulting in the failure to thoroughly, comprehensively and systematically solve the problem of college entrance examination voluntary filling. Registering consultation of College Entrance Examination is the key starting point for career development, and the first important choice for candidates to enter their career is to design the starting point of future life from the perspective of career planning and career development. According to candidates' interests, personality and potential, the proper filling choice will affect the development of future employment. Make a plan that meets the candidates' career development and it will closer to the future social needs and the reality of the workplace.

2. CURRENT SITUATION OF REGISTERING CONSULTATION OF COLLEGE ENTRANCE EXAMINATION

Through field interviews and interviews with five universities in Heilongjiang Province for 435students, of whom are 410 freshmen and the rest are sophomores. It is found that most of the candidates are dissatisfied with their chosen majors. Blind entrance examination results in many candidates do not know much about their major, leading to students do not know what kind of work they can do after graduation. Because candidates do not understand and dislike the major they are studying, they can not take it seriously, so learn their own professional knowledge well and dislike learning their own professional knowledge. In the end students can only learn a little about their own professional knowledge. Some candidates do not know what kind of job they should do after graduation, and do not know how to plan their career and where to find jobs suitable for the professional knowledge they have learned, and how to make their own career planning, which makes it more difficult for these people to obtain employment.

The reasons for these problems lie in the blindness and ignorance of the students when they applied for the college entrance examination. In order to solve these problems well, it is necessary to know clearly whether the major of each school is in accordance with the score of the college entrance examination, the wishes of the students and the career planning of the students themselves before filling in the college entrance examination.

However, in the face of more than 1000 colleges and universities in China, more than 400 standard majors, such huge information of colleges and universities, professional information, employment information of different majors, admission score line, etc. And so on, facing these dazzling and huge information, parents and their children can not make suitable choice just in time. So based on this phenomenon, in order to eliminate this concern, we will synthesize all the professional information of each college and the most suitable college according to the candidates' career planning to analyze the suitable institutions and specialties for candidates. in line with the candidates' interests and interests. Some people say that choosing

the wrong major and regretting your whole life is not enough, but at least half of your life will be regretted. The major you study and the school you choose mostly determine your future career and life path. Therefore, you must be careful in choosing the major and school, and the major decides employment.

Registering of College Entrance Examination refers to the institutions and majors that candidates choose to participate in. It is the candidates' voluntary intention and the comprehensive reflection of the candidates' wishes, hobbies, personality and abilities [1]. As an important basis for admission, registering of college entrance examination is not only related to the four-year college experience for candidates, but also closely related to the development of candidates' future career life. According to the survey data, 46% of the candidates have delayed their prospects because of their dislike majors. This is mostly due to the high or low level of major consulting, and the school majors they choose do not match their scores. The purpose of the college entrance examination system is to enable the candidates to achieve further education through college entrance examination, results to reflect the true score level they got in high school. Candidates and their parents should understand the form of enrollment, the number of applicants for each subject in the region, the enrollment plan of each batch of subjects, the enrollment ratio and other related information, and grasp the principle and direction of filling in university and major applications as a whole, so as to avoid subjective assumptions. [2] However, the reference system for students' professional selection is not perfect, they do not know about colleges and specialties, and they often miss a lot of important information when they apply after the College Entrance Examination. These huge information data may lead to the failure of candidates with their favorite colleges and majors.

3.   OPINIONS   ON   OPTIMIZING   THE CONSULTATION   WAY   FOR   COLLEGE ENTRANCE EXAMINATION

There are many behaviors that do not conform to the industry norms in the process of registering consultation of College Entrance Examination. The main purpose of many consulting of College Entrance Examination agencies is to make economic profits, at the same time, those agencies make social profits. Instead of being situated for the sake of candidates, the candidates were specially helped to make a huge profit of 100 million yuan in consulting application. At the same time, agencies should follow laws, industry rules and standardize industry behavior. Applicants who have at least two or three years of experience in this industry or use artificial intelligence technology, and combine high-quality first-line information, making enterprises have a higher reputation and efficiency. To make parents and students more reassured and chasing each other.

At present, with the improvement of national legislation and the introduction of the new policy of college entrance examination, there is a lot of demand for the entrance examination service, which makes the market of the consulting of entrance examination industry more open. There are more than 9 million candidates every year. If half of the students choose to take part in the consulting of entrance examination service for college entrance examination, the market will demand more than 1 billion candidates for college entrance examination service. Therefore, the development prospects of the college entrance examination industry will be very broad. From this, we can see that the consulting entrance examination service is also very important.

Nevertheless, in the process of operation and development, there are many problems in the consulting process of college entrance examination that enterprises faces, just like other enterprises.

3.1. The management is not standardized

At present, the management is not standardized and because the law is blank, Man-made industry standards rules. And the man-made industry standards rules is more important than the rules of law. In the process of consulting application, the applicants will sell other books or software to students and their parents for their own benefit. Without the experience of applying for College Entrance Examination, consumers are likely to be deceived and lose money, which will damage the reputation of enterprises.

3.2. Enterprises still have the problem of imperfect human resources management system.

In the field of registering consultation of College Entrance   Examination,   lack   of   experienced professionals. Professionals with rich experience in applying for examinations are often the relevant personnel responsible for enrollment in universities and the teachers responsible for reporting in high schools. They focus on their own work during the busy reporting season and have no time to provide relevant consultation for candidates. Consulting agencies need a long cycle to recruit a large number of experienced professionals.

3.3. Agencies should should pursue long-term economic benefits

Agencies only focus on immediate interests but not long-term vision will not suit this industry. In the process of development and operation, agencies should understand the current market environment and industrial form, find out the advantages and disadvantages of agencies, and formulate practical strategic planning.

3.4. Establishment of a long-term return visit mechanism by agencies

Many enterprises do not know whether the customers are satisfied or not after they apply for the examination, whether there are omissions, wrong reporting in the later period. In accordance with the relevant regulations of the state for enrollment,

starting from the students' own college entrance examination results and professional interests, schools and majors are selected to fill in the college entrance examination voluntarily. Get advice from students and parents during the voluntary filling-in process. If the application fails due to the reasons of the applicant institution, the applicant institution shall bear the corresponding full responsibility. However, if the parents fail to inform the staff because they change their consulting after they apply for the examination, this is a problem for the students and parents themselves, and has nothing to do with the applicants, they should bear the corresponding responsibility [3].

4. GUARANTEE MEASURES FOR OPTIMIZING CONSULTING WAYS FOR COLLEGE ENTRANCE EXAMINATION

In order to better achieve the management objectives of the college entrance examination consulting agencies and improve the management level of the consulting agencies. Based on the practical environment of the college entrance examination in China, this research puts forward some suggestions:

4.1. Develop appropriate management mechanisms for agencies

College Entrance Examination consulting agencies should formulate appropriate management mechanism according to industry regulations and their own characteristics, establish sound management mechanism, take risks bravely, and clearly divide responsibility for similar acts involving unreasonable consulting schemes causing actual losses. Collecting customers' opinions and suggestions, only in the process of continuous improvement, consulting enterprises constantly find and reflect on their own problems and shortcomings, find out the reasons, and then solve these problems, in order to better serve customers and improve customer satisfaction.

4.2. Consulting bodies need to improve the human resources reserve and establish a sound personnel training plan

Training staff's professional skills, increasing staff training, and advocating staff's innovation in consulting methods. For excellent employees, consider implementing employee stock ownership plan.

4.3. The fee is reasonable and the service price is not unreasonable

There are some online and offline paid application consulting and consulting software, which is very expensive. After a short ten minutes of evaluation, the fee is tens of thousands, and the final consultation results are not satisfactory. These institutions should regulate the charging behavior, and should not use the lack of relevant information of examinees and parents to charge premium. The essence of fee premium is to make use of information asymmetry and parents' anxiety. At present, the consulting industry of college entrance examination has not been standardized and the rights and interests of consumers have not been guaranteed. Advocate rational consumption of consumers, rather than relying blindly on these entrance examination consultation. And delayed the prospects of candidates.

4.4. Establish customer satisfaction on the basis of career planning of voluntary consulting for college entrance examination.

Establishing customer satisfaction is a very important measure of my project. Customers can score their children's schools and majors according to their wishes. If the effect is lower than expected, the customer will not be satisfied; if the two match, the customer will be satisfied; if the effect exceeds the expectation, the customer will be very satisfied.

5. CONCLUSION

The career planning of college entrance examination consulting is restricted by many factors [4]. The consulting agencies should first understand the students' situation, interests, characteristics, and willingness, then fill in the form. The family conditions of some students are not very rich, and the idea of finding a better job after graduation is prevalent. Therefore, when choosing a major, popular majors are generally chosen to facilitate employment. At this time, staff should try to avoid choosing basic subjects for students. If students are interested in scientific research or academia, they should focus on choosing their major and pay attention to the ranking of their chosen major. For those students who have no goals and want to work freelance after graduation, the road to entrepreneurship is more appropriate.

At present, the imbalance of urban development leads to the widening gap in economy, culture and education among cities. In the developed cities along the Southeast coast, the ideas, cultural enlightenment, insights and vision gained by scholars are totally different from those of the backward cities in the West and remote areas. These are the important factors that constitute people's cognitive level. Choose the place of the school according to the family situation and score. If the score is not ideal, we will try our best to choose Beijing, Shanghai, Shenzhen, Guangzhou and other economically developed provinces and regions. University is the best place to accumulate knowledge and experience for ones' life. Developed regions have amassed a large number of talented people, and China now has a large number of large cities with a population of more than 10 million. Most of the well-known international enterprises are concentrated in these provinces and regions. While completing university education in these areas, students have a lot of opportunities to go out of the campus and actively strive for internship and social practice opportunities during the holidays. In fact, the most important thing for college entrance examination consulting is to understand their personal aspirations and self-identification.

REFERENCES
[1]Yuguo National Day. Wanpuhai. Guidelines for College Enrollment and Examination in Jiangxi Province in 2011. Jiangxi University Press: 2010.

[2]Book Editorial Board. Knock on the Ideal Gate: Navigation of the Newest College Entrance Examination. Chinese Publishing House: 2001.
[3]Jiqiang, Rong Lixia, Huang Xiping, Hu Yu. Analysis on the Countermeasures of university enrollment propaganda under the new situation. Journal of Inner Mongolia University of Technology (Social Science Edition), 2010(1).
[4]Liu Zhe, Zhang Qiujun. Viewing Career Development Education in Colleges and Universities from Voluntary Application for College Entrance Examination. Social Sciences Longitudinal and Transverse, 2016(7).

Research on Improving the Ability of Grassroots Sports Associations to Serve the Society

Xinying Cheng
Institute of Physical Education, Huanggang Normal University, Huangzhou 438000, Hubei, China
E-mail: ty-cxy@hgnu.edu.cn

Abstract: Since the promulgation of the national fitness program, mass sports have made great achievements. The good operation of grassroots sports associations is an important guarantee for the national fitness activities. The resource advantage and existence value of grassroots sports associations are widely valued. However, there are also some problems in the process of grassroots sports associations guiding citizens in scientific fitness. How to deal with these problems and maximize the value of grassroots sports associations is the focus of this paper.
Keywords: National fitness; Grassroots sports associations; Ability to ascend.

1. INTRODUCTION

The fundamental role of sports in the evolution of human beings lies in the fact that they satisfy the most basic needs of human beings – health and entertainment. Culture turns people who are animals into people who create, organize and think. Sports is an important cultural form created by human beings to transform themselves as well as the society [1]. In such cultural activities, human beings pursue the goals of equality, freedom and transcendence, and at the same time cultivate the consciousness of rights, autonomy and rules. To be sure, in the context of civil society, people are consciously aware of their own existence value and design and create life according to their personal conditions and wishes to realize their self-value. Sports are usually divided into three parts, the school sports, family sports and community sports, anyone cannot live without social, therefore, social sports is arguably the most profound influence on people, with the development of social economy, the social mode of production has also had a certain change, more and more knowledge workers, lack of physical exercise, have left many people, especially for city people is in a state of sub-health, therefore, needs to have such a kind of social sports organizations, to guide, organize, and lead people to actively take part in physical exercise, develop good exercise habits, sets up the lifelong sports consciousness [2].

In order to promote the development of social sports and let more people actively participate in social sports, the state has formulated a series of policies in recent years to promote the development of national fitness activities and support the development of grassroots social organizations [3]. In August 2001, the general administration of physical culture and sports of the People's Republic of China issued the plan for the second phase of the national fitness program (2001-2010) [4]. In 2009, the regulations on national fitness issued by the state council once again established the status of sports associations, sports associations and various non-governmental sports organizations in the development of China's social sports undertakings, and encouraged various social sports organizations to actively carry out activities. "The national fitness plan 2016-2020" also clearly stated: "to promote the reform of social sports organizations, to stimulate the vitality of national fitness. According to the general requirements of the development of social organization reform, accelerate the sports social organizations become separate ZhengShe explicit power and responsibility, in accordance with the law of autonomy organization in modern society, the sports social organizations to independent legal organization transformation, promote their socialization, legalization and efficient development, improve the ability of sports social organizations to undertake the national fitness service and quality." It can be seen that in order to put "building organizations around the masses" into practice, the relevant departments of the state have issued policies to encourage the society to create mass sports organizations to meet the needs of mass sports, especially grassroots sports associations [5-7].

Basic-level sports association refers to the basic-level sports association which aims to serve the public and meet the needs of sports and sports psychology of the public. Such as the establishment of the city sub-district office, the township has a social nature of the grassroots sport's association. Compared with professional sports associations, it is non-professional to some extent. Compared with unit sports associations, it is social to some extent [8,9]. It needs certain social sponsorship and collection of association dues to maintain its own operation. In recent years, with the enhancement of people's health awareness and the implementation of the national fitness program, China's grassroots sports associations have sprung up like mushrooms, with a wide range of

types and influences, and a good prospect for future development. However, as China's sports management is in the reform period, grassroots sports associations will inevitably have many problems in the development, and the operation mechanism will inevitably be full of loopholes. Under the traditional sports system of China, sports associations are affiliated institutions of the government with poor autonomy, and problems in resource allocation, communication and coordination, supervision, evaluation and activity organization may occur in the operation mechanism under this environment. These problems, if left unresolved, can lead to a vicious cycle of operational mechanisms. At the same time, because grassroots sports organizations have not been better management and development, will naturally affect their ability to serve the community, it is difficult to meet the needs of the public sports and sports psychological needs of the role. Therefore, it is of great significance to promote the improvement of grassroots sports associations' ability to serve the society through a series of measures, such as strengthening the promotion and publicity of grassroots sports associations, formulating a scientific and reasonable operation mechanism of grassroots sports associations, and increasing the support from the government.

2. RESEARCH CONTENTS

2.1. Analysis of Relevant Concepts

2.1.1. Concept analysis of national fitness

The current definition of "national fitness", academia hasn't made the unified specification, more authority to the definition of "national fitness program outline" : "national fitness refers to people all over the country, both male and female, old and young, all the people's strength, flexibility, endurance, improve the coordination and control the ability of all parts of the body, so that people's physical strength." This is only a literal interpretation of national fitness. Dong xinguang (2003) believes that "national fitness" is not only a word for China, but also a cause of socialist construction and the sports practice of hundreds of millions of people. It is a hot spot of sports and a unique social phenomenon in the late 20th century. People use the meaning of "national fitness", is not only the literal meaning of the national people to fitness, but "national fitness plan", "national fitness strategy", "national fitness work" and other synonyms. Think from this Angle, "the national fitness is dominated by the administrative department for physical culture and sports, covering all citizens of large social livelihood projects, it is to implement and carry out the national fitness country related policy laws and regulations as the main working content, meet the demands of the masses by constructing the public service system of national fitness, the popular science to participate in sports, forming positive and healthy lifestyle, and ultimately achieve the goal of improve and raise the level of

health."

2.1.2. Concept analysis of grassroots sports associations

As a kind of non-governmental organization in the field of sports, sports associations are called differently in different fields, such as sports associations, non-profit sports organizations, grassroots sports organizations and non-governmental sports organizations. Through referring to relevant materials, I learned that different scholars have different understandings of the concept of grassroots sports association from different perspectives. On the basis of referring to the research results of many experts and scholars, this study defines sports associations as sports social organizations that are approved by the sports bureaus at all levels and approved, registered and established according to law by the civil affairs departments of the people's governments at all levels, with the purpose of sports. It should be pointed out that the grassroots sports association studied in this research is the most grassroots and grassroots sports association, namely, the grassroots sports association with the purpose of serving the public, in order to meet the needs of sports and sports psychological needs of the public. Such as the establishment of the city sub-district office, the township has a social nature of the grassroots sport's association. Compared with professional sports associations, it is non-professional to some extent. Compared with unit sports associations, it is social to some extent. It needs certain social sponsorship and collection of association dues to maintain its own operation. From the perspective of administrative division, the existing sports associations in China can be divided into national sports associations, provincial sports associations, municipal sports associations and grassroots sports associations. Sports associations can also be divided into mass sports associations, school sports associations and unit sports associations according to the different groups of participants.

2.2. Ways and Means to Improve Grassroots Sports Associations' Ability to Serve The Society

The general goal of "improving sports associations at all levels and vigorously strengthening the construction of social sports organizations" proposed in the national fitness plan (2016-2020) points out the direction for the development of grassroots sports associations and puts forward methods, steps and working measures.

2.2.1. Ways to improve grassroots sports associations' ability to serve the society

First, we will continue to strengthen the organization of grassroots sports associations at all levels.

We will continue to establish and improve grassroots sports associations at all levels, fully recognize the important role of grassroots sports associations in national fitness, and give full play to their role as pivotal grassroots social sports organizations that connect all parties, pool strength and boost

development, so as to guide and guide the positive and healthy development of social sports organizations. The national fitness program (2016-2020) and other documents all set clear requirements for strengthening the construction of sports associations and social sports organizations at all levels, relying on social organizations to carry out national fitness activities and promote the development of sports industry. It can be seen that sports work is accelerating its transformation, and new breakthroughs and new achievements should be made in the following aspects: the organizational construction of sports associations at the level of city, county, township and village, the social organization of sports at all levels, the guarantee of activity funds, the construction of talent teams and the creation of innovative brand events. The reform of socialization, marketization and materialization of sports organizations has taken practical steps.

Second, explore the establishment of a new management system for grassroots sports associations.

Establish the sports federation constitution as the core of the internal management mechanism, relying on "social organization registers regulation" the articles of association of sports federation, formulate the measures for the management of sports federation work" " sports federation work evaluation method", the scientific scheduling grassroots sports federation construction progress, improve the sports management system and operational mechanism, vigorously promote the construction of sports association of rapid development. We will put in place a management system and operational mechanism that is more practical, meets the requirements of the reform of social organizations and is conducive to promoting nationwide fitness programs.

2.2.2. Ways to improve grassroots sports associations' ability to serve the society

First, establish and improve sports associations at all levels.

With the comprehensive reform in China, the role of grassroots sports associations in providing public sports services is becoming more and more obvious. As a hub for the party and government to contact social organizations and sports workers and fans, sports associations at all levels are constantly improving their status and role. We will establish and improve the network of sports associations at the city, county, township and village levels, and build a number of sports associations and clubs that are independent of government and social administration, have the ability to innovate and have the vigor to compete.

Second, to promote the national fitness brand activities.

We will develop a number of large-scale, influential, and widely participated mass branded sports events.

Large-scale activities should be combined with small-scale activities in a diversified way. Large-scale activities should focus on publicity and publicity to expand their influence. Small-scale activities should go deep into the grassroots and get close to the masses, and make great efforts in giving full play to the role of fitness organizations around the masses. Implementation of "one city, a brand" "one county one brand" and "have raised a brand" "for a while a brand" of the national fitness brand strategy, focus on cultivating support grassroots sports organizations establish unique brand events, founded by famous brand events, constantly promote the national fitness program file to upgrade, vigorously promoting national fitness activities, to accelerate the process of socialization of sports, life, promote the development of sports consumption and sports industry.

Third, increase publicity efforts to create a national fitness atmosphere.

Grassroots sports association to use the power of television, radio, newspapers and other traditional media, using weibo, WeChat, APP the advantage of new media such as Internet, multi-channel and multi-way intensify propaganda, spread scientific fitness knowledge actively, expand the national fitness activities, to build strong national fitness atmosphere, to attract to drive more people to join the national fitness activities.

Fourth, we will continue to expand new areas of integrated sports development.

We will actively promote the integrated development of national fitness programs in the fields of culture, art, education, tourism, public health and epidemic prevention, health care and old-age care. Sports associations at all levels should elevate national fitness to the level of national strategy, study the policies and measures for promoting the development of national fitness by sports associations at the same level, and ensure the optimization of resources and the formation of synergy. We will integrate tourism, leisure and health care, fitness and fitness into one body, maximize the organic integration of sports, ecology, culture, art, leisure and other elements, and constantly expand the new areas of national fitness development.

2.3. The Path of Deepening Grassroots Sports Associations' Ability to Serve the Society

First, enhance ideological awareness and strengthen organizational leadership.

Party committees and governments at all levels should fully understand the new situation and tasks of the reform of sports associations, and actively explore new ideas and methods for the reform, development and service supervision of sports associations under the new situation. The competent departments of physical culture and sports shall actively enlist the support of the local governments and relevant departments for the establishment of sports associations at or below the corresponding level,

establish and improve sports associations at or below the municipal level, and, through sports associations, perform the instructions and services of the administrative departments of physical culture and sports to the social organizations at the level of wooden sports, as well as the occupational education of supervision and management.

Second, cultivate civic quality and enhance the social identity of grassroots sports associations.

Citizen quality is an important symbol of social progress, so it is necessary to cultivate active citizens. At present, citizens' identity has not been formed and their ability to participate in society is still relatively poor. Therefore, cultivating "active citizens" is an important part of promoting the construction of community governance. First, civic virtue needs to be shaped; Secondly, cultivate the spirit of citizenship; Finally, promote civic participation.

Thirdly, attach importance to the cultivation of organizational directors.

In terms of human resources, we should pay attention to the training of fitness instructors in grassroots sports organizations, expand the ranks of social sports instructors, and reasonably arrange professional fitness instructors. Regularly hold various forms of coaching training classes to impart professional scientific fitness knowledge, fitness methods and means, enrich and improve the grassroots sports organizations scientific fitness system, so as to improve the level of scientific fitness guidance.

Fourth, ensure funding and increase input.

In accordance with the development of the local national fitness activities and the annual activity plan, the full amount of the national fitness activities shall be allocated from the reserve fund of the wood-level finance and sports lottery to be used for the national fitness activities carried out by sports associations and other social sports organizations, and the funds for the national fitness activities shall be guaranteed to increase year by year.

Fifth, comprehensively implement supervision and regular assessment.

The construction of grassroots sports associations at all levels shall be assessed and assessed, the construction situation shall be regularly summarized and reported, and the cities and counties (districts) that have been built shall be commended in the reports. In accordance with the administrative and evaluation methods of sports associations, key support and awards shall be given to sports associations that have standardized organizational construction, carry out many national fitness activities, actively create famous sports events and have great social influence.

3. CONCLUSIONS AND SUGGESTIONS

3.1. Conclusion

Since the promulgation of the national fitness program, great achievements have been made in mass sports, and people's awareness of fitness has been comprehensively improved. With the improvement of people's awareness, national fitness is facing a transformation, which is the arrival of the era from ordinary physical exercise to scientific fitness. At the same time, a large number of grassroots sports associations have emerged. As an important organizational form of national fitness activities, grassroots sports organizations are also one of the organizational forms that are most closely related to citizens' life. In the process of promoting citizens to participate in scientific fitness, grassroots sports associations play an irreplaceable role, and their resource advantages and existence value are also widely valued. However, there are also some problems in the process of grassroots sports associations guiding citizens in scientific fitness. How to deal with these problems and maximize the value of grassroots sports associations is of great significance to better serve the society.

But because the development time is not long, about improving the capacity of grassroots sports association to serve the society study is less, this study through the literature consult, arrangement and analysis, and to investigate the current situation of the development of the city of grassroots sports association, to investigation and study of the involvement of citizens, from on macroscopic analyses the grassroots sports association in promoting the important position of the national fitness cause, and what are the problems in the process of development at present, put forward the corresponding countermeasures, in order to promote the development of grassroots sports association and citizens provide certain reference for the development of scientific fitness campaign. The primary sports associations should play a better role in order to better meet the physical and mental development needs of the general public.

In this study angles of improving the capacity of grassroots sports association to serve the society, ways and methods, in-depth the path of the grassroots sports association social service ability were studied, thorough and comprehensive, for has important guiding significance for the development of grassroots sports association, at the same time also can fully promote the sustainable development of community sports association, to speed up the all-round development of mass sports.

3.2. Suggest

(1) Continue to strengthen the construction of grassroots sports associations at all levels, establish a new management system for grassroots sports associations, and improve the ability of grassroots sports associations to serve the society.

(2) Establish and improve sports associations at all levels, promote the development of national fitness brand activities, increase publicity efforts to create a national fitness atmosphere, and continue to expand the four new areas of sports "+" integrated development to improve the ability of grassroots

sports associations to serve the society.
(3) Enhance ideological awareness and strengthen organizational leadership;
(4) Cultivate civic quality and enhance the social identity of grassroots sports associations.
(5) To ensure funding and increase funding input.
(6) Comprehensively implement supervision and regular assessment to improve the ability of grassroots sports associations to serve the society.

REFERENCES
[1]Xiaoying Cui, Research on The Operation Mechanism Of Grassroots Sports Associations In Wuhan, Wuhan: Wuhan Institute of Physical Education, 2016.
[2]Congkan Chen, Ning Chen, On the New Historical Orientation of The Development of China's Sports Social Organization, Sports Science, 2018, (09):78-87.
[3]Ke Wang, Dongguang Liang, Analysis on the Current Situation of National Fitness Activities in Baise City from the Perspective of "Diversified" Public Sports Service System Construction, World of Sports (Academic), 2018, (07):15-16.
[4]Lijie Wang, Research on the Development of Grassroots Sports Social Organizations Based on Embedding Theory, Nanjing: Nanjing Normal University, 2018.
[5]Lei Chen, Research on Organizing Methods and Strategies of Mass Physical Fitness Activities, Contemporary Sports Science and Technology, 2015, (02):183-185.
[6]Wu Zhong, Ke Hu. Practice Orientation and Promotion Mode: Strategic Thinking on the Construction Of Grassroots Sports Organizations, Journal of Wuhan Sports University, 2014, (06):19-24.
[7]Pan Liu, Value Orientation and Realization Path for Social Sports Organizations to Participate in Grassroots Community Governance, Journal of Yunnan University of Administration, 2017, (06):139-143.
[8]Chunhua Liu, Research on the Reform Process and Development of the Big-Department System Of Grassroots Sports In China, Journal of Hebei Institute of Physical Education, 2018, (04):7-14.
[9]Yaxing Xu, Research on the Development of Community Grassroots Sports Organizations in Wuhan, Wuhan: Wuhan Institute of Physical Education, 2016.