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CONTENTS

A Survey of the Chinese Physical Education View based on the Perspective of "Material - standard" to "Human - oriented"

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Abstract: The new ideas and new concepts of school education have been developing, and the concept of physical education in our country is changing constantly, with the development of socialist construction in our country. The concept change from the "physical standard", "skill theory" and "lifelong sports", "quality education" of the " material-standard " to "Human - oriented" as the main concept of the concept of physical education, including the "health first" and "people-oriented" shows education views change in the practice of physical education. All these changes reflects the correct direction for the realization of the positive role of physical education in China on the development of country and society.
Keywords: The Concept of Physical Education; Human-Oriented; Guiding Direction; Logical Analysis

1. THE STAGE OF OUR COUNTRY SPORTS EDUCATION VIEW

1.1 stage of "Skills theory"and "Physical standard "

"Skills" is simply the use of knowledge and experience to perform certain activities. "Skill theory" is a kind of physical education in China from 1977 to 1989. The school of physical education to focus on basic knowledge, basic technology learning, this view of education, only with a solid knowledge base, mastered a certain skill, can really go to physical exercise, so as to enhance the purpose of physical fitness . At this stage, the "skill" of the physical education to a certain extent, promoted the development of sports in China, China's sports education also played a positive role.

The so-called constitution, that is, because the body organs, meridians, qi and blood, yin and yang, such as the formation of the ups and downs partial quality characteristics. "Constitution" emphasizes the purpose of physical education, not to learn technology as the main purpose, but to enhance the physical as the main purpose. "Strengthen physical exercise, enhance people's physique" is China's physical education has been to follow the educational philosophy of the school playgrounds across the country, the sports scene we can see, hear the slogan, obviously, it is our physical education concept An Important Embodiment of "Constitution Theory". In 1979, China held a "national school sports health work experience exchange", the meeting, to correct the neglect of sports ideas, to effectively improve school physical education, establish and improve the amateur training system, adhere to popularize and improve the combination. In view of this, part of the school's sports performance will be the student's physical fitness is good to measure, while students overall physical good or not is the test of the school physical education teaching results of the important way.

1.2 Stage of "lifelong sports", "quality education"

The concept of "lifelong physical education" is the important task of physical education teachers. The concept of "lifelong physical education" demands that sports workers change their knowledge and skills. Teaching methods, not the modern athletic sports teaching content. But to fitness, health-based sports, the establishment of "lifelong sports" as the core, including biological, psychological, social three-dimensional view of sports. Lifelong physical education is a difficult process, from simple to complex, physical education workers need to deeply grasp this concept of education, from increasing student interest in physical exercise began to allow students to grasp the basis for a simple Exercise and then into the heart of physical exercise to achieve a certain amount of exercise load, in order to make "lifelong sports" in people's lives as an inner idea, it as an indispensable event in life in order to truly realize the significance of physical education And purpose.

"Quality education" is a view of physical education for all students, and comprehensively improve the quality of students in all aspects of education. With a comprehensive and developmental characteristics. In the process of the development of knowledge economy era, "talent power" has become one of the strategies to improve the comprehensive national strength, the country to be strong, will inevitably need more and more talent. The cultivation of talent is inseparable from the quality of education, so the cultivation of people's physical, psychological and social adaptability has become an indispensable part of national education. "Quality education" is the real needs of social development, is to achieve a correct view of the problem, solve the problem, to adapt to the inevitable development of social

requirements. It is not only a developmental education, but also an open education.

1.3 "Health first" stage

In modern society, more and more people attach importance to health, the market on health, health newspapers, periodicals, TV shows more and more, while the health of the newspapers, journals, also by more and more people Favor. Visible, "health first" concept has been recognized by everyone. Without a healthy body, thought and behavior, it does not matter happiness and happiness. Health first, first reflected in the physical good. Health is the first, because all the responsibilities and obligations, or the meaning of life requires a healthy body to carry. From birth, a healthy body is our normal learning and survival of the necessary conditions. However, the State Sports General Administration announced a survey of physical health status of young people, 7 to 9-year-old children, anemia rate of 30%, college students, up to 77% of myopia. From this, the health of the people is urgently to be given attention and improvement. This requires the physical education, should gradually improve the health of the people, in 1999, "the CPC Central Committee and State Council on deepening education reform to promote quality education in a comprehensive decision" that the school education to establish a "health first" guiding ideology , Effectively strengthen the work of sports, so that students master the basic motor skills, to develop good habits of exercise. It is clearly pointed out that physical education should be the first "health first" concept of education in the reform of the whole process of physical education should be "health first" concept of physical education as a precursor to reform.

1.4 "Human-oriented" stage

"Human - oriented" concept of physical education mainly contains two meanings. First, physical education is not only to cultivate students robust body, elegant posture and skilled sports skills, more importantly, the emotional, psychological, in the current economic times, we are more or less bear From personal, family, social and other aspects of the pressure, so the emergence of mental illness, depression and other mental illness is not surprising. Obviously, this is an unhealthy performance, "Human-oriented" concept of physical education requires physical education educators to focus on training the health of the mentality of the educated and good conduct, whether through theoretical knowledge to teach or through exercise to cultivate physical and mental , Should be the person's body and heart development together. Second, the "Human-oriented" concept of physical education requirements throughout the teaching activities of the personality of the educated, human rights identity and respect. Should pay attention to the needs of their own education, interest and freedom, attention to the development of their personality. The "Human - oriented" concept of physical education abandons the traditional compulsory teaching proposition, confronts the correct social relationship between the educator and the educated, and puts the willingness and freedom of the educated to the first place.

"Human - oriented" concept of physical education is a new period of social development of the inevitable requirement of physical education, is to improve national cohesion and enhance the Human 's unity of the inevitable way.

2. The Developing Direction of Physical Education in China

Since the reform and opening up, China's physical education gradually from the "material-based" to "people-oriented" direction. In the end, under the guidance of the "people-oriented" concept of physical education, the development direction of China's physical education concept includes the following aspects:

2.1 Sports Learning Evaluation Process-Oriented Evaluation

In the process of gradual change in the concept of physical education, the evaluation method of PE learning has changed, and the evaluation method of PE learning has been adopted for a long time. In other words, according to certain standards, the one-sided end of the semester students in the final grade, as the standard of the entire school physical education and student sports learning criteria. However, with the reform of the concept of PE, the evaluation method of physical education is gradually shifting from final evaluation to more process-oriented evaluation. The main point is that from the perspective of the educated, From the evaluation of results to the evaluation of the process of evaluation, instead of focusing on the results of the final stage of learning, but the overall evaluation of the whole stage of physical education.

2.2 Humanization of PE Course Content

A long period of time, China's physical education are teachers, teaching materials, the classroom as the center, to indoctrinate the teaching methods to complete the teaching objectives of sports. However, with the deepening and reform of the concept of physical education in China, the school sports teaching model has begun to have a new development, and gradually promote students' independent learning, cooperative learning and other new learning methods. Began to establish the dominant position of the students, so that the rights of educated people to be maintained, so that the personality of the educated to be respected. Physical education teachers will be the simple transfer of basic knowledge of sports, technology, skills into pioneering and cultivating the learning ability of learners and personality development. For example, students in the learning process, to carry

out a variety of sports events, the creation of multimedia sports teaching mode, in different ways to stimulate students to self-learning initiative. The new content of these sports courses can better strengthen the subject status of the educated to meet their individual needs, the enthusiasm of their learning to mobilize better sports to meet the new requirements of social development.

2.3 The Combination of "Sports Humanistic Spirit" and "Sports Scientific Spirit"

In the construction of socialist modernization, "science and technology is the primary productive force" is Deng Xiaoping's historical materialism standpoint, according to the basic situation of social development since the reform and opening up the experience of the summary. For the development of sports in China, the extensive use of science and technology, can be more scientific, reasonable and effective for sports training. In sports competitions, the good results obtained by not only the hard training of athletes, the role of science and technology can not be ignored. However, "humanistic spirit of sports" and "spirit of sports science" seem to be regarded as two different spirits. In fact, science and humanities are two kinds of different knowledge systems. Humanities is not only a knowledge system but also a value system. It represents the correct human orientation. The concept of physical education in the process of change, gradually from the "material-based" to the concept of "people-oriented" concept of physical education also shows the importance of "humanistic spirit", science can only improve the level of physical education , The level of personal sports to better develop. While the humanistic is the guide, it guides the development of sports in the right direction and philosophy.

In the development of sports, human development is the ultimate goal. The development of modern sports education, also began to pay more attention to "humanistic spirit", "sports human spirit" and "sports science spirit" organic combination, not only the use of scientific and technological development to improve China's sports level, but also human freedom And development in the first place, in the humanistic spirit of the guidelines down to achieve the social development of sports in the real meaning and purpose.

Through the research, from the "material-based" concept of physical education to "people-oriented" concept of the concept of physical education can give full play to the enthusiasm of the educated students to learn physical education and learning potential. "People-oriented" concept of modern physical education focus on shaping the ideal personality of the educated, full respect for the free development of human rights, safeguarding human rights, encourage and promote people

The creation and development of creative talent. The construction of "people - oriented" modern sports education is the inevitable requirement of social development in the new period, the inevitable choice of building socialism modernization and the only way to realize the great rejuvenation of the Chinese nation.

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The Research on the Relationship Between Large Comprehensive Sports Events and Sports E–Commerce

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Abstract: Through argumentation of the relationship between nowadays Large comprehensive sports events and e –bussiness of sport, we find the between nowadays large comprehensive sports events are becoming more globlizing, technical, informationizing by analysis. The e-bussiness driven by the Internet has also become an essential factor that promotes the large comprehensive sports events. Meanwhile, large comprehensive sports events also containing infinite business opportunity, it plays a positive role to the development of the national e-bussiness of sport and sports industry.
Keywords: large comprehensive sports events; sports e –commerce; Sports industry;

1. INTRODUCTION

3rd of July in 2015 Gwangju succeeded in holding the world college students sport events which is called small Olympic Games. That year's meeting put advanced science and technology idea and science and technology achievement appliance in different facilities, creating a new record that the most countries and attended, the highest organization and management, and participating,influence and marketization. However, when we sum up the experience of success, we are being aware of the gap with others in sport information technology, especially in sport e-commerce, it's an new important course we are facing at present when we come to the sports industry of our country. How to catch up with the pace of sport e-commerce among world, our country has maken e-commerce, not only is it better to the development of economic globalization, but change the structure of sports market and the condition of the access to market, and it special advantage and service function will make it an important measn in changing sports industry informationize.

2.The Summary Of E-Commerce And Sport E-Commerce

A Definition of sport e-commerce

World sport e-commerce conference consider ecommerce is that make all trade activities electronization, by communication network and international network electronic date carry the trade out. E-commerce depends on informtion network technology,making information flow, business flow, fund flow and material flow smooth. Information technology has an effect on sports industry and making a way that can communicate in time and carry sports trade out. It's taken as a new product of sports and a new branch of sport e-commerce. Nowadays, the character of our country's sports e-commerce is that the number of sports manufacturing industries is numerous and mess, they only service the consumers with introducing and promoting its products. Less companies developsports business over Internet. Most of them are still in the form of business to business, it means that they only provide goods or service list to consumers to inquire, staying in steady publishment, single low information technology, the minds of sports companies fall behind, and they are onlysatisfied with traditional management type and lack knowledge of new idea and new technoogy.

B The sort of sport e-commerce

1) Between sport business or business agency and consumer have a trade

It mainly depend on Internet making sales activities, providing search and pass over function, and make them know more about quality and price of goods thay need, paying by credit card or electronic money.

2) Business to business

E-commerce among sports business to business agency done over Internet, such as place an order for goods, promote sales, including EDI, ET and so on, And have a perfect access in delivery, it the main tendenry in the future.

3) Government to business

Government can create good e-commerce space for sports business over Internet service, promoting different policies and collecting suggestions about policies, inquiring service as well as the gudience of government, do office work over Internet, and shopping on Internet or enter a bid.

4) Government to consummer

Sports official deal with a large amount individual things over Internet, for example, individual health survey, sign up the competition of all the people the investigation about people'sofficial toward the drew up sport law, the inquiry of different sports major level and test and the operated sports place.

5) Consumer to consumer

It's a new form produced on Internet that individual to individual, it's also called person to person, At present, it's main rely on anction and second-hand deal or sell at a discount. There websites mainly existed in every city's life websites, due to the limit by area, it only can be carried in the same city.

3. THE DEMOND OF SPORTS E-COMMERCE FOR THE LARGE-SCALE SYNTHETIC SPORTS EVENTS

A The large-scale synthetic sport events accelerate

modern sport concept and global culture spread, it makes sport ecommerce concept into people's life gradually.

Buying health with money, improving life quality,it'sincreasingly being modern sport consumption concept modern urban resident paying more and more attention to exercise, casual life andentertainment consumption, such as fishing,bowling and swimming,and these items have become the heat of sports consumption at present. The year of 2010, the State Concil proclaimed that "all the people exercising outline", whatever the deveoped cities or underdeveloped cities, more and more spend more time exercise positively, those who participated in entertainment are increased several times. Improving the consumption of sport. 21 century is a digitial information age, sports informtion products can go into every family by Internet, the development of information industry advanced the number of sports websites, we can watch sports games,chat with sports stars, guess the sport games,also can buy sports product in every corner of world by Internet. People can buy the products about games by these activities, enjoying the fun that sports games bring to them.

B Large-scale synthetic sport events extend the development of information network,giving sport e-commerce market the space that can expand to all over world.

Modern society are directing to the electronization, automatization, informatization, people will choose more convenient and fast approach form to consume,it must initiate a overall deep revolution of social sythetic working system, its intension will exceed the sport e-commerce itself greatly, and including government, finance, transport even minds, education,sport, culture and every field. we can take finance a example,the safe and fast online bank, electronic check, electronic mony will bring traditional finance to a new field, and the development of e-commerce must ask for government has corresponding e-government, it has the function of macroscopic decision, guiding monitor and coordinate its function of society management, the regulate and control of economy, develoing business culture, and service for all. With the popularize of e-commerce and the multielement, individual character, covenience of service, people will pay more attention to casual sport life, so it will change people's life of rhythm, way and quality deeply.

C Large-scale synthetic sport events urge government to invest the basic buiding of sport e-commerce trading platform.

For example, the 26th World College Stuents' sport evevnts, ShenZhen government made every effort to push on e-commerce, realizing national economic field and business informationized. Shenzhen provided a kinds of convenient e-commerce service, and suporting many language. You can buy ticket, shopping, entertainment, booking room and passenger ticket over Internet. Before arriving in China, the visitors can book different service, when the visitors and athletes from all over the world watching the games, e-consumption will be an important form during the time in Shenzhen. It also provided convenient video on demand system, if you miss a certain match, or hoping to watch a game again and again, you can order the programme in free time. And the official website used virtual reality techology, building virtual gym over Internet. By computer imitated therr-dimensional environment, users can go into virtual gym visited different facilities, it will new spreading way of games.

4.SPORT E-COMMERCE FACILITATE THE DEVELOPMENT OF LARGE-SCALE SPORT EVENTS

Influenced large- scale sport events is an social culture, producing the spirit product, the economic value evoluted by large-scale sport events mains in enriching the idea of sport games culture and the value of appreciation of the beauty. The aim of buyers purchase the goods of sport events mains to satisfy spirit satisfiction, the demond of konwledge and appreciation of beauty, what they concerned is that the content of sport product and the level of match. Concretely, the economic activities that arounded influenced large-scale sport events mainly show in two sides, one is the economy of culture, because of the onerous use of sport events culture, such as souvenir, the rebroadcast of game, culture tripping and trading. The othe side is the culture of economy, different activities carried out arounded the opening ceremony and the closing ceremony. Sport e-commerce accelerate the sales of related prduct, developed travelling industry about holding city, enriching the culture of sport game, and extending the boundry of the games.

5. CONCLUSION

A The relationships between large-scale synthetic sport events and sport e-commerce will be more harmony under the independence of each other.

The large-scale sport events need different e-commerce activities to broaden its influence around the world. Sport e-commerce also depend on match to promote its influence.

B The character of large-scale sport events is that it will adapt to the consumption among government, business and consumer.

The government can create good e-commerce space, promote different policies, collect suggestion about policies, inquiry service and government guidance, shopping on the Internet and so on over Internet service. Between sport business or business agency carry e-commerce out, placing an order, paying, promoting sale ativities by Internet will be the main stream of sport e-commerce in the future, it will be easy to carry online sales acvitities, providing better searching and pass over function, making consumers learn more about the quality and price of goods, paying by credit card, electronic money.

C Sport events and sport e-commerce will advance sport idustry together

With succeeding in holding Olympic Games, Chinese sport industry is called "sunshine industry", it bring unlimited business chance for investment agency,

business and individual. Business should take this chance deeply, by promoting national brand energetically, opening up international market. Meanwhile, we can promote companies to form central competition.

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A Study on the Social Responsibility of Tourists based on the Stakeholder Theory-Take Zhejiang Province as an Example

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Abstract: This paper mainly focuses on studying the social responsibility of tourists from the perspective of stakeholder theory. By conducting empirical surveys for core tourism stakeholders (tourists, residents and tourist agencies) in Zhejiang province to explore the current situation of the social responsibility of tourists, and to analyze the relationship between stakeholders and social responsibility of tourists. Only in this way, the impact mechanism of the social responsibility of tourists can be studied and thus further reflect on issues like how tourists undertake their social responsibilities.
Keywords: stakeholders; tourists; the social responsibility; The Grand Canal

1. INTRODUCTION

With the rapid development of the tourism industry, academics and tourist industry are more concerned about tourist experience, the development of tourism enterprises and social responsibility. As a result ,the notion that tourists as consumer groups should also take social responsibility is often overlooked. [1]

Since immoral behaviors in public become a common phenomenon among tourists, the conflict between guides and tourists intense; it is not a problem merely concerning about tourism and tourist agencies anymore. As for the present, the time after the tourism law is issued, the awareness of social responsibility among tourists is crucial not only to the establishment of tourist environment but also its development.

The unawareness of the social responsibility of tourists not only hinders the regulatory process to balance the interests of all parties and thus further affects tourist market order; but also has a negative impact on tourism activities. [2]In substance, only with the joint efforts from the government, tourist industry and tourists can this problem be addressed. In this essay, the social responsibility of tourists will be studies from the perspective of stakeholder theory. Then through empirical surveys intended for core tourism stakeholders (tourists, residents and tourist agencies) in Zhejiang province to explore the current situation of the social responsibility of tourists, and to analyze the relationship between stakeholders and social responsibility of tourists. Only in this way, the impact mechanism of the social responsibility of tourists can be studied and thus further reflect on issues like how tourists undertake their social responsibilities.

2. QUESTIONNAIRE DESIGN AND SCHEME

2.1 questionnaire design

In this study, variables corresponding to this essay come from early literature, then by taking the actual situation in the tourist destination into account; here comes the final questionnaire with some subtle changes.

This questionnaire comprises questions like “Have you ever seen immoral behaviors in public”, “Will you stop him/her”, “Is your attempt effective ”, “Have you ever seen immoral behaviors during your journey”; “Are tourists concerned about surroundings at a scenic zone”, “Are you ever in conflict with workers at a scenic zone”, “Will immoral behaviors of tourists damage the image of the scenic area or its location”; “Will immoral behaviors of tourists influence other tourists’ opinions towards the scenic zone” and “What do you think of the environmental protection at the Grand Canal scenic zone”. Here, these ten variables mentioned above will be the evaluation standards in this study.

2.2 time and place of the survey

The survey was conducted at the Hangzhou Grand Canal scenic area starting from November 27, 2016 and ended on December 4 (West Lake Culture Square and its surroundings and the Canal Square).

In this study, 400 questionnaires were distributed with all them returned; therefore, its response rate is 100%.

Among them, 344 are valid, here the valid response rate shall be 86%.

3. ANALYSIS OF THE QUESTIONNAIRE

3.1 basic information

The total number of questionnaires is 400. And most of them are residents in tourist destinations, and the number is 176, accounting for 44% of the total survey. The rest are tourists, tourism practitioners (primary) and tourism business managers, respectively accounting for 32%, 8 % and 2.5%.

In Beijing-Hangzhou Grand Canal tourist resorts,post-80sand 90s(from the age of 21 to 30) occupy a major place, accounting for 74.5% of the total number of visitors. And the tourists who graduate from college and university, accounting for the total number of the questionnaire of 24% and 49% ,.

3.2 Analysis of the Questionnaire

3.2.1 Cognitive of Uncivilized Behavior

According to the survey, there are 40 tourists assume that listening to the interpretation and observing the rules are not inclusive of uncivilized behaviors. Most of them claims that littering, spitting and fighting are viewed as uncivilized behaviors. But only a minority of them will head for preclude the conduct when they witness it. There are 38.4% tourists will impede it on occasion, and 25.1%of them have never done it before.

In terms of the effectiveness of prevention, more than half of the tourists assumes that prevention may not be effective, totally depended on the individuals who need preventing. 24.6% of tourists think it effective, and only a few tourists find it very effective.

As shown in Tab. 1

Table 1 Tourists' Perception of Uncivilized Behavior

Indicators	Always (%)	Often (%)	sometimes(%)	Seldom (%)	Never (%)
Have you ever seen immoral behaviors in public	10.40	34.10	24.30	24.90	6.40
Will you stop him/her	4.0	10.7	21.7	38.4	25.1
Is your attempt effective	4.0	24.60	50.90	18.20	2.30
Have you ever seen immoral behaviors during your journey	4.6	7.2	14.7	41.0	32.4
Are tourists concerned about surroundings at a scenic area	17	58	19	6	1
Are you ever in conflict with workers at a scenic area	4	4	9	7	75

3.2.2 TOURISTS' COGNITION OF THE IMPACT ONUNCIVILIZED BEHAVIOR

According to the Tab. 2 30% of the tourists assume that uncivilized behavior will affect the image of the city remarkably, and 49% of the tourists think that uncivilized behavior will affect the image of the city, and 19% of the tourists claims that uncivilized behavior that may affect the image of the city, and2%of tourists maintains that the uncivilized behavior does not affect the image of the city. 26% of tourists believe that uncivilized behavior will affect the image of the tourist attraction or its places remarkably, and 52% think that the uncivilized behavior will affect the image of the tourist attraction or its places, and 19% tourists believe that the uncivilized behavior may affect the image of the tourist attraction or its places, and 3% of the tourists consider that uncivilized behavior does not affect the image of the tourist attraction or its places, and 1% of the tourists think that uncivilized behavior does not affect the image of the tourist attraction or its places.

The vast majority of tourists assume that their actions can, more or less, affect other tourists' views towards the scenic spot, accounting for 91.3%.

Table 2 Tourists' Cognition of the Impact of Uncivilized Behaviors

Indicators	Very Effect (%)	Influences (%)	May affect (%)	Does not affect (%)	Does not affect (%)
"Will immoral behaviors of tourists damage the image of the city where the scenic area is located (hometown)	30	49	19	2	0
"Will immoral behaviors of tourists damage the image of the scenic area or its location	26	52	19	3	1
Will immoral behaviors of tourists influence other tourists' opinions towards the scenic area	17.3	48.8	25.2	7.8	0.9

4. CONCLUSION

To sum up, tourists, as the important stakeholders on tourism, take the biggest social responsibility.Tourists' cognition on uncivilized behavior and its impact is concerned with the cognition on their own social responsibility.

In light of it, I put forward the following measures:

4.1 enhance the service quality of tourism of the tourist destination in an all-round way

Nowadays, domestic tourism industry has entered the stage of quality tourism. Tourism business entities should transform from the simple and extensive operational state to the intensive development, aiming at enhancing the quality of tourism services to win the sustained competitive advantage.[3]

Tourism business operators should focus on accommodation, catering, tourism information consultation, the tour guide service and other sectors to foster the quality of tourism services, and thus promoting the formation of socially responsible practices of the tourists.

4.2 continue to improve the internal and externalinfrastructure systems in the tourist destination.

Tourist destination should further develop its external transport network and optimize its internal transport network. [4]As far as the external infrastructures, the public transport system should be improved. In order

to achieve long-term win-win situation with the local government and the tourist destination, tourist destinations operators should strengthen the communication and contact with local transportation authorities, reflecting the importance of tourists' cognition of the convenience of local transportation in tourist destination.

4.3 continue to create a safe and reliable atmosphere in tourist destination .

Internal managers and staff in tourism destination should strengthen their safety training and advocacy to enhance the safety awareness of tourist destination, and do extensive safety propaganda towards tourists by posting notices, distributing brochures of the tourist destination and other approaches to introduce the relevant knowledge about the safety in tourist destination.

The study makes an investigation of tourist destination in Zhejiang province, and the subsequent studies are indispensable to be extended the inspection of the samples to make adaptable and valid findings.

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Research on the Configuration of the Human Resource Compensation System in Growth Enterprises—Taking Hebi National Lighting Technology Co. Ltd. as an Example

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Abstract: Growth enterprises are faced with the problems of market transformation amid their changing market environment. To adapt to such changes, these enterprises must continuously strengthen their internal management, particularly their human resource management compensation system. These enterprises also have several shortcomings that greatly affect the enthusiasm of their production staff and restrict the development of their potential. By taking Hebi National Lighting Technology Co. Ltd. as an example, this paper analyzes the human resource structure, salary distribution system, and status quo of the enterprise, analyzes its present challenges, and suggests several countermeasures to these problems.
Keywords: human resources; salary system; research strategy

1. INTRODUCTION

The well-known human resource expert explored the path of global harmonized compensation design and argued that designing an effective global compensation plan could support the operation of companies on a global scale [1-3]. Therefore, the designing of such plan has become a core problem in the management of multinational corporations. Remuneration is a form of return or gratitude given to employees in exchange for their labor. This practice of adding a price to the labor or service of an individual reflects a fair exchange relationship between the employer and the employee. Remuneration may be divided into direct and indirect remuneration. On the one hand, direct remuneration refers to the amount of cash paid to employees, including fixed wages and bonuses. On the other hand, indirect remuneration refers to various forms of payment other than cash, such as in-kind income or treatment. The compensation design of corporations mainly includes three components, namely, wages, bonuses, and benefits.

Strategic compensation management aims to adjust the pay system constantly to adapt to the different stages of corporate strategy [4]. Given that strengthening the match between pay and corporate strategies can increase the efficiency of enterprises, the design of compensation systems can effectively help enterprises gain a competitive advantage in their respective markets.

Strategic compensation system is a forward-looking and competitive salary system made by the enterprise under the strategic sexual force resources management [5-6]. Before designing strategic compensation, enterprise development strategy must be clear. On the basis of this business process, both the internal price bottlenecks and the exhibition department bottlenecks could be straighten out. Moreover, according to the enterprise development strategy and the present situation of the enterprise, the strategic compensation system which is fit for development of enterprise could be built after determining the compensation level and compensation structure of enterprise. Strategic human resource management is a new concept of human resources management in 21st century [7-8]. Strategic compensation management is an important part of strategic human resource management [9-10]. Its success or failure directly relates to not only the success or failure of organization strategic force resources management but also the smooth development of enterprise. Moreover, the development of strategic compensation management can directly related to the enterprise in the fierce market competition in a dominant position. Therefore, how to build a strategic compensation system is the problem that must be solved in the development of modern enterprises [11-12].

The domestic and foreign studies on the design of compensation systems have investigated the maturity of large and medium-sized enterprises and examined the problems in their compensation systems [13-16]. Each pay structure and model has certain advantages, disadvantages, and degrees of adaptability. A mature compensation model can be directly applied by start-up enterprises, growth enterprises, or rapidly developing small- and medium-sized enterprises (SMEs). In this case, how can one design a compensation system that is free from flaws? How can one adjust the remuneration of the use of matching bias? The compensation model must be designed according to the characteristics of each

development stage of the enterprise life cycle and combine various elements of compensation to achieve a scientific and effective design[17-18].

Employees must be oriented about the principles, purposes, and relevant policies of salary development for them to participate fully in salary-related discussions and acknowledge the fact that their salary is the result of their contributions to the company [19-20]. However, companies merely design a compensation system in which employees of the same company expect the same value of remuneration. Fair remuneration reflects the contribution of managers to the work of their staff as well as fully reflects the pay, incentives, expectations, and respect of companies to their employees. Therefore, an effective remuneration system can guarantee the efficient operation of a company.

The SMEs in China have rapidly developed over the years and have eventually become the main contributors to its economic development and the stable employment of its people. Human resources management has also become the focus of enterprise management. Given the influence of the integrated production capacity of SMEs, companies must improve their compensation mechanisms to obtain high-quality talent [21-22].

Growth enterprises are very competitive companies that drive the economic development of China. However, these enterprises have a very weak human resources management and an imperfect compensation system design, which may hinder their continued expansion. The compensation structure of a fast-growing enterprise can be reconstructed, and the compensation design path of a development-oriented enterprise can be expanded. These enterprises may also strengthen their compensation theory and establish a compensation design reference path that can help them recruit effective personnel as well as ensure a long-term, stable, and efficient operation. Therefore, providing compensation incentive guidance has a significant role in the development of growth enterprise[23-24].

By taking Hebi National Lighting Technology Co. Ltd. as an example, this paper examines the compensation management system of the enterprise and suggests several countermeasures and solutions to its problems.

2. RESTRICTIONS ON GROWTH ENTERPRISES

The definition of fast-growing enterprises provides the prerequisite and basis for studying these businesses. Rapid growth of the definition of a simple business, that is, with the growth of the enterprise, I believe that the so-called business growth, that is, within a certain period of time from small to large, from weak to strong ability. Some Chinese scholars use the GEP assessment method to define the growth of SMEs. Growth companies sustain their operations for long periods (such as for more than three years) and can continuously tap their unused resources to varying degrees. SMEs are expected to witness excellent development in the future. On this basis, some scholars further define the rapid growth of enterprises by stating that companies will experience rapid development in the long term in terms of their operating efficiency and stability, and that the growth industry will occupy a certain market in the forefront of the contemporary economic development of enterprises.

3. OVERVIEW OF HEBI NATIONAL LIGHTING TECHNOLOGY CO. LTD.

Hebi National Lighting Technology Co. Ltd was founded in 2014 and was named as a national high-tech enterprise in 2016. The enterprise collaborates with Tianjin University and the Chinese Academy of Sciences in building a national, provincial, and municipal R&D platform, engages in intelligent terminal R&D, specializes in LED lighting manufacturing, launches cultural and creative projects, and proposes intelligent solutions for three major industries. Hebi covers a 70 acre land area in the National Photoelectric Park in Hebi City, Henan Province, and is divided into three divisions, namely, the Intelligent Terminal Research Institute (ITI), National LED, and National Lighting. The company mainly produces and sells indoor lighting, outdoor lighting, and creative intelligent light products. Employees of the company receive their salary every month. The company also provides Internet access to homes via intelligent sensing, intelligent decision making, and intelligent control technologies that send the required data to the terminal in real time, thereby ushering the beginning of the smart home era. ITI has independently developed an embedded intelligent terminal that has secured more than 30 patents.

The LED indoor lighting, outdoor lighting, and creative intelligent lighting products of Hebi National Lighting Technology Co. Ltd have received foreign and domestic certifications, including ISO 9001, CCC, FCC, CE, PSE, and RoHs, to guarantee that these products will not harm the vision of their users. These products are also sold in Taobao with a five-year warranty at low prices. Apart from offering lighting products and intelligent solutions, Hebi National Lighting Technology Co. Ltd has launched more than 100 projects related to intelligent transportation, cultural festivals, building illumination, and water conservation. The embedded intelligent terminal research of the company aims to introduce a novel way of accessing the Internet and a new round of revolutions in Internet technology by bringing computers and mobile phones together. In sum, Hebi National Lighting Technology Co. Ltd is a typical fast-growing enterprise in the growth industry.

4. HUMAN RESOURCE STRUCTURE AND SALARY ALLOCATION SYSTEM OF HEBI NATIONAL LIGHTING TECHNOLOGY CO. LTD.

4.1 human resource structure

The human resource structure of Hebi National

Lighting Technology Co. Ltd mainly serves linear functions. The company has also established several functional departments, such as the Department of Implementation, to implement its management practices. The company focused on the contractor's operating efficiency, total wages and other indicators of control at the same time in the branch, the division within the establishment of the corresponding functional management positions and line management of the team and other institutions, by the branch, the division of internal unity deployment.

4.2 salary distribution system

Hebi National Lighting Technology Co. Ltd adopts a salary distribution management system in which the wages of employees from its several branches are being controlled by the company. Employees of Hebi National Lighting Technology Co. Ltd receive job wages, skills wages, seniority wages, bonuses, and various types of subsidies. The functional management and R&D personnel of Hebi National Lighting Technology Co. Ltd perform internal quarterly assessments of the firm's salary distribution. The marketing personnel from the marketing department are tasked to increase the rate of payment and monitor the distribution of salaries, while middle managers are tasked to assess the distribution of salaries every year.

5. PROBLEM IN THE HUMAN RESOURCE COMPENSATION SYSTEM

5.1 human resource architecture

5.1.1 poor horizontal linkages among functional departments and long information transmission ROUTE

The upper managers manage the coordination of large workloads. The interface between divisions and the responsibilities of different personnel are unclear. Those individuals who can intervene in the plan are also unknown. Some personnel even ignore the responsibilities of their own departments.

5.1.2 poor convergence among business processes

The company does not configure the core of human resources because of the unclear responsibilities among its various departments, making the work of the relevant positions in the company to be further strengthened. The production workshops and planning departments of the firm have not yet established a real-time feedback communication mechanism. All departments are managed and operated according to experience, and Hebi National Lighting Technology Co. Ltd lacks a unified planning, budgeting, and accounting management. The responsibilities of some personnel are unknown because of the unclear job interface. Collaboration within the firm does not follow any fixed rules, thereby resulting in service delays.

5.1.3 lack of a systematic training mechanism

Hebi National Lighting Technology Co. Ltd does not have a basic and orderly training mechanism, and various departments within the firm assess the need for temporary training, such as emergency technical training for new employees, based on their own needs. Staff development is excluded from the long-term plans of the company. The human resources department of Hebi National Lighting Technology Co. Ltd has a developed training function that mainly focuses on the induction, skills training, and management training of its employees.

5.2 problems in salary allocation problem in salary allocation

5.2.1 optimization of post-level promotion mechanism

Hebi National Lighting Technology Co. Ltd does not pay its employees regularly and does not have an internal promotion mechanism. A wide salary gap also exists between its old and new employees, much to the dismay of the former. Newcomers are excluded from the leave and pay system of the company until they reach their second year. Unstable people, while production line payment identified, based on historical and practical reasons, the gap between the obvious, can't guarantee internal equity. Compared with the same size module factory, the internal flow is not smooth, sector and job interface is not clear. Many workers assume heavy communication tasks and work overtime. The salaries of some office staff are below the median, and the overall wage level of workers is low. The salary gap between old and new employees also prevents Hebi National Lighting Technology Co. Ltd from guaranteeing internal equity.

5.2.2 complex and changeable salary distribution

The company only has 10 ordinary lines and 2 special lines at the beginning of the year, and offers its employees with two ways of payment. After experiencing some development, Hebi National Lighting Technology Co. Ltd began to offer its auxiliary staff with average wage and improved its payment method. With the growing production needs, and some cable 8 individuals, more than one person on the one sometimes paid by the piece, sometimes by the time, sometimes the average wage, and later, some cable needs 10 individuals, there are changes in payment methods, and then later, for product considerations, some lines today, tomorrow, piece count, more exaggerated is the line in the morning, afternoon piece, the algorithm is very much. Piece-rate employees are sometimes given hourly wages. Complex and varied forms of salary distribution can directly affect the enthusiasm of the production staff. Hebi National Lighting Technology Co. Ltd configures its payroll algorithm based on its business needs, and any department manager has the right to adjust the basic pay structure and amount to be disbursed to the employees. The compensation system of the company changes every year. The complex and variable salary algorithm of Hebi National Lighting Technology Co. Ltd creates a sense of internal injustice that greatly affects the morale of

the production staff. The production line workers have no choice but to adjust themselves to the changes in their compensation structure. Comparing the salaries of internal and external workers is not conducive to employee stability. The pay adjustments in the company follow neither a clear decision nor implementation, thereby resulting in unpredictable salaries that affect the performance of the sales staff and the efficiency of the production staff.

5.2.3 unequal income distribution and pay inversion

The marketing and technical staff members of Hebi National Lighting Technology Co. Ltd work together in manufacturing products or bidding for projects. However, these employees receive different amounts of bonuses because of the various salary distribution methods adopted by the firm. However, other employees receive equal pay despite variations in their production skills because of labor dispatch and other identity differences. Inverted salary is a relatively common phenomenon where workers in subordinate positions receive higher salary than those in managerial positions, where newcomers receive higher salary than the older employees, and operating workers receive higher wages than the managers. This phenomenon greatly affects the enthusiasm of the entire workforce.

5.2.4 GAP IN THE LEVEL OF REMUNERATION AND EXTERNAL MARKET PAY LEVELS

The yearly increase in external labor market prices has created a salary gap between the old and new employees of Hebi National Lighting Technology Co. Ltd. The workers from the same industry and from enterprises of the same size also observe a gap in their overall salary levels. Apart from their uncompetitive salary levels, Hebi National Lighting Technology Co. Ltd employees are also denied of any protection or incentives.

6. SOLUTION TO THE PROBLEMS

The problems in salary allocation must be analyzed as a whole rather than separately. The specific solutions to these problems are discussed as follows:

6.1clarify the organizational structure and job responsibilities

All the positions in the company must be analyzed and evaluated by promoting a clear organization structure and clarifying the responsibilities of each employee. These initiatives are also expected to strengthen the links among various posts, promote a rational organization, create an effective business process system, balance the responsibilities of various departments, and achieve an ideal working condition.

6.2 establish a job competition management system

The posts, quota, and working hours in the company must be determined based on the available positions in the company. A competitive management system must also be established gradually to promote a rational flow among posts, optimize the allocation of human resources, improve the human resources structure, and enhance the remuneration allocation mechanism to offer the greatest incentives and benefits.

6.3 optimize the distribution of various staff positions

The mechanism for determining the total wages of various work units must be optimized, and the functional allocation of posts must take into account the average wage level in the industry to develop a reasonable wage distribution mechanism and minimize the salary gap among work units with the same duties and workload. For different types of positions of staff salary distribution, mainly in the bonus distribution mechanism of classification assessment, classification management could be done. In terms of the allocation of fixed posts and the distribution of bonuses, the company may refer to the production and operation status of grassroots units and the sizes of the available work units. Certain bonus policies must also be offered to those workers that manage a large workload and do not meet the required number of posts and quota. Marketing and technical personnel may consider the reference project management mode, form a product sales project team, and determine the bonus distribution program based on the order amount. The technical research personnel must also consider the flexible and reasonable allocation of various assessment methods, such as approving and initiating a project as well as contracting the project cost.

6.4 improve the human resources recruitment and training system

The cooperation with professional human resources must be strengthened according to the actual situation of the market pay system, the timely adjustment of the salary distribution system, the internal distribution of salaries, and the current salary level in the market. The company must adopt a secure pay and benefits system and offer special posts to its special talents.

7. CONCLUSION

The establishment of an effective compensation system is directly related to the smooth development of enterprises, and configuring a reasonable and sound human resource management can effectively promote the growth of an enterprise. Enterprises in the photovoltaic industry may also achieve growth by establishing reasonable and sound human resource management and compensation systems. However, these systems must take several factors into consideration. Firstly, the human resource management structure must be re-planned to achieve a clear division of responsibility among the workers in the enterprise. Secondly, a high-performance culture of professionalism must be bred within the firm by awarding the employees for their merits and punishing them for their faults. Thirdly, the employment mechanism must be open, and the relationship between young and old employees must be strengthened. Fourthly, a talent echelon must be

established, and firms must complement their recruitment of external employees in the short term with the cultivation of internal talents in the long term. These recommendations may help enterprises configure and improve their compensation systems.

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Practice and Inspiration of Reading Therapy in the Construction of Independent College Library

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Abstract: From the concept and practical significance of reading therapy, this paper analyzes the current mental health status of college students and the active effect of reading therapy. It also expounds the functions and positioning of the library when reading therapy is carried out. This paper takes the relevant practice carried out by the college library as an example, and takes the reading therapy as the characteristic construction work of the independent college library. Finally, it sums up the feasible and effective measures.
Keywords: reading therapy; mental health; independent college library; specialization.

1. INTRODUCTION

Reading origins from the Greek, and it is a combination of books and treatment of the word. There are many library buildings on the books and people, reading and spiritual slogans, many of which virtually reveal the effect of reading therapy and urge people to read. People are eager to "burden", and eager to have positive energy today. Through the deep connotation of the book , the human power of reading is to make the soul comfortable. Reading therapy is the ancient academic term and it is bursting out new vitality and the therapy attracts people's attention.

1.1 today's college students' psychological health needs urgent attention

In January 2016, "Vista to see the world," the reporter has published articles "North Post Graduate Death", "Chinese colleges and universities in order to fight depression, what efforts", In the article, a graduate student suicide event is reflecting the moment , Depression, frustration, anxiety, tension, loneliness, emptiness, depression, fear and so on which are common in the group of young college students, economic pressure, competition and employment pressure and emotional stress. Negative psychological emotions are easily to make young students appear weariness, insomnia, obsessive-compulsive disorder, depression and other behavior disorders, withdrawal, withdrawal or even suicide phenomenon.

Contemporary social changes are complex, and economic restructuring, institutional reform are profoundly affecting everyone. College students seem to be able to shelter in a relatively simple campus environment, but in fact bear the brunt. Compared independent college students with ordinary college students, they are different in family expectations and their ability, reality environment and subjective desire .The following psychological characteristics will be relatively prominent: (1) personality: college students have extroversion of personality. College students are thinking and active. (2) learning: the overall cultural foundation is poor, and learning motivation is not clear. Because the college entrance examination results are not ideal, self-confidence is poor, and even sense of inferiority is strong; (3) Life: students between the rich and the poor differentiation have heavier comparison of psychological; this means that independent college students psychological counseling working is a long way. Psychological problems are plagued by some Chinese students .This phenomenon has attracted the majority of university workers attention, even the whole society. The importance of education management department promotes the establishment of more institutions of higher learning psychological counseling. Besides, more professional doctors, teachers go into the mental health education.

1.2 reading therapy on the role of mental health prevention and care

"Reading therapy" actually refers to the two main subjects - books and treatment, and it can also be called "book therapy." As early as in the Middle Ages, when doctors treated patients, by reading the "Bible" and other religious literature to appease patients, reading therapy at that time began to become an effective adjuvant therapy. Modern medicine believes that reading therapy belongs to the field of psychotherapy, mainly used in psychological counseling and treatment of mental illness, which requires the use of physiology, medicine and psychology of the relevant principles, through the selective selection of books and instructional reading to improve the reader Emotional, psychological regulation of their psychological exclusion and obstacles, and further affect their behavior to achieve the purpose of adjuvant medical treatment.

2. The feasibility and positive significance of developing reading therapy

2.1 reading therapy is easy for readers to accept

Mental health is valued, because psychological problems for consultation or consultation will have a

heavier "stigma" .Compared the physical disease brings physical pain, psychological problems of patients often choose to suppress the pain of the heart Hovering, which is easy to lead to psychological state from simple to complex. Guilin Health and Welfare Hospital, Ye Qinghong, director of the team had a college student in Guilin, a survey of depression, she also found a similar problem: the face of teachers, students, no one is willing to be seen as a mental illness, which is so far Psychological counseling effect is still not ideal in college an important reason.Of course, psychological problems will not be complex and serious from the beginning, not all of the inner confusion need to accept professional psychological counseling, the author through a sample survey of our students, statistics. when there is psychological distress, 73.8% Students are willing to read to ease, and 93% of this part of the readers are willing to read the keywords include "cure", "healing" and other words of the reader, and this part of the reader's WeChat are subscribed to more than one reading class The public number, read their daily push of the article, said there will be sentiment, there will be resonable.On the contrary, when they exist in love trouble, communication difficulties, academic employment pressure, very few will help counselors and counselors.

2.2 the significance of carrying out the reading therapy in university library

University library is not only the collection of books, the second classroom of moral education, which is simply for the teaching and research services,and the majority of library workers has been committed to research and practice - how to use the rich collection of resources and a good reading environment Expand the educational function. At the same time, the author thinks that the characteristic is the only way for the sustainable development of the independent college library. Reading therapy, as a way of combining library science and psychology, can be carried out in the library, which will have a favorable influence on the mental health of college students. The reading therapy is the feasible entry point for the library construction of the independent college library, which provides a new proposition for the future development of the library. It also has positive significance to promote the national return reading.

2.3 the development of reading therapy can promote the library reader service transformation

In order not to be blind, and better carry out reading therapy, many libraries will select a number of librarians who are diligent study, gooding at research, communication and exchange ability of involved in psychology, book therapy theory and practice and other aspects of training to enhance the librarian Business ability and the ability to serve the readers; librarians can also use large data-related technology, analysis of readers' reading preferences and habits, for more targeted to provide objective basis for the recommended bibliography, which also contributed to the librarians But also more importantly, it can optimize the collection structure, strengthen the construction of characteristic literature resources, make the books more fresh, the reader can more easily obtain knowledge and solve the problem. To carry out reading therapy activities, the reader at the library in the school can achieve a win-win situation.

3. THE COUNTERMEASURE OF DEVELOPING READING ACTIVITY IN INDEPENDENT COLLEGE - TAKING THE INFORMATION SCIENCE AND TECHNOLOGY COLLEGE LIBRARY AS AN EXAMPLE

3.1 self-orientation of the library in carrying out reading therapy activities

The theoretical efficacy of reading therapy is certain to the treatment of mental illness, clinical practice for the true sense of the reading therapy called: "clinical reading therapy", and try to read by librarians or other non-medical Reading materials recommended by the staff to prevent the main channel for mental health, the general sense of the reading therapy called: "health reading therapy or skills to read therapy." Library workers can not blindly carry out this work with enthusiasm and hobbies. To carry out preventive care, mental health care, the general sense of the treatment of reading gives readers the humanistic care. The library can use their own resources to concern about the urgent need to improve the mental health of teachers and students, which is bounden duty.

3.2 service team building of reading therapy

Human resources is an important factor in the activity of reading therapy, and a high quality and stable reading therapy counselor team is the key to carrying out reading therapy activities. College of Information Technology has established a special psychological counseling center with a full-time professional counselor, and student counselors through the relevant training, is also actively involved in student mental health education. Librarians, along with these teachers combine to become a reading healing service team.

Group members are trained systematically, with knowledge of library science, psychological counseling knowledge, basic knowledge of reading therapy, and have a different division of labor: the library is responsible for the protection of reading resources, modern information technology, reading the concentration of activities support, psychological counseling The center is responsible for the statistical analysis of psychological general survey, reading object screening survey, the student department and the relevant student associations (such as reading enthusiast associations, mental health associations, etc.) responsible for the specific planning and implementation activities.

3.3 to improve the perspective of the audience to promote the strategy

The so-called "good readers can cure", the role of reading therapy Obviously, reading is a spiritual experience, can make readers and works connotation between the resonance and integration, resulting in psychological agitation, such a feeling must be pleasant .But in carrying out the propaganda process of reading therapy, too much emphasis on "treatment", or even "mental illness" and other words, often easy to lead readers disgusted. "Healing" and "reading therapy" is closely related to the important words, in our sample survey. The reader acceptance is higher, in carrying out reading therapy publicity process, can have seminars, publicity, campus network, the public , Easy platform platform and other means .But to emphasize the pleasure of reading, and inspire readers to continuously improve their understanding of life, self, society, life, aroused deep feelings of sympathy, attracting readers to read, love On the reading. Students with the formation of reading by the "psychological self-healing" habits, is to promote universal reading, to create an active and healthy atmosphere of the campus needs.

Library in order to optimize the reading environment, and they proceed with the construction of the "development of psychological reading room", "Yue read" book in the dormitory area, psychological counseling center . Reading activities can be carried out in different forms and carriers, library reading activities, such as cultural lectures, "Live Library", "World Reading Day" and reading public welfare activities, academic departments and student organizations " Month, "" 5.25 Mental Health Day "and other campus activities, can be combined with the effect of reading therapy, or as a theme or as a supplement, together with college students favorite travel, sports, music, movies, performances, photography and other elements to attract With the active participation of young students. Virtually in the readers and libraries, libraries and academic departments set up a bridge between, and create a positive, lively and cheerful campus culture.

4. CONCLUSION

To sum up, I believe that reading therapy is feasible in the university library. The key is to clearly understand the role of the library here ,which can play in the correct and clear positioning, combined with other relevant departments of the school strength to carry out health-based reading Healing work, and continue to practice in the adjustment and improvement. In the independent college library, the library resources are not abundant, and the technical equipment is not first-class. The librarian level is not uniform, and the characteristic service construction is the only way for the sustainable development of the independent college library. Characteristics of service building point of entry is bound to the library information services, new services to readers to expand, bring more challenges and vitality.

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The Exploration on the Teaching Reform of Higher Mathematics in the Training Mode of Applied Creative Talents

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Abstract: In the application of innovative talents training mode, higher mathematics teaching reform must adapt to social development in order to cultivate qualified applied talents. Thus in the teaching process the university mathematics must change the traditional teaching philosophy , infiltrate the advanced mathematical thinking, spread mathematical modeling consciousness, set up mathematics experiment, formulate reasonable evaluation scheme as the focus of the higher mathematics curriculum reform to improve the quality of higher mathematics teaching and achieve the strategic objectives of higher mathematics training.
Keywords: Higher mathematics; teaching; reform; innovative talent

1. INTRODUCTION

As the old saying goes, “math is the father of the encyclopedia.” It fully shows the importance of mathematics in all disciplines. Mathematics not only an important basic course in the college, but also a tool course for all majors. However, the traditional pattern of higher mathematics teaching can not adapt to the cultivation of applying innovative talents in today’s society.

It is necessary to reform and innovate the teaching of mathematics curriculum, and to reform the teaching pattern of the traditional theory of heavy practice into a combination of theory and practice to deal with some practical problems. To avoid the phenomenon of “empty talk” excessively appearing in the social talents, the model of education focus mainly on knowledge but not the ability to apply this knowledge will be reformed by the coexistence of knowledge and ability . Therefor, the teaching of higher mathematics needs reform, whether teachers or students need to change the traditional perspective in teaching, and constantly cultivate the students’ interest in mathematics. It will lay a solid foundation and professional skills for cultivating the talents.

1.1 the problems existing in the teaching content

The teaching of higher mathematics has more theoretical characteristics. Students learn theories and problem-solving method, but they don’t know how to apply the theories to the reality. This finally led to students lose interest in math learning. In the traditional-style teaching, teachers can not tell the origin of a theory, that is, where did the theory come from and how to apply it to the reality, which is the most important learning path for students. However, the teaching content does not establish an internal relationship with the practice, it cannot cultivate students’ innovation ability and the ability of solving practical problem. And it didn’t obtain the good results as expected. There are some teaching contents are so esoteric that the students could not understand. This i s because the improper material selection. The level of students in different schools has difference, the selected material should be suitable for the students.

1.2 the teaching pattern and method are unitary

Writing on the backboard is the traditional teaching pattern of higher mathematics and it has continued ever since. The disadvantage of this pattern is that hard for them to get out of the fence of the traditional teaching to enable a new teaching pattern. Traditional teaching of higher mathematics should be combined with multimedia teaching if we want to change the teaching methods. Multimedia and other modern technology could reflect the abstract content in higher mathematics. And combine the higher mathematics and mathematical application software together organically to break through the traditional teaching pattern. And the teaching methods should be diversified.

1.3 the assessment method is unitary

Advanced math scores include ordinary performance, the scores of usual tests and the scores of the final exam. And the final score accounted for the largest proportion. The total grades reflect a student learns well or bad, but it’s one-sided and limited. The tests are unable to examine the students’ ability of strain because the test questions come form the teaching material sample questions. It will overlook the study of higher mathematics. The assessment method need to reform, otherwise, the teaching of higher mathematics would fail to cultivate the applied innovative talents.

1.4 the problems which exist in teaching staff

The teaching process plays a very important role in the process of higher mathematics teaching reform. Teachers are required to possess the professional theory knowledge and the relevant disciplines knowledge, as well as the flexible and innovative thinking. However, the grate majority of teachers do not meet the above requirements. The shortage of professional knowledge is shown in the teaching process and the lessening of innovation ability cause a depressed atmosphere. The students not fully

understand and some of them even fall asleep. Students can not understand the combination of theoretical knowledge and practical practice characteristics, which greatly affected the teaching of higher mathematics and the reform.

Owing to the improper management of school, some experienced teachers would switch to another school and most of the new teachers are the fresh graduates. New teachers have no work experience and they have to learn from experienced teachers which is a waste of human resources. Some of them might quit his job for a better one when he has enough experience. Repeatedly, the process of higher mathematics teaching reform will be very difficult.

2.THE SPECIFIC WAY OF HIGHER MATHEMATICS TEACHING REFORM

2.1 to impart the thought of mathematics and improve the mathematics accomplishment

As the father of the encyclopedia, mathematics is applied widely in many other files.Science and engineering can not be separated from mathematics and humanities and social science field also inseparable from the application of mathematics. In order to get final results of the studies, all kinds of studies must based on mathematics. Thus, mathematical thinking is shining in every filed. Teachers will explain the emergence and development of knowledge and emphasize the mathematical ideas and mathematical methods reflected in this process at the same time. It can help students excite their interest. Teacher needs to tell students that the charm and challenges of mathematics when he explains the theorem and formula. “The Beauty of Mathematics” was written by Dr.WuJun and this book can arouse students interest of learning math. The book could improve students’ mathematical thinking ability and experience the beauty of mathematics which are suitable for senior high school students and the college students. It is the combination of life and mathematics knowledge. And students will find out how much the mathematics close to their own life.

2.2 improve the teaching methods and learning efficiency

Applying the new teaching methods in higher mathematics not only can simplify the complexity of knowledge, but also help students understand the knowledge intuitively. What’s more, it can save a lot of time for practical applications.

With a variety of mathematical software, such as Matlab, Mathematica, etc., to help students to understand the knowledge points effectively. For students with strong math ability, the learning content within the program is not satisfied with their desire for learning. So they could enlarge their knowledge of mathematics by the video learning website. It will help you to prepare for the further study. Teachers could record some videos of the mathematics learning for the students who get poor achievement in this subject during the school time. Video teaching can help students to review and consolidate the things they have learned. In this way teachers and students work and learn together and form a close relationship that enrich both parties. The use of modern multimedia for effective teaching can improve the efficiency of students learning mathematics.

2.3 cultivating the consciousness of constructing models, improving ability of applying mathematics

Mathematical modeling is an important part of cultivating students' mathematical quality. It is necessary for college students to master and apply mathematical modeling ideas and methods. Mathematical modeling abstracts the practical problems in life into mathematical models. Through the various mathematical methods to verify the rationality of the model; through the mathematical model to explain the reality of the problem. Mathematical modeling ideas and problem-solving methods will have significant impact on the mathematics teaching reform.

Innovation is the lifeblood of mathematical modeling. In the process of participating in mathematical modeling students need to be diligent in thinking and try to use a variety of mathematical methods to solve a practical problem. The students’ ability of analyzing and solving problems will be improve with the continuous amendment and perfection of their mathematical model. In the practical operation of mathematical modeling, students can understand the close relationship between mathematics and life, and make students to get the knowledge and to use them. Therefore, mathematical modeling is conducive to inspire the mathematics motives and interests of students. In the course of mathematical modeling, students will search the latest scientific research materials on the Internet, and use the new technology to deal with the data, which are fully cultivating students’ ability of using new technology and the latest scientific and technological achievements. In the practical activities,it is difficult for one person to establish a mathematical model. A collective task completion require different students to work together and communicate with each other. As a group, the members should understand and support each other, as well as learn from each other.

It helps to cultivate the team spirit. the exercise of mathematical modeling not only cultivate students' autonomous learning ability, and comprehensive knowledge application ability, but also the quality of the students' perseverance and their writing skills and verbal ability.

2.4 set up a mathematical experiment to improve students' practical ability

The key of mathematical modeling is using computer to solve models. And mathematical experiments are an important part of mathematical modeling. Using the mathematical experiment teaching methods, the process of changing sequence of the general term with N is shown by computer. Students will be actively engaged in their own learning in such a cognitive environment and teaching pattern. Their comprehensive ability will be improved as well.

Students will find that it is easy to solve the mathematical problems and models when they know how to use the mathematical software. With the help of math software, students could spend more time on analyzing and solving problems instead of spending a lot of time on the complex calculations.

2.5 develop a reasonable assessment of evaluation programs and improve student learning initiative and creativity

The traditional examination method is unable to measure the students' real math ability.The method might cause“high scores but poor ability”, and those students who has strong practical ability in mathematics cannot be recognized. Therefore, in the teaching of higher mathematics, students’ basic knowledge, the basic skill and ability, and other capabilities are included in scope of evaluation. Through the combination of the exam under open and close condition, classroom questioning and discussion,and scientific experiments surely can tell a student mathematical ability. The math scores of colleges and universities are divided into four parts: performance at ordinary times, the scores of usual tests, the scores of application tests and the scores of final exam. The scores of these four parts are divided into: 1: 2: 3: 4. Sharing the final grade proportion, even if the scores of final exam is poor, there are other scores. So students would know that mathematics application ability also can not be overlooked.

2.6 to build a good team of teachers

The reform of higher mathematics teaching should be carried out on the first line of higher mathematics teachers. Reform is only empty talk without the active cooperation of teachers. First of all, the teacher team is required to hold a regular meeting of the teaching and research section, to exchange ideas, problems and solutions to the curriculum reform, and to develop a better method of reform. Only in the exchange of experience that allows team members to grow faster, enthusiasm to mobilize long-term teachers, make the teaching reform of Higher Mathematics in the practical action. Secondly, teachers will be trained regularly. Because every school's teaching staff will have young teachers. Although these teachers’ diploma and professional knowledge are excellent, the teaching experience and the enthusiasm of the work is still far from enough. They need to learn from other people's new ideas and methods, so as to mature as soon as possible, to make contributions to the reform of higher mathematics teaching. Thirdly, the reform of higher mathematics teaching is inseparable from the stability of the teacher team. A stable teacher team will work hard and work together towards the goal of reform. If the teacher team is unstable, that the progress of teaching reform will play a role in impeding. Thus, the key in the reform of higher mathematics teaching is to build a team of capable teachers of mathematics, so that they would bear the responsibility of training innovative talents.

3. CONCLUSIONS

The teaching reform of higher mathematics should change the teaching main body, optimize the teaching content and change the old teaching ideas. In order to innovate teaching, the assessment methods should also be improved, so as to make the teaching reform of higher mathematics to adapt to the needs of the era of innovative talents. In the teaching process, we should not only pay attention to the application of mathematical knowledge, but also attach importance to the cultivation of the quality of mathematical thinking. More importantly, students should learn how to use mathematical knowledge to solve practical problems. Mathematics teaching reform is not a short duration of time can be resolved. It is a process that takes a long time. Teachers need to make use of their imagination and practical experience to carry out creative teaching and students need to be cooperated actively. And we should constant innovation with the support of the school to achieve the purpose of cultivating high-quality innovative talents for the society. This is the responsibility of every college teacher in his career.

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Negative Influence of Network Communication on College Students' Physical and Mental Development

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Abstract: With the rapid development of Internet, network communication has become an important way of college students' communication. Network communication promotes the development of college students, at the same time it also has a negative impact on their physical and mental development. So we should: strengthen the moral education of the network; actively organize students to participate in social activities; create a good living environment; strengthen the psychological counseling of college students.
Keywords: network communication; college students; physical and mental development

1. INTRODUCTION

With the advent of the second decade of the century, computer and network technology has been fully penetrated into all aspects of people's lives. As a new medium, Internet completely changes people's way of life, especially interpersonal communication. Interpersonal communication is no longer restricted by geography, kinship, karma, and it forms a crisscross pattern instead. For students who are good at accepting new things, the arrival of the Internet age has influenced and changed the life style of college students. Therefore, based on the perspective of social exchange theory, it is not only of important theoretical value but also extremely important practical significance to study the behavior of college students' interpersonal communication in the network age.

2.CHARACTERISTICS OF COLLEGE STUDENTS' NETWORK COMMUNICATION

The communication of college students in network era is mainly implemented by the Internet communication platform, such as all kinds of instant chat tools. It shows a visible difference in the way, tools and other aspects of communication. I will start with the typical interpersonal communication tools, and then introduce the changes caused by those tools. In the Internet age, interpersonal tools are obviously diverse and convenient. In addition to the choice of traditional communication tools, you can also choose a variety of network interpersonal tools, such as instant chat tools including QQ, MSN, etc. You can also use some dating software, such as Facebook. With the development of network technology as well as the development and upgrading of network interpersonal communication tools, Weibo, WeChat and other tools not only can provide a convenient interpersonal environment in the first time for college students, but also make the use of these tools cheaper and more free. In addition, the network of interpersonal tools can also pass a various forms of information, not only e-mail, other network interpersonal tools can also provide the carrier information for text, voice, video and others.

3. THE NEGATIVE INFLUENCE OF NETWORK COMMUNICATION ON THE LEARNING AND LIVING OF COLLEGE STUDENTS

3.1 dilute reality communication

Students often choose an anonymous way of communication in the network, which makes them feel safe and back and forth in the real world and cyberspace. Although to some extent the virtual communication relieves the pressure in students' real interactions, in the long run, students will doubt the authenticity of real interaction, and their attitude to the reality of contacts as well as the establishment of interpersonal networks shall be affected. Moreover, some college students are taciturn and introverted in the real world, but in the virtual communication they seems to be capable of dealing with all men and accomplishing any task with ease. The virtual communication shall make them lack more real interaction opportunities, more and more away from the real social circle as well as their students and friends.

3.2 trigger personality disorder

The network environment makes the students prone to the deviation of self- consciousness in the process of interpersonal communication in the network, resulting in disorientation and causes a certain personality disorder, and even lead to personality division or distortion. The personality disorder of college students will not only cause the bewilderment and confusion of college students, but also affect the correct establishment of philosophy, sense of worth, as well as the world view, and finally affect the interpersonal relationships of college students.

3.3 internet addiction

There are some problems with college students' interpersonal communication in Internet era. At present, the frequency of college students using the network is extremely high, and many people have even become a network freak or phone freak. It is

that students need to have a network accompanying with all the time causing a certain number of college students addicting themselves to the network. College students indulge in the network not only affect the physical and mental health and academic of students, but also for the healthy development of college students' interpersonal communication.

3.4 increase the randomness of network communication

Because of the virtual and freedom of the network, it comes the randomness of network interpersonal communication. As college students are in their youth, the desire for love is relatively strong, affecting the students' healthy love outlook due to some unrealistic emotional expression on the network. In the network environment, people are more likely to express their own advantages, as for the shortcomings they can be deliberately concealed. In the network environment, people can freely express their own feelings, but also to express unreal thoughts freely. For those college students, who are emotional, curious, and want to experience a variety of experiences, they are vulnerable to network emotional distress, and affected on the formation of a healthy concept of love. Therefore, the arbitrariness of college students 'network communication has a certain negative impact on the cultivation of college students' EQ and the correct concept of love.

3.5 triggering a crisis of confidence

Network interpersonal communication weakens the sense of norms. The constraints for college students' interpersonal communication are much less, and they can communicate freely on the network, with few specific restrictions and inspection for the network interpersonal objects, whose information is no way to get. So in the Internet age, there is a serious crisis of confidence in college students' online communication. College students generally cannot fully trust the Internet object, or net friends. But there are still a small number of college students willing to trust the network interpersonal objects, however, such behavior is relatively dangerous due to the lack of certain information.

4. SOLUTIONS

4.1 strengthen the network moral education

According to the current situation that network communication has become an important part of people's daily communication, it is necessary to strengthen network moral education. Strengthening the network moral education includes two aspects: to improve the network literacy of educators, to strengthen their ability to carry out network moral education. One of the salient questions is that some moral educators know little about network communication, lacking the necessary knowledge of network application. They rarely engage in network communication, thus know little about the network communication behavior of educated people. One can imagine that such moral educators are difficult to effectively carry out network moral education. Therefore, it is imperative to train moral educators on the methods and theories of network knowledge and network moral education to improve their understanding of network communication, to improve their ability to collect and acquire information on the Internet, to improve their abilities of using the network Platform for moral education. Strengthen the top design of network moral education, consider comprehensively the role and status of network moral education in the whole moral education. The network moral education shall be included in the overall framework of civic moral education, and deployed unified, and combined organically with other educational content.

4.2 actively organize students to participate in social activities

In order to stimulate college students' interest in practical activities and mobilize their initiative and participation, colleges and universities must make practical activities develop in the direction of diversification. Therefore, colleges and universities should take the practical needs of students into consideration; combined with the development of the times; make full use of the Internet platform; combined with the development needs and the social environment; adhere to carry forward the socialist core value system and carry out unique campus and social practice; enlarge the content and form of practice, to enable students to achieve the comprehensive, diversified development; establish a virtual communication platform to achieve the sharing of information and experience, making a good relationship between teachers and students, students with others.

4.3 create a good living environment

Strengthen the construction of spiritual civilization, optimize the social and cultural environment, and create a culture atmosphere of equality, freedom and democracy. At present, as an important manifestation of the country's core competitiveness, culture will face the impact from other cultures. So it is particularly important to build a culture. At the same time, we should also organize a number of activities and reading parties that are conducive to cultural construction. And actively guide the direction of the campus culture. With the influence of culture, keep the campus atmosphere healthy, orderly and friendly, and then spread to the community and create the fine atmosphere within the whole society.

4.4 strengthen the psychological counseling of college students

In the period of the developing character and values, a lot of college students will be affected by others behavior, together with the infectious of the emotional itself, so it is possible that when a person cannot handle his emotional problems, he shall own anger, indifference and other emotions passed on to others. If things go on like this forever, his own

relationships will also be affected. As a university, it should also pay more attention to the psychological problems of students, regularly held some psychological lectures and other activities - at the same time, there should be persuasion aimed at confusion found in different periods of the students, communicate with the students to prevent some deviation behavior. Let the students learn how to get along with others with self-esteem, how to think about the problem in others position, how difficult to adjust their emotions, how to overcome their psychological barriers, how to adjust their emotions in the face of difficulties, how to overcome their psychological barriers, how to choose and insist on correct judgments in all kinds of temptations. . These are the common things that contemporary college students, parents, colleges and universities need to face and make efforts.

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The Application of MATLAB on Visualization Teaching for Complex Variables Functions Courses

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Abstract: It is helpful for college students to understand the basic theoretical knowledges of complex function through graphic image analysis method, which makes the abstract concept and complicated content becomes specific and simple. In order to realize the visualization teaching for *complex variables functions* courses, the graphic function of MATLAB software was utilized. In addition, the mechanism of visualization teaching reform was discussed aim to improve the quality of class teaching and promote the teaching reform process.
Keywords: Mathematical modeling; MATLAB; Complex functions; Teaching reform

1. INTRODUCTION

As one of the basic courses of science and engineering major in colleges and universities, the highly abstract features of *complex function* not only makes some difficult to interpreted for teachers but also cause so many students think it is boring and difficult to learn it, so that the teaching effect can not reach the expected level[1]. Therefore, how to make the *complex function* course which contains a large number of abstract theories become vivid and easy to understand and arouse students' learning interests and enthusiasm have been the challenges to the teaching reform of *complex function*. This paper combines the teaching process of *complex function* with MATLAB software to realize the visualization teaching for *complex variables functions* courses with the aid of the numerical calculation and image processing function of mathematical modeling tool. It is advantageous for teachers to interpret and for students to study, thereby enhancing the teaching effect.

2. THE VISUALIZATION EDUCATION METHOD OF COMPLEX FUNCTION

As the mainstream of the mathematical modeling tool, MATLAB was widely used in mathematical contest among modeling enthusiasts and college students and teachers or researchers. Application of MATLAB makes obscure mathematical theory into vivid and visual image, and realizes Visualization Teaching. The mechanism of visualization teaching reform was described below and several MATLAB graphics application cases were presented.

2.1 The numerical calculation and image processing function of MATLAB

MATLAB is a mathematical software released by MathWorks Company in the middle 1980s in American. It provides the core mathematical and advanced graphics tools for data analysis and data visualization, algorithms and application development. MATLAB can complete the data calculation of complex function and display the function results in graphical form, which make the relationship between the function and results more clearly.

As a scientific calculating software, MATLAB is easy to use, simple input, efficient computing with a large number of libraries available. Compare with the Basic, C and Fortran programming languages, MATLAB puts forward and solves the problem only need to express and describe them in mathematical way in stead of the tedious programming process. It has become a useful teaching aid for mathematics course of colleges and universities base on above advantages.

2.2 Visualization teaching improve effect of theoretical teaching

Due to the differences of student own career ideas and interests, some students want to learn deeply and lay the foundation for further study, but some hope to learn shallow to achieve a basic level. It is difficult for teachers to take into account in the teaching process, which leads to the reduction of students' learning enthusiasm.

Through MATLAB images demonstrate the complex function theory and graphics, helping student to overcome the fear of abstract theory study. Teachers combines the rigorous derivation of the basic theory of mathematics with the idea of MATLAB numerical simulation, then expresses it into graphic image to seize the students' interest in learning, cultivate the enthusiasm of students' independent learning go from the easy to the difficult and complicated, improve the boring teaching of complex function theory, finally. Encouraging students to use the same method to deal with similar problem and realize the sublimation of mathematical theory.

2.3 Visualization teaching improve students' modeling ability

Complex function course has two significant features: high abstractness and tight logic. In class, we always pay attention to explain the theoretical knowledge, but ignore the combination with actual application,

and make the students cannot get more perceptual knowledge, which in the depth of the theory and the breadth of application cannot combine well, so that cannot make teaching vivid enough, and students have poor ability to solve practical problems.

In the teaching process, teachers should adhere to give priority with complex function theory, and the mathematical modeling tool like MATLAB as a supplement. On the one hand, we can realize the visualization of the *complex variable function* by Matlab graphics function, on the other hand, we can promote the use of MATLAB software through the teaching of complex variable function, and improve students' consciousness of mathematical modeling and software operation ability. Mathematical modeling is a bridge between practical problems and mathematics. It is a medium for applying mathematics in various fields. The *complex function* course teaching reform can indirectly improve students' mathematical modeling ability and thus assist students in the development of professional fields.

2.4 Typical cases of visualization teaching on *complex function* course

Since the independent variable of complex function is complex number and the function value is also a complex number, so it is necessary to have four vectors to represent the complex function[2]. However, because of the limitations of space, only three space vectors can be displayed on a computer screen, there is no space variable can represent the value of the fourth dimension. MATLAB show the four dimensional data with the color to indicate the value of the fourth dimension base on the three space coordinates[3]. The concrete method is to show the complex plane of the independent variable in x and y plane. The real part (imaginary part) of the complex function value is represented by z-axis, and the imaginary part (real part) of the complex function value is represented by color.

E.g. Making the image of complex function by MATLAB.

MATLAB program code is as follows:

```
z = cplxgrid(30);
cplxmap (z, z. ^5 + z. ^
2 + 1)
colorbar('vert')
```

Results:

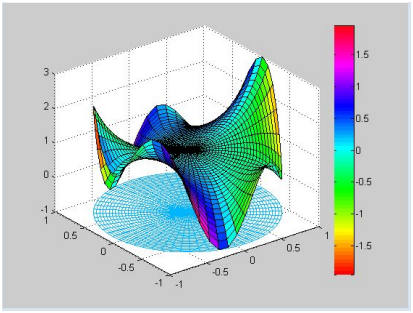


Figure 1 Image of complex function $f(z) = z^5 + z^2 +$ 1.

Series is an important manifestation form of analytic function, the analytic function is expressed as series not only has theoretical significance, but also has practical significance. For example, in the professional courses of study the Z transform of discrete digital signal can be directly write by using Laurent series. For some analytic function, Taylor expansion methods, although many, but the calculation is complex, and the result of the Taylor expansion is not necessarily satisfied. In MATLAB, we can give an arbitrary finite term expansion of the function at any point conveniently by calling the function Taylor.

E.g. when $f(z) = \sin(z^2 / (z - 1))$, for the first five of the $f(z)$ $z = 3$ Taylor expansion.

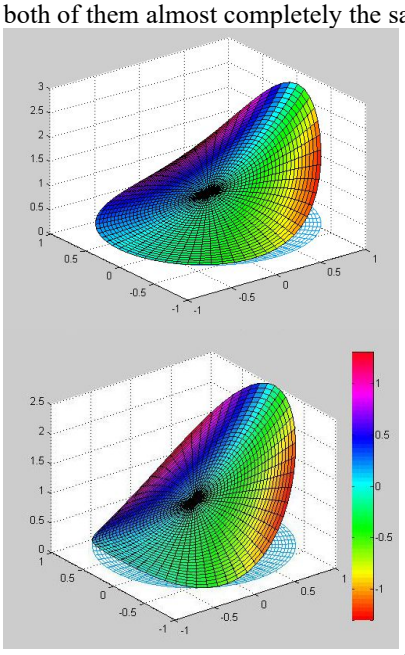
MATLAB program code is as follows:

```
syms z
f=sin(z^2/(z-1));
F = taylor (F, 5, z, 3)
```

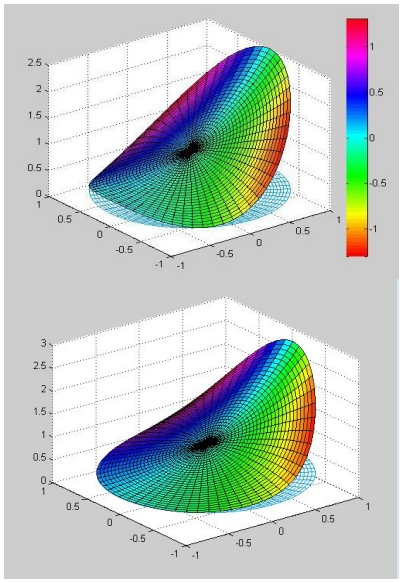
Results:

```
F=sin(9/2)+(z-3)^2*(cos(9/2)/8-(9*sin(9/2))/
32)-(z-3)^3*((17*cos(9/2))/128+(3*sin(9/2))
/32)-(z-3)^4*(cos(9/2)/256-(107*sin(9/2))/2
048)+(3*cos(9/2)*(z-3))/4
```

Power series expansion problem can be studied by MATLAB. Fig.2 is the graphics of Taylor expansion $f'(z) = \sum (zk/k!)$ of the function $f(z) = e^z$ for the center with $z = 0$. From the picture we can see that when k equal 2, $f(z)$ and $f'(z)$ have bigger difference; When k equal 8, two shapes are very close; When k is 25, both of them almost completely the same.



e^z e^z, k=2



e^z, k=8 e^z, k=25

Figure 2 Image of function e^z and its Taylor expansion.

It can be seen clearly from Fig. 2 how the Taylor expansion of the function tends to self-function as the number of items increases[4]. In this way, we can clearly understand the practical significance of the Taylor expansion. Image of Laurent expansion can be given by using the same method.

Residue theory and its practical application have significant means to the development of *complex function* theory. But some residue of *complex function* is complex, so we need to solve with the help of MATLAB software, a fast and accurate method.

E.g. Calculate the pole and residue of function $f(z) = (z \wedge 2\text{-}6 * z + 3)/(z \wedge 3 + 5 * z \wedge 2 + 2 z)$

MATLAB statements are as follows:

```
>> a = [1 -6 3];
>> b = [1 5 2 0];
>> [r, p] = residue( a, b)
r =
    2.7211
   -3.2211
    1.5000
p =
   -4.5616
   -0.4384
         0
```

3. CONCLUSION

Develop visualization teaching method base on MATLAB software, the teacher doesn't need to carry out lengthy mathematical theory derivation, just guide students to analysis the thoughts and methods to solve the problems, and MATLAB solves the mathematical operations. Involved in demonstration and experiment can help the students begin a more thorough understanding of the concept of complex function and its application, so as to inspiring the enthusiasm and initiative of learning, and improving the quality of teaching. In a word, introduced MATLAB into *complex function* course to realize the visualization teaching not only help to improve the quality of class teaching but also promote the teaching reform process.

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Optimizing the Passenger Throughput at an Airport Security Checkpoint

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Abstract: Safety checkpoints are located at the airport to maximize the safety of passengers. This paper analyzes and optimizes the security process to improve passenger throughput. On one hand, we established a model in order to make clearly sure of the problem in the current security process. We use Mathematical Statistics to make analysis of each step of the security process. It indicates that bottlenecks not only happen in conveyor belt, but also happen when the pre-check passengers are waiting in the security check mouth. On the other hand, in order to solve these bottlenecks, we need improve the current process of security. We build the model based on Hybrid Petri net model of the airport security system. By simulating of the airport security process, we improve the way of waiting in a queue in the Document check area. The passengers can choose the conveyor belts and the guidance of security personnel, etc. By reducing the waiting time and the time delay by placed items, passengers can pass through the screening faster.
Keywords: airport security; waiting time; Petri net

1. INTRODUCTION

Following the terrorist attacks in the US on September 11, 2001, airport security has been significantly enhanced throughout the world. Airports have security checkpoints, where passengers and their baggage are screened for explosives and other dangerous items. The goals of these security measures are to prevent passengers from hijacking or destroying aircraft and to keep all passengers safe during their travel. However, airlines have a vested interest in maintaining a positive flying experience for passengers by minimizing the time they spend waiting in line at a security checkpoint and waiting for their flight. Therefore, there is a tension between desires to maximize security while minimizing inconvenience to passengers.

During 2016, the U.S. Transportation Security Agency (TSA) came under sharp criticism for extremely long lines, in particular at Chicago's O'Hare international airport. Following this public attention, the TSA invested in several modifications to their checkpoint equipment and procedures and increased staffing in the more highly congested airports. While these modifications were somewhat successful in reducing waiting times, it is unclear how much cost the TSA incurred to implement the new measures and increase staffing. In addition to the issues at O'Hare, there have also been incidents of unexplained and unpredicted long lines at other airports, including airports that normally have short wait times. This high variance in checkpoint lines can be extremely costly to passengers as they decide between arriving unnecessarily early or potentially missing their scheduled flight.

In this paper, we aim to review airport security checkpoints and staffing to identify potential bottlenecks that disrupt passenger throughput. We expect that both increase checkpoint throughput and reduce variance in wait time, all while maintaining the same standards of safety and security.

The current process for a US airport security checkpoint is displayed in Fig. 1.

Zone A:

- Passengers randomly arrive at the checkpoint and wait in a queue until a security officer can inspect their identification and boarding documents.

Zone B:

- The passengers then move to a subsequent queue for an open screening line; depending on the anticipated activity level at the airport, more or less lines may be open.
- Once the passengers reach the front of this queue, they prepare all of their belongings for X-ray screening. Passengers must remove shoes, belts, jackets, metal objects, electronics, and containers with liquids, placing them in a bin to be X-rayed separately; laptops and some medical equipment also need to be removed from their bags and placed in a separate bin.
- All of their belongings, including the bins containing the aforementioned items, are moved by conveyor belt through an X-ray machine, where some items are flagged for additional search or screening by a security officer (Zone D).
- Meanwhile the passengers process through either a millimeter wave scanner or

metal detector.

- Passengers that fail this step receive a pat-down inspection by a security officer (Zone D).

Zone C:

- The passengers then proceed to the conveyor belt on the other side of the X-ray scanner to collect their belongings and depart the checkpoint area.

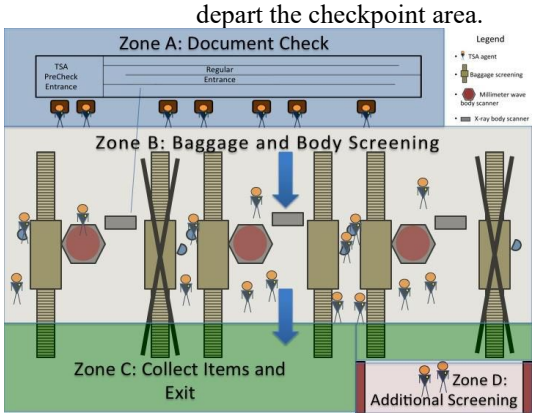

Fig. 1 Illustration of the TSA Security Screening Process.

Approximately 45% of passengers enroll in a program called Pre-Check for trusted travelers. These passengers pay $85 to receive a background check and enjoy a separate screening process for five years. There is often one Pre-Check lane open for every three regular lanes, despite the fact that more passengers use the Pre-Check process. Pre-Check passengers and their bags go through the same screening process with a few modifications designed to expedite screening. Pre-Check passengers must still remove metal and electronic items for scanning as well as any liquids, but are not required to remove shoes, belts, or light jackets; they also do not need to remove their computers from their bags.

Data has been collected about how passengers proceed through each step of the security screening process.[6]

Our specific tasks are:

a. Develop one or more model(s) that allow(s) you to explore the flow of passengers through a security check point and identify bottlenecks. Clearly identify where problem areas exist in the current process.

b. Develop two or more potential modifications to the current process to improve passenger throughput and reduce variance in wait time. Model these changes to demonstrate how your modifications impact the process.

2. GENERAL ASSUMPTIONS

●Assume that the data for each step of the security check process is accurate.

●Assuming that security personnel are assigned fixedly, they are only responsible for their own tasks.

●It is assumed that the time taken by a passenger to travel from one area to another is zero.

●Assuming passenger arrive at security gate, they can not return to their heads.

3. MODEL ESTABLISHMENT AND SOLUTION OF PROBLEM A

3.1 model establishment

Local assumptions: Passengers will not be able to jump into or change teams after they have been waiting in front of the passengers.

In this section, we build a system to analyze the data of each step how the passengers perform the safety inspection process.[5] Pre-inspection security process flow chart was shown in Fig. 2 and the conventional security process flow chart was shown in Fig. 3. Passengers arrive at the security checkpoint, waiting in line to check ID and boarding documents, we use the method of queuing theory. [3] The length of the queue was affected by the upstream ID check processing time. After processing the data with Microsoft Excel, specific result was shown in Tab. 1.

Table 1 The average time of all kinds of checkpoint processes (unit: s)

50.05	11.11	11.21	28.93	11.94	24.19

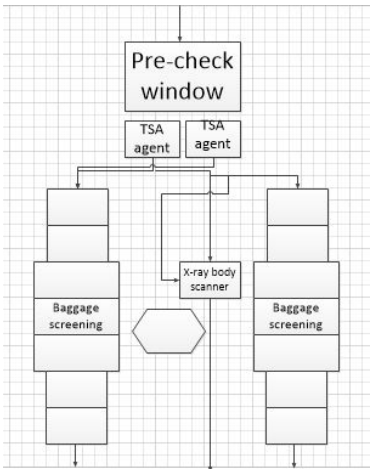

Fig. 2 the flow chart of checkpoint's pre-check process

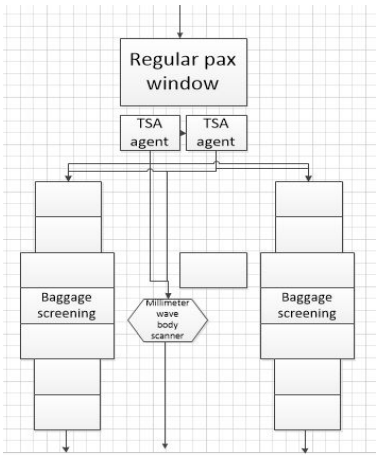

Fig. 3 the flow chart of checkpoint's regular pax

process

Based on the discussion of the average time of each step, we are aimed at the fluency of the passengers passing through the security checkpoint to analyze the problems in the current process.

Once the passenger arrives at the conveyor belt, they put all the items on the conveyor belt and the items move along on the conveyor belt to through the x-ray machine, some of which is marked for further search or inspection by the security officer (D region). After the items have been placed on the conveyor belt, the passengers are inspected by a millimeter scanner or a metal detector. In this process, the time for the item to reach the other side of the x-ray scanner is compared with the time that the passenger arrives at the other side of the x-ray scanner, and the optimal solution is that the items and passenger simultaneously arrive at the other side of the x-ray scanner.

3.2 the solution of model

The average time of each step of the passenger's security inspection is obtained by using the Excel software to sort the data. As shown in table 1 Passengers enrolled in the pre-screening program: .

Passengers participated Routine security : .

Then, according to the results of two different security program, we get . Passengers who participated in pre-screening plan want to speed up the inspection, while the results show that security is longer. We also know that among the average time, the waiting time for Pre-inspection is much greater than the waiting time for regular inspection, so the pre-inspection at the security check line will exist a bottleneck.

The average time to get scanned property: ; and the average time of milimeter wave scan: .

In order to compare the time that it takes for the object to reach the other side of the x-ray scanner with the time that the passenger arrives at the other side of the x-ray scanner, the optimal solution is that the items and passenger arrive at the other side of the x-ray scanner at the same time. Under these circumstances, there are some bottlenecks on the conveyer belt.

4. THE ESTABLISHMENT AND SOLUTION OF PROBLEM B

4.1 MODEL ESTABLISHMENT

According to the results of problem a, we made two modifications to the current security inspection process. We build a model of airport security system based on hybrid Petri net. [1][4]

4.1.2 signed p net

P network with the location of the token said: in the A area, according to following information on time required by the security queue, security personnel know the time that a passenger wait at the security gate. If the queuing time exceeds the security queue up time, security personnel will guide the passengers for another security gate. In zone B, when the time to get scanned property is greater than the mean of the milimeter Wave Scan times, the security officer directs the passenger to change the conveyor belt. The mark of the network is denoted by , which is a vector of elements (a passenger can choose to the number of queues). The value of the element is a nonnegative integer, which represents the number of token of positions in the network. In the graphic below, we will represent the token with small black spots.

4.1.3 passenger queuing awaiting to select of output, input location set and location of the input and output transition set:

Similarly, and , respectively, represents location of the input and output transition set that can provide to the passengers waiting for the number of security checkpoint collection.[2]

4.1.4 association matrix

The association matrix of P net is an matrix which is denoted by , each row of corresponds to a security gate, each column of corresponds to a transition

4.1.5 the operating rules of p network

1) When the expected waiting time is greater than waiting time in the security gate, then we can say transition t is transmitted; In the B region, when the time to get scanned property is greater than the average time of milimeter wave scans, then, we can say transition t is transmitted.

2) When a transition t is transmitted, a token is removed from all input positions of t and a token is added to all output positions of t.

3) From the results of problem a, if it is not listed as a bottleneck in the security procedures, all passengers do not need to change the security channel.

If we mark the passenger of times to change security channel as , , there will be . Then for all the security location, we can write in this form: .

The in the formula is a vector with m elements (security channel path), where the element corresponding to the emission is 1 and the remaining elements are 0.

4.2 model solving

First of all, we assume that there are 200 passengers who are going on security screening. Forty-five percent of the passengers are already enrolled in the pre-screening program. Assuming that the subject data belongs to the data collected by the 200 passengers at each stage, they arrive at each security step in sequence.

Therefore, according to the data analysis, we get the average time of each security step. Then, according to the city to provide the TSA data, the average waiting time of passengers for the total security check is 120s, When the expected waiting time is greater than , that is to say , then we can concluded transition is transmitted. In the B area, when the time to get scanned property is greater than the average time of milimeter wave scans, , we know transition t is transmitted. Based on the model and security rules,

we draw the mark Petri diagram, as shown in Fig. 4. Start from the passenger , we can draw the Control Fig. 5. The initial mark of the net is . Model operations: The transmission of transition in the p network are completed by the security personnel, Based on simulating the security system in order to achieve increased passenger throughput and reduce the variance in wait time. In the A area, from the Tab. 2, we know the 47th passenger waiting in line at the security gate need . That is to say, passengers began to change the security gate. Similarly, we find that the other three passengers as number 47, 48 and number 53 need to find another security gate.

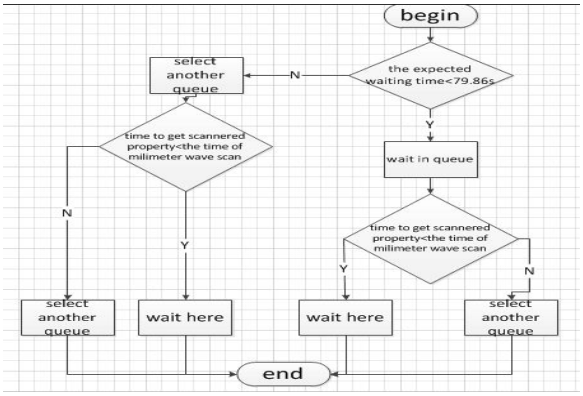

Fig. 4 Procedure chart

Table 2 average time of pre-check process (unit: s)

Passenger	1	2	3	4	5	6	7	8	9
time	9.91	20.02	29.83	31.44	33.35	24.06	33.67	26.28	35.79
Passenger	10	11	12	13	14	15	16	17	18
time	19.70	25.81	21.62	30.73	0.00	7.91	17.82	26.93	33.24
Passenger	19	20	21	22	23	24	25	26	27
time	41.45	51.26	52.37	62.48	60.89	53.70	40.51	33.82	44.63
Passenger	28	29	30	31	32	33	34	35	36
time	54.14	64.75	47.65	52.17	39.58	45.49	52.80	46.51	57.52
Passenger	37	38	39	40	41	42	43	44	45
time	60.93	37.34	47.85	57.16	67.17	62.08	72.49	63.60	65.71
Passenger	46	47	48	49	50	51	52	53	54
time	72.52	83.03	92.74	71.05	75.36	84.47	94.88	104.39	99.90
Passenger	55								
time	110.21								

In the B area: For a passenger, when the time to get scanned property is greater than the average time of milimeter wave scans, he needs to change another conveyor belt. As it is shown in the Tab. 3, 9th, 10th and 19th and other passengers need to change another conveyor belt. When the rest of the passengers arrive at the conveyor belt and place the items to be scanned, there will be security personnel help to place the items.

Table 3 Time to get scanned property (unit: s)

Passenger	1	2	3	4	5	6	7	8	9
time	48	45	28	25	22	24	17	33	8
Passenger	10	11	12	13	14	15	16	17	18
time	10	26	32	21	37	68	40	18	26
Passenger	19	20	21	22	23	24	25	26	27
time	8	21	23	28	50	28	48	28	36
Passenger	28								
time	27								

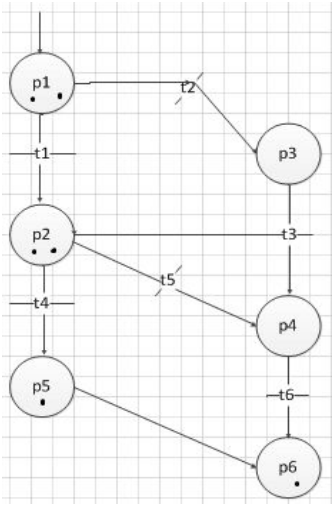

Fig. 5 The tag of Petri

ACKNOWLEDGMENT

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Discussion on studio teaching mode in independent college employment and entrepreneurship environment

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Abstract: Compared with traditional universities, there are some differences in the independent college because of investment, educational policy, students of different levels. Besides the goal of the personnel training on independent colleges should cultivate applied talents, practice teaching should be emphasized in the teaching theory. In the national university, students are actively carrying out the employment situation. From the current situation of employment and entrepreneurship of independent college, we can explore the way of teaching . We can explore the teaching model of studio rom the definition of employment system, the operation of the studio, the teaching mode of school enterprise cooperation, establish basic skills training room, management system and other aspects. Combining with the fact, how the general education appeal to practical ,research studio during operation and the requirements of the personnel market ,becoming the incubator of guide and strengthen for college students' employment ability. The establishment of independent colleges will be helpful to improve the college students' employment and entrepreneurship from the studio , the main ability and practical ability, and improve the success rate of college graduates employment, easing the pressure of employment, Besides, it can add a practical theory of teaching reform in our country

Keywords: Independent College; studio; practical teaching; employment and entrepreneurship .

1. STUDIO CONCEPT

In twenty-first Century, the emergence of a new mode of education appeared in the UK, which is the subversion of the traditional teaching mode in the past, with the innovation of education idea of bold gradually spreading. "The Studio School" founder Mulgan proposed "Studio School" concept is because education has two problems: one is that some students have the weariness emotion conflict education, and they do not see the actual effect of knowledge for future work; two is one of the many companies complain that graduates lack the correct attitude and practical experience.They can not work without the training , and can not adapt to the needs of work and market reality. According to the investigation , we can call out more about the "Studio School" .Focusing on the cultivation of students' non cognitive the driving skills -- and adaptive skills is "Studio School" purpose.

The studio model with the education sector is same with the "intelligent pluralism", and we know that everyone has their own "core competence" because most people's intellectual development are not the same. So everyone has his own intelligence. logical thinking ability, gooding at learning theory: distinguish colors, image; strong visual impact, arousing their learning potential of the coup; independent, hands-on ability, good at making their learning efficiency is the highest utilization of all kinds of experiments. However, the "smart monism" is the social education template. To know the mainstream education is focused on cognitive skills, more emphasis on is a person's academic ability. If students are good at intelligence education, they can adapt to the so-called mainstream education, and become a teacher in the eyes of "three good student". Some students can not appeal to the mainstream education, as the results, they have the weariness mentality. Of course, some lucky students grew up after entering society, they constantly explored a smart way to play their own self -realization. Unfortunately, the students childhood education, which makes them unable to display their ability. Later, they will never find true self. This is a very sad thing.

As everyone knows, independent colleges under the new mechanism are a new model of cooperation with the social forces ,which organized an educational organization, Besides, the educational is different of development strategy. Based on the school generally targeting the training of skilled in cultivating undergraduate, composite, senior specialized talent requires the studio teaching model.

Harvard University has the students say "you here is not the task of learning, but to create". Obviously, the lack of innovation is a major drawback of our education. Our education form, education system, education methods are needed to inject fresh blood, and it needs to be explored and new change. We need more new ideas such as "studio teaching model".

The teachers take the initiative to contact the students , and students can also take the initiative to contact the teachers from the classroom into the studio from the theoretical lectures to project creation. The studio teaching actively promoting the new

model of education has become a new carrier of teaching interaction between teachers and students

2. THE ADVANTAGES OF STUDIO MODEL

2.1 the traditional teaching model turns into multiple interactive teaching model

We should establish of the corresponding courses, such as product design studio, studio, studio computer information, the new digital media studio. Studio by 2-3 professional teacher led different professional students to set up different studios. Teachers can use the professional advantages, according to the different requirements of the project to carry out research and create innovative learning. Also the studio can rely on in the school teaching laboratory and experimental demonstration center ,which provides the venue and equipment of teaching support. The studio can extend from the classroom to make teaching class, and make students passive learning turn into active learning, teaching teachers from a single to interactive teaching model.

2.2 turn students from passive learning into active learning

The selection model of teaching studio for two-way choice, teachers can choose the students, according to their own requirements .students can consider their own interests. We can apply to join together to discuss the relevant professional knowledge, learning salon, projecting research or participating in various professional competitions. Students' leisure time is becoming abundant. In accordance with the "first class seriously, and second classroom learning" requirements, teachers and students together can find learning excitement in the classroom of interactive teaching. The spontaneous make learning more effective.

2.3.turn teachers from "complete teaching" to "happy teaching"

This interactive teaching practice can make teacher-student relationship more intimate. The new teacher taught different to students. Urging the invisible teacher needs to learn to enrich itself. To put forward higher requirements on the teacher's teaching practice "internal strength" studio, teachers are ready to enhance the professional level of teachers. In social service projects as the carrier,we can organize students into the village, schools, enterprises, creative sharing, creative practice and creative journey "trilogy". Hence, the studio teaching not only promotes students' academic growth, but also can promote teachers' professional development and teaching development.

2.4.to explore the potential for students to learn independently, and cultivate students' innovative ability

Innovation is the mission of education ,which is to develop students' creative potential, and to cultivate students' innovation quality, improve students' innovative ability. The cultivation of innovation ability is to cultivate creative thinking. To solve the problem of thinking and new live is main way of creative thinking. Students in understanding have their own ideas and opinions, who are not blindly following others in thought to express their views and thinking have their own observation, their own ideas. Teachers can go to adopt some students' opinion, and ask why. Thus, the activation of the students thinking leads to a new climax. Let students create and update in the process of learning English, and improve the innovation potential to cultivate students' innovation ability.

2.5 positive assessment to encourage innovative students needs to experience a sense of accomplishment

To improve the enthusiasm of the students can work from the student peer assessment, appropriate to guide students to make some assessment of the work. In this process, teachers should give praise and affirmation of highly creative works. Teacher evaluation will promote the growth of students' innovation consciousness and enhance self-confidence, encouraging students with enthusiasm into the next work. Such a virtuous cycle will inspire more students the spirit of innovation.

3.THE EXPLORATION OF THE TEACHING MODEL OF EMPLOYMENT AND ENTREPRENEURSHIP STUDIO

The establishment of independent colleges employment studio is to cultivate more talents and improve the employment rate of graduates. College students joint training schools and society all kinds of enterprises, schools and enterprises can achieve win-win situation. The school provides employment studio places, enterprises with R & D projects, teachers by both parties.

3.1 carry out the joint education of school and enterprise

Actively cooperating with enterprises to the studio taught by the enterprises selected senior staff to communicate the requirements of enterprises to students, which let students feel in advance of enterprise working environment and to understand the enterprise needs what kind of talent. Besides, it has established a goal for their future employment direction. Successful entrepreneurs invited lectures for students of employment guidance . Letting the students understand and imagine entrepreneurship is actually very different. Enterprises will be in the project into the studio, letting the students from the research project to exercise. It improves the ability of students' practical skills and innovation. So, enterprises continue to study the human project, the school personnel training is getting a joint education win-win.

3.2 equipped with studio teaching skills training room

Basic skills training room for students to master is the main battlefield of learning ability of practical operation, and the reality studio from the need of employment. The establishment of training room

combined with the popular professional.The students completed the research enterprise project in the training room, as well as the innovation needed material tools. We should provide a favorable learning platform for students' innovation and employment. The training teacher held by enterprises to choose the senior technical staff will teach and train to students. Students will conduct innovative research on this basis.To provide new ideas and new technologies for the enterprise,and improve enterprise competitiveness in the society is realizing their self-worth.

3.3 develop studio management system

In order to successfully implement the studio,we need to develop a strong management system, and establish various management departments. Each department carrys out their duties, and carrys out regular communication meetings for the orderly management of the studio project.In the project development stage, it can result the validation program, the project funding costs, members of the studio and situation can achieve orderly chaos , giving full play to the function of role studio.

3.4 build the value system of studio

The studio of R & D results to try to value. The value into the studio building and to reward excellent teachers and students, we can further improve the studio equipment, to inspire the teachers and students spirit of research and development, for the development of the reserve fund and talent studio. The total R & D is included on the academic value of the pursuit of enterprise is the pursuit of commercial value and profit. The construction achievements of value systems can use the evaluation results. The equity division and patent transfer reflect the distribution of dividends and other forms, truly organic combination of scientific research business value and academic value.

4. CONCLUSION

Above all, the studio teaching mode has a rich concept of knowledge training in higher vocational colleges, and the basic operation practice of composite is solid. Good innovation ability and team cooperation ability effectively means of applied talents. The establishment of the studio teaching model is also in line with the requirements for employees, in accordance with the characteristics of the times, which has an important the significance of cultivating the professional talents of independent college, the development of studio teaching model.

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Statistical Analysis of Factors Influencing the Effect of Knowledge Transfer of Technological Alliance

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Abstract. With the growing economic and technological development, it has become impossible for a single enterprise to provide all of the resources required for a complex technological innovation. This paper presents factors that influence the process of knowledge transfer in a technological alliance. Through construction of a mathematical model, we offer a statistical analysis regarding these factors' impact on the effect of knowledge transfer. The conclusion of this paper shows that each of the four influencing factors, cognitive distance of technology, expected value of alliance, learning ability, and R&D cost of inputs, has a different impact on the effect of knowledge transfer in a technological alliance.
Keywords: technological alliance; knowledge transfer; influencing factors; statistical analysis

1. INTRODUCTION

Technological alliance of enterprises is built upon an inter-firm resources portfolio. The key issues that enterprises should consider while building technological alliances are the realization of effective transfer of technological knowledge, improvement of the effect of knowledge transfer, increase of the technological ability of the enterprise, and the formation of enterprise competitive advantages.

Granstrand[1] argues that enterprises' ability to create new technologies is a dynamic learning process that requires a combination of external technology acquisition and internal technology applications. Sockijad and Andriessen[2] believe that enterprises can achieve knowledge sharing and learning by establishing an inter-organizational alliance of technology. This alliance will allow the company to increase its efficient usage of resources, lower its sunk costs and migration costs, and improve its flexibility in making strategic adjustments. In order to improve their competitive advantage, organizations should constantly learn and develop technology knowledge. Ko et al.[3] given an integrated theoretical model, which is developed that posits that knowledge transfer is influenced by knowledge-related, motivational, and communication-related factors. Kaminski et al.[4] argue that knowledge transfer is an important way to promote shared learning and access to external knowledge in a technological alliance. J.C.Fierro et al.[5] suggest that IMO has an impact on companies' performance in terms of knowledge transfer, innovation and market access.

Therefore, our main research centers on the questions of how to effectively promote knowledge transfer in a technological alliance, and which factors influence the process of knowledge transfer in a technological alliance.

Factors Influencing Knowledge Transfer in Technology Alliance

The establishment of technological alliance relies on technological cooperation of members, and technological cooperation is accompanied by knowledge transfer. In the knowledge transfer process among members of alliance, the effect of knowledge transfer is impacted by many factors.

Tsai[6] found that the interaction between absorptive capacity and network position has a major positive effect on business unit innovation and performance. Nooteboom [7] believes that the relationship between cognitive distance and innovative performance of enterprises presents an inverted, U-shaped curve.Some scholars believe that organizational cultural differences have a positive effect on knowledge transfer [8]. N.Lahiri and S.Narayanan[9]suggest that both vertical scope and innovation levels of the firm play an important role in understanding how alliance portfolios impact performance. Companies' ability to adapt their alliance network and their ability to adapt their technology portfolios positively influences their innovative performance during technologically turbulent periods [10].

Referring to these research studies, we propose that the following four factors play an important role in the process of knowledge transfer between enterprises in a technological alliance: cognitive distance of technology, expected value of alliance, learning ability, and R&D costs.

2. Assumptions

We put forward the following four propositions:

Proposition 1: Cognitive distance of technology influences knowledge transfer between enterprises

in a technological alliance. Appropriate cognitive distance of technology has a positive effect on enhancing technological core abilities of enterprises.

Proposition 2: The expected value of alliance has a positive impact on the effect of knowledge transfer,, which is conducive to better technological core abilities of enterprises.

Proposition 3: Learning ability has a positive impact on knowledge transfer between enterprises in a technological alliance, which is conducive to better technological core abilities of enterprise.

Proposition 4: R&D costs have a positive impact on knowledge transfer between enterprises in a technological alliance, which is conducive to better technological core ability of enterprise.

Index system

Table 1 Index system

Level indicator	Subdivision index	
The independent variables	Cognitive distance of technology	Technical knowledge from the technical potential difference
		Cultural gap
	expected value of alliance	Union expected market value risk
		Technical cooperation prospects
	Learning ability	Organizational learning knowledge absorptive ability
		Ability to integrate knowledge
		Knowledge application ability
	R&D cost	R & D funding of R & D costs
		Hardware investment
		Human resource inputs
The dependent variable	The variable	Technology alliance knowledge transfer performance technology leader in the peer degree
	the effect of knowledge transfer	Changes in the average profit margin of the enterprise alliance
		R & D cooperation within the Alliance frequency
		Changes in the number of companies participating in the league
		Enterprise technology to enhance core competencies case

On the basis of the previous discussion, the knowledge transfer in technological alliance divided into four parts: the cognitive distance of technology, the expected value of alliance, organizational learning ability and R&D costs. Among them, use technical potential difference and cultural gap the two dimensions to measure cognitive distance of technology, the measure of the expected value of alliance from the market risk and technical cooperation prospects these two dimensions, organizational learning ability using knowledge absorption ability, knowledge integration ability and knowledge application ability these three dimensions to measure ,the R&D costs use three dimensions to measure: R & D funding, hardware investment, and human resources. The knowledge transfer in technological alliance use these five dimensions to measure: the technology leader in the peer-degree change in the average profit margin of the Alliance, the Alliance co-developed the frequency, the number of participating companies alliances change and the enhance of the core competence of enterprise technology.

3. EMPIRICAL ANALYSIS

To further validate these models conclusions, this paper applied Eviews6.0 to further test the conclusions on the basis of literatures, scale designs and collected data.

This large-scale survey mainly chose companies and research institutions of Beijing, Hunan, Guangdong as representatives, the corporate strategy executives, researchers and other technical alliance are as the respondents of the survey, a total of 300 questionnaires sent, 253 questionnaires were recovered ,the recovery is 84.33%, of which 247 are valid questionnaires, the effective rate is 82.33%. In the recovery of valid questionnaires, by region, Beijing 78, accounting for 31.57%; Hunan 113, accounting for 45.75%; Guangdong 56, accounting for 22.68%. Press release object points, from 178 companies, accounting for 72.06%; 69 to research institutions, accounting for 27.93%.

Table 2 Descriptive statistics of variables

The variable name	The variable	The variable	The variable

	name	name	name
Technical knowledge from the technical potential difference	0.5329	0.1823	0.5811
Cultural gap	18.365	1.6231	0.1827
Union expected market value risk	6.0980	1.7554	0.8709
Technical cooperation prospects	19.480	2.8098	0.5455
Organizational learning knowledge absorptive ability	0.1564	0.0475	0.3789
Ability to integrate knowledge	0.0323	0.0188	0.0087
Knowledge application ability	0.0100	0.0090	0.0000
R & D funding of R & D costs	13.212	3.1374	0.9721
Hardware investment	10.152	2.1360	0.9037
Human resource inputs	16.320	2.3425	0.6603
Technology alliance knowledge transfer performance technology leader in the peer degree	0.2127	0.1367	0.7801
Changes in the average profit margin of the enterprise alliance	0.0244	0.0061	0.0021
R & D cooperation within the Alliance frequency	2.7210	0.4789	0.0173
Changes in the number of companies participating in the league	0.1789	0.0390	0.0107
Enterprise technology to enhance core competencies case	0.0367	0.0078	0.0032

Knowledge transfer in technological alliance as the dependent variable was constructed three models, the model 1 including cognitive distance of technology and the expected value of alliance these two independent variables, model 2 including organizational learning ability and R & D costs, and model 3 including four independent variable models: cognitive distance of technology, the expected value of alliance, organizational learning, and R&D costs.

Table 3 Panel regression results

	Model1	Model2	Model3
C	-13.2349(-4.5432)***	3.8125(2.1742)**	-21.5690(-5.4862)***
Technical knowledge from the technical potential difference	1.7176(4.5842)***		1.1903(4.3462)***
Cultural gap	1.4215(2.4569)**		2.1684(2.7102)**
Union expected market value risk	1.5098(4.6909)***		0.9732(5.0029)***
Technical cooperation prospects	1.1234(2.5736)**		1.3923(2.3901)**
Organizational learning knowledge absorptive ability		0.28645(5.9710)***	0.9122(4.2449)***
Ability to integrate knowledge		1.86784(2.4309)**	1.9096(2.7887)**
Knowledge application ability		0.7032(4.5232)***	0.8482(5.5421)***
R&D funding of R&D costs		3.1784(2.7585)**	1.1404(2.0213)**
Hardware investment		0.48765(4.8753)***	0.9122(4.2449)***
Human resource inputs		1.0311(2.7809)**	1.9096(2.7887)**
R-squared	0.3224	0.1324	0.3001
F statistic	3.6489**	4.0933**	6.5424***

Note: *, * *, * * * respectively represent significant difference at 10%, 5%, 1% level

The regression results as shown in Table 3, the conclusion of Model 3 as the final model to evaluate the innovative elements as the relationship between innovation performance, the cognitive distance of technology have positive effect on cognitive knowledge transfer effect, the expected value of alliance is expected to generate a positive value effect on knowledge transfer affected. Union expected value as possible, Alliance members will be more active mutual exchange of knowledge transfer, joint research and development, making the Union the effect of

enhancing knowledge transfer. Learning ability generate significant positive impact on knowledge transfer effect. Enterprises have stronger learning ability, the higher the success rate of knowledge transfer, the smaller the risk of cooperative R&D technology, the better. Thus, Proposition 1-4 has been proved.

4. CONCLUSIONS

This paper has constructed a model of factors that influence knowledge transfer between enterprises in technological alliance. showing that the effect of knowledge transfer is a function of the product between learning ability and expected value of alliance. Through a series of mathematical analysis, we have reached the following conclusions. Thus, recognizing the potential difference in technological knowledge is the key to discovering factors that affect the knowledge transfer process. Additionally, knowledge transfer between enterprises in a technological alliance is mutual; and success of transfer relies on each of the members' ability (i.e. the subject and object of transfer) to absorb knowledge. Knowledge transfer is a systematic process, and this process of technology cooperation is bound to have R&D costs. These expenses reflect that all of the members view knowledge transfer of the alliance with great importance. Finally, whether or not knowledge transfer can be successful depends on multiple elements of expected value of alliance including corporate culture, the environment, inter-firm relationships between members, and so on.

Due to the subjective constraints of ability and the objective constraints of resources, this research paper, inevitably is deficient to some degrees. Future research could focus on the testing of this model in practice; appropriate amendments would be made to the model according to needs of real-world scenarios.

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Based on BIM Project Cost Professional Graduate Reform Model Research

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Abstract: Based on the new measures and new methods of BIM education reform and innovation at home and abroad, this paper analyzes the shortcomings of the present graduation project design model of engineering cost, and establishes the graduation design stage instructor with BIM graduation project of Hebei GEO University , using the modeling software to complete the construction of civil engineering three-dimensional model , based on BIM implementation of the application of safeguard measures, the special project management system, the use of modeling software, Construction plan and bidding standard animation simulation, the final completion of the case project technology BIM digital bidding will be BIM application and tender preparation, to attach importance to communication and collaboration, deepening the BIM application, emphasizing the whole process, cross-professional learning is characterized by graduation design New model for the domestic colleges and universities BIM graduation design reform to provide theoretical support.
Keywords: Engineering cost specialty; Graduation design; Reform;

1. INTRODUCTION

As one of the most important practical teaching links in undergraduate teaching, the graduation project of engineering cost major plays an important role in cultivating students' comprehensive quality, enhancing engineering practice ability and innovation ability. Through graduation design, not only can test the university four years to use the theoretical knowledge to solve practical problems, so that the book of theoretical knowledge applied to practice, but also for graduating class students to participate in a pre-work practice exercise opportunities, can improve Students adapt to the community's ability to cultivate the spirit of teamwork among students, so as to lay the future for graduates to lay a solid foundation.

For a long time, the graduation project of engineering cost has been at a low level, not only the depth, difficulty, breadth is not enough, and the combination of practice seriously out of line, unable to train students to learn knowledge system, integrated use ability. The actual needs of students in the future engaged in professional. Our school took the lead in the domestic colleges and universities in the engineering cost of graduation design a series of reform and practice, and achieved remarkable results.

2. THE CONSTRUCTION COST OF HEBEI GEO UNIVERSITY BASED ON BIM GRADUATION DESIGN REFORM

2.1 The graduation design module reform

In recent years, the author of the Institute to carry out "based on BIM project cost of graduation design module" exploration and practice, the modules implemented are summarized as follows: [A], [B], [C], [D], [E], [A + B], [A + C], [B + D], [C + D] Nine modes, Each graduation group can choose only one of them. Students can choose according to interest module for graduation design, the specific module in Table 2.

Table 1 Graduation design module

NO.	Graduation Design	mission accomplished	develop skills	Utility software
A	BIM - based 3D Modeling and Simulation	Using modeling software to complete the case project (civil engineering + electromechanical) three-dimensional model reconstruction and mechanical and electrical pipeline comprehensive collision inspection pipeline comprehensive optimization	Building the three - dimensional modeling simulation animation	Revit / Magicad three-dimensional field cloth GMT + GQI + BIM drawing
B	Document Preparation of Bid Control Price Based on	Using modeling software to complete the case project (civil and installation) three-dimensional model reconstruction, engineering	Three-dimensional modeling measurement, pricing control	Revit/Magicad+ GGJ/GCL/GBQ GQI/GBQ

		measurement, pricing and case project bidding control price	pricing	
C	Technical Binding Based on	The use of modeling software to complete the case of civil engineering three-dimensional model of the building, the preparation of case projects based on BIM implementation of the application of security measures, special construction program and the bidding standard animation, the final completion of the case project technical standards	KeyWord: reference standard; animation technology; standard animation; production technology;	BIM Field Scaffolding BIM5D Scaffolding BIM5D
D	Bid Management Based on	The use of bidding software to complete the case project bidding project management, the final completion of the project tender documents preparation (tender planning, tender documents) and the tender documents (technical standard, commercial standard)	Contract management technology standard preparation business standard preparation bidding process management	BIM Tender Bidding Tender Bidding Tool GGJ / GCL / GBQ BIM Field Cloth Menglong / Projcet
E	Construction Process Management Based on	(Construction and design), special construction implementation plan and simulation animation, the construction of the whole process of management (construction project design documents), construction project design (construction planning documents)	3D modeling, metrology, pricing, construction, organization, design, special project, standard animation, simulation, whole process management	Revit / Magicad GGJ / GQ / GBQ BIM Field Fabric BIM Templates Scaffolding Menglong Network Program / Projcet Undergraduate BIM5D

2.2 Graduation design team of teachers to reform

Engineering cost professional BIM graduation design based on the smooth implementation of the reform, the guidance of teachers is the key. To this end, should be set up a high level of graduation design teacher guidance team, to enter the team of teachers to be rigorously screened. This work can be divided into two steps.

(1) Invite the construction enterprise experts to participate in the preparation of graduation task instructions. Construction of enterprise experts to participate in the whole process of answering questions, and participate in the graduation project review and comment, and a small range of pilot, will form a set of school-enterprise cooperation in the framework of graduation design reform. Lay the foundation for building high quality information technology professional construction

(2) Select the rich engineering experience of the professional teachers as a team of instructors. Graduation design teacher guidance team members should cover all professions, each professional to ensure that there is a mentor, and the teacher should serve as the actual project design work, with a wealth of engineering experience, can master and develop excellent design, Can correctly handle the professional problems encountered in the design process, how to deal with the coordination of other professional "collision" phenomenon.

(3) Appropriate to attract some young teachers to participate. Can be appropriately absorbing part of the young teachers to participate in the graduation design team under the guidance of teachers. On the one hand can be part of the guidance of the work diversion to reduce the intensity of the work of old teachers; the other hand, through training, as soon as possible to improve the practical ability of young teachers to make up for the current college engineering cost of young teachers to participate in practical projects less opportunities to effectively solve the actual project Problem ability, theory and practice is not close, and so on, to the old with new, enhance the overall level of teacher guidance.

2.3 Graduation design group reform

After selecting the graduation project, the instructor will formulate the graduation project according to the design content. By graduation design mobilization, in accordance with the design module selection group. According to the wishes of the students group, if there are too few or too many groups on the re-coordination. Instructors should be specific design tasks and design requirements for the group for detailed instructions and arrangements; each group is required to complete the preparatory work for graduation design.

2.4 Graduation design platform reform

In order to ensure that the graduation project team can complete the graduation project well and achieve better graduation design effect, we should build the graduation design platform and provide some graduation design conditions. Mainly include the following five aspects.

(1) Venue. In order to effectively integrate various professions of civil engineering and strengthen the cooperation, understanding and penetration of each major, an independent design site should be provided to the graduation design team. Graduation design team members can focus on design issues, but also for teachers to guide students to provide a convenient platform, Hebei GEO University project cost graduation design in the College Foundation Engineering Laboratory design.

(2) Information. The design process requires professional design manuals, specifications, technical measures, standard atlas and other relevant information, these materials can be obtained through the project cost department, college reference room. In addition, students can obtain a large number of professional literature and similar reference illustrations from relevant professional websites.

(3) Practice base. Participants in the design of the first contact with the project design, the lack of field experience and perceptual knowledge, just rely on theoretical knowledge is difficult to effectively solve the design problem. Should be the construction of appropriate training base, the design team members with the problem to the scene, the control physical paradigm, find a solution to the specific measures and measures, many difficult problems can be solved. Hebei GEO University project cost professional from 2015 to arrange students in the second half of junior year to Pingshan County practice base

(4) Communication platform. Design team must have a very convenient communication platform, so that all the members of the professional design can at any time in view of the problems existing in the design of communication and communication. Through the establishment of QQ group and WeChat group, teachers and students can design questions at any time to coordinate guidance and questions and answers. From the implementation point of view, the platform is very effective, students can always be questioned by the guidance of teachers was quickly answered, so as to ensure the graduation project on schedule.

(5) Funds. The project involves a lot of content, covering all professional, design process is bound to involve cost issues. Such as the appearance of the project renderings, 3D animation, the project plan, the professional design and construction plans and information and other expenses. Therefore, the design of the operation of the team needs some financial support. The funds can be financed through the subject and the school graduation design funds to address both.

2.5 Management system reform

It is the key to the smooth implementation of the graduation project reform. It is necessary for the smooth implementation of the BIM graduation design reform. It is necessary for the operation mechanism and management system to guarantee the smooth development of the BIM graduation project; straightening out the design procedure, establishing the effective operation mechanism and graduation design management system. To this end should do the following.

(1)The establishment of fixed-point, time and attendance system. Graduation design phase, the instructor team should have full control of the design process and quality, and truly implement the design objectives, in the design of the site to provide regular attendance weekly, teachers and students linkage, attaches great importance to the graduation from the ideological design to ensure adequate graduation Design time.

(2) Do a good job scheduling. In order to finish the graduation project on time, guarantee the quality and quantity, the instructor team should formulate a detailed and detailed graduation design schedule. The content can be specific to the amount of work that should be completed each week, so that students can understand the specific design task. Design schedule to adjust their design time.

(3) Held a regular meeting of professional coordination, fill out the coordination contact list. At least one professional coordination meeting should be held once a week during the graduation design phase, and all the people involved in the design should be present. At the meeting the students in the design process to coordinate the problem, and coordination of the contents and coordination of the results into the coordination contact list. In this way, on the one hand students can develop good work habits, but also for the subsequent design to provide text information.

(4) Clear design purposes, do a good job in drawing the trial. The purpose of multi-disciplinary collaborative graduation design is to make the engineering design more harmonious and unified, to better play its effective function. Therefore, in the answer before graduation should organize a design review of the drawings, the professional should do a good summary of the drawings. In came forward related issues in the process of modified, form the final graduation design results

2.6 To formulate a quality evaluation system for the design results

BIM graduation project based on the implementation of the cost of the design, the graduation design of the results of the assessment methods and quality evaluation system should be essentially different from the traditional model. In

addition to assessing the scope of professional design within the specific content, to other professionals to carry out the professional design of the design conditions, coordination of the professional design work should be in the assessment of a certain amount of weight. To this end, should be developed specifically for BIM-based engineering cost of graduation design requirements. The author of the task force to develop the assessment criteria in Table 3

Table 2 Multi-professional collaborative design graduation graduation design evaluation standards

No	Content	Score
1	The completeness of references	10
2	Flexibility in the application of knowledge	10
3	Proficiency in independent operation	10
4	Professional knowledge	10
5	Communicate with each other	10
6	Ability to work in teams	10
7	Design the appearance of beautiful degree	10
8	Reasonable amount of calculation	10
9	The extent of the typesetting specification	10
10	The amount of work 10	10

3. THE INTRODUCTION OF HEBEI GEO UNIVERSITY BIM GRADUATION DESIGN RESULTS

Hebei GEO University in 2015 after the introduction of BIM, the pilot achieved initial results. Can be discussed from three aspects

3.1 The modeling

The main use of the Revit series of software, students in addition to basic modeling techniques, to further study the Revit editing, model rendering, model roaming and other skills, model visualization and refinement to a high level. With the mold capacity reflected in the engineering measurement and schedule simulation. Revit model will be imported into the software, automatic extraction of engineering, to avoid duplication of manual calculation. The BIM5D software is used to carry out the progress simulation after the completion of the engineering quantity extraction. The main tasks include simulation of the construction process through BIM model integration of key information such as progress, budget, resources, construction organization, etc., in time for the construction technology, Commerce and other sectors to provide accurate image progress, material consumption, process measurement, cost accounting and other core data to enhance communication and decision-making efficiency, to help designers of the construction process of digital management, thereby saving time and cost, improve project management efficiency.

3.2 Competition

The Hebei GEO University engineering cost students in the 2016 national institutions of higher learning BIM application skills contest, won the BIM reinforcement calculation of individual champion, BIM regular season group first prize and 2016 national institutions of higher learning BIM Application skills competition preliminary contest first prize.

3.3 The employment of students

In the BIM into the cost of this process in the process of achieving business and BIM talent docking for the students to provide employment channels, with incomplete statistics, the 2017 session of dozens of excellent Graduates because of the mastery of BIM was built, China Railway and Beijing urban construction and other well-known enterprises directly contracted.

4. CONCLUSION

Taking Hebei GEO University as an example, this paper analyzes the current BIM graduation design of engineering cost specialty, and puts forward the plan of BIM graduation design reform of Hebei GEO University. The actual graduation design also has a number of factors restricting the promotion of reform, mainly due to the following factors:

4.1 The school set up a professional curriculum is not comprehensive enough.

If the design team lacks students familiar with the mechanical and electrical professional, the effect of implementing the model is not obvious. Teachers are limited. At present, many of the school's professional teachers is weak, and many young teachers directly from the school to teach, the lack of coordination with other professional engineering experience.

4.2 Graduation design time is short.

Graduates face engineering design for the first time, a lot of content unfamiliar, take some time to learn and digest, but many colleges and universities to give students a shorter design time. There is no guarantee of time, the model is difficult to carry out.

Can be seen in the engineering cost of professional BIM graduation design based on the reform and promotion, need to have more conditions. How to effectively promote the smooth design of the graduation model to ensure that the greatest degree

of ability to improve the design of graduates and enhance the professional awareness of multi-disciplinary graduates, but also need to engage in engineering

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Sports Broadcasting Policy Research

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Abstract: Sports has obvious social benefits, it's wonderful, fierce competition attracts the love of the masses, it is hard to predict the result of the match, in the game of immersive feeling is not can and. Along with the development of science and technology in our country also gradually realize the scene of the televised game technology, which attracted the attention of the public, more yet in our country's sports broadcasting policy still exist many problems, such as convenient in sports publicity and marketing are lack of the guidance of professional management, which hinder the role to the development of sports, in this article, through understanding the development of the sports current situation, emphatically studied in the sports event marketing policy, thought that the development of sports on TV.
Keywords: Sports events; Television; Policy research

1. INTRODUCTION

Sporting event on television has brought people's lives more wonderful, perfect the policy of sports on TV at present is more important, way to improve the sports publicity strategy and marketing helps to obtain sports brand visibility, so as to improve the image of in people's minds, and let more public to understand and improve the quality of the sports events, lay the foundation for the development of our country sports on TV, so as to meet the people in the pursuit of high quality life, so it is imperative to the study of sports broadcasting policy [1,2].

2. THE CURRENT STATUS OF DEVELOPMENT OF THE OUR COUNTRY SPORTS BROADCAST

(1) The status quo of sports on TV

Until 2003, our country has been almost two thirds of the provinces and cities of TV sports channel. Nearly more than 1200 each year CCTV alone live sports events. Scope of sports anchor constantly extension: from the beginning of the Olympic Games and World Cup tournament, produced by later rise and new college football game and so on, the emerging many Olympic sports and games, and sports show the amount of time is longer and longer, take the CCTV live sporting events in the recent 20 years of time grew by more than five times, recording my way up to sports concept also constantly innovate.

(2) The characteristics of sports broadcasting in China at present

Television transmission speed has excellent field, in the process of sports suspense is most suited to witness, but due to the backward technology, in the early sports events or can't live, if you want to see before sports event, must be in Hong Kong with satellite recorded down and then after the long distance RACES, with video broadcast to let the audience to watch, with the development of technology, and to the rising power of television, the audience is becoming more and more high to the requirement of sporting events, sports events are realized in the form of TV live broadcast, live broadcast implements all the synchronization in time and space, make the broad masses can immediately understand the event. Continuously expand sports broadcasting projects, from before into existence live football, basketball and volleyball now gradually expanding to China's table tennis match, and abroad of NBA games, these wonderful game greatly attracted the eyes of people, especially in recent years, domestic and foreign various sports player's level has improved, in the competition intense, let people love for sports is more and more intense, especially in recent years has increased higher spectator sports dance competition and ice show attracted a lot of female friends favor [3]. Each station sports event in China's broadcast time is increasing, in the early sports events of broadcast time special limited, such as in the previous World Cup live choose only a limited number of games broadcast, it can't satisfy the needs of sports fans, sports broadcasting time continuously increased in recent years, not only satisfy the curiosity of sports fans, also achieve the spread of sports development.

3. THE PROBLEM OF SPORTS MARKETING POLICY ON TV IN OUR COUNTRY

(1) no boutique sports event, marketing policy is not sound

Sports development mainly by the audience, national policy management, sports competitions, sports events televised object is consumers and businesses, they are attached to the sports the carrier. Sports broadcast with the rapid development of TV technology, spread at sporting events on TV plays a very important role, so want to award television industry development, forming a perfect high-quality goods of sporting events is critical. Boutique sports can attract more viewers, improve the audience's taste, and the audience well, sports group organizer, and all the carrier of sports can be linked together. Our country sports brand development, a boutique sports brand can in the heart of the audience is not going to set up image, brand affect the audience's attitude toward sports, but it is in the mind of the audience is mainly sports programs, sports programs. In the current our country large-scale sports event with the national and regional. And our country a lot of

television were not very willing to buy sports event, mainly because no high-quality goods of sporting events. Compared with foreign, television are more willing to buy foreign sports events, because abroad have a higher quality of sports events.

(2) The advertising revenue is low, temptation is not enough

The present society is a social consumption as the main communication subject, and consumption is the core of manufacturing consumer first aroused consumer's desire, the manufacture of general consumption desire is implemented through mass media. So sports just grab this at sports as the main body through the media of television advertising to arouse the audience's desire to consume, it is also the main reason for the media to focus on sports. The survey found that television has a very good advertising effect, so many businessmen are very bullish on television this tool, is a good way to promote their own products. Sports television can attract the attention of the public, to a great extent and the public is the main object of consumption, for merchants are promising customers, so more and more media start to follow up on TV, the purpose is like to involve more merchants in television advertising.

(3) The television station to buy the right of competition price is too high

First television when buying TV rights in our country is compared with the price of the domestic and foreign, as a result of the general foreign sports events of high quality, so a lot of TV tend to abroad, because of this foreign sports carry the purchase price was high, domestic also increased, subsequently caused sports broadcast of the purchase price is very high, both at home and abroad is a big pressure for television. Second, some is not very developed area economy development, they have a particularly high enthusiasm on sports events, however, television can not reach the ability to purchase television rights, thus sports broadcasting not achieve the full development.

(4) Sponsors for the domestic sports enthusiasm is not high

Sponsor is a mainstay of the sports market development. Enterprises for the purpose of sports sponsorship on TV have promote enterprise products sales, improve enterprise's popularity and other reasons. The influence of the brand, the brand is an intangible product, in the enterprise financial reflect not to come out any value on the table, it can't use money to measure. But the brand is very influential products, it is the product has a great potential. Now exist, many mergers in the world is all about brand acquisition, so it's demonstrated the value of the brand and the high [4]. But in our country, many of the sports brand value in foreign countries, this reduces the enthusiasm of the sponsors. Is the development of the sports events to the needs of the broad masses of people, the demand of people giving impetus to the development of the sports, without the demand of the public, there is no development of the market, there would be no development, at present does not have a crazy about sports events of the stability of the group, and this is the main factor affecting the sports market, also directly affects the sponsors.

(5) A lack of mechanism in the mediation

According to the international marketing on the sports TV broadcast rights can be obtained, the intermediary institutions in the development of sports plays a very important role. Sports market is to buy and the seller and the composition of intermediary departments. Intermediary plays a very key in the development of sports of the intermediate links is an important institution, the buyer and the seller connect many clubs, and other enterprises of our country requires some degree of professional intermediaries to assist in the development of strong, intermediary institutions for sports also has a critical impact on TV, so looking for a professional ability is strong, experienced agents can not only promote the development of the enterprise, also save a lot of manpower and material resources for the enterprise, etc. At present, the sports events, the urgent need for a higher level of brokerage department carries on the sorting, packaging, and plans to try and get sponsors such as support, and television stations also hope with the help of the brokerage sector, can produce high-quality goods events, in order to obtain higher ratings. In addition our country hasn't finished the good sports rights policy, disorderly transfer, sell badly hinders the development of the sports.

4. OUR COUNTRY SPORTS BROADCASTING POLICY STRATEGY

(1) The construction of high-quality goods of sports events to attract sponsors and audience's attention

Sponsorship is the sponsor and sponsor mutual business, mainly to support and reward in exchange between them, they have a common goal, is for the sponsored by the product can get a good development, they not between primary and secondary relations of equality, depend on each other for common development. Sports sponsorship can improve enterprise brand visibility, the plum flower brand image. Enables the brand to have a broader market, get a better development, which an enterprise to bring good economic benefits, so enterprises should correctly treat sports sponsorship. Affect the sports sponsorship is a key factor is the sports brand influence, brand for the public is a kind of ideology, it can make public is associated with a functional benefit brand together. Establish a high-quality goods of the rules of sports events, some of the sports project to improve the rules of the game, contact the public's demand and competition to improve the level of development. To improve sports events caused by the force of the ornamental and more social attention.

(2) the broadcasters to hold higher broadcast quality

Television has a strong universality and influence. Television has a very important influence on the audience's mind, it will allow the public to have extremely strong engagement. In sports show host carries on the explanation, should take the way of face to face with the audience, let the audience feel closer to life. In the audience to watch TV with the event a special aesthetic idea, the idea can let the audience feel himself is a participant in the game, have a feeling of intimacy. Audience's emotions as the plot changes of TV programs, TV is through language to reflect their own form, increase the degree of the exquisite language TV, let the audience in the watch has a beautify the involvement of the situation, it will make the audience more love to sporting events. Try to choose the way to the spread of hd to broadcasting of sports events, TV technology in our country from the previous black and white TV to vivid color technology now, high-definition television can strengthen the feeling of audience participation. The broadcast of the sports development also plays a key role.

(3) ensure that the interests of the sponsors

For sports sponsorship is a means of marketing, it not only can improve the enterprise brand reputation, also can bring better economic benefits for the enterprise, and can also help the development of the sports events. This for sporting events and sponsorship is a process of mutual benefit. So sports broadcasting has reasonable choose to sponsor. When choosing sponsors to pay attention to the points: sponsor first is must have the strength of enterprises, and has a good development prospects, with reliable products pillar, sponsored by the reasonable price, also want to combine the influence of the brand, to sponsor business brands must do not conflict with sports events, and conforms to the development of the society, sponsors should also accept to invest in sports advertising marketing campaign, making such standards can improve the image of sports events, and plays an important role in guaranteeing the interests of the sponsors. Like sports, the sponsor's brand products will have an unprecedented increase.

(4) the implementation of sports TV promotion mode

Sporting events on TV the main basis for the establishment of the price of the following: sports awareness, date, location, level, possible ratings and advertising investment, etc. Reasonable price can increase the purchase of sports TV broadcasters. According to the unused areas choose different promotions, such as some of the sports enthusiasm is not high or the economic underdeveloped region, can reduce the price appropriately, the local TV broadcasters regular questionnaire, find out why enthusiasm for sports is not high. Analysis of the reason. If not quality problem, TV and have bought sports broadcasting rights, the cause of enthusiasm is not high is not satisfied with the expected sales quota, broadcasters can choose reasonable lower price at this moment, the first open early promotion, arouse the enthusiasm of the masses, so as to prepare for later a better marketing. Break before CCTV monopoly pattern, change people have been used to just watch CCTV sports event, free competition pattern.

(5) the choice of reasonable intermediary

The choice of intermediary institutions for sports development plays a key role in hub, it can help sports publicity for more public attention, can also be solely responsible for sports, but it is the main purpose of the survey market demand for events, reasonable to formulate marketing means, have the right to the rights of media and ticket or advertising budget review, on this sports event in any of the sports trade and legal problems to solve. Structure of mediation role to play in promoting competition of sports market, sports departments should strengthen the cooperation between and middlemen, according to the domestic and foreign intermediary service advantages, reasonable choice intermediaries, introduction of foreign advanced management concept, realize the further development of the sports events. For our country's sports management system, TV management level is low, the choice of the marketing environment and market research, target positioning to the customer, such as the lack of professional marketing management philosophy. Although our country currently has a number of intermediaries but the scale of these agencies are small, inadequate development, cannot lead to the development of sports events, so countries should increase training high ability of intermediary organizations, thereby promoting the development of the sports events.

(6) perfect the legal protection of sports events

At present in our country already has a relatively complete copyright legal framework of the Olympic Games, the Olympic intellectual property rights of legal protection. In intellectual property rights, China already has the intellectual property rights of patent law, copyright law, etc., all of the relevant work of intellectual achievements in the Olympic Games, can be protected in single regulation has also formulated the related laws in our country, the local sports laws and regulations are formulated, all of this to sports plays a protective role, but in our country sports on TV is not perfect legal protection, when carries on the marketing rights to establish corresponding legal protection is necessary. We should as soon as possible turn sports legal protection to the formation of clear, in order to promote the development of the sports on TV.

(7) should use the media to increase the publicity of sports events

Affect sports publicity and the audience's attitude toward sports factors have brand awareness and preference. Popularity propaganda by means of the

degree of information among the audience is known, in the propaganda range of how much of the public have the knowledge of our information to the public. And preference means people after receive the information publicity by making the psychological response, satisfied or unsatisfied, only make recognition and satisfaction can make sports publicity information is more people understand and accept, thus can vinegar essence of sports development, increase the propaganda strategy planning of sports events, in addition to a news release, still should through publicist in the form of procedures, ritual planning or choose the media publicity, establishment of reasonable promotional information, key should conform to the general orientation of news propaganda, the implementation of long-term development of the marketing strategy, innovation promotion mode so as to make the sports event can get better development.

5. CONCLUSION

Sporting events can realize our country modern sporting events on TV and TV common development, it directly affects the development of sports and the development of television, only by constantly improving sports broadcasting development policy, to achieve the all-round development of sports events, to make our country's sports events in the international status has improved, this paper focuses on the problems existing in the development of sports events in marketing is discussed, and corresponding measures are given, because of sports on TV has a good marketing environment and sports broadcasting can fully realize their value.

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Huangpi District of Fitness Club Sports Injury Prevention and Rehabilitation Treatment Status Quo Analysis

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Abstract: Sports fitness movement has a certain particularity, gym membership in the fitness club sports participation are prone to injury, the influence caused by serious and diversified. How to avoid the occurrence of sports injury in sports, gym membership of sports injury, and the cause of the damage diagnosis, analysis of its prevention and treatment, and puts forward corresponding guidance for the gym membership and rationalization proposal, as a starting point to find out the corresponding solution countermeasures.
Keywords: Fitness club; Sports fitness; Sports injuries; Rehabilitation treatment

1. INTRODUCTION

In recent years, people more and more aware of the importance of good health. Fitness and health way of life has been more and more recognition and favor. Bodybuilding and fitness needs enhancement makes people to exercise in the professional fitness club, this exercise has become a new fashion of life and pursuit. City fitness club rise and into emerging markets. But the trainer and gym membership own professional skills and professional also larger deficiencies and difference, is the good and bad are intermingled, then one of the important problems is the sports injury. So make fitness crowd master good exercise and fitness instructor supervision, can effectively prevent the occurrence of sports injury, better promote the development of the fitness industry, improve the national physical quality.

In huangpi district of wuhan city fitness club sports injury situation investigation, understand the fitness club membership in the face of sports injury treatment and rehabilitation, analyses its summary and discussion, hope can find the fitness club members further diagnosis treatment and rehabilitation of sports injuries, effective prevention and treatment measures are put forward at the same time, strengthen the gym membership for sports injury prevention awareness and understanding of the necessity and importance of sports injury treatment.

2. THE RESEARCH OBJECT AND METHODS

2.1 The object of study

In this paper, the research object of wuhan city Huang Bei health club to submit international fitness club, and vertical and horizontal v + fitness club, jingjing dance club, ecru fitness club, the four large fitness club as an object, a random sample of 160 gym membership and fitness coach.

2.2 The research methods

According to the needs of research purposes and contents of the paper, the literature material law, questionnaire survey method, mathematical statistics and so on to the fitness club sports injury of diagnosis, treatment, rehabilitation, and so on and so forth for investigation and analysis.

3. THE RESEARCH PROCESS AND RESULT ANALYSIS

3.1 Zhou Jianshen frequency survey results

In this questionnaire, involving club members weekly exercise frequency and weekly fitness total duration survey, through the 156 valid questionnaires were unified, observes after making table 1 below:

Table 1 Zhou Jianshen frequency survey

frequency	≤2	3	4	5	≥6
N	26	27	51	27	25
%	16.7 %	17.3%	32.7%	17.3%	16%

Learned from the analysis of (table 1), huangpi district fitness gym membership of the club once a week to attend the number of fitness is relatively frequent, with 66% of gym membership for a week to fitness club fitness up to four or more times, which showed that the huangpi district fitness club membership to the fitness or were positive, further illustrate gym membership can fully understand the meaning of fitness, understand the fitness can promote the development of the self, to its fitness demand is bigger also.

Table 2 Zhou Jianshen total time the results of the survey

N\Time	>6s	6-10s	11-15s	15-20s	>20s
N	28	36	30	28	34
%	18%	23%	19%	18%	22%

According to the survey results (table 2), gym membership to participate in the gym, every week to fitness club specially fitness time generally less than 20 hours, through the questionnaire survey to huangpi district health clubs to exercise project is more, fitness groups are divided into professional and non-professional, professional trainers can stick to exercise 20 hours a week or longer, non-professional exercisers, due to the high and low for sports interest or due to the influence of time factor don't have time to exercise, less time to go to the fitness club

movement. Fitness club on the day of the traffic at the same time, the use of the equipment, will also affect the duration of gym membership to participate in fitness.

3.2 Incidence of sports injury investigation

Results show that: the huangpi district of wuhan city fitness club in a random sample of 156 gym membership, in nearly a year, the total number of people for gym membership sports injury 182, fitness sports injury incidence rate is as high as 113%, which have no the number of sports injuries happened at 32 people, accounting for 20% of the total; In the number of sports injury of 124 people, accounting for 80% of the total. Which occur a number of sports injury was 46 people, accounting for 37% of the total; 2 times the number of sports injury of 78 people, accounting for 62.9% of the total; Three times the number of sports injury of 32 people, accounting for 25.8% of the total.

Huangpi district fitness club members to the incidence of sports injury is higher, most sports member damage happened once or twice, and the second highest incidence of sports injury, only a handful of members not once happened in sports injury, the survey results and the research results of many scholars, thus the fitness club fitness coach and the vast majority of gym membership should also strengthen positive for sports injury prevention and treatment work, and promote members of fitness sports injury prevention consciousness. Follow the principle of step by step in the exercise, master control the amount of exercise, moderate exercise, avoid the improper exercise of sports injury [16].

3.3 Gym membership attitude toward sports injury treatment and time

Gym membership in the gym, the attitude to the attention of the sports injury after injury, a direct impact on the treatment effect, if timely treatment, not only can relieve pain, also can promote the recovery of the body, quickly to Huang Bei fitness club membership survey, only 48% of the gym membership after sports injury for active treatment, 50% of the gym membership for simple treatment or basic don't treatment, only 2% of the members have no treatment. That most of the sports member is positive for the treatment of sports injury, seriously. Members and some sports awareness of injury is not enough. Members attitude to injury treatment to a certain extent can affect their time for the treatment of injury. Can be seen from the survey, most of the members to within a relatively short time after injury gives positive treatment, but there are also part of the member is not to give timely treatment for injury. The treatment time determines the condition of sports injury recovery, when after the occurrence of sports injury, treatment of sports injury than will not conducive to tissue repair and the recovery of the body. Also will gradually become chronic injury, it is healthy for your body is bad, this kind of attitude to the treatment of sports injury against the original intention we participate in fitness.

3.4 Sports injury treatment

When a joint or a certain body parts, sports injury occurs, there are a variety of treatments, the influence factors of sports injury, using a variety of different treatment is necessary. Must have a correct diagnosis before symptomatic treatment, because different damage the rehabilitation methods have different [19]. From the questionnaire results, suitable method for the treatment of common sports injury are:

3.4.1 track of cold therapy

Apply ice or cold water for the injured area, generally when the members in the exercise, sudden acute Achilles tendon injuries, ligament injury occurs, such as a sprained ankle, can use in the early cold compress, this time with hemostatic and analgesic, prevent cold local congestion, reduce swelling, if early use massage or hot compress the wound, not only can't detumescence, it will lead to injury.

3.4.2 heat treatment

Generally refers to put hot water or hot towel in the wound, used in the middle of acute closed injury such as a sprained late after, can use heat treatment, heat treatment is beneficial to eliminate swelling, promote the blood circulation, and the operation is simple.

Rule 3.4.3 massage therapy

By using technique, meridian massage can have the effect of relaxation, after the gym membership to participate in the exercise, will produce fatigue, or said sore body parts have been happening, to a certain extent by the massage method can alleviate pain.

3.4.4 drug therapy

There are two kinds of sports injury in drug therapy in general, oral and put drugs in injured skin. When a serious injury, simple processing methods cannot alleviate injury treatment, at this time is needed for medicine and external treatment drugs. Serious strain of lumbar muscles, such as gym membership, this time by plasters, drug injection spray is not enough.

3.4.5 repair method

Through diet adjustment, the adjustment of the biological clock, relieve fatigue.

3.4.6 acupuncture

Fall within the scope of traditional Chinese medicine acupuncture therapy treatment, with the effect of main and collateral channels, such as muscle strain, lumbar injury can use this method.

4. SPORTS INJURY PREVENTION COUNTERMEASURES

4.1 To strengthen those thoughts on fitness and sports injury in intellectual education

Gym membership lack of sports injury in sports fitness knowledge, lead to don't know how to deal with when the sports injury occurred sports injury, leading to gym membership to miss the best treatment opportunity. So health club fitness coach should improve their professional ability, supervision and protection gym membership and emergency

treatment measures of the part it easy damage, nip in the bud. At the same time in the club to strengthen safety education, gym membership for sports injury related knowledge, improve fitness members so as to prevent sports injury.

4.2 Fully prepared to activities

Before participate in the exercise, not to the point to begin exercise, but to fully prepare for joint activities, in addition to the project prepared to plenty of special activities, especially the intensity of the larger project and demanding project coordination to the body, if inadequate preparation activities are very prone to injury. Preparing activities is of great significance to the prevention of sports injury.

4.3 Strengthen easy injury parts of the power and flexibility exercises to improve physical quality in an all-round way

Understand their own capability and level of various purpose to join the club fitness can effectively avoid the happening of the damage. Moreover fitness club project is various demands of its members is necessary targeted to improve their physical fitness. So the trainer in the general physical training to comprehensive development at the beginning of the power of the gym membership, soft quality, speed, stamina, and agility, make member body parts get balanced development, at the same time according to different age groups, individual difference and gender difference in exercise.

4.4 To strengthen the technical learning and improvement action

Trainer should be timely find gym membership technical error, correct technical movement, and the quantitative corresponding measures to reduce sports injuries, strengthening the study of technical action and improvement has a lot to do to prevent sports injury. When professor trainer in new technologies, therefore, should be carried out on the behavioral essentials repeatedly explanation and demonstration in the brain that gym membership to establish the correct dynamic stereotype, gym membership action more normative.

4.5 Develop good habits and dietary nutrition

Bad living habits will produce adverse effect to the health of people, gym membership with the mental state to go to the gym to exercise, the more easily lead to physical fatigue, exhaustion, resulting in the occurrence of sports injury. The good life habit and dietary nutrition is beneficial to health.

4.6 To strengthen medical equipment supervision, periodic inspection site

First trainer to strengthen the medical supervision of gym membership, in the process of exercise, secondly, to strict dress of gym membership. Moreover fitness club fitness coach to security of fitness sites, equipment, and in the process of member fitness for emergency handle in time.

5. CONCLUDES

All studies have shown that exercise is a double-edged sword, good movement, people benefit a lot; Improper use, easy to cause injury. People taking part in fitness exercise, scientific and reasonable exercise is crucial, through to the fitness club sports injury prevention and rehabilitation treatment status quo analysis, questionnaire survey was conducted for fitness club membership movement, on the basis of detailed first-hand information comprehensive, objective and accurate understanding of the fitness club member's fitness status quo, club members damage rate is higher, in the past research focus exercise motivation, frequency of fitness, fitness membership in the pursuit of sports effect on the basis of increasing gym membership injury prevention methods and analyze the members rehabilitation, in fact, prevention is more important than treatment, prevention of sports injury and prevent the occurrence of sports injury, and for the general fitness enthusiasts to provide a strong security guarantee system, break off the occurrence of sports injury.

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University Of Information Technology and Ecological Connotation of the Integration of Curriculum Research

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Abstract: Information technology and the university foreign language courses for the integration of ecological is the important way to realize the foreign language education innovation, the integration of information technology and foreign language courses at the university of ecological connotation is analyzed, and the related terms is defined, the integration level were studied. To improve the foreign language education effect, realize effective cultivation of talents with positive research value.
Keywords: Information technology; University foreign language; Ecological integration

1. INTRODUCTION

Under the background of the rapid development of information technology, information technology and education curriculum integration is one important way of education curriculum innovation. Many countries in the world is to explore the ways and methods of information technology and curriculum integration. To implement quality education, improve the students' comprehensive qualities, university education curriculum in our country also needs to implement and the integration of information technology. In this way, not only to improve the students' language knowledge, improve the students' comprehensive language application ability of listening, speaking, reading and writing the translation, also need through the foreign language courses and the ecological integration of information technology, improve the students' information literacy, improve students' autonomous learning ability and innovation ability, cooperation ability, promote modern comprehensive applied foreign language talents by integrating the effective training.

2. RELATED TERMS DEFINED

2.1 Information technology

Information technology is used to manage and process information by means of various technologies. Adopt the technology; the most major is computer science and communications technology. Through computer science and communications technology to carry on the design, development, installation, with relevant information system and application software implementation of information management and processing. Therefore, information technology is usually known as information and communication technologies. Information and communication technologies in the process of work, the first through the computer and modern means of communication information acquisition, analysis, storage, processing, and then according to the need to manage the information distribution, the management of the information distribution to present a systematic characteristics was proposed.

2.2 College English course

College English course is an important part of higher education curriculum system, the college English course is the foundation of students' compulsory course, its status and role is prominent. College English education is a foreign language teaching theory as the instruction, English knowledge and skills as the main content, to cultivate students' cross-cultural communication ability, application ability of English, train the students' ability to use English in work and social, improve students' comprehensive cultural quality as the goal, through a variety of teaching strategies and teaching means to complete the teaching system of foreign language education activities. College English curriculum education must adapt to the need of social development in our country, to fit the needs of international exchange activities.

2.3 Integration

Integration refers to a means through the scattered knowledge content to link up with each other, to establish a unified information system, to realize information resources sharing, realizing the coordinated work, create the biggest value. Integration is the key to through the analysis, combing, attribute and combinations to make effective processing fragmented content, through the creation of wisdom, enable individuals to synthesize into higher value as a whole, the overall value function into full play.

3.THE CONNOTATION OF THE INFORMATION TECHNOLOGY AND COLLEGE ENGLISH CURRICULUM INTEGRATION OF ECOLOGICAL AND LEVEL

Ecological integration of information technology and college English course nature, in the study of curriculum integration on the basis of the theory research of foreign language teaching theory, the combination of information technology and foreign language courses, with the help of information technology means, dominated by teachers and

students as the main body of the independent inquiry cooperative education mode, innovation of teaching and learning process and environment well. Integration needs to be information technology, information resources, information methods and effective combination of university foreign language course; constructs take the student as the main body, dominated by teachers college foreign language teaching structure, realizes the innovative development of college foreign language education.

University of information technology and foreign language ecological integration must play a leading role of the teacher. Teachers must be able to rely on information technology, the use of resources and information technology curriculum resources, create a scenario, provide students with strong information resources, students in cooperative learning, inquiry learning, and effective guidance to the students' learning behavior. As students party must change the traditional way of learning, to consciously and actively practice teaching, teachers should learn to teach, pay equal attention to enhance classroom design ability. The teacher must to creative design of classroom teaching, thus effectively cultivate students' translation ability and accomplishment, listening, speaking, reading and writing training innovative personnel in the thought is agile.

3.1 information technology and the integration of college English course at the macro level

Information technology and college English curriculum in the integration of macro level mainly refers to the study of college English course education effective implementation strategy, is a unit and a certain theme, realize the integration of information technology and curriculum itself. This macro integration is not emphasized some single language content, such as, listening, speaking, reading, translation and writing aspects of integration, emphasizes the language system and the overall integration. On macro integration level, there are a lot of new learning model to realize such a development for teaching, for example, based on the language learning mode of the project, based on the problem of language learning model, based on the content of language learning model and so on, these are all on the basis of the information technology development, foreign language courses at the university of information technology and the concept of macro integration, supported by a new teaching mode. These patterns provide students with understanding, social development conditions to explore the ability of practice, students participate in more opportunity for small practice, and students can practice to explore the potential development. In fact, in foreign language education, as the heard that education in foreign language and literacy education, information technology and curriculum integration all need to follow the system theory viewpoint, need to fully research the teaching goal, the education environment, teaching contents, steps, such as teaching theory on the basis of integration of activities, for each link to be able to design science. In this way can we achieve effective integration of information technology and foreign language courses, ensuring effectiveness and quality of foreign language education.

3.2 The integration of information technology and the university foreign language comprehensive course

University foreign language comprehensive course education is highlighted by the foreign language listening and speaking skills and literacy training improve the students' listening, speaking, reading and writing by translating the aspects of comprehensive language application ability. At present, many configurations in the colleges and universities have foreign language audio-visual teaching materials, but no courses in audiovisual said. And through the comprehensive course for students of foreign language listening, speaking, reading and writing ability all aspects of the language training and training. But in the traditional foreign language comprehensive course education, the teacher more focus on the teaching material content on the teaching of comprehensive course enough class, teachers struggle to cope with the teaching material content, rarely considering the university of information technology and foreign language integrated curriculum integration problems, students' language training opportunity seldom. In this kind of education mode, the student consumes time and energy, but comprehensive course in foreign language learning effect is not ideal, also did not learn enough knowledge, at the same time, the students' language level has not improved. Is the cause of the problem lies in the teacher did not teach my students the correct way to learn, not really ready to work, the integration of information technology and comprehensive university foreign language course, students are difficult to meet the needs of the information age language learning. But if possible, the integration of information technology and college foreign language comprehensive curriculum, teachers guide students through the autonomous learning mode, the network interactive mode, face-to-face teaching mode. By integrating clear learning objectives, set up the learning tasks, for effective learning evaluation for students, so, to achieve comprehensive foreign language teaching effect. Through consolidation, students need to experience the autonomous learning, the network interaction and face-to-face teaching and learning process of three different links through the first stage and the second stage of the study, students can carry on the autonomous learning based on computer network technology, the development of students' autonomous learning ability can be obtained, in the third phase of the study, teachers and students face-to-face interaction, in the interaction, the students' comprehensive language literacy ability can be

effectively promoted.

3.3 information technology and the integration of university foreign language listening and speaking course

In foreign language education in university, is usually pay attention to reading and writing class, but is not the very seriously, for teaching listening and speaking class actually heard of course have relatively rich audio-visual materials, the materials based on the content of the more widely, including a lot of British and American people to the knowledge content of life. In the teaching of listening and speaking class, using new technology to integrate, can effectively improve listening, the effect of class education.

In integration, in addition to teachers guide students in the classroom heard training according to the teaching material content, also can by means of information technology, through qq, Yahoo, MSN and so on many kinds of ways to guide students on a topic to carry out some training activities, on the basis of the material reality, guides the student to open mouths speak a foreign language, the spoken language ability of students can be improved significantly. In addition, teachers teachers can guide students to analyze the problems existing in the real life, based on the real material to carry out oral training activities, through oral practice to solve a particular problem, at the same time to expand students' thinking and improve the students' ability of spoken language.

3.4 universities of information technology and foreign language courses on the micro level of integration

University of information technology and the integration of foreign languages at the micro level, including the content are many, micro consolidation can throughout all aspects of the university foreign language learning, involves the knowledge of all aspects of foreign language learning. , for example, in vocabulary learning, learning grammar, language learning, sentences, paragraphs, language learning, translation learning, listening, oral English learning can be implemented in many aspects and the integration of information technology. In terms of the domestic researchers also made a lot of research work, especially in vocabulary, pronunciation, testing, translation, listening course, the spoken language, domestic researchers to study foreign language curriculum integration with information technology more. Computer information technology, as a kind of normalized in foreign language education in university teaching tools have been widely used, information technology is one and the same as conventional teaching aid can feed into every aspect of university education in foreign language teaching, foreign language education in the university, in every link can use information technology to realize the innovation of education, university foreign language courses and the integration of information technology can effectively cultivate students' interest in foreign language learning, cultivate the students' basic foreign language ability and accomplishment.

In foreign language vocabulary teaching, for example, you can use the integration of information technology implementation and vocabulary teaching. In foreign language vocabulary learning of status is very important. Computer information technology application in vocabulary teaching can be achieved by three ways: first, through the computer vocabulary learning vocabulary learning program, such as, through the CAVOCA vocabulary learning, through the network of corpus in vocabulary learning, via mobile phones, subtitled video equipment and electronic games, computer software system and so on a variety of ways in vocabulary learning. For example, in the foreign language grammar teaching, also can realize the integration of information technology and grammar teaching. Information technology to support learning grammar in grammar learning model based on corpus, grammar learning mode based on network program, the grammar of the web-based learning mode and computer support for grammar learning, through various channels, can be realized, the integration of information technology and learning grammar.

In computer support for foreign language learning, it was a period of computer network in a major breakthrough in the teaching learning tool. Application of computer network can not only for knowledge of language learning, can also use this tool to explore the secrets of the language. But it is important to note that in the process of integration, we can't be enslaved by tools, to improve the effect of foreign language learning, to realize information technology and foreign language courses at the University of Ecological Integration also must with the help of the teacher's hard work and wisdom. Faster in information technology, students can better language learning a foreign language, but as students cannot improve their foreign language level in the use of advanced equipment, also need to actively with the aid of devices for language skill learning, in this way, can we truly improve their foreign language skills.

4. CONCLUSIONS

In short, the university foreign language education focuses on improve students' comprehensive language application ability, improve the students' cultural quality, therefore, in foreign language education, through effective means, to be able to make the student to carry on the language practice, enhance students' language skills in listening, speaking, reading and writing translation, etc, especially the need to increase the student's speaking skills, in this way, students in the future work life to achieve a better development with its own language advantage. And to achieve this goal, must want to innovate education curriculum mode, in order to realize the ecological integration of information

technology and foreign language courses, teachers should study related integration theory, connotation, through effective strategies to realize the innovation of the foreign language education, so as to realize the effective personnel training.

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Peng hsinchu (1970.8 -), female, han ethnic group, hunan Li County, associate professor, master's, central south university visiting scholar. Research interests: English curriculum and teaching theory, applied linguistics. This research for the scientific research project in hunan province department of education under the background of "Internet+learning space reconstruction and blended learning college English practice research" (project number: 16 c0532) and hunan province social science fund project "English study" curriculum development and practice of mechanical and electrical industry (project number: 15 wlh13) part of the results.

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Study on E-Commerce Specialty Construction and Talent Cultivation Mode Innovation from the Perspective of Cross-Border E-Commerce Status Quo

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Abstract: At Present,when people talk about ”Made in China 2025”,”Internet+action plan” is no longer strange.Accompanied by the rapid development of cross-border e-commerce, the problem of lacking professional talents become the focus attention from all walks of life.ZhaoQing University take constructing high level of applied universities as the target, try to innovate constantly in terms of cross-border electricity business.This paper based on “the star” corss-border electricity business incubators, from the demand situation and the entrepreneurship status quo,analysis the bottleneck that exists in the process of cross-border electric business. It proposed to experiment with the European and American colleges and university colleges and universities cooperation with international talent training project,joint manufacturing enterprises set up overseas warehouse, integrating “Internet+professional” industrial chain countermeasures, aims at training applied undergraduate colleges cross-border electricity traders not only provide a reference.
Keywords: Cross-border; e-commerce; Teaching; Cultivation of talents

1. INTRODUCTION

In recent years, the cross-border electricity in ear trend sweeping the world, to promote transformation and upgrading of foreign trade and the implementation of "made in China 2025" new economic growth point.The China's cross-border electricity dealer market research report, 2016-2017.Report shows that in 2016 China's import and export of cross-border electricity overall size 6.3 trillion..Our country has become the world's largest online retail market.Cross-border electric business platform for the success of the operation, not only need timely response of the upstream and downstream industry chain, need more technology, languages, logistics, market, etc.Statistics show that China's current school has yet to open cross-border electricity specialty, talent training quantity has not been able to catch up with the industry development speed.How to cultivate talents that suit the development of cross-border electricity become a key problem to be solved.

Combing research in recent years, there have been quite a number of colleges and universities in the exploration of cross-border electricity merchant training mode to train of thought, there are some teachers in connection with the development of cross-border electricity curriculum teaching reform.From the point of literature quantity, vocational colleges than the undergraduate course colleges and universities.The representative papers include: Suhang (2016) is put forward based on the innovation ability of cross-border electrical practice teaching system[1]. Li rong (2016) is put forward based on cross-border electricity traders to post competency requirements of practice teaching system optimization [2];Wang Yuanqing (2016) is put forward based on cross-border electricity project oriented teaching reform [3];WuXueFen (2016) proposed cross-border electricity into the teaching exploration and practice of electronic commerce[4].
The above research from different perspectives respectively discusses the cross-border electrical practice teaching system, provides a train of thought on the personnel training mode innovation.

2.THE CORSS-BORDER E-COMMERCE ENTREPRENEURIAL STATUS QUO

(1)Pioneering consciousness strong,enthusiasm high
Cross-border electric business platform, as a high-end platform for the overseas market, has the characteristics of high knowledge content, strong challenge, more and more college students into cross-border electric company, as a business start.Valley of zhaoqing university "the star" cross-border electricity business incubators, founded in 2015, trade with China, shenzhen is easy to purchase and ETA, shenzhen company cooperation, successively set up cross-border electricity business entrepreneurship training courses, PHP classes, accumulated nearly thousands of people have been training business.Selection for the entire school scope, mainly from the management school of marketing, international trade, e-commerce professional and school of foreign languages such as English, Japanese small language majors.To cross major to form a team set up a company in the amazon, wish, such as platform way, give priority to with amazon cross-border electric business platform operation.

(2) Cross major to form a team approach is diversity and flexible

As of March 2017, a total of 80 small micro enterprises business incubators, venture personnel is given priority to with graduates of senior and junior students, a few a sophomore in practice way into the existing team, nearly two hundred people.At the beginning of the college students venture capital short board, incubators to provide interest-free loans to small enterprises.At the same time, under the joint efforts of the team members, and has established friendly and cooperative relations with nearly hundred enterprises, try to flexible production, personalization, good solve the cross-border electricity small micro enterprise supply chain upstream of the selected product.

3.THE PROBLEMS THAT EXIST IN THE ENTREPRENEURIAL PROCESS OF CROSS-BORDER E-COMMERCE BUSINESS

(1) Positioning is not clear, does not pay attention to product quality

Currently cross-border platform with a large number of low-priced products to compete, and even some businesses take “1+1” model competition, in the form of low profit or even lose money to occupy the market, product quality is not guaranteed.And some of the college students in the early to drainage, attract buyers, also USES low price products to seize market, in order to earn high profits, or selling some fake and shoddy products, the product itself is not doing any market research and quality control, the international version of the "taobao".

(2) Too little understanding of the customs of target countries

Cross-border electricity is according to different countries, so the customs of different countries, living habit is the root of the cross-border products sales.But most of the college students in the process of conduct electricity traders are blind.In electric business platform to see what products sell like hot cakes, what what product to sell the products it is cheap.Don't consider their sales national religion, customs, habits and customs, etc., as a result, sales are fewer and fewer visitors.Some even disputes and customer platform.Lose your good store ranking.

4.SOLVE THE PROBLEM OF COLLEGE STUDENTS’ CROSS-BORDER ELECTRICITY DEVELOPMENT COUNTERMEASURES

(1) Colleges and universities support, solve operating funds problem, aim at high quality high-end products

Cross-border electricity are college students entrepreneurship are locked in a low price product, and its operation in the process of facing the funding crisis is inseparable.Money collecting slow, financing difficulties, directly affect the product and positioning.The current various universities are actively promote entrepreneurship for college students, not only has the support of policy, many colleges and universities also have the funds to support.College students can manage their stores to apply for the support of the school at the same time, as this can help to reduce their stress.Can also go to apply for college students entrepreneurial interest-free loans to solve their early start-up pressure.

(2) A clear market positioning, brand consciousness, research and development of new products

Sold while it is possible to open the market rapidly in early, to earn profits, but from the perspective of a long term business, cross-border electricity business operator shall give up the price war, college students pay more attention to their products quality, to establish a stable customer base, provide good after-sales service, to create the product quality assurance system, which is the fundamental of the development of cross-border electricity business for a long time.

(3) About the customs of target countries and spending habits

Cross-border electricity enterprises need to change of the target market, customs and festivals, special tastes and consumption habits until a clear understanding and then to make corresponding marketing strategy and sales suitable products, avoid offending customers in different market, can see some foreign books, newspapers, movies, etc., to understand their hobbies,habits,etc.In general college students cross-border electricity runs shall be continuously deeply after class and learn the cultural differences of different countries, such ability in cross-border electricity on the road more walk more far.

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Analytic Hierarchy Process and Research on Tax Incentive Policies to Enterprise Innovation Performance Influence

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Abstract: Nowadays, economic construction is primary mission of China. However main impetus that drives Chinese economic continuous development is from Chinese economic structural innovation, from which innovation on enterprises is core of impetus. To find out tax incentive policies influential aspects on enterprise innovation, the paper according to analytic hierarchy process, it gets that in case considering the structure of enterprise network, technical system, enterprise policy and social resources as well as other influence factors, tax incentive policies to enterprise innovation performance influence links are mainly as income tax preferential, the transformation of scientific achievements, technology and equipment updates such three links. Therefore, it gets Chinese tax incentive policies most influential link on enterprise innovation performance, and makes Chinese economic development corresponding policies for these links.

Keywords: Tax incentive policies; enterprise innovation; analytic hierarchy process; performance assessment; economic structure

1. INTRODUCTION

Whether a country comprehensive strength is strong or not is up to how the nation economic development is to a great aspect. The cause is economic base decides superstructure; first step to develop a country is strengthening economic construction, and driving national other aspects development by developing economy. Therefore under our party's correct guiding, China now is centered on economic development, makes all-round development of every aspect, and builds a prosperous, democratic, civilized and harmonious socialist harmonious society [1-3].

Due to in Chinese economic structure, enterprise takes very important positions, regards enterprises as innovation subjects are main impetuses of Chinese economic advancement. However, due to China is still in the initial phase of socialism, domestic most enterprises have not their own core techniques, therefore they still have strong attachment on foreign enterprises and techniques, and domestic most enterprises lack of innovation capacity. And due to enterprises economic characteristics that lead to Chinese market resources cannot arrive at optimization allocation. In this case, nation should incent enterprise innovation by some beneficial policies, from which tax incentive is a kind of effective incentive way. In order to more clearly understand tax incentive influence on enterprise innovation, the paper will analyze and research on the issue [4-6].

2. MODEL ESTABLISHMENTS

2.1 Construct hierarchical structure

To find out tax incentive policies influence on enterprise innovation performance, firstly it should find out tax incentive policies most influential links on enterprise innovation that is to find out tax incentive policies to enterprise innovation performance main influence aspects. And then, the paper bases on analytic hierarchy process to make quantization on tax incentive policies to enterprise innovation performance most influential links. After that, establish target layer, criterion layer and scheme layer relations [7,8].

Target layer: The incentive of the most influential

Criterion layer: scheme influence factors, Y_1 is the structure of enterprise network 、Y_2 is technical system 、Y_3 is enterprise policy 、Y_4 is social resources.

Scheme layer: V_1 is income tax preferential、V_2 is the transformation of scientific achievements, V_3 is technology and equipment updates, it gets hierarchical structure as Figure 1 shows.

2.2 Construct judgment matrix

In order to get each factor comparison quantified judgment matrix, here set 1~9 scale, as Table 1 shows.

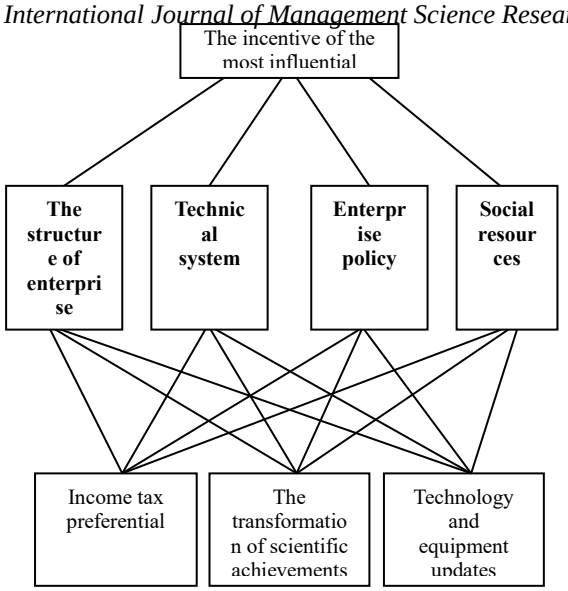

Figure 1 Hierarchical structure

Table 1 1~9 scale table

Scale a_{ij}	Definition
1	factor i and factor j have equal importance
3	factor i is slightly more important than factor j
5	factor i is relative more important than factor j
7	factor i is extremely more important than factor j
9	factor i is absolute more important than factor j
2, 4, 6, 8	Indicates middle state corresponding scale value of above judgments
Reciprocal	If i factor compares to j factor, it gets judgment values is, $a_{ji}=1/a_{ij}$, $a_{ii}=1$

Now set a_{ij} to represent ratio of β_i and β_j to G influence, and get judgment matrix A, in the paper set judgment matrix between layer two and layer one is A_1, element a_{ij}, divisor α_i, α_j, factor is A_1, then it has following formula showed judgment matrix A_1:

$$A_1=\begin{bmatrix} A_1 & \alpha_1 & \alpha_2 & \alpha_3 & \alpha_4 \\ \alpha_1 & a_{11} & a_{12} & a_{13} & a_{14} \\ \alpha_2 & a_{21} & a_{22} & a_{23} & a_{24} \\ \alpha_3 & a_{31} & a_{32} & a_{33} & a_{34} \\ \alpha_4 & a_{41} & a_{42} & a_{43} & a_{44} \end{bmatrix}$$

And in above formula, for a_{ij} values defining, we generally adopt 1~9 proportion scale to assign value on influence extent, as Figure 2 shows.

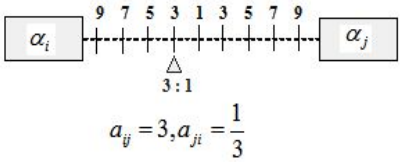

Figure 2 Nine scale assignment schematic diagram

According to lots of experts experiences and refer to lots of documents as well as 1~9 scale setting, it gets paired comparison matrix that are respective as Table 2-6.

Table 2 Comparison matrix G

G	Y_1	Y_2	Y_3	Y_4
Y_1	1	1/5	5	4
Y_2	5	1	5	4
Y_3	1/5	1/5	1	1
Y_4	1/4	1/4	1	1

Table 3 Comparison matrix Y_1

Y_1	V_1	V_2	V_3
V_1	1	1	1/5
V_2	1	1	1/5
V_3	5	5	1

Table 4 Comparison matrix Y_2

Y_2	V_1	V_2	V_3
V_1	1	4	4
V_2	1/4	1	3
V_3	1/4	1/3	1

Table 5 Comparison matrix Y_3

Y_3	V_1	V_2	V_3
V_1	1	3	4
V_2	1/3	1	5
V_3	1/4	1/5	1

Table 6 Comparison matrix Y_4

Y_4	V_1	V_2	V_3
V_1	1	6	5
V_2	1/6	1	4

V_3	1/5	1/4	1

2.3 Consistency test

Use consistency indicator test formula as: $CI = \frac{\lambda_{max} - n}{n-1}$ .From which λ_{max} is comparison matrix maximum feature value; n is comparison matrix order. It is clear that judgment matrix is inversely proportional to CI value.

$$C=\begin{Bmatrix} 1 & 1/5 & 5 & 4 \\ 5 & 1 & 5 & 4 \\ 1/5 & 1/5 & 1 & 1 \\ 1/4 & 1/4 & 1 & 1 \end{Bmatrix}$$

Column vector normalization →
$$\begin{Bmatrix} 0.155 & 0.114 & 0.417 & 0.4 \\ 0.775 & 0.571 & 0.417 & 0.4 \\ 0.031 & 0.114 & 0.083 & 0.1 \\ 0.039 & 0.143 & 0.083 & 0.1 \end{Bmatrix}$$

Solve sum by line →
$$\begin{Bmatrix} 1.086 \\ 2.163 \\ 0.328 \\ 0.365 \end{Bmatrix}$$

Normalization →
$$\begin{Bmatrix} 0.275 \\ 0.549 \\ 0.083 \\ 0.093 \end{Bmatrix} = W^{(0)}$$

$$CW^{(0)} = \begin{Bmatrix} 1 & 1/5 & 5 & 4 \\ 5 & 1 & 5 & 4 \\ 1/5 & 1/5 & 1 & 1 \\ 1/4 & 1/4 & 1 & 1 \end{Bmatrix} \begin{Bmatrix} 0.275 \\ 0.549 \\ 0.083 \\ 0.093 \end{Bmatrix} = \begin{Bmatrix} 2.752 \\ 5.459 \\ 1.183 \\ 1.196 \end{Bmatrix}$$

$$\lambda_{max}^{(0)} = \frac{1}{4}\left(\frac{2.752}{0.275} + \frac{5.459}{0.549} + \frac{1.183}{0.083} + \frac{1.196}{0.093}\right) = 4.32$$

$$w^{(0)} = \begin{pmatrix} 0.260 \\ 0.515 \\ 0.112 \\ 0.113 \end{pmatrix}$$

Judgment matrix is:

$$C_1=\begin{Bmatrix} 1 & 1 & 1/5 \\ 1 & 1 & 1/5 \\ 5 & 5 & 1 \end{Bmatrix}, C_2=\begin{Bmatrix} 1 & 4 & 4 \\ 1/4 & 1 & 3 \\ 1/4 & 1/3 & 1 \end{Bmatrix}, C_3=\begin{Bmatrix} 1 & 3 & 4 \\ 1/3 & 1 & 5 \\ 1/4 & 1/5 & 1 \end{Bmatrix}, C_4=\begin{Bmatrix} 1 & 6 & 5 \\ 1/6 & 1 & 4 \\ 1/5 & 1/4 & 1 \end{Bmatrix}$$

Corresponding maximum feature value and feature vector in successive are:

$$\lambda^{(1)}{}_{max} = 4.43, w^{(1)}{}_1 = \begin{Bmatrix} 0.345 \\ 0.345 \\ 0.424 \end{Bmatrix} \quad \lambda^{(2)}{}_{max} = 4.52, w^{(1)}{}_2 = \begin{Bmatrix} 0.526 \\ 0.269 \\ 0.058 \end{Bmatrix}$$

$$\lambda^{(3)}{}_{max} = 2.30, w^{(1)}{}_3 = \begin{Bmatrix} 0.652 \\ 0.230 \\ 0.103 \end{Bmatrix} \quad \lambda^{(4)}{}_{max} = 3.61, w^{(1)}{}_4 = \begin{Bmatrix} 0.614 \\ 0.240 \\ 0.148 \end{Bmatrix}$$

According to $CI = \frac{\lambda_{max} - n}{n-1}$ it gets RI value that can refer to Table 7.

Table 7: RI value

n	1	2	3	4	5	6	7	8	9	10	11
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51

For judgment matrix C, $\lambda^{(0)}{}_{max} = 4.52, RI = 1.01$

$$RI = \frac{4.52 - 4}{4 - 1} = 0.17$$

$$CR = \frac{CI}{RI} = \frac{0.17}{1.01} = 0.017 < 0.1$$

It shows C inconsistency degree within permissible range, at this time it can use C feature vector to replace weight vector. Similarly, to judgment matrix C_1, C_2, C_3, C_4, all passed consistency test by using above principle. Therefore, calculation results from object layer to scheme layer can refer to Figure 3.

$$\begin{Bmatrix} 0.345 \\ 0.345 \\ 0.424 \end{Bmatrix}, \begin{Bmatrix} 0.526 \\ 0.269 \\ 0.058 \end{Bmatrix}, \begin{Bmatrix} 0.652 \\ 0.230 \\ 0.103 \end{Bmatrix}, \begin{Bmatrix} 0.614 \\ 0.240 \\ 0.148 \end{Bmatrix}$$

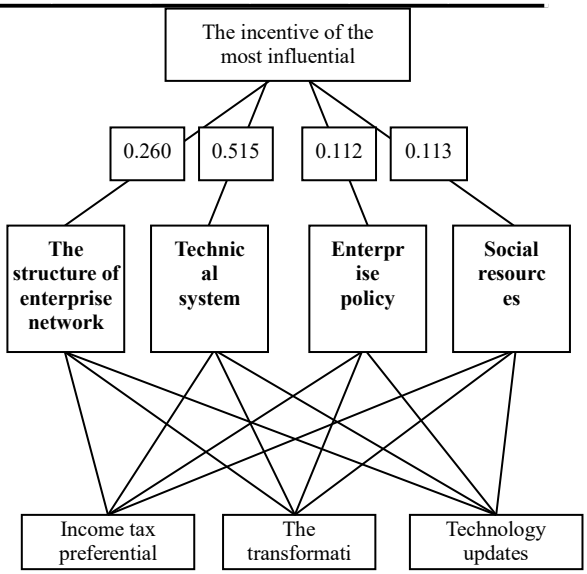

Figure 3: Target layer to scheme layer calculation result

Calculation structure is as following:

$$w^{(1)} = (w_1^{(1)}, w_2^{(1)}, w_3^{(1)}, w_3^{(1)})$$

$$= \begin{Bmatrix} 0.345 & 0.526 & 0.652 & 0.614 \\ 0.345 & 0.269 & 0.230 & 0.240 \\ 0.424 & 0.058 & 0.103 & 0.148 \end{Bmatrix}$$

$$w = w^{(1)} w^{(0)}$$

$$= \begin{Bmatrix} 0.345 & 0.526 & 0.652 & 0.614 \\ 0.345 & 0.269 & 0.230 & 0.240 \\ 0.424 & 0.058 & 0.103 & 0.148 \end{Bmatrix} \begin{Bmatrix} 0.260 \\ 0.515 \\ 0.112 \\ 0.113 \end{Bmatrix}$$

$$= \begin{Bmatrix} 0.445 \\ 0.286 \\ 0.269 \end{Bmatrix}$$

By above analysis, it is clear that Chinese tax incentive policies influence on enterprise innovation performance have various aspects. According to analytic hierarchy process, it gets in case considering the structure of enterprise network, technical system, enterprise policy and social resources as well as other influence factors, tax incentive policies to enterprise innovation performance influence links are mainly as income tax preferential, the transformation of scientific achievements, technology and equipment updates such three links, the proportions are respectively 0.445、0.286 and 0.269. Therefore, it gets Chinese tax incentive policies most influential link on enterprise innovation performance, and makes Chinese economic development corresponding policies for these links.

3. CONCLUSION

The paper firstly analyzes national economic development required main impetus that is enterprise innovation system. And then according to analytic hierarchy process, it gets in case considering the structure of enterprise network, technical system, enterprise policy and social resources as well as other influence factors, tax incentive policies to enterprise innovation performance influence links are mainly as income tax preferential, the transformation of scientific achievements, technology and equipment updates such three links, the proportions are respectively 0.445、0.286 and 0.269. Therefore, it gets Chinese tax incentive policies most influential link on enterprise innovation performance, and makes Chinese economic development corresponding policies for these links.

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Under the Background of Internet+ Analysis of Application of Modern Information Technology in Volleyball Teaching in Colleges and Universities

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Abstract: The rapid development and popularization of Internet technology has changed people's life and work style, more and more information technology is widely used in various fields. In the process of our country education system reform continued to deepen, the application of information technology has become an important support of cultivating innovative talents, so to apply information technology teaching activity is also an inevitable choice for modern education activities. Based on Internet+ as the background, this paper analyzes the Internet+ under the background of the new changes of volleyball teaching in colleges and universities, based on the use of modern information technology in the volleyball teaching activities in universities to simple to discuss relevant issues.

Keywords: Internet+; Information technology; Volleyball in colleges and universities; Volleyball teaching

1. INTRODUCTION

Volleyball is relatively high popularity of sports, is also popular with students of sports courses, under the background of new curriculum reform continued to deepen, questions about the volleyball teaching by more and more attention. As an important part of college sports teaching system, but has not been enough attention, in aspects and so on teaching conditions, teaching environment has certain hysteresis. The rapid development of network information technology, for the effective development of volleyball teaching activity provides the technical support, through the effective use of modern information technology can create better teaching environment for volleyball teaching, innovative teaching methods and teaching content, promote the ascension of the university teaching quality of volleyball.

2. UNDER THE BACKGROUND OF INTERNET+ THE NEW CHANGES OF VOLLEYBALL TEACHING IN COLLEGES AND UNIVERSITIES

2.1 the change of the learning environment

A good learning environment is an effective guarantee to improve teaching efficiency, and students to complete learning activities tools and important resources, through the construction of teaching environment can provide students with learning support, promote the realization of learning goals. Application of modern information technology not only changed the traditional way of teaching, and improved the information level of volleyball teaching at colleges and universities, through information technology to create a virtual teaching environment, change single teaching environment, meet the demand of the different students' learning at the same time, they can complete the learning activities through information technology, such as watching video, participate in discussions and so on, this change also pointed out the direction for teachers' teaching activities, promote the teaching quality of ascension.

2.2 the change of learning resources

Abundant learning resources is to ensure that the basis of college volleyball teaching activities smoothly, whether can get fast and efficient learning resources are the important factors that affect the quality of teaching. In the past in volleyball teaching, classroom teaching is the main way for learning resources, students can only complete the corresponding learning and activities in school, learning resource access is limited. In the Internet environment, traditional teaching resources access relatively lags behind and the single, not to meet the needs of the development of volleyball teaching activities in the new period, and the effective use of information technology can obtain more abundant learning resources through the network, at the same time, it can realize transmission and sharing of learning resources, between teachers and students to build up a fair and open information communication mechanism.

2.3 the change of teaching mode

Teachers and students are involved in the teaching activities of the two main body, the application of modern information technology not only can change the former teaching environment and teaching resources, but also changed the teaching mode. Application of modern information technology to promote the development of the diversification of teaching mode and formed in the course of colleges

and universities sports teaching network classroom, campus network, such as different models, for the development of volleyball teaching activities to create a more abundant teaching mode, but also by the liquidity of information technology has accelerated the flow of information resources, make more network information into students before now. Information technology has changed the past static teaching mode, through the multimedia technology to complete the game video watching, volleyball movement teaching repeats, and so on, form a dynamic teaching mode, to arouse the enthusiasm of students learning.

2.4 the change of the teaching evaluation

Teaching evaluation is an indispensable important link in teaching activities, through the scientific teaching evaluation can evaluate the teaching achievements, plan the subsequent teaching activities according to the results of the evaluation. Internet + background, college volleyball teaching evaluation way also changed. In volleyball teaching evaluation, the use of teaching evaluation and examination as the main body of the way, student performance and learning evaluation by teachers, and the study status is much change, will present a different forms in different periods, so difficult to ensure the scientific nature of the teaching evaluation. Use of information technology for students throughout the learning process can be dynamically record, according to record the information of process evaluation, can improve the scientific nature and accuracy of evaluation. At the same time, teachers can understand students' learning situation, understand the teaching progress, so that we can adjust the teaching plan, in order to increase the effectiveness of teaching activities.

3.THE APPLICATION OF MODERN INFORMATION TECHNOLOGY IN VOLLEYBALL TEACHING IN COLLEGES AND UNIVERSITIES

3.1 the design of the teaching content

To achieve the goals of college volleyball teaching, need to enrich teaching content and reasonable teaching method, so the teachers should make full use of information technology to enrich the existing teaching contents and carry on the reasonable design, to ensure the continued in teaching activities. First, the use of information technology to the depth and breadth of teaching contents. In volleyball teaching in colleges and universities, the use of information technology can obtain abundant teaching resources, integrating the teaching resources and teaching material content, can significantly enhance the depth and breadth of teaching content, reduce the students' cognitive load in teaching contents, so as to stimulate students' learning desire. Second, strengthen the teaching content of interest. Stimulate students' interest in learning is an effective way to improve teaching efficiency, thus need to enhance the teaching content of interests through information technology, to inspire students' interest in learning about volleyball, so that they can actively participate in learning activities, and can keep for a long time the interest in learning, so as to realize the teaching efficiency of ascension. , when applying information technology to ensure that the have fun teaching content to students and guide students actively, actively involved in the study, so as to give play to the role of information technology, improve the quality of teaching. Third, handle the authenticity of the teaching content and blindness. In volleyball teaching contains many different types of teaching content, so you need to use information technology to classification, considering the efficiency of the teaching content and eliminate some blind, the lag of teaching content, to scientific and effective integration of teaching content, according to the actual situation of teaching to carry out effective teaching.

3.2 the design of teaching environment

In volleyball teaching in colleges and universities to cultivate the students' interest in learning is an important guarantee, and a good learning environment is to stimulate students interest and cultivate students' active learning, the effective ways to use information technology can help teachers to create a modern, diverse learning environment, promote the teaching efficiency of ascension. First, the use of information technology to promote the design and optimization of teaching resources. Network contains a lot of learning resources, such as through the network direct download resources, the use of indirect resources and network access to the network without access to resources, etc., combining the learning resources and teaching content, the indirect resources into direct learning resources, to integrate resources according to teaching demand, can form effective teaching resources. Teachers for the integration of teaching resources need to be given enough attention, the use of information technology in line with the volleyball teaching in colleges and universities teaching courseware, establish equal and open information communication channels, guide the students according to their own needs for learning resources, efficient learning. Second, the design and optimization of the teaching situation. By reasonable design of classroom teaching, for students to create highly authenticity and interesting background, to guide students' autonomous learning, stimulate learning enthusiasm, reasonable use of modern information technology, teaching optimization functions, the university volleyball theoretical knowledge and practical knowledge is gathered by a space, to create suitable for students to learn the theory combined with the actual situation, to long-term, effective learning.

3.3 the teaching effect optimization

In order to promote the effective use of modern

information technology, and to promote the efficiency of college volleyball teaching implementation, needs through effective measures to promote the teaching effect optimization. First, invest heavily in the use of information technology, to create better hardware conditions, to promote effective development of volleyball teaching activities. The use of information technology is a long-term, continuous process, so let's clear the long-term goal of the volleyball teaching in college and universities, and starting from the actual situation of current universities, the increasing use of information technology investment, improve the hardware environment, create a good information technology environment, to promote the effective application of information technology. At the same time, to strengthen the cultivation of talents, improve the level of teachers' information, to ensure the effective application of information technology in teaching activities, through the improvement of the various conditions for the development of the volleyball teaching in college and universities provide adequate environmental protection. Second, the use of information technology application change students' learning attitude. The wide application of information technology to improve the student's study enthusiasm, students have been able to adapt to volleyball teaching model under the Internet environment, and we should realize that, although the application of information technology has brought a lot of positive effect, but also formed a bigger challenge, the openness of the network characteristics makes the application of information technology also produced some adverse effect, so the students learning motivation and the direction of network moral education, make the student to the network and information technology to form an objective, the correct understanding, to help students set up the correct learning motivation, to guarantee the quality of teaching continues to grow. Third, to strengthen the cultivation of teachers' comprehensive quality. Under the background of Internet +, teachers are still at the core of teaching activities, therefore should pay attention to teachers' information literacy. As a PE teacher should not only master the basic theory of basic knowledge of sports and the skills of volleyball teaching, should also have a certain information literacy, can effective use of information technology in volleyball teaching. So, should intensify training of PE teachers in colleges and universities, by learning and training to improve the professional skills of teachers, improve the application of information technology in volleyball teaching efficiency.

4. CONCLUSION

To sum up, in the era of Internet + background, the development of the volleyball teaching in college and universities need to actively application of information technology, in the design of teaching content, teaching environment and teaching effect optimization respectively take corresponding measures to enrich volleyball teaching content at the same time, also can effectively inspire the students' enthusiasm and initiative to participate in volleyball, promote college volleyball teaching effectiveness.

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Under the Background of Sunshine Sports in Colleges and Universities Basketball Class Inside and Outside the Integrated Teaching Mode Applied Research

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Abstract: The "sunshine sports", mainly in order to "attract the masses of young students to the playground, into nature, and came to the sun to actively take part in physical exercise" and formed a kind of mass sports. Under the background of "sunshine sports", strengthen the application of college basketball class inside and outside the integrated teaching mode, is beneficial to realize the core objective of the construction of physical education curriculum - "health first", also is the important content of the reform of the college sports, so as to effectively promote the colleges and universities to carry out the "lifetime sports" education and "quality-oriented education".
Keywords: Sunshine sports; College basketball; Teaching reform; Teaching mode

1. INTRODUCTION

In 2007, our country started the "national hundreds of millions of young students sunshine sports", aims to improve the health status of young students. College sports, as an important part of college education, in the sunlight sports in colleges and universities is very important to take responsibility [1]. Basketball teaching is no exception. Therefore, in order to enhance the university basketball teaching reform, put forward the "integration of inside and outside class teaching mode", fully tap and give play to the role of the guidance of physical education teaching thought, according to certain principle to design the structure and complete functions of basketball teaching strategy, demand to realize the embodiment of basketball teaching and practice, and realize the in-class and after-class, the combination of internal and external basketball class, prompting the basketball teaching, extracurricular activities, group competition, sports training and fitness entertainment "organic integration, strengthen extracurricular basketball exercise and holistic development of classroom teaching, to achieve" theory and practice, extracurricular exercise and classroom teaching, teaching and health education in schools "effective combination [2-4]. Inside and outside the integrated teaching mode is to realize the university basketball subjects underlying effective means, to arouse the students' development space, build a diversified campus basketball atmosphere, and really from teaching mode to carry out the "health first", "lifetime sports".

2. TO RECONSTRUCT CURRICULUM SYSTEM EXTRACURRICULAR BASKETBALL EXERCISE FOR DIRECTION

Under the background of sunshine sports activities to strengthen the basketball class teaching reform in colleges and universities, aimed at promoting college students' harmonious development of body and mind, to achieve "exercise, ideological and moral education, culture, science and education, life education", the combination of the quality education and combined the body function exercise, cultivate all-round development of college students' talents. Sports is one of the public required course of colleges and universities, and basketball lesson is an important part of college PE course, in the process of college sports work is keeping fit, entertaining and nationality, etc. Therefore, to build college basketball class inside and outside the integrated teaching mode, need to reconstruct curriculum system extracurricular basketball exercise for the direction, scientific choose basketball course content, on the basis of "health first" and "lifetime sports" as the guiding ideology of college basketball course, and with lifetime sports as the starting point, to strengthen the college basketball culture construction, make the basketball teaching and the organic integration of competitive sports, to absorb the essence of the traditional basketball teaching model, rejecting the bad [5]. Also need to be on the basis of the development trend of basketball, absorb and draw lessons from new social sports teaching achievements, so as to promote students' physical and mental health development as the direction, build perfect college basketball course content system. Second, under the background of sunshine sports basketball class inside and outside the integration teaching mode, also must strengthen extracurricular basketball exercise, outside activities, sports training, such as encourage extracurricular exercise, sports training and school activities contribute to perfect basketball teaching system. Therefore, also must set up scientific basketball teaching goals, hierarchical, grasp the core of basketball teaching in stages, set clear targets "sports

skills, mental health, physical health goals, sports participation and social adaptation goals". Finally, to strengthen college students extracurricular basketball exercise, exercise habits, develop good basketball in development on the basis of individual character, enrich their sports life effectively through extracurricular basketball exercise of training or coaching, deepen the contents of the study and application of class.

2.1 Based on the teaching organization form transformation actively promote basketball class "2 + 3" integrated teaching mode

In the process of college basketball teaching, we should grasp the characteristics of basketball sports, positive change basketball teaching organization form, to ensure that students choose freedom, on the basis of actively promote basketball popular option teaching and the integration of "2 + 3" teaching mode. First, on the basis of independent course selection, choose the freedom to pursue basketball popular option teaching model. Should be rationally divided basketball lesson teaching content and form of organization, based on the actual needs of the college students' sports method and the teaching material structure, reasonable arrangement of basketball tightly grasp the essence and characteristics of sports teaching outline, to establish a dynamic learning mechanism, combined with the actual situation of students and teaching situation to adjust basketball teaching content, from the basketball technology gradually to the basketball teaching and learning theory knowledge of education and the ability to guide the direction of the transformation, fully tap the dominant position of student activities and guide students in learning style and concept of positive change. Of course, teachers also need to constantly fumble and summarizes the teaching experience, earnestly practiced more and actively implement specialized practice teaching, the principle and method of "physical activity and the change law of human body movement" and penetrated into the process of basketball teaching, making students have full autonomy, and characteristics, combined with their own needs to choose exercise method in basketball exercise. Moreover, should build the atmosphere basketball competitions, actively study and practice of basketball teaching organization methods, hold all kinds of special teaching competition and extracurricular basketball tournament, enhance students' interest in basketball, physical quality and health level. Second, actively promote "2+3" integrated teaching mode. In the basketball teaching to construct "2 + 3" mode, mainly for the unit in each class, the implementation of "two basketball classes plus three basketball activities" teaching mode. It is helpful to realize the combination of in-class basketball teaching and extracurricular activities, the formation of basketball class teaching, extracurricular activities and competition of a benign interaction, students can learn and practice in the basketball teaching in classroom and outside class to participate in the competition, to achieve "to promote's practice, in order to promote learning", the purpose of the real push for basketball teaching to "theory and practice, interest and project, foundation and improve" the direction of development, effectively arouse the students' interest in learning and sports and enthusiasm, promote the students' healthy movement, provide the conditions for lifelong sports.

2.2 Integration of campus network resources to broaden college basketball teaching positions

Should integrate the campus network resources, network resources, the development of basketball teaching on the basis of strengthening the construction of campus basketball culture, broaden the university basketball teaching positions. Because college basketball teaching influenced by weather, site, funds, because of the limitation of outdoor basketball teaching conditions, the basketball class teaching hours is inherently limited, weather and other factors such as also reduces teaching class. Traditional basketball teaching has been greatly weakened the real function of physical education teaching, to a certain extent, also cannot meet the needs of students, for some college students also affects their health consciousness, the formation of even the consciousness of physical exercise and habits. This paper, based on the network requirements of contemporary college students, therefore, by means of information transmission network to basketball course, widen teaching positions and teaching approach, we build college basketball network curriculum, from multiple sources, multiple Angle to penetrate the role of physical exercise. First, should be based on the needs of the students to strengthen the construction of campus sports network classroom, special set up basketball options for students to learn. Should be to cultivate the students' health consciousness as the guide, to guide students to form good habits of exercise habit and life as the goal, to grasp the good student writers from the differences of life, to meet the needs of students' individual differences and professional characteristics, actively integrate all available within the campus network classroom content, positive and strong interactivity, openness and collaborative network teaching, campus sports ensure information sharing and the student's own principle, so as to develop and make good use of all the teaching resources of the campus, from "the teaching content, teaching methods, teaching evaluation and teaching management" and so on to promote the establishment of the university sports network curriculum. Secondly, should strengthen the construction of college sports culture, create a comprehensive, positive campus sports culture atmosphere. Basketball as an important part of physical education courses, should be actively

involved in the construction of campus culture. Facts have proven that culture construction to promote the university student, to optimize the teaching environment has a vital role. Basketball activities actively, can effectively stimulate the activity of college students, enlightenment and influence the health consciousness of college students, and actively organize extracurricular basketball activities, basketball competition, basketball seminar, sports essay speech and other activities, provide, on the basis of college students' sports culture quality, form the good exercise habits, so as to improve the physical quality and health level of college students.

2.3 Based on the characteristics of the campus project and improve the basketball class organization and management agencies

On the one hand, should establish and improve the colleges and universities basketball class organization and management agencies. Because part in the sports teaching in colleges and universities exist "extracurricular physical training management system is not sound, the more of the organization is loose" problem, only strengthen the class integration inside and outside of the application of physical education teaching mode, promote the reform of physical education, to establish a "reasonable, perfect, smooth relations and management of strong, can fully arouse the enthusiasm of all departments," a systematic sports management organizations. To play well the party's guiding role, therefore, set up the school sports, school and college students in extra-curricular sports activities organization plays a good role, actively open to sports, sports association, and a series of organization, actively carry out extracurricular physical exercise and basketball competitions, rich basketball teaching in colleges and universities sports activities, to create a strong atmosphere of the campus basketball activity. On the other hand, it should be the movement characteristics of basketball project actively the construction of campus sports characteristics. Should "take the student as the main body, teacher as the leadership, by way of physical exercises, sports knowledge for content" to form a complete sports, strengthen the characteristics of basketball sports on campus, the implementation of the internal and external integration teaching mode, such as basketball competition, knowledge lectures, games, sports cultural festival and other cultural activities, and strive to build "fitness and athletic, tradition and fashion, leisure and entertainment such as combination of basketball course system, realizes the basketball teaching, training and competition and entertainment for the integration of teaching mode, to excavate and play basketball" fitness value, education value and leisure entertainment value ".

2.4 Basketball teaching oriented class inside and outside the integrated evaluation system is established

To strengthen the college basketball course teaching reform, application integration of inside and outside class teaching mode, and class inside and outside the integrated evaluation system must be established. Comprehensive assessment should actively implement the basketball class, starting from the basketball class teaching assessment, to the student extracurricular basketball exercise, training and competition performance divided into certain proportion, on the basis of pay attention to the quality and quantity, by student evaluation, teachers' self-evaluation and mutual evaluation way, form the classroom teaching, extracurricular exercise and comprehensive performance evaluation system of the competition. On the one hand, in terms of design assessment of basketball teaching content, to students' classroom learning and the performance of extracurricular physical exercises, for "in the motor skill learning, physical qualities of the students basic knowledge and master the situation", such as classroom situation and "attendance and participation awareness and participation attitude" performance to cultivate students' sports activities such as participation, lays the foundation for the habit of lifelong sports. On the other hand, the establishment of dynamic evaluation and examination method, pay attention to students' learning process and results, starting from the quality and quantity at the same time by adopting the combination of quantitative evaluation and qualitative evaluation methods, inspire the enthusiasm of the students participate in basketball, effectively improve the body quality of contemporary college students, to cultivate their "lifelong sports consciousness, interest, habit and ability of" lay the foundation.

3. CONCLUSION

To sum up, in colleges and universities to carry out the sunlight sports, to improve the understanding of sports in colleges and universities, set up the goal of building a standard for optimal. Stay healthy, with a combination of physical education teaching and extracurricular sports activities, and create a good sports atmosphere. Therefore, under the background of "sunshine sports" college basketball teaching mode, how to use class inside and outside integration should reconstruct curriculum system in extracurricular basketball exercise for direction, based on the teaching organization form transformation actively promote basketball lesson "2+3" the integration teaching mode, integration of the campus network resources to broaden college basketball teaching positions, on the basis of the characteristics of the campus project improve the basketball class organization and management agencies, basketball teaching oriented class inside and outside the integrated evaluation system, to build a classroom teaching and extracurricular exercise and competition for the direction of the integrated teaching mode.

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The Construction of Teaching Platform of Probability and Statistics Based on the Applied Talents Training Mode

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Abstract: in this paper, firstly we gives the teaching platform of probability and statistics course reform background and the necessity of applied talents training mode reform. And then we puts forward three teaching platform to build, such as practice teaching platform, experimental teaching platform and network teaching platform. And then how to build the three platform is presented. In the end of this paper, we presented the function and signicance of the reform of probability and statistics teaching platform.

Keywords: Teaching Platform; Probability and Statistics; Aplied Talents Training Mode; Reform of Teaching Mode

1. INTRODUCTION

The front-end data of X-ray energy spectrum is Teaching platform, is refers to the use of a series of hardware and software facilities for teaching practice. Including provide a place to carry out the teaching practice, the traditional classroom, the playground, a new type of network, TV, etc. Teaching methods: multimedia teaching, scene teaching, video, and so on, also includes setting up curriculum, teaching resources, teaching equipment and so on.

In 1990, by professor Kenneth Green, who from the United States claremont college. initiated and presided over a major scientific research project "informatization campus plan" is the first of the concept of digital campus, in 20 years, mathematical campus got rapid development in the world, at present, in the United States, according to statistics, more than 3000 public and private universities in the university, have established the official website, nearly 95% of the school set up a wireless network, online service for students with online classes, online course registration, magazines and online resources, etc., has been basically completed from traditional education to the transformation of education based on the digital platform.

2. ANALYSIS OF NECESSITY

Because the network teaching application is still in the initial stage of exploration, from years of implementation, network auxiliary teaching in the universities teachers and students have a certain concepts and practical application, but there is a notable universality problems in application, such as online teaching resources, content and form of the single; The school teaching management on educational administration and network teaching; Teachers' teaching idea and method and does not adapt the network environment, the application efficiency improvement, etc. It is in this context, the project put forward by building case practice teaching platform, experiment practice teaching platform and network teaching platform in probability and statistics teaching mode reform is particularly necessary.

3. REFORM OF TEACHING MODE

In this paper, based on cultivating applied undergraduate talents as the goal, through building three teaching platform, the old teaching pattern of probability and statistics is reformed, three teaching platform is shown as figure1.

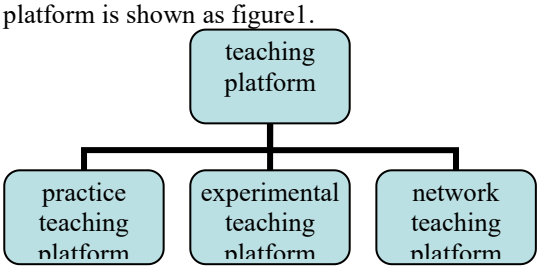

Figure 1 three teaching platform

Next the explaination of the research content is as follows:

(1)Constructing the practice teaching platform

Students are the part of the main body. combined with the professional background of the case as the basic teaching material, through the teachers guide students to practice case study discussion, we put forward the "3-2-1" practice teaching train of thought, training three kinds of ability of, such as the ability of knowledge, scientific thinking and innovation ability. Then we set up two ways - the practice of classroom teaching, practice teaching network, adhere to a principle, the combination of theory and practice of the principle, improve practice teaching theoretical level, expand the connotation of practice teaching. Purpose is to introduce the learner in situations of education practice, the construction of case resource Shared libraries.

(2)Constructing experimental teaching platform

Through the application of the mathematical experiment software, the basic, enhance sexual, innovative level 3 practice teaching target, make the

practice teaching the omni-directional, multi-channel, multi-form and cascade advance, so that the students in learning, on the basis of relevant theories, master the statistical calculation and analysis, to realize the transformation of theory to practice.

(3)Construction of network teaching platform

Through the efficient utilization of network teaching platform, to strengthen the construction of standardized teaching resources. Problem platform extension of traditional face-to-face courses, in order to realize the communication between teachers and students is not subject to regional restriction seamless, completion of probability and statistics course and the total integration of computer network technology. The function of the traditional teaching can be through the network to realize. Including course information management; Homework; Homework to hand in and corrections; Student performance management; Online classroom discussions and answering questions; Online examination management, and other functions.

Through the probability statistical practice teaching platform construction and implementation, to visualize probability and statistics teaching content and the calculation software of probability and statistics, probability and statistics method is realistic and cultivate students' ability, scientific thinking ability and innovation ability. Especially the construction of practice teaching network platform, make the probability and statistics teaching from static closed classroom discussion to the dynamic open the breakthrough time and space limit of online communication, from the two-way communication between teachers and students to division division, such as students and teachers team of multidirectional communication. To realize the seamless docking of probability and statistics and modern information technology, the cultivation of the innovative talents to adapt to the digital environment.

4. STEP OF PLATFORM CONSTRUCTION

According to the applied talents with ability of different demand for mathematics, by means of modern information technology, supported by the network teaching platform, developed form diversification, content digitization, the network operation of new teaching materials, creating rich digital teaching resources. The main implementation steps are shown in figure 2:

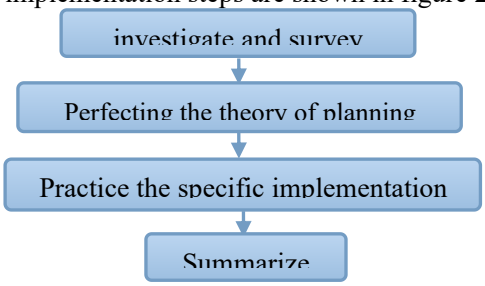

Figure 2 main implementation steps

The main implementation steps are as follows:

STEP 1. Prophase research stage

Main research object is: students who learning probability statistics and the teacher. Investigation shows that: the current probability and statistics teaching way mainly for imparting theoretical knowledge, very few will restore some abstract theory to the practice of life or cases combined with the professional background of students, students' passive learning, not really involved in the process of learning knowledge, the formation of the separation of "teaching" and "learning". Because the students in the process of learning, not in thinking, observing activities formed on the basis of mastering the knowledge, use knowledge, innovation ability of students failed to get develop and stimulate, and even lost interest for theoretical study, the results of education and the teaching purpose of probability and statistics course is far from the initial purpose of teaching.

STEP 2. Perfecting the theory of planning

On the basis of previous research results, team project planning and design for the further perfect. Research to determine the educational reform train of thought, to clear the path for the further study of the a question: the overall teaching plan draft, made the case teaching and experimental teaching platform of material practice platform and network resources

STEP 3. Practice the specific implementation stage

Select part of the class as a pilot class for probability and statistics case teaching, experiment teaching and network teaching are practiced. Screening of fine case from case, case teaching courseware.

At the same time, the group activities often invited some relevant professional teachers, and their communication application of probability and statistics in all kinds of professional content, strengthen the horizontal communication.

STEP 4.Periodic summary stage

Stage summary in the first issue of teaching practice, to explore possible class, case teaching methods, constantly summing up the experimental teaching, network teaching organization and the control method.

5. THE MAIN RESEARCH METHODS

Teaching platform research method mainly has the following several ways of reform, such as literature research method, case study method, practice research method, experience summary method, and so on. Four research methods are shown in figure 3

(1) Literature research method

Using literature study, in this paper, studies pay attention to the theory that related to this topic and the academic point of view of learning, to understand the case teaching, experiment teaching

rules and principles, guarantee probability and statistics course the feasibility of implementing case teaching, experiment teaching and scientific. By reading literatures, we provide the basis for the research of probability and statistics training textbook.

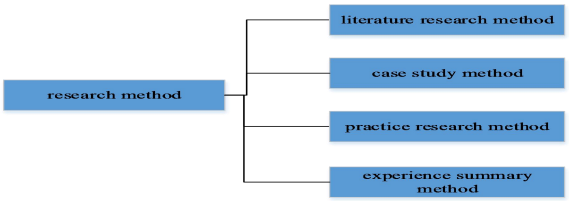

Figure 3 Four research methods

(2)Case study method

Due to probability and statistics courses geared to the needs of all students in school, so in practice teaching design for different learning group adopts case study method, such as: science and engineering students of case teaching and finance international trade the classmate of class should be different, with different learning objects should investigate and analyze, understand the knowledge learning and knowledge building process, research more scientific and effective cases, experiments and the practice of network teaching.

(3)Practice research method

Based on the case study teaching, experiment teaching and network teaching platform design using practice study. Teaching practice is in the process of students' practical platform and research results of test platform, is a student of the effective methods to improve the level of innovation ability and scientific thinking and necessary way.

(4) Experience summary method

Research results in probability and statistics are applied to teaching practice, in view of the results of test and improve perfect USES the experience summary method. To the success of the innovation in the practice of teaching mode, induction, analysis and research writing corresponding teaching materials, strive to make ordinary university obtained: under the applied talents training target of practice teaching of probability and statistics course experience spread.

6. THE FUNCTION AND SIGNIFICANCE OF THE REFORM

This reform is to train applied undergraduate talents as the goal, to reform the old teaching pattern of probability and statistics, by constructing three teaching platform, revealing the regularity in probability and statistics teaching, the multifarious, boring theory knowledge and the corresponding practice organically, should let the students learn the theoretical knowledge, and to stimulate students' interest in learning, improve the cognitive level, cultivate the innovative ability.

(1) It is to improve the quality of teachers and improve the teaching quality and teaching level;

Three the construction of a teaching platform, can better the teachers playing a leading role in teaching, making teaching activities always is in a state of active enterprising, constantly, improve the teaching quality and teaching level.

(2)It is conducive to combining theory and practice, cultivate students' pluralistic thinking and ability to deal with practical problems of strain;

Case teaching platform for students to set up professional problem, in the process of dealing with actual problems, needs analysis, thinking, judgment and decision-making, students can learn to master the thinking of dealing with complex problems, procedures, the procedures and methods, in this process can cultivate students' interest in studying probability and statistics; The experiment and the network teaching platform to complete fusion of probability and statistics course and computer network technology. The function of the traditional teaching hrough the network to realize.

(3)It is better for the cooperation and communication between students and students, the cultivation of team spirit and the collective wisdom into full play.

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Maintenance System for Temperature and Humidity Control of Lofts Based on Microcontrollers

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Abstract: Maintenance system for temperature and humidity control of lofts based Microcontrollers uses the control circuit to control the temperature and humidity. And then the system uses temperature and humidity sensors to collect the information about temperature and humidity in time, which is sent to the microcontroller after the judge. We can regulate and control response according to the results. Once the data received exceeds the threshold, the alarm is output. At the same time, we can achieve human-computer interaction, which is supplemented by LCD and keyboard circuit. Finally, we complete the setting of the threshold and the display of the data, status.

Keywords: AT98C51 Microcontrollers; Human-computer Interaction; Temperature and Humidity Control; OCMJ12864.

1. INTRODUCTION

Temperature and humidity is physical quantities which are closely related to people's lives. The changes of temperature and humidity can bring people significant impact in the production and lives. So it is critical for us to measure and control temperature and humidity. Modern lofts usually require automatic temperature and humidity control systems. When the sensor receives a signal that the temperature of the environment changes, the signal is sent to microcontroller. And it is compared with threshold set. If it is beyond the normal range, it will send out alert and illustrate the current temperature in the LED.

1.1 the research target

We aim to complete maintenance system for temperature and humidity control of lofts mainly. Firstly, we develop a program about the system. Then, we should design circuit diagram and print circuit board diagram, which used for controlling the acquisition of early warning system hardware. Finally, we write a microcontroller program and make sure to complete the system reservation function according to test system

1.2 the significance of the research

With the swift development of economic technology and the increasing popularity of various intelligent monitoring systems, intelligent equipment and others such as technology has been involved in modern life. Poultry or pet farming is no exception. We need to keep the temperature and humidity data well in the poultry or pet farming. Once the data are beyond the normal range, it may cause serious consequences. As we can see in the above, it is inevitable to monitor Intelligently.This program is meeting this demand that complete maintenance system for temperature and humidity control of lofts. It has a wide application space.

1.3 analysis and evaluation of domestic and foreign development research

Foreign research on animal culture intelligence system has provided a considerable foundation for the project that they have accumulated rich experience and theory, part of which has applied to practice. While Chinese has poor research in the field. Especially in the field of agriculture and animal husbandry. However, with the popularity applications of intelligent devices. The traditional loft environment has been bad and its sanitary condition is also bad. At the same time, the common temperature and humidity of the loft are hard to guarantee. After introduce maintenance system for temperature and humidity control of lofts, the problem has been improved. We use the system for monitoring the temperature and humidity data of the loft and control it in time and alarming for the data beyond the reasonable value. The work can provide more harmonious environment and is conducive to nurturing work.

2. TECHNICAL ROUTE

2.1 the hardware components of the system

According to the claim of the maintenance system for temperature and humidity control of lofts, the system designed is shown in the finger 1.

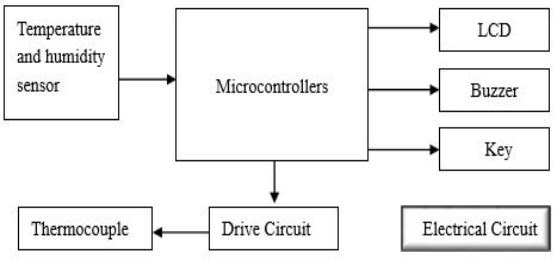

Figure 1 Structure diagram of collecting and warming

system

According to the functions of the system, the hardware circuit includes single chip minimum system, temperature and humidity control circuit and man - machine interaction circuit. Single chip minimum system is used for the core of conctroling of it. Temperature and humidity control circuit is used for collecting the information and output data. Man - machine interaction circuit can set the warning threshold, display temperature and humidity data and output the alarm.

1)Single Chip Minimum System

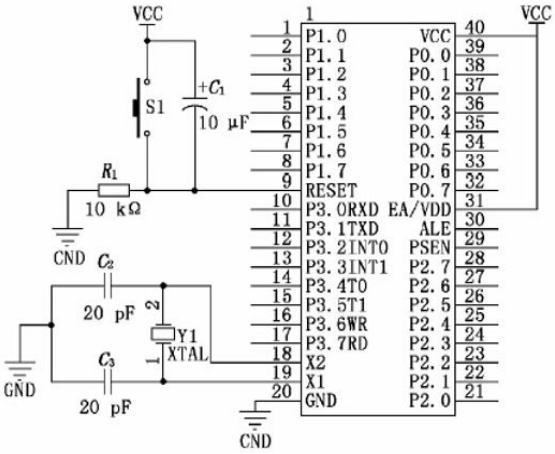

Figure 2 Single Chip Minimum System

Single chip minimum system is the smallest system of ensuring that the microcontroller work, including AT98C51 microcontroller、crystal oscillator circuit and reset circuit. Besides of these, the downloading of programme needs to download the circuit. After using the serial port by level conversion chip MAX232,it connects with personal computer.

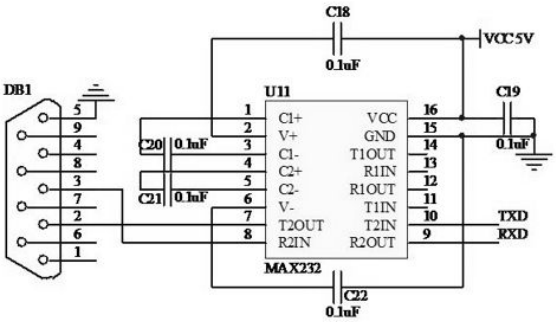

Figure 3 The Download Circuit of Microcontroller

2) Temperature and Humidity Control Circuit

We use integrated temperature and humidity sensors to achieve data collection and output information in a digitized manner. At the same time, we connect the I/O of microcontroller and transfer data in serial mode. The microcontroller executes the algorithm to process the data and feedback inevitable control. And then it control the thermocouple by driving circuit to adjusting the temperature.

3) Man - machine Interaction Circuit

A man - machine interaction circuit contains a LCD screen, a 4X4 key array and a buzzer.A LCD screen uses OCMJ12864 Chinese integrated LCD module, which is connected with microcontroller in the form of parallel bus. We set the alarm threshold by a 4X4 key array including number keys and function keys.

2.2. programming of the system

System software contains system initialization procedures, temperature and humidity collection procedures, data processing procedures, temperature and humidity control procedures, keyboard detection procedures, LCD module display program. In the beginning, the program initializes the system and enters the temperature and humidity data collection and processing. Then, the data which dealt with the program compares with range set. Once the actual temperature value exceeds the set range, the system executes the alarm program that buzzer start to alarm and start the corresponding temperature and humidity control equipment for temperature and humidity regulation.

The program is written in the C Programming Language. We judge if the button is pressed by inquiring and read the key and complete the setup function. In the main loop of the program, the data collected on periodic temperature and humidity is sent LCD display after the specific treatment. Then the data is judged if it is beyond the range of the set threshold. If the data meets the requirement and it will keep on collecting the data after doing appropriate temperature adjustment. If the data is beyond the normal range, it will use the LCD screen for displaying the state and control the buzzer to sound the alarm. The flow chart is shown in figure 4.

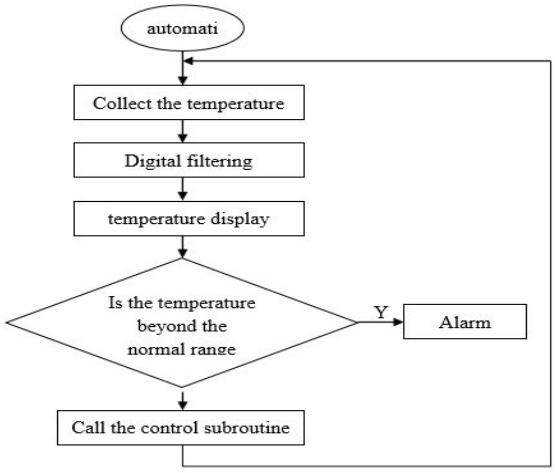

Figure 4 The Main Program Flow Chart

3. FEASIBILITY

The hardware structure of the programme is simple, which is based on the Mimrocontrollers to constitute the main control circuit. It collects temperature and humidity datas in time and control them one by one. It uses thermocouples to achieve temperature regulation and chooses suitable sensor to meet the requirement on precision. The changes about temperature and humidity is slow, so the system can

meet the requirement on speed.

4. CONCLUSIONS

Controlling temperature and humidity system based on the based on microcontrollers show the design method and principle both in hardware and software. Its main characteristics are sensitive to changes in the temperature and humidity of the environment, detection of temperature and humidity changes ability, high precision, less error, stable operation ,completing human-computer interaction with the LCD and keyboard circuit, buzzer of alarm system and making more convenient for the user to use the operation. Since the system has a high accuracy and reliability in practical applications, we can not only apply the system to the loft, but also to the places whose temperature and humidity requirements are different, such as greenhouse and other occasions.

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Study on the Performance of Single and Multiple Iron Ore Powder in Different Proportion

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Abstract: In order to study the mechanism of influencing the performance of iron ore powder in steel production, firstly, this paper uses gray prediction principle to study the falling intensity and compressive strength of single iron ore powder with different ratio of bentonite. Then, using the BP neural network and the spline interpolation principle, the ratio of bentonite to the ratio of two kinds of different iron ore powders was studied. Through the mutual verification between different algorithms, it is proved that the prediction has high accuracy. In the end, after the accuracy of the guarantee, the proposed bentonite ratio of arbitrary, three different iron ore powder in any ratio when mixed into the ball, the ball of the drop strength, compressive strength prediction model. It solves the problem of optimizing the batching in the production process of the raw ball, so that the grain size composition, the drop strength and the compressive strength can meet the higher requirements, so that the finished product yield is improved and the cost of the whole production process is reduced.

Keywords: Raw material ratio,Gray prediction, BP neural network, Spline interpolation.

1 INTRODUCTION

Most of China's iron and steel enterprises are not stable iron ore supply base, iron ore powder source wide, chemical composition and physical and chemical properties of large differences. Based on these characteristics, different iron ore powder into the ball, the ball drop strength, compressive strength between the very different. Although the iron ore powder is optimized for the ingredients, but still can not meet the next step on the process of particle size composition and strength requirements, resulting in lower yield of sintering, processing costs. Therefore, to improve the performance of the ball is also very important.

2STUDY ON BALL FORMATION PERFORMANCE OF SINGLE IRON ORE POWDER BY BENTONITE RATIO

Result of GM(1,1) model:

The particle size of the harvested pellet is 10-16mm to meet the production requirements of the particle size. Bentonite ratio of t, to meet the production requirements of the percentage of particle size y. When the ratio of bentonite is 0.6%, 0.9%, 1.2%, 1.5%, 1.8%, the corresponding t is 1, 2, 3, 4 and 5 respectively.

Table 1 Percentage of results

Iron ore powder	Development coefficient	Gray effect	Relative error	Forecast level	Mean square deviation ratio	Forecast level
Si Jiaying	-0.0975	50.276	0.0487	Level 2	0.5596	Level 3
Yan Shan	0.0503	82.148	0.0339	Level 2	0.4951	Level 2
Miao Gou	0.2070	96.810	0.0370	Level 2	0.2222	Level 1

Table 2 Drop strength prediction results

Iron ore powder	Development coefficient	Gray effect	Relative error	Forecast level	Mean square deviation ratio	Forecast level
Si Jiaying	-0.0710	5.2289	0.0786	Level 3	0.6171	Level 3
Yan Shan	-0.0184	6.9445	0.0357	Level 2	0.4430	Level 2
Miao Gou	-0.0048	7.7462	0.0665	Level 1	0.3463	Level 1

Table 3 Compressive strength prediction results

Iron ore powder	Development coefficient	Gray effect	Relative error	Forecast level	Mean square deviation ratio	Forecast level
Si Jiaying	-0.0392	2.5108	0.0485	Level 3	0.4085	Level 3
Yan Shan	-0.1775	1.7264	0.0207	Level 2	0.1239	Level 2
Miao Gou	-0.3165	1.2843	0.0426	Level 1	0.1567	Level 1

Model Continuity: When the ratio of bentonite is between 0.6%, 0.9%, 1.2%, 1.5% and 1.8%, $t = 1 + \frac{x - 0.6\%}{0.3\%}$, Substituting (3) and (4), the

corresponding percentage of ball, drop strength and compressive strength can be obtained.

3.TWO KINDS OF IRON ORE POWDER IN DIFFERENT PROPORTIONS OF MIXING MECHANISM

3.1 BP NEURAL NETWORK

According to the theory of "negative gradient" of the BP algorithm, the error adjustment direction is carried out in the training network in the direction of decreasing the error. In the MATLAB toolbox, after several tests, the tansig hyperbolic tangent function is selected for the stimulus function. The learning function selects the learnive gradient descent function. The training function selects the traingdm gradient descent momentum function, the number of hidden and hidden neurons The error is the smallest at 6 o'clock. The ratio of the latter iron ore powder to the former iron ore powder is taken as the input of BP neural network, the percentage of ball formation, the drop strength and the compressive strength are used as the output of BP neural network. The results are as follows：

Table 4 The eorr of BP Neural network

Iron ore powder	Percentage of relative error	Falling intensity relative error	Compressive strength relative error
S and Y	0.0627	0.0836	0.0482
Sand M	0.0562	0.0297	0.0375
Y and M	0.0458	0.0952	0.0713

It can be seen that by using the BP neural network for training, the error is small. When the two different iron ore powder ratio outside the test, the latter can be a kind of iron ore powder and the former iron ore powder into the training of the corresponding network to predict the corresponding value.

3.2 NON-LINEAR FITTING

Since the experimental data are relatively abundant when the two kinds of slag are mixed, the ratio of the latter iron ore powder to the former iron ore powder can be used as the independent variable, the percentage of ball formation, the drop strength and the compressive strength The non-linear fitting of the dependent variable can be used to predict the specific percentage, the drop strength and the compressive strength of different iron ore powder. According to the large fluctuations between the data, and the characteristics of irregular changes, the use of industrial design commonly used to be smooth curve of the cubic spline interpolation method. It has good stability and convergence, effectively avoiding the occurrence of Longge phenomenon.

In each segment interval $[x_i, x_{i+1}]$ (i = 0,1,2 ...), $S(x) = S_i(x)$ is a cubic polynomial. Satisfying

(1) $S(x_i) = y_i$;

(2)The first derivative of $S(x)$, the second derivative in the interpolation interval on the continuous, that is, $S(x)$ curve is smoot.

The left and right ends of the points according to the natural boundary for processing, according to the fixed point, find each section of the curve of the curve equation, you can get the specific expression of each curve. Each group of data is interpolated with cubic splines to achieve good results with good fit of 1.

Then n cubic polynomial segments can be written as

$$S(i) = a_i(x-x_i)^3 + b_i(x-x_i)^2 + c_i(x-x_i) + d_i \quad (i = 0\ 1\ 2\ \ldots\ n\text{-}1) \qquad (1)$$

In the iron ore powder ball must meet the first derivative, second derivative continuous conditions.

Now the division of the plant and the different mix of mountains of mixed powder into the ball, the ball drop strength and compressive strength as an example to study.

Table 5 Percentage of balls

	$S(i) = a_i(x-x_i)^3 + b_i(x-x_i)^2 + c_i(x-x_i) + d_i$			
	a_i	b_i	c_i	d_i
$0.25 < x < 0.11$	0.0008	-0.0024	-0.0085	0.0735
$0.43 < x < 0.25$	0.0008	-0.0065	0.0063	0.0773
$0.67 < x < 0.43$	-0.0189	0.0411	-0.0227	0.0786
$1.00 < x < 0.67$	0.1584	-0.1964	0.0549	0.0804
$1.50 < x < 1.00$	-0.6881	0.4848	-0.0402	0.0656
$2.34 < x < 1.50$	1.5603	-0.6386	-0.0033	0.0816
$4.00 < x < 2.34$	-1.2782	0.0516	0.1023	0.0690
$9.00 < x < 4.00$	-1.2782	0.5884	0.0127	0.0592

The results show that BP neural network and spline interpolation are used to predict the drop strength and compressive strength of the two kinds of iron ore powder in different proportions. The results show that the results of the two algorithms are:

Table 6 The results of the two algorithms

	BP neural network	Spline interpolation
Si 25%+Yan 75%	74.89	73.02

Si 35%+Yan 65%	75.27	76.27
Si 45%+Yan 55%	79.57	78.36
Si 55%+Yan 45%	80.53	79.00
Si 65%+Yan 35%	70.16	72.35

For the prediction of the three indicators, by comparing the results of the two algorithms, the relative error does not exceed 5%. It can be shown that the prediction results are close to the real results, and the two algorithms have higher prediction accuracy.

4. THREE DIFFERENT IRON ORE POEDER IN ANY RATION WHEN MIXED INTO THE BALL MECHANISM

Through the study of 2,3, the establishment of bentonite ratio of arbitrary, three different iron ore powder in any ratio when mixed into the ball, the ball of the drop strength, compressive strength prediction model.

When the ratio of bentonite is a, the division of the factory camp, research mountain, temple ditch iron ore ratio of β_1: β_2: β_3, $t = 1 + \frac{a - 0.6\%}{0.3\%}$,Find 2 in the development of the coefficient a, the amount of ash u.Substituting

$$x^{(1)}(t+1) = [x^{(0)}(1) - \frac{u}{a}]e^{-at} + \frac{u}{a} \quad (2)$$

$$x^{(0)}(t) = x^{(1)}(t) - x^{(1)}(t-1) \quad (3)$$

Resulting in the percentage of the ball into the ball x_1^1 , the ball of the falling intensity x_1^2 ,compressive strength x_1^3 in Si Jiaying;

Resulting in the percentage of the ball into the ball x_2^1 , the ball of the falling intensity x_2^2 ,compressive strength x_2^3 in Yan Shan;

Resulting in the percentage of the ball into the ball x_3^1 , the ball of the falling intensity x_3^2 ,compressive strength x_3^3 in Miao Gou;

Then the percentage of the ball into the ball

$$y_1 = x_1^1\beta_1 + x_2^1\beta_2 + x_3^1\beta_3 \quad (4)$$

The drop strength of the ball

$$y_2 = x_1^2\beta_1 + x_2^2\beta_2 + x_3^2\beta_3 \quad (5)$$

The Compressive strength

$$y_3 = x_1^3\beta_1 + x_2^3\beta_2 + x_3^3\beta_3 \quad (6)$$

5. CONCLUSIONS

(1) There is a great difference between the formation of different iron ore powder, the drop strength and the compressive strength.

(2) Bentonite ratio is different, the same kind of iron ore powder into the ball, the ball drop strength, compressive strength has a great impact. The performance of the ball can be estimated by gray prediction for different ratios of bentonite.

(3) Using BP neural network and spline interpolation principle, the ratio of bentonite must be different, and the mixing strength and compressive strength of the two different iron ore powders are different in different proportions. The BP neural network or spline interpolation can be used to estimate the performance of the pellets under different proportions.

(4) When the ratio of bentonite is arbitrary and the three different iron ore powders are mixed in any proportion, the gray performance can be estimated by gray prediction and BP neural network or spline interpolation.

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Research on Campus Football Evaluation System and Monitoring System

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Absrtact：Campus football has long been the focus of the General Administration of Sports and the Ministry of Education, so it is necessary to establish a sound evaluation and monitoring system. In the establishment of the evaluation system, first of all, to develop the relevant indicators, and the indicators are divided into four layers; Secondly, the use of analytic hierarchy process to calculate the weight of the various levels of indicators, through the collection of data, online surveys, Finally, the use of fuzzy comprehensive evaluation, to school 1 as an example of the analysis, to get their campus football activities to carry out the situation as "leve1 1". In the establishment of monitoring system, firstly, four basic elements of monitoring system are established: monitoring main system, monitoring object system, monitoring activity system and target monitoring system. Secondly, it analyzes the contents of each element and the four Finally,through the monitoring system can be found in the campus football in the existing problems, through the evaluation system to guide them to the expected goal of development, in order to achieve the purpose of improving the status of campus football.

Keywords: Fuzzy comprehensive evaluation; AHP

1. INTRODUCTION

Football has always been a topic of concern. At present, China's football reserve talent is scarce, to improve the level of football, the youth team is the most critical force, so the Ministry of Education and the State Sports General Administration decided to carry out extensive national campus football activities to focus on football, Improve the level of football, and gradually form a school-based, physical education combined with the youth football talent training system .[1] In order to better and faster the development of campus football, we need to establish a campus football evaluation system, the use of appropriate indicators of the school campus football to carry out the status of all aspects of evaluation, to encourage, support and improve the development of campus football.[2]

2. THE ESTABLISHMENT OF EVALUATION SYSTEM

2.1DETERMINATION OF INDICATORS

Campus football evaluation system is the most important to establish the selection of indicators, the following indicators for the screening process:

(1)Collect relevant information to find possible indicators;

(2)According to the policy document integration with the campus football evaluation has a close relationship between the indicators;

(3)The indexes are classified by R cluster, and the indicators are classified according to the actual situation;

(4)Through the factor analysis to select the larger load index.

2.2 THE ESTABLISHMENT OF EVALUATION SYSTEM MODEL

Evaluation of campus football there are many fuzzy concepts, so the use of fuzzy comprehensive evaluation method for quantitative processing, evaluation of the campus football to carry out the level of the situation. Fuzzy comprehensive evaluation method with the fuzzy mathematics membership theory to qualitative evaluation into quantitative evaluation, that is subject to a variety of factors to restrict the things or objects to make a general evaluation [3,4].

2.2.1 DETERMINE THE SET OF EVALUATION OBJECTS

This paper collected the relevant data of five schools, the evaluation set is :

$$X=\{x_1,x_2,x_3,x_4,x_5\}=\{school1,\ school2,\ school3,\ school4,school5\} \quad (1)$$

2.2.2DETERMINE THE EVALUATION SET OF THE EVALUATION OBJECT

Taking the campus football evaluation of Wuhan University as an example, the relevant data were collected in the form of questionnaire, and the semantic scale was divided into five measurement grades:

$$V=\{v_1,v_2,v_3,v_4,v_5\}=\{level1,\ level2,\ level3,\ level4,\ level5\} \quad (2)$$

The semantic scale of subjective evaluation is quantified and assigned to 5, 4, 3, 2 and 1. The quantitative criteria for the design are shown in Tab.1.

Table1. evaluates the quantitative grading criteria

Evaluation value	Comments	Grading
$x_i > 4.5$	Level1	v_1
$3.5 < x_i \le 4.5$	Level2	v_2
$2.5 < x_i \le 3.5$	Level3	v_3
$1.5 < x_i \le 2.5$	Level4	v_4

$x_i \le 1.5$	Level5	v_5

2.2.3THE ANALYTIC HIERARCHY PROCESS DETERMINES THE WEIGHT OF THE EVALUATION INDEX

The weight of the calculation index is the key to the comprehensive evaluation. Analytic Hierarchy Process (AHP) is a method of determining the weight coefficient. It divides the factors in the problem into interrelated ordered layers[5,6]. According to the fuzzy judgment of objective reality, the quantitative representation of the relative importance of each level is given. The weight coefficient of the relative importance of elements is determined by mathemati--cal method.[7-9]

2.2.3.1CONSTRUCT THE JUDGMENT MATRIX

First, through the access to information and expert assessment methods, the first indicator set of six factors to do 1 to 9 scale method, the specific importance of the various factors between the data as shown in the Tab.2 below:

Table2.The relative importance of the first set of indicators

U	u_1	u_2	u_3	u_4	u_5	u_6
u_1	1	2	2	1/5	3	1/5
u_2	1/2	1	1	1/3	5	4
u_3	1/2	1	1	1/4	6	1
u_4	5	3	4	1	3	2
u_5	1/3	1/5	1/6	1/3	1	1/4
u_6	5	1/4	1	1/2	4	1

Use A to represent the judgment matrix of the comprehensive evaluation set：

$$A=\begin{pmatrix} 1 & 2 & 2 & 1/5 & 3 & 1/5 \\ 1/2 & 1 & 1 & 1/3 & 5 & 4 \\ 1/2 & 1 & 1 & 1/4 & 6 & 1 \\ 5 & 3 & 4 & 1 & 3 & 2 \\ 1/3 & 1/5 & 1/6 & 1/3 & 1 & 1/4 \\ 5 & 1/4 & 1 & 1/2 & 4 & 1 \end{pmatrix} \quad (3)$$

And constructs the judgment matrix of the second, third and fourth index sets according to the same method as above.

2.2.3.2CALCULATE THE JUDGMENT MATRIX

The maximum eigenvalue of each judgment matrix and its corresponding eigenvector are calculated. The eigenvector is the rank of the importance of each evaluation factor, that is, the distribution of the weight coefficient. The largest eigenvalues and eigenvectors calculated using MATLAB are as follows:The maximum eigenvalue of E, the eigenvector:

$$\alpha_A=(0.255 \quad 0.416 \quad 0.26 \quad 0.74 \quad 0.089 \quad 0.379) \quad (4)$$

The eigenvalues and eigenvectors of the judgment matrix are calculated respectively.

2.2.3.3 CONSISTENCY TEST

In order to carry out the consistency test of the judgment matrix, it is necessary to calculate the consistency index for the judgment matrix higher than 3, $CI=\frac{\lambda_{\max}-n}{n-1}$, Average random consistency index. When the random consistency ratio $CR=\frac{CI}{RI}<0.10$,The weight coefficient is reasonable; otherwise it is necessary to adjust the judgment matrix.

2.2.3.4WEIGHT CALCULATION NORMALIZAT--ION

All of the above weight coefficient distribution is reasonable, so the above indicators of the eigenvector to do the normalization of the various indicators can be derived weight. The weights of the comprehensive evaluation set indicators are as follows, and the remaining indicators and weights are calculated separately.

$$Q_A=(0.119 \quad 0.195 \quad 0.123 \quad 0.345 \quad 0.041 \quad 0.177) \quad (5)$$

2.2.4 COMPREHENSIVE EVALUATION MATRIX

Index of the evaluation matrix $Z_i(i=1,2,...,6)$ Can be drawn on the campus football comprehensive evaluation matrix as follows:

$$Z=Q_A \bullet (Z_i)^T=(0.3059 \quad 02481 \quad 0.2398 \quad 0.1141 \quad 0.0949) \quad (6)$$

2.2.5THE RESULTS OF FUZZY COMPREHENSIVE EVALUATION ARE ANALYZED

The evaluation matrix of each index of the first indicator set is multiplied by $(5 \quad 4 \quad 3 \quad 2 \quad 1)^T$ can get the score of each indicator, the results are as follows:

$$V_1=Z_1 \bullet (5 \quad 4 \quad 3 \quad 2 \quad 1)^T=3.6386,\ V_2=3.5983,\ V_3=3.3933$$
$$V_4=3.619,\ V_5=2.6146,\ V_6=3.7086 \quad (7)$$

By looking at Table 1, the above scores can be learned: School1 funding, conditional protection, teaching effectiveness and teaching quality of the assessment scores are in the $3.5< x_i \le 4.5$ range, the rating level is "level 1", the training competition and the rules and regulations of the evaluation scores are in the $2.5 < x_i \le 3.5$, Rating level is“level 3”.

Through the lookout table 1 can be obtained in Wuhan University campus soccer comprehensive evaluation score $3.5< x_i \le 4.5$,Evaluation grade "Level1".

3. CONCLUSION

The fuzzy comprehensive evaluation method based on AHP can be used in the evaluation system of campus football, which can effectively and intuitively reflect the development of campus football. For the development of campus football activities pointed out the direction, provides the guidelines. Not only help football to carry out in the school, but also can make sports workers have focused. So that the campus football school to really pay attention to the sport

from the guide, to encourage members and the important role of the standard, the physical and mental health of students continued to have a very practical significance.

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Research on Teaching Reform of Core Courses of Computer Science and Technology

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Abstract: The core curriculum construction of computer science and technology plays an important role in the cultivation of computer science students. In this paper, through the knowledge unit division of course of computer composition principle, teaching team construction, experimental links, standardized assessment forms and other related content of teaching reform research, it clarifies the teaching reform of the core curriculum of computer science, certifies the key problems that need solving in the construction of the core curriculum, and explores the teaching quality of the undergraduate course of computer major in local colleges and universities.
Keywords: local colleges and universities; computer science and technology; core curriculum construction; computer composition principle.

1.PUBLIC CORE CURRICULUM OF COMPUTER SCIENCE AND TECHNOLOGY

In 2007, the Computer Science and Technology Teaching Steering Committee of the Ministry of Education issued the Public Core Knowledge System and Curriculum for Computer Science and Technology in Colleges and Universities, which combines program design, discrete mathematics, data structure, computer composition, computer network, operating system, Database system, in total of 7 courses as public core courses of computer major[1]. In order to guide the colleges and universities to carry out the teaching of these public core curriculum, in 2009 "college computer science and technology professional core curriculum teaching implementation plan" was also issued. Under the premise that all colleges and universities meet the basic requirements of teaching, according to their specific circumstances, and make appropriate adjustments, by emphasizing some contents to reflect their own characteristics.

The basic goal of running a local higher education institution is to be market-oriented, and to cultivate applied undergraduate talents who are suitable for social, economic and cultural development. The college not only requires the students to master the professional theoretical knowledge, but also through the appropriate practice teaching activities develops students' formal description ability, abstract thinking, logical thinking ability and basic design ability. On the basis, students solve problems, participate in engineering design and practice, and strengthen the understanding and mastery of the theory through practice. For computer science and technology major, the basic professional ability mainly includes computer thinking ability, algorithm design and analysis ability, procedure and realization ability and system ability, etc. Public core course construction of Computer science and technology major plays a key role to raise these abilities above. "Computer composition principle" course is one of the common core courses of computer science and technology in common colleges and universities. It is an introductory course for college students to study computer hardware course and to establish the whole understanding of computer system. During the process of obtaining computer hardware knowledge, it plays a key role of connecting in extending the structure of electronic circuits of computer systems. To this end, we take the computer composition principle as an example to carry out the computer science and technology professional public core curriculum construction research, in order to strengthen the core curriculum construction and make full use of professional core courses to enhance the professionalism of students and the spirit of innovation.

2. TEACHING REFORM AND PRACTICE OF CURRICULUM

We analyze the existing problems of studying the principle of computer composition course, and find out the problems in the course of teaching as follows: a wide range of knowledge involved in the curriculum, content, great difficulties in curriculum, conceptual abstraction, lack of intuitive type of verification methods towards the knowledge of the students in the learning process, sensory knowledge points that are difficult to understand, and unable to establish the overall understanding of the computer stand-alone system. Therefore, in order to change this situation, the course group through continuous teaching reform and practice, designed a sounder teaching mode of "theory and practice, being progressive step by step ", to help students master the micro level of the course Knowledge unit, from the macro level to establish the curriculum knowledge system, and then train students on the computer hardware system of cognitive ability, design ability and innovation ability. The course group found that, in order to effectively improve the difficult situation in teaching and learning of computer composition principle courses, we should focus on resolving the following aspects.

2.1 Strengthening the establishment of core curriculum teaching team

The cultivation of proficiency competence of students cannot be handled only by teacher. Under the command of task-oriented thinking, teachers pay more attention to the completion of their own tasks, ignore the overall goal and lack necessary cooperation and exchange; but process-oriented thinking requires a global awareness [2]. The concept of process-oriented teaching requires all members of the team to have the same talent training objectives, and consciously carry out their own teaching activities for the overall goal. Therefore, it is very important to construct a reasonable teaching team.

Echelon reasonable team is benefit for enhancing knowledge structure, ability, complementarity of thinking method of the team members. The teaching team must be an interdisciplinary teaching team. One teacher cannot be proficient in all these areas and have a wealth of practical experience, so team members through interdisciplinary cooperative teaching of different disciplines is not only conducive to personnel training, but also contribute to the common increase of the business ability of the team members. We make the core curriculum teaching team leader as the core, and absorb and train a teaching team of computer composition principle course, in order to cultivate students' basic professional ability. During the implementation of professional teaching, professional teachers stick to the combination of process thinking and task thinking. In order to strengthen the awareness and organizing ability among team of professional teachers, they often organize collective activities to communicate with each other's emotions, usually strengthen the professional teaching and communication and enhance the professional teaching team teaching ability and quality.

2.2 Selecting Course Content

Teaching materials only provide a framework for teaching content. Teachers should combine the school's training objectives with the actual situation of students, to ensure the completion of the basic requirements of the syllabus under the premise of making the best choice. As local colleges and universities, the content selection should highlight the word "basic", without blindly pursuing the so-called advanced nature and novelty. To this end, the course group designed the content matrix of computer composition principle course of computer science and technology major of our school [3], as shown in Table 1.

Table 1 Content Matrix of the computer composition principle course

No	Knowledge	Contents and Requirements
1	Overview of computer composition	The structure of the computer system, the basic composition and the performance index of the computer hardware system, and the execution process of instructions.
2	The representation of numbers of machine	The representation of fixed-point numbers and floating pointed numbers, the representation of symbolic number and unsigned number, numbers of machine and truth values, the representation of character and alphabetic string, the coding of Chinese characters, the effect code.
3	Machine operation of numbers	Addition and subtraction of fixed-point numbers and its circuit implementation, multiplication algorithm of fixed-point numbers and its circuit implementation, division of fixed-point numbers and its circuit implementation. The composition and operation principle of the arithmetic unit, the floating-point compositions and the floating-point arithmetic method.
4	Storage systems and structures	The hierarchical structure of the storage system, the classification of the memory, the principle and the performance index of the memory cell circuit, the refresh of the dynamic memory; Main memory organization, expansion and access, multi-body cross-storage technology; Cache memory structure and working principle, address mapping, replacement strategy and performance indicators; principles and performance indicators of the magnetic media, optical media and other external memory of, disk arrays; the basic concept and the basic working principle of virtual storage system.
5	Command System and Central Processing Unit	Instruction format, instruction type, locating mode, instruction system design; function and composition of the central processing unit, the instruction cycle, multi-level timing system and control mode; Micro-program control principle and micro-program controller design, command pipeline technology and RISC technology overview.
6	Input and output system	Input and output interface composition and function, the device addressing method. The basic process of input and output, program query mode, program interrupt mode, DMA mode, the basic external device.
7	Bus	Bus function and classification, bus structure, bus cycle, bus arbitration and timing, bus performance indicators, common bus introduction.

As the computer composition principle courses are equipped with characteristics of the concept of concentration and content of complex features, and each part of the content can be expanded, and form a

complete knowledge system alone, the rational organization of teaching content must be considered for teachers in the limited teaching time. It is impossible to explain various components and techniques of computer hardware system in detail. Therefore, teachers should ensure the completeness of the course content, follow the principle of computer composition principle course, and establish the scientific and reasonable course content system based on the basic knowledge and the computer system structure. Teachers should make the most basic and the core part as course teaching content, to emphasize focus and difficulties. Teaching content should be based on the composition of computer theory and basic knowledge of the basic focus to make the concept of the whole machine as the core, to ensure that the basic and systematic property of course content.

Table 2 experimental content arrangement

No	Name of experimental project	Property	Period	Experiments Summary
1	Computing experiment	Design Mode	3	Using the 74LS181 to implement 8-bit arithmetic with carry control.
2	Memory experiment	Design Mode	3	Static random access memory reads and writes, designing and realizing the memory capacity expansion.
3	Microprogram controller experiment	Comprehensive Mode	6	Design and implementation of micro-operation of a given instruction microprogram.
4	Basic Experiment of Input and Output	Design Mode	3	The basic input and output operations of the computer system which are manually performed.

According to the characteristics of "Computer Composition Principle Experiment", we adopt a semi-open experimental teaching method. In the classroom, teachers are only instructive to explain the working principle of each module, and the rest are all completed independently by the students. Laboratory was open all day around. In addition to class time, students outside the laboratory can do experiments freely. In addition to class hours, the teacher also arranged Q & A time several times a week.

In the teaching process of "Computer Composition Principle Experiment", students are the main body and provide loose conditions for students' experiments. They only give macroscopic control to the time when they finish each experimental project. We should advocate "interactive" teaching form, pay attention to the discussions between teachers and students and conversations between students, organize oral report communication in a timely manner, and train students' comprehensive summary ability and expressive ability. To implement teaching principles of "heuristic" and "individualized teaching", let students to fully play a role [4-7].

2.4 Adding course design

Course group took into account the integration of knowledge points, implemented the theoretical knowledge to the practical application of the need and introduced the curriculum design of this link. Students who specify the direction of the computer science and technology hardware must complete the course design, and students in other directions are recommended to choose this course. The course will be arranged in the course of the course opened in the holidays of the semester, to give students a certain amount of time to learn for understanding and absorption. They won't forget seriously because of the long time interval. In the curriculum design, students are required to design a simulation model to achieve a model, allowing students to learn the theoretical knowledge and freely play with the depth of understanding, to encourage students to use RISC instruction design model machine [4-7]. In the course of writing the design report, each design team, must include a computer system development of the overall plan, the system hardware circuit design and implementation, instruction set design and implementation, design flow chart, system implementation and other key elements. From the command system design, data path design, instruction flow design to the control part of the realization, students could independently complete by their own. Through simulation, a true understanding of the concept of computer stand-alone system and composition could be achieved[8-9].

2.5 Standardizing assessment form

Assessment is not only a test of the learning effects of students, but also the baton of mobilizing the enthusiasm of students to learn; the realization of

2.3 Strengthening experimental teaching links

It is an important goal of experimental teaching to cultivate students' experimental ability and design innovative ability. But in the past, the experimental content is basically a verification experiment. Students basically make visual verification in accordance with the experimental steps of theoretical knowledge, and lack of ability to learn by analogy. To this end, the course group refers to "college computer professional experimental teaching curriculum construction report" proposed by the national computer experimental teaching demonstration center "computer professional experimental teaching curriculum construction" project team, and then combined with the actual situation of our school, to design our School Computer science and technology of computer composition principle experimental course content [1], as shown in Table 2:

teaching objectives play a crucial role. In order to balance the theory and experiment, the proposed experimental results of the total score is 30% to 40%. One of the difficulties in the experimental course of "Principles of Computer Organization" is how to do performance evaluation. With the principle of impartiality, the course group came up with the grades assessment methods of combining stage assessment and summary assessment. Mainly focused on the students' thoughts on experimental theoretical content and realization of the main ideas, each experimental results are given by the teacher interview to determine the degree of students grasping the knowledge to avoid plagiarism. In the summary assessment stage, students take the initiative steps to apply to take the form of open reply. If the reply is excellent, this could be extra points. Through the above measures, it is better to avoid the lazy phenomenon in previous experiments, and also help students to establish a sense of honor and a sense of accomplishment[10-11].

3. CONCLUSION

The course group sticks to the "computer science and technology colleges and universities in the core curriculum teaching implementation plan" as a guideline and takes into account the college students, teachers, laboratories and other hardware and software environment. Based on years of teaching experience and feelings, course group takes computer composition courses as example and targets to carry out the core curriculum teaching reform, which achieved good results, leading to the computer major teaching reform of other core courses, with the radiation of effects.

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Talking about the Changing of Teaching Thought of Free Combat Course in Police Colleges

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Abstract: With the economic, cultural and social changes in china, public security organs in the face of criminals have changed, law enforcement environment has changed, this requires the people's police law enforcement behavior must also be adjusted accordingly. Free combat course, as one of the main contents of basic course teaching in police colleges, it has been a great help for the police in the process of the basic law enforcement to effectively control the crime and ensure their own security. But under the new situation, the teaching thought of Sanda course must be changed according to the requirement of environment, otherwise, it will lose its due role.

Keywords: Police College Free combat teaching change

1. INTRODUCTION

Sanda is one kind of wushu which is the treasures of traditional culture in China, it is a kind of special attack and defense program created by the development of Wushu. All along, Sanda is not only a professional sports competition, it is more popular with its unique art of attack and defense by the majority of amateurs. The police, as the main force to maintain the stability of the public security, in the process of law enforcement and the criminals will be the body of the contest. Therefore, public security colleges, as the main position of training qualified talents in public security, has been the main Sanda curriculum as a compulsory course, and a batch of Excellent Sanda teachers through its solid professional skills and rich teaching system to improve the public security colleges graduates of Sanda skills. With excellent graduates in public security colleges continue to enrich the public security work, Sanda skills to improve the police and crime fighting ability, which not only improves the people's police law enforcement authority, also provides effective help for their people's police to better protect national people's life and property safety and law enforcement process safety. However, development is the eternal law of things. As China's reform and opening up, people's economic level, cultural level changed Fantian complex, this kind of change will cause the people's mentality and thinking change. The change would inevitably lead to the change of the crime form and change law enforcement environmental law enforcement form changes. The full range of police must also make corresponding changes, which including the Sanda technology needs. If the police are learning Sanda technology is not adjusted according to the law enforcement situation changes, it will not meet the practical needs of law enforcement, and then lose its proper value. Therefore, the teaching ideas of Sanda Course in police colleges must also carry out corresponding changes to meet the needs of the new situation.

2.THE DEMAND OF THE CURRENT LAW ENFORCEMENT ENVIRONMENT FOR SANDA TECHNOLOGY

With the continuous development of China's economy, people's thinking is becoming more and more open. In this trend, the nature of the public security organs of the state in the evolution from the tool for the services for the people. Therefore, the fist leg hit the traditional technology has been unable to continue to use in the general criminal suspects. In addition, the transformation of economic development and people's consciousness, also brought the crime way change. All kinds of knives, firearms and explosives criminal cases have occurred. In the face of such suspects, if the Sanda technology and suspects confrontation, is causing more harm to the suspect set. Therefore, in the current environment of law enforcement, the people's police for Sanda technology has different needs, the traditional boxing leg, Kung Fu is not entirely fit for the need of modern law enforcement.

3.THE CURRENT SITUATION OF SANDA COURSE TEACHING IN POLICE COLLEGES

The Sanda courses in public security colleges teaching system followed so far, many teachers in the heart has become a fixed mode of thinking, it is difficult to change. In addition, the teachers of police colleges work experience in grass-roots practice is weak, there is no real understanding of the current situation of grassroots law enforcement of the police, so in the design and implementation process of the curriculum, and no timely, scientific update, which led to the current teaching situation of Sanda Course in Police Colleges and unable to meet the actual needs of the public security organs, the specific performance in the following areas:

(1)Over emphasis on the technique of hit

In the teaching of Sanda Course at present, in boxing, as the representative of the leg hit technology is still the main teaching and training content. This teaching method can improve personal qualities and personal trainers of the strike ability. But in the current law enforcement environment, use hit technology in many cases is provided to escape or manufacturing greater harm opportunities for suspects. Because in the face of the police, the suspect rarely choose confrontation with the police, instead of the escape or the crime immediately. So too much emphasis on beating technology, is not fully applicable to the current environment of law enforcement.

(2)Lack of teaching techniques for release and control technology

In the current law enforcement environment, the majority of police enforcement in a passive state, it is the confrontation with police suspects in the case. That is to say, when the suspect and police confrontation situation, generally only the first suspect to the police criminal violations, the police can use force to stop crime. So when the first suspect infringement of the police, the police first use of technology should be free of this technology, including emergency relief technology suspects of the attack, including the suspect attacks of the body releases. When completely avoiding the suspects after the attack should use the shortest time, the most simple way to prevent crime and this is the uniform of suspects, if the suspect control technology. And the traditional method of Sanda fight, the result is likely to be “kill one thousand, and loss of eight hundred”.

(3)Emphasis on personal ability, ignore teamwork

Teaching Sanda is as a kind of changing form of athletic sports Sanda, although the public security colleges Sanda Course in the teaching content and system of competitive sports Sanda has certain difference, but some of the common problems of Sanda still exist in public security colleges Sanda curriculum, such as emphasizing characteristics of individual ability.But in reality, the process of law enforcement, personal ability is very important, but related to bare-handed arrest or fight, many people are arrested by the "many to one" capture method is more efficient. But many people arrested and capture the task division and collaboration is not with the striking role or control technology it is not related to the content of Sanda courses.

(4)Lack of differentiated teaching

Although Sanda Teaching is a public basic course in the category of police skills for all cadets and police must hold.But because of the different kinds of police in the public security work, specific in nature and its way of working is different, this also of Sanda skills have different needs.In addition, there is a physiological difference between men and women. The essence of the physiological differences in the external performance for the strength, speed, endurance and other indicators are different. Different index also will inevitably lead to the different demand. Sanda technology should be aimed at different kinds of different caused by the need for the teaching of It differs from man to man. in the Sanda class teaching[5].

4. Under the new situation, the adjustment of Sanda Teaching Ideas

Faced with the new law enforcement environment, Sanda courses in public security colleges must also be adjusted accordingly to meet the needs of the actual law enforcement.

(1)Despise hit, importance control

Due to the change of the public security organs and the nature of the crime means to improve, in the process of law enforcement practice, the suspect quickly and effectively control more often than the fist leg technology hit more effectively. So the public security institutions in the process of Sanda Teaching, should consciously increase the control technology practice, appropriate to reduce the impact of technology practice. Of course not because of control technology teaching and completely ignore Sanda Teaching. Sanda is still the main public courses in public security colleges, but should have the proper balance of control and strike[6].

(2)Study on the control technique of strengthening the impact

First of all to stop the crime suspect uniform. In reality in the process of law enforcement, some do not have direct control of the suspect case or control technology after the failure of the people's police must use technology to Sanda to subdue suspects. But the criminal suspect uniforms of Sanda not like the game completely defeated opponents to win, but to find opportunities through the corresponding strike technology used for control technology. Therefore the current in the three major teaching should combine to strike technology and control technology for research[7].

(3)To strengthen the teaching of cooperative control technology

Different control techniques in Sanda technology, it needs more team combat. In the process of controlling the suspect, the team members of the suspect in different parts of control will achieve the purpose of uniform crime more effectively, and it is more effective than the control technology and the control technology of Sanda individual suspects. Therefore in Sanda Teaching, we should increase the police group control technology teaching consciously. In addition, the police should also group teaching, physical condition and technical characteristics for each person in the group of police, according to the difference of teaching, so that each team member can be in the most reasonable position and maximum role[8].

(4)Increase the control technology and tools, combined with the use of weapons

The people's police in the enforcement process,

freehand technique is not the only choice. The use of weapons by criminals is more dangerous in the face, arms, law enforcement is a better choice. But no matter what the way of law enforcement, the ultimate aim is to subdue suspects. While the suspect uniform must be the necessary restraint on its body.Therefore, the teaching of Sanda Course in public security colleges, should consciously strengthen the use of police weapons, the suspect on the line after the preliminary control, how to control the final freehand technique of the suspect, also is to strengthen the use of police weapons or unarmed exercises. This control technology to more dangerous suspect uniforms help.

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The Training Method of the Core Values of Police Physical Training

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Abstract:The socialist core values not only reflects the basic nature and the basic connotation of the contemporary social value system, at the same time it is also the core of social core value system which has a very important effect on the comprehensive quality of the contemporary students.The police physical training as an important link in the process of police training, how to integrate the core values in the training process, in order to improve the police core values and the spirit of sports, has become a key issue facing the relevant teaching workers.Based on this, this paper studies the training method of the core values of police physical training, for the reference of the readers

Keyword：Police physical education Core values Training method

1.INTRODUCTION

Police academy is a special element in China's higher education system, which undertakes the task of police organs at all levels of training and transporting talents. As an important part of police physical training police personnel, it is a new comprehensive application of disciplines, and the institutions of higher learning for military sports and public sports courses teaching is a fundamentally different in nature. However, combined with the actual police colleges in China, due to the historical factors, the police physical education is now worrying, especially the sports discipline, the situation is not optimistic. In the face of this situation, the police colleges have to change the idea, according to the eighteen report on the socialist core values A new interpretation of "socialist core values" as the starting point, to realize the fusion and the core discipline of police sports training methods of value idea, to give full play to the role of the police to cultivate the core values, for the good development of police college students to lay a foreshadowing[1-4].

2.THE NECESSITY OF INTEGRATED TEACHING OF THE CORE VALUES AND POLICE SPORTS TEACHING

The influence of the traditional teaching mode under the action of the teaching methods of physical education in police colleges is also relatively simple, finish too much emphasis on the teaching task, but not the actual teaching activities and students' organic integration, so that teachers in the teaching activities in teaching, and the effect is not obvious.In addition, teachers have been in the continuation of a single teaching model, can not be based on the actual situation of students to take the most appropriate teaching methods.In this mode of teaching, students will follow the pace of teacher, Department of mechanical for repetitive learning, no individual, for all the information is more and more occlusion, thinking has become narrow. Long term, police colleges and universities sports teaching activities and practice began to appear serious deviation, ultimately not only affects the quality of teaching, based on the effect of culture and sports in the police professional education is not obvious.In fact, the police physical training is a prerequisite for the foundation and guarantee of police professional learning, the students' professional quality, endurance and physical and mental health of students has a very important role. With the advent of knowledge economy, especially in the eighteen report of the socialist core values of the content and make new elaboration if still in police colleges, a training and development of students' professional skills and occupation ability, while ignoring the integration of students' humanistic qualities and professional skills, then it will affect the future development of the students. Obviously, the existing sports curriculum teaching and time gradually derailed, if not timely The integrity and adjustment of teaching will seriously affect the infiltration of Police Sports Education[5].

3.THE TRAINING METHOD OF THE CORE VALUES OF POLICE PHYSICAL TRAINING

(1)Strengthen ideological education, deepen the emphasis on the core values of discipline

Thought is the biggest driver of behavior, in order to successfully carry out the core values of the discipline work in police physical education, it must be separated from the traditional concept of imprisonment, to establish a new concept, with benign development trend of new era, and a new concept throughout the training activities.Only under the leadership of scientific and efficient, modern training concept, can we strengthen the ideological understanding of each teacher and students, so as to effectively improve the efficiency of the core values and the integration of physical education and training.The emergence of the sports teaching and the core values of police discipline and teachers' favour one more than another phenomenon, lack of students'

understanding of the core values. Only by strengthening the ideological education of teachers, students, let them realize integration in physical education core values, the importance of physical education, in order to better carry out the core of sports discipline the values of the training.On the one hand, to improve the theory of cognitive level. Both teachers and students to distinguish between general sports training and sports training based on cultural quality, strengthen the understanding of the culture of physical education, and combine it with their own reality, strengthen physical training. In addition, can also actively organize training and seminars, into the core value in view of the contents of the training content, the sports teachers to change their moral quality, consciously in the teaching of socialist core values and the combination of teaching, give full play to the main role of education of PE teachers[6].

(2)Optimized training mode, innovation the connection bridge of the core values

Physical training is an important starting point for police colleges and universities to do a good job in the construction of socialist core values.First of all, we should pay more attention to sports training.Physical training teaching is the best time to enhance exchanges between teachers and students, in regular physical training, teachers should view education training programs to cultivate students' core value by means of penetration, fair competition, equal participation in training, solidarity consciousness;Also the innovation theory teaching mode, with excellent examples of police or police documentary appeal, glory tells the police comrades to serve the people, forming a strong inner power, injection spiritual strength for the daily sports training activities.Secondly, carry out the rich second classroom training activities, organize various sports competitions, such as: Department of friendlies, Class League, let the students in the training process to enhance the sense of collective honor. In addition, the school also can be set up in police physical training related association, and in the creation of Association training program embedded in the core values the content of condensed police special sports spirit, thus influence softly on each of the participating students, contribute to the formation of students' socialist values[7].

(3)Enhance the effectiveness of training, to achieve the integration of curriculum and core values

Contemporary college students are the hope of the future of the motherland. It is very important for the future development of our country to train the dream of Police College Students.Each student's dream to gather together, it will become the Chinese dream of tomorrow.To this end, the police colleges should deeply excavate the sports curriculum resources, to carry out effective value education activities to enable students to make use of these resources, the flying dream, in the event of cast hope. And for the police physical training activities, from the start, preparation, teaching contents and the end of the four part.Teachers should do a good job of teaching design, the core values of the content and training content of organic integration, so that the core values can penetrate into the hearts of every student.First of all, in the initial stages of activities, teachers are required to follow specific training in the process of discipline, to enable students to discipline was strict with themselves, and gradually form a law-abiding behavior consciousness. Secondly, the preparation activities, teachers can introduce some competitive games, to cultivate students' group work. Again, in the stage of basic training contents of teaching, teachers should timely according to the characteristics of the training activities in the light of its general trend, the core values of permeability related content: such as the courage to struggle, the sports spirit and the track and field training hard training content integration and so on. In addition, the end stage is the training activities of athletes from intense exercise The process of state transition back to quiet state, this stage except the summary of the training content, but also for the students in the process of performance evaluation, make them through sports training gains in body and mind.

(4)To carry out multiple evaluation, penetrate the core values into the training effect evaluation system

Police physical education is not a simple practical course, which is related to the students' physical quality, cultivate the spirit of sports, so the evaluation target to cultivate and develop students' sports ability, physical quality close up.This requires the school to evaluate the effect of student training, to achieve the evaluation of students' learning results to the evaluation of the development process of students' transformation; by the passive acceptance of students to participate in the evaluation of students to participate in the evaluation process.To this end, the police colleges should break the traditional single stage, evaluation mode of the final exam, build a dynamic evaluation model of students' participation in the initiative, and in the evaluation mode fully embodies the core values, forming three linkage evaluation mechanism, evaluation model to promote diversification, modernization, systematic direction development.The diversified evaluation model, not only changed the past only pay attention to students' physical training performance evaluation criteria, to increase the students' cultural and sports, comprehensive quality test strength, the development of students play a leading role, effectively enhance the moral quality of students[8].

4.CONCLUSION

In a word, since the eighteen report on the content of the socialist core values has made the new exposition, the work of education and teaching in police colleges began to show the new content and features. The police police physical training as an important part of

cultivating process, in the process of how to find the core values, will be particularly important as for the teaching work. The relevant personnel should be fully aware of the importance of sports training and the core value concept of integration of teaching, and on the basis of objective basis of the objective law and the school of social reform, optimize the training mode, so as to improve the level of training, and cultivate more political literacy and modern body Literacy police talent.

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Development and Application of 3D Technology in Teaching

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Abstract: Introduction to Computing as a public course of computer major aims to cultivate students' computational thinking ability in the aspect of computer technology. With rapid development of computer technology, course knowledge becomes more and more. The increase of course teaching contents leads to the difficulty in completing all course contents within the limited class hours. Thus, how to improve teaching efficiency under the condition of guaranteeing teaching quality of Introduction to Computing becomes an urgent problem. For this situation, 3D animation technology is applied in teaching Introduction to Computing in this paper. 3D animation technology can materialize some abstract knowledge in Introduction to Computing. For example, the execution process of computer program instruction can be constructed into a complete virtual experiment system of the course through human-computer interaction and visualization technology, including demonstrative experiment, confirmatory experiment and interactive experiment. In this way, students can understand teaching contents more vividly. From 2013, we chose persons from 12000 students in 5 universities for teaching experiments in order to test the teaching effect of 3D animation technology in the course. The results show that 3D animation technology can help students understand the knowledge of Introduction to Computing and improve teaching efficiency and learning efficiency.
Keywords: 3D animation technology; Introduction to Computing; teaching application

1. INTRODUCTION

Since the new century, computer technology has become a field which develops most rapidly. The contents of Introduction to Computing as a foundation course of computer technology have been updated continuously with the development of computer technology. At present, Introduction to Computing is merely a subject, but also can pro0mote the development of other subjects and offer advanced computing technology for many challenging frontier researches [1]. In the early 1990s, Introduction to Computing was set up when information technology started to enter China. The initial purpose of setting up this course was to let students be familiar with multimedia and the computing tool – computer. In essence, the purpose was to popularize computer knowledge. However, as computer technology played an increasingly important role in studying other subjects, the course purpose of Introduction to Computing also changed. It was no longer to popularize basic knowledge, but to train students' computational thinking ability [2]. The change of course teaching purpose also means teaching contents and means should be reformed and innovated. How to reform the course? Some institutions have done some researches and gained some achievements. Wing first proposed that Introduction to Computing should mainly train students' computational thinking ability. This idea was accepted by universities and research institutions in most countries. Based on this idea, Chinese researchers combined actual teaching conditions of Chinese universities to further enrich and expand the connotation and content of this concept, and put forward entire course reform contents [3-4]. However, how to effectively facilitate training of students' computational thinking? There is still no good solution, because traditional teaching methods are difficult to adapt to teaching work of Introduction to Computing. In particular, the teaching contents involve intangible, abstract and complex concepts. On the other hand, computer programming experiment is required in course teaching. Although computer operation of this course is almost same with that in the early 1990s, behindhand experiment course seriously hinders students to transform theoretical knowledge into practical operation ability. Thus, classroom teaching and computer practice should be valued in order to improve teaching efficiency of Introduction to Computing.

With regard to the above problem, we adopted 3D animation technology to design and implement virtual experiment course of Introduction to Computing. 3D animation technology applied 3D animation software to establish models and scenes according to the shape and size of real objects, sets the motion trail of models as required and finally generates moving pictures [5-6]. With 3D animation technology, invisible computer data phenomena can be virtualized to reality, and virtual experiments can be done to help students understand. In the course of Introduction to Computing, teaching contents get involved in computer network information data transmission and computer instruction execution process under programming state etc. These contents cannot be seen. So, they cannot be observed through traditional physical experiments. Hence, we used 3D modeling and animation technology to demonstrate

invisible internal structure of computers and human-computer interaction process during using the computer. In addition, compared with traditional physical experiments, virtual experiments own higher efficiency, because it takes less time to set the parameters of virtual experiments, and the experimental results can be gained soon. This is very important for improving teaching efficiency of Introduction to Computing.

2.TEACHING FUNCTION OF 3D ANIMATION TECHNOLOGY

The development of 3D animation technology generates huge influence on course teaching. Especially when virtual reality technology is involved, 3D animation technology greatly alters teaching methods and means. Traditional teaching is still dominated by PPT multimedia teaching. Such teaching mode can only offer plane images and is helpless for describing 3D objects or abstract concepts. Visualization, human-computer interaction and simulation technique based on 3D animation technology can virtualize the contents which are difficult to teach in traditional teaching. Then, through virtual operation, students can absorb and understand the knowledge soon. In the course of Introduction to Computing, the teaching function of 3D animation technology is mainly reflected in the following three aspects: (1) achieve description of abstract computation concepts; (2) exhibit internal structure and operating principle of computers; (3) visualize information storage, transmission and processing process.

3D animation technology is not limited to teaching method innovation, but also can motivate students' initiative and autonomy to transform the knowledge into practical ability. 3D animation technology is able to visualize and materialize dull and difficult abstract computation process so as to enhance the interestingness of classroom teaching. Hence, students greatly enhance their learning initiative and complete the whole learning process in relaxing atmosphere. In virtual experiments, students own more autonomous right, can ask questions anytime and enhance classroom communication between teachers and students. Meanwhile, students can deeply know computer data transmission and conversion process through virtual experiments, which can increase their practical programming experience and make them really master professional skills.

3. DESIGN AND APPLICATION ANALYSIS OF 3D ANIMATION TEACHING COURSE

For some abstract concepts in Introduction to Computing, a virtual experiment was carried out to transform the abstract concepts into concrete and vivid animation teaching. Design procedure diagram of virtual experiment based on 3D animation technology. Two virtual experiments were chosen in this paper: Turing machine simulation experiment and instruction execution experiment. The two experiments have representativeness and can help students understand basic knowledge of the course.

3.1 Turing machine simulation experiment

Turing machine model puts forward basic concept and computing principle of computers. It is a milestone in the history of computer development. However, it is not a real machine, but an abstract model. It is very hard for physical experiments to describe its working process. This brings about large difficulties in learning the knowledge of Turing machine. Computer animation can transform a group of static images into moving animation. In this experiment, 3D animation technology was applied to demonstrate Turing machine and its working process.

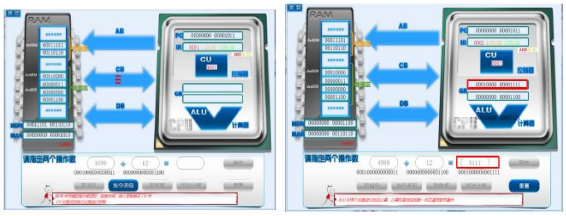
We took 2^x computation for example. The computation rules, input process and output process were transformed into visible state. The experiment includes four 3D models: punched paper tape, reading/wring head, state register, and output device. The working process of Turing machine can be exhibited through 42s animation, including showing the components of Turing machine, inputting the code of punched paper tape, reading/writing state, and outputting the result. Through this simulation experiment, students can understand the concept and principle of Turing machine.

3.2 Design of instruction execution simulation experiment

Computer instruction execution is mainly implemented through figures 1. It is difficult to perceive data capturing, transmission, integration, processing and output process. For such situation, the interactive experiment may be used to simulate such invisible working process, such as repeated acquisition of instructions in computer processing process, instruction decoding and instruction execution. In the interactive experiment, the simulation of instruction execution process is exhibited through the animation, including demonstrating data cooperation to achieve computer information flow. The design of this experiment is as follows: visualization and human-computer interaction technology were used to display 5 stages in data execution process, i.e. setting the quantity of operations, gaining instructions from the memorizer, instruction decoding, obtaining the quantity of operations and execution instruction from the memorizer, and displaying several important components of the computer such as controller, summator, memorizer and algorithm process. Figure1 shows the process of executing an instruction. (a) and (b) represent instruction decoding and addition process respectively.

The internal structure of computers is shown in figure 1. Human-computer interaction interface is set below. The internal structure mainly includes internal storage and CPU, while CPU contains arithmetic unit (ALU) and controller (CU). In addition, three buses

connecting the internal storage and CPU are especially emphasized, and information flow direction is shown dynamically. For example, figure 1(a) represents decoding stage in the instruction execution process. The instruction controls the decoding information flow to transmit on the control bus. Figure 1(b) represents addition stage in the instruction execution process, and execution process of arithmetic unit and information flow in the controller.



(a) Instruction decoding stage(b) Instruction addition stage

Figure 1 Instruction execution simulation process

3.3 Teaching application effect

To test the teaching effect, 208 students from a university were selected at random for the test from 2013. These students came from more than 60 different majors, and were divided into four classes. The students with good academic performance were divided into two experimental classes, while other students were divided into two common classes. One experimental class and one common class were chosen for 3D animation teaching. The traditional teaching method was adopted for the remaining two classes. After course teaching was finished, the four classes were examined, and their examination results were compared. The comparison results are shown in Table 1.

Table 1 Comparison of students' examination results

Class	Total score	Average score	Excellence rate	Pass rate	The highest score	The lowest score
Teaching control class (N=52)	3909	75.17	11.54%	98.08%	88	54
Teaching experimental classes (N=53)	4004	75.55	11.09%	100%	92	60
Common control class (N=51)	3536	69.33	0	88.24%	83	41
Common experimental classes (N=52)	3747	72.06	3.84%	94.23%	89	51

We can see from Table 1 that, the average score, excellence rate and pass rate of classes taught with 3D animation technology are far better than those of classes taught by traditional method. This indicates that 3D animation technology greatly improves teaching quality. In a bid to further analyze the specific factors influencing teaching quality improvement of 3D animation technology, questionnaire survey was carried out for the control classes and experimental classes to survey their feelings about the new teaching mode, including learning initiative, learning content interestingness and knowledge comprehension. The survey results were synthesized to gain the statistical data. Final statistical data show 83% of students think the virtual experiment contributes to understanding the teaching content; 87% of them are interested in the virtual experiment; 80% of them consider they are more willing to exchange in the virtual experiment, and more like to interact with teachers. Thus, the largest teaching effect of 3D animation technology lies in improving students' initiative, contributing to understanding knowledge points and enhancing interactions between teachers and students.

4. CONCLUSIONS

With rapid development of computer technology, the contents of Introduction to Computing also have increased and changed continuously. Hence, the teaching mode of Introduction to Computing should be reformed and innovated. 3D animation technology can dynamically display unobservable, abstract and complex concepts and processes. It is a very effective teaching method. 3D animation technology may be introduced in Introduction to Computing. The experimental results show that 3D animation technology can motivate students' learning initiative and improve teaching quality and efficiency.

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Research on the Effects of Cyber Diplomacy and Measures in China

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Abstract: By virtue of the rapid development of information communication technologies, the national system of diplomacy with Chinese characteristics is confronted with the shift from singly official diplomacy to the public diplomacy and cyber diplomacy with multi-stakeholder and multi-level pattern. However, due to the low-level development of cyber diplomacy in China, China is likely to fall into an adverse position on certain issue fields in the circle of global communication. This paper tries to illustrate a holistic figure of fledging cyber diplomacy in China on the basis of demonstration approaches, theoretical methods and the analytical approaches such as empirical study and normative study, summary and deductive reasoning.
Keywords: Cyber diplomacy; Twitter; Public diplomacy; Sino-US relationships

1. GENERAL INTRODUCTION

1.1 Review the cyber diplomacy from the concept of diplomacy

1.1.1 National actor or non-national actor diplomacy

To ameliorate our comprehension of cyber diplomacy, it is necessary to look back to the origin of diplomacy for that cyber diplomacy is a historical concept and is inlayed in it. Firstly, from the definition of Wikipedia, diplomacy is the art and practice of conducting negotiations between representatives of states. It usually refers to international diplomacy, the conduct of international relations through the intercession of professional diplomats with regard to issues of peace-making, trade, war, economics, culture, environment, and human rights. International treaties are usually negotiated by diplomats prior to endorsement by national politicians. In an informal or social sense, diplomacy is the employment of tact to gain strategic advantages or to find mutually acceptable solutions to a common challenge, one set of tools being the phrasing of statements in a non-confrontational, or polite manner. The scholarly discipline of diplomatic, dealing with the study of old documents, derives its name from the same source, but its modern meaning is quite distinct from the activity of diplomacy. Secondly, Merriam Webster makes his understanding that diplomacy is the art and practice of conducting negotiations between nations and skills in handling affairs without arousing hostility and bad feelings.

There exists similarity that the contents are something about dealing with relations, however, the free encyclopedia addresses the subject of diplomacy, namely, government and professional diplomats while the other generalizes the exercising acts of diplomacy acts.

Graphically speaking, the diplomacy can be divided into different types according to the diversified identifications of players in this activity.

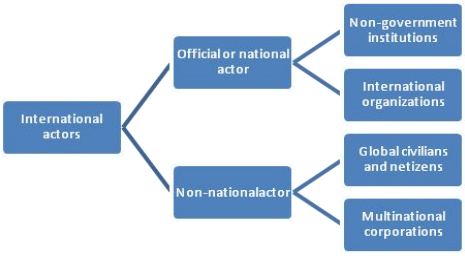


Figure 1 Different subjects and categories of diplomacy

From my perspective, the differences of actors are similar to the question of people-to-people diplomacy and governmental diplomacy, which belong to high-level diplomacy and low-level diplomacy, respectively. They are all organic components of the diplomacy and the non-governmental actors are complements instead of substitutes of governmental actors. All in all, two kinds of actors are in harmony with each other in the diplomacy market, and maybe, the distribution of actors in the diplomacy market structure is like “Normal distribution”, as the non-governmental part affiliates with long-tail market.

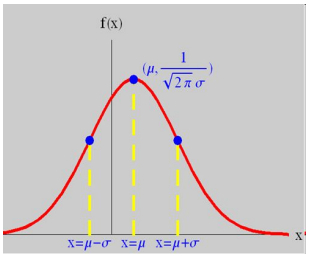


Figure 2 The assumed distribution of actors in the diplomacy market

Along the horizontal axis(X axis), from the coordinate X= μ-σ to X= μ+σ, there is no denying that the surface area between two yellow lines is occupied by government. However, as long as we give the potential of mass into full play, they can produce a large amount of diplomacy assets though they are distributed scattered ubiquitously in the society.

In conclusion, it is estimated that the non-government

actors will play a more and more important role in the cyber diplomacy, but, we should not neglect the role of government in the era of e-governance or virtual diplomacy, without which, cyber diplomacy likes water without a source and tree without a root; on the other hand, the functions of civilians and netizens need further tracking survey and efficiency analyses to be confirmed.

1.1.2 Traditional form or new form

In this part, we mainly focus our attention on the technology dimension and the tradition is relative. From the perspective of communications, the quantitative and operational index-the number of the users for a kind of mass media is around fifty million users. Thanks to the amazing exponential growth of Internet's communication rate, it takes the Internet only five years to realize this goal, which creates the legend ever since in the field of communication. On the contrary, the eliminated media, such as newspaper, radio and television, spend more than ten or thirty years in accomplishing this goal, as their growth rate is algebraic or geometric from the aspect of Mathematics.

Such kind of information technology perfectly corresponds to the natural property of diplomacy-the caption of communication, and new patterns of diplomacy emerge at a historic moment in a seamless heavenly way.

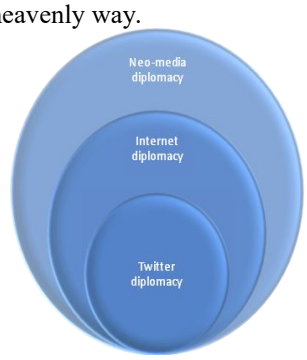


Figure 3 Different categories of diplomacy and their relations in the 21th century

To accurately explicate the application of information in the diplomacy and the condition of cyber diplomacy, we introduce diverse time series data from different countries, such as penetration rate and popularity rate.

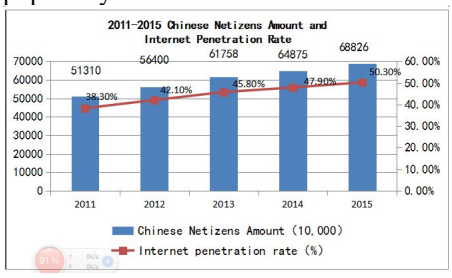


Figure 4 the number of netizens and the permeability rate in China during the year from 2011 to 2015 (Data from CNNIC 2016 Report)

(Legend: the height of the blue cylinder means the number of netizens in a particular year; the red scatter point is penetration rate which is a relative index, and the red curve linking five discrete points shows the trend of penetration rate)

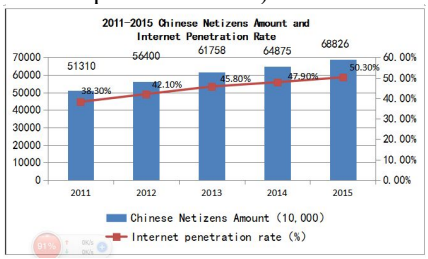


Figure 5 the number of mobile netizens and its proportion in the total amount of netizens in China from 2011 to 2015, which is China's past 12th five-year plan (data from CNNIC 2016 Report)

(Cutline: the height of the blue cylinder means the number of mobile users in different years; the red scatter point is ratio of the corresponding year, and the red curve represents the trend of it)

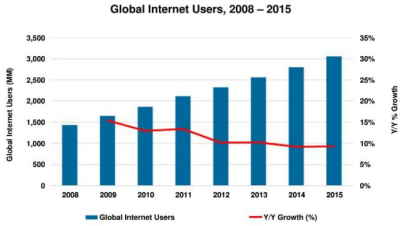


Figure 6 Data from Comscore

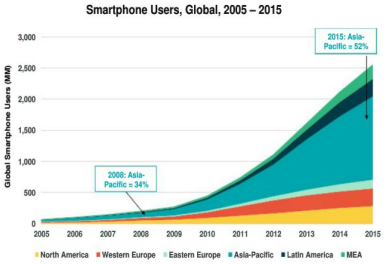


Figure 7 Data from Comscore

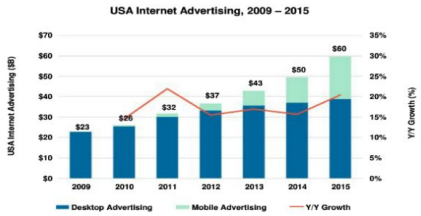


Figure 8 data from Comscore

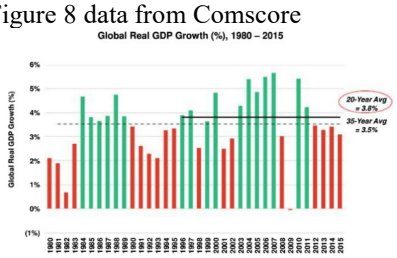


Figure 9 Data from Comscore

Ultimately, the Internet and information technology breaks through the barriers of space and time, carving out a virtual world and commune an independent dimension of life, where share, equality, openness,

credit and inclusiveness are core spirits. It is the dissemination and widely acceptance of "Internet spirit" that inspire the participation of world citizens, promoting the transformational and great-leap-forward development of diplomacy and global governance.

1.2 Situation and categories: different stages of cyber development

Similar to Internet finance, cyber diplomacy undergoes a period from 1.0, 2.0, 3.0 to 4.0 in the near future. There are two masterstrokes in this historical evolution, one is the implication of government, like de-intermediary and de-centralization; the other is the continuous progress of technology, which is the technology basis of the former.

1.2.1 Virtual diplomacy

Virtual diplomacy is the embryonic stage of cyber diplomacy, which is called 1.0 based on my understanding. At this moment, the transformation of foreign communication and affairs is passive and local, and it is just the digitalization of diplomacy that carried out by the central government.

Firstly, the team virtualization is subtle changed in organizational framing.Consequently, the virtual diplomacy caters to the trend of flattening and diplomats can do "hit the ground and run" jobs, thus streamlining the structure of the diplomat team.

Secondly, procedural virtualization. The conventional diplomacy procedure is close to the process of making decisions or strategies, for instance, the information searching, negotiation, meeting, and discussion are out of line, wasting the limited diplomatic resources. However, the procedural virtualization does changes, and only a click by the mouse can make a difference.

1.2.2 Diplomacy on the net

Diplomacy on the net, which is also called diplomacy online, is the interim stage of cyber diplomacy with 2.0 pattern. At this time, the government participates indirectly and the organizations partly act on behalf of it. From the perspective of science and law, the government transfers the rights of diplomacy partially to the public, such as informal Internet platform and multinational corporations. Therefore, the trustee-beneficiary relations occur and a series of gaming show up. Based on the theory of information and capture theory, in some cases, the agencies may be captured by the government and the government has the right of real control. In addition, agencies in the diplomacy operate like persons acting in concert with some invisible benefits or contrasts, and both of them share common purpose to safeguard the interests of the nation. For example, the exit of Google search engine in the Internet market in the 2010 is a controversy nowadays. Firstly, whether Google is a commercial platform or exports values or ideology putting on a political coat, arouses fierce discussion in China. Secondly, the freedom and transparency of Internet market in China are suspicious.

In conclusion, I suppose the exit of Google in 2010 is a typical example of zero-sum thinking model, both two countries strive for the individual benefits, however, at the same time, they fall into trap tragically. For China, a more fair and transparent market ecology and legal system for market should be targeted and market mechanism unifications should be improved under the trend of the global tide. For Google and America, the diplomacy activities embedded in the commercial business should be carried out on the basis of mutual benefit and mutual respect, and under no circumstances should the economic market surrenders to politicians absolutely at the expense of the loss of an alluring market.

1.2.3 Social network diplomacy

Social network diplomacy is characterized by the virtual world with strangers, where everybody is anonymous and it is really hard to distinguish the government from the floods of netizens. Moreover, the contents and types of diplomacy are more fragmenting, novelty hunting, diversified, scenic and intelligent. For example, the netizens across the world encounter each other by the same topic or hobby, creating a world with similarities.

In practice, some social network platforms, such as Twitter, Facebook, blogs, My space, Flicker, SNS, SMS, or Chat world, connect the world in a brand new way, and in China, giant "BAT"s are driving force of social network diplomacy. It is Internet technology and Peer-to-Peer technology that shorten the distance between two persons and create a" stranger society". On one hand, if the leaders of a region or country, such as Trump, register accounts and react with netizens from home and abroad, not only will it increase the affinity as " individual charm diplomacy", but also it is a epitome of soft power of a nation or government. On the other hand, because of the butterfly effect, some negative news or phony information rush into the social network diplomacy market, reducing the efficiency of the information, arousing the fear moods or even making the network a mess. For instance, the "e-mail scandal" and wiretap incident disseminates more promptly in the social network community than "water gate scandal" in 1970s via traditional mass media, partially lagging the election campaign behind. Another example can be the repercussion of social media diplomacy in the "color revolution" happened in the late 20th century and Thailand's political chaos from 2006 to 2008, it is not difficult to figure out that social network can serve the external affairs as a tool of diplomacy policies. Compared with the military tools, such as Iraq and Afghanistan wars, social network diplomacy saves the cost and bears more long-term fruits to some degrees.

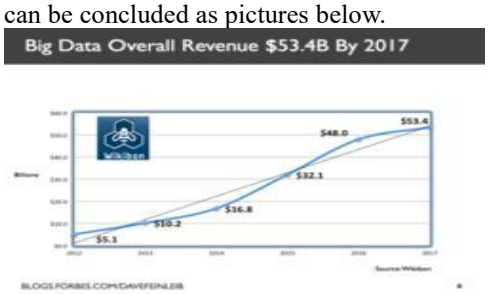
On balance, the social network diplomacy acts like a double-edged sword with both internal and external

values, the roadmap to rein in it after adapting with it positively is a question in the future.

1.2.4 Big data diplomacy (self-predicted future trends)

Big data technology is likely to offer it a relatively feasible or perfect solution thanks to its unique functions to excavate invisible assets or values at the back of it. As the SAS puts it, big data is a term that describes the large volume of data- both structured and unstructured –that inundates a business on a day-to-day basis. But it is not the amount of data that is important. Big data can be analyzed for making better decisions and strategic business moves.

The operational mechanism of big data technology can be concluded as pictures below.



What has shown in the figure above, vividly represents the promising future in the field of big data with the increasing overall revenues and higher investment revenues.

The operational mechanism of big data technology can be concluded as pictures below.

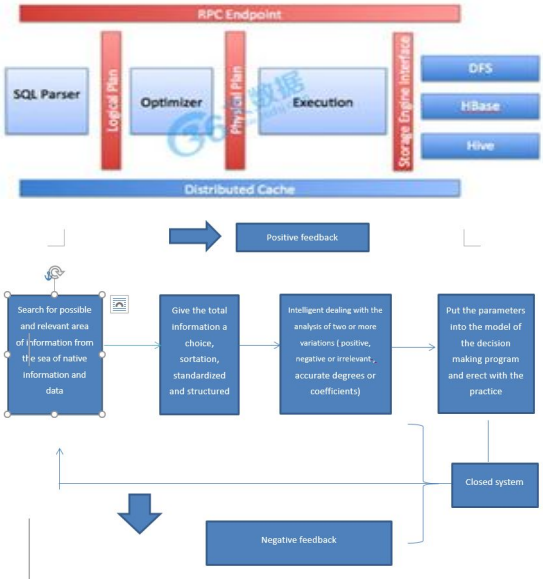


Figure 10 the brief mechanism of big data technology in the field of diplomacy

Last but not least, considering the high cost of initial invention, the government should better assume this responsibility at the beginning of this stage of cyber diplomacy, and a negative list mechanism, brain reservation plan and information sharing system should be established so that the society become more rational generally, promoting the healthy development of public diplomacy.

2. IMPORTANCE OF CYBER DIPLOMACY

2.1 Reality factors

2.1.1 The lasting ferment of regional issues

Some geopolitics issues are increasingly perplexed and thorny for China, ranging from the outdated "Taiwan issue", "Korean peninsula issue" to the territorial disputes with neighbors in South China Sea. What is more, the trade conflicts and culture differences stand out, which envelops the international environment of China with mist and raindrops.

Cyber diplomacy offers a renewed approach for China to solve the international issues in an international mindset. For the trade conflicts, multinational corporations can tackle the conflicts through the Internet, which reduces the cost and makes the trading more smooth and efficient. As the ministry of trades or commerce, it is the high time to build a platform to solve the problems of multinational corporations home and abroad online under the international law and contrast. Moreover, for the hyping and lasting political and territory issues, cyber diplomacy can make it possible for foreign netizens to acquire the history and truth, striving for the support and understanding of the global community.

2.1.2 The strategic location of China's major-country diplomacy

After Chairman Xi takes the helm of the state in 2012, the Chinese diplomacy comes into the age of Xi area with the major-country diplomacy and neighborhood diplomacy. During the "two sessions", foreign minister Wang Yi summaries the new model of diplomacy as progressive, creative and stable.

Specifically speaking, the Chinese people are more and more confident in the global affairs compared with the formal government, engaging in the global government and voicing their sound and suggestions rather than keeping a neutral position. For example, in the United Nations, the Chinese government is more sophisticated in terrorism, dispatching the navy force into the Somalia and Gulf of Aden and making the commercial ships under convoy. From this practice, we can find that China is more willing to shoulder the responsibilities and obligations as one of the five members of the UN Security Council and the wisdom, solution and intelligence of China have become "New Normal" in the world governance. Meanwhile, the four mottos as "affinity, sincerity, mutual benefit and mutual respect" have become new guidance to deal with neighborhood issues.

Therefore, the major-country diplomacy in the era of president Xi calls for the support of cyber diplomacy, because cyber diplomacy is not only one of the symbols of powerful diplomacy but also one of the indispensable factors or components in the contemporary diplomacy. .

2.1.3 Disadvantaged ecology of public opinion (long-term problems)

According to international relations, the basic purpose of diplomacy is to deliver the positive information abroad, rally friends as many as possible and create a friendly environment of public opinion, so that the country can gather the energy to deal with internal affairs, such as the economic construction.

China has to face up to the pressure of Western public opinion whether in the 1949 when the PRC was born or in the late 20th century because of the ideology, socialism and communism. Moreover, in the early 21th century, the opinion like "China threat" is widespread across the world with the strength of economy and military increasing. In most cases, the public opinion is a constant variable in the international relations in the short term for it is really hard to turn the situation around in a short time.

However, it doesn't mean that we have no alternative but to feel quite helpless as if one's hands were tied in that the neglect of the exotic conventions, religions, culture and characteristics are, to some degrees, accountable for the passive situation. As we know, Internet is such kind of communication tool that has inclusiveness and caters to the ideas of the globe and times. As a result, the Internet enable us to figure out the real demand and provide the most efficient way to talk with foreigners. For example, for businessmen, multinational corporations can make a deeper understanding of the habits of consumers abroad through e-commerce. It is the trading or payment behavior that provide the preference, utility, credit and other personal data and information, so that the corporation can produce goods or service tailored and pertinently, saving the production factors and expanding the benefits. For the government in the social community, through the feedbacks of foreign netizens, government can adapt to their way of diplomacy, delivering the education, culture and political position of China in an acceptable and diverse way instead of copying mechanically and applying indiscriminately. While dealing with relations with Asian countries, Chinese diplomats and authorities can employ the thinking pattern of Asia-circle. However, while talking with civilians of western countries, we should put their habits at the first place to show our respect to them.

3.CHALLENGES AND SUGGESTIONS OF CYBER DIPLOMACY

3.1 Challenges exposed under the context of China

According to "Capital Asset Pricing Model"(CAPM), the risks in the cyber diplomacy between two countries can be composed below:

$R= \varphi*R(s)+\mu* [R-R(s)]$

$\varphi+\mu=1$

R: the total level of risks;

R(s): the systematic risks which are inevitable and determined by the official diplomacy and real relations between two countries

φ: sensitivity coefficient of the systematic risks

μ: sensitivity coefficient of the non-systematic risks

3.1.1 Objective risks

Firstly, the systematic risks. To some degrees, cyber diplomacy is a subordinated diplomacy way to the traditional diplomacy. Deeply speaking, the differences in identifications and social separation or boundary are being objectively, and each civilian has the idea of intergradations of individual, family and nation. For example, the "Diaoyu Island" issue will definitely have a negative effect on the efficiency of cyber diplomacy, with the increase of R(s). And the frequent launch and test of nuclear weapons in North Korea are highly likely to assemble the systematic risks in the Korean Peninsula, resulting in the tense atmosphere on the Internet and weakening the effects of cyber diplomacy vividly.

Secondly, operating risks. Operating risks mean the losses of data and the illegal or unreal information sent out to the public because of operation error. From my point of view, some behaviors like the repeated registrations of the accounts to avoid the supervision of the Internet and make an empty strength of personal strength, are typical presentations of operating risks. Some illegal intelligence or information vendors assemble their fans and authority, leading the irrational netizens towards the abyss of crimes. Moreover, the errors in the process of printing are common, worse still, thanks to the butterfly effect or sensation effect, only a few seconds can the wrong information stirs up every nerve in the corner of the world. Professional speaking, this kind of risk is called over-interconnection that nearly no remedies are available and the loss, laceration and phobia are irretrievable, especially for "cewebrity" who is popular across the Internet.

Thirdly, legal risks. The legal risks can be unfolded in three dimensions. Considering the technological property of cyber diplomacy, the incompleteness of the law is intensified. It is not suspicious that the crimes through the Internet, such as rumor-mongering and state confidential secrets divulging, are more invisible, hazardous and infectious compared with the formal types of crimes, smearing the images of the nation and violating the interests of the motherland. What is worse, especially for China, the law system and specific rules and regulations are in vacuum and there are no laws to abide by and no judicial interpretations to refer to, namely, the edges and definition of illegal behaviors in cyber diplomacy are indistinct and vague, sparing room for speculations, let alone the punishment mechanism for law-breakers. Finally, one question with the value of special attention is the conflicts between the native law and international law, for example, let us suppose that somebody commits a crime concerning national interests on the Internet and he is supposed to get punished, however, if he flees away to the other countries, the native law is no longer applied to this case of crime and there is

controversy about the application of the law based on the vast differences from the ideas, faith to the articles of the law. Though the criminal who exploits the advantage of the loopholes of law is punished afterwards, the cost of negotiation between two countries is expensive.

Fourthly, monopoly risks. Considering the particularity of the cyber diplomacy market, Internet becomes another platform for government to exercise diplomacy activities, where the public diplomacy and the willingness, attitudes of netizens are only mere scrap of the paper. For one thing, it seems that it reduces the potential risks arising from the Internet; for another, it loses the potential energy and strength of netizens, which is a concept of opportunity cost in economics. In essence, it likes a game between globalization and protectionism. It is true that we lock the risks out of the door, however, we also lock ourselves in a fixed room simultaneously.

Fifthly, data security risks. One characteristic of the Internet behavior is that nearly any behavior online will leave vestiges and traces. From the procedure of account registration to the expression, comment of a certain political event, the privacy and private data which are exposed to the public are under severe test. Some data, especially in regard to the secrets, are valuable and are easy to become the targets of hackers with technological advantages. From the development of human beings, 21th century is a century of information and data, country that gains data advantages has more positive position in the game of diplomacy, as a result, cyber diplomacy calls for more complete and improved data security mechanism and it is an urgent project on the table of each country.

3.1.2 Subjective risks

From the angle of behavioral diplomacy and psychology, it is widely accepted that any actor in the cyber diplomacy is not completely rational like what is in the ideal textbook, instead, they are bounded rational and have the tendency of over-reaction and under-reaction. For instance, the effects such as herding effect, Halo effect, Broken Windows Theory, are frequently happening with the limitations of recognition and awareness for actors. Moreover, in the imperfect information market, the adverse choice and moral hazard may happen with the drive of commercial profits, and as time goes by, the Internet space is like “Lemon Market” with the wide spread of ugly comments and scandals.

3.2: Related suggestions

Firstly, clarify the actors of cyber diplomacy, accelerate the formation of multi-level participators under the guidance of government. As far as I know, we should keep a balance between the particularity of diplomacy and the emergence of public diplomacy. On one hand, the leading role of the government in the implementation of diplomacy should be strengthened and improved, vividly speaking, in most cases, the government should play the role of a judgment rather than a coacher in the race of diplomacy. It is wise that the government spares some space for the public appropriately and moderately in some areas that are suitable for Internet cyber diplomacy, such as the “THAAD issue” in the society of DPRK. What is more, the strict approval, education, timely supervision upon non-government actors are needed. On the other hand, the non-governmental actors should be diversified. From my point of view, it is a gradual process, and nowadays, some retired officials, diplomats, actors, professors, educators, athletes, painters, artists should be given high priority for they have some basic diplomatic knowledge generally and the fields they go for are mutually beneficial for other countries, so that the win-win cooperation can come true. Ultimately, besides the horizontal dimension, the vertical dimension of cyber diplomacy should be reckoned with. For example, the local government can exhibit cultural exchanges on the Internet with states of the USA, arousing their enthusiasm in the construction of Internet and engagement in foreign affairs. To further promote the multi-level development of cyber diplomacy, the central government may apply the approach of incentive compatibility and take their behaviors in cyber diplomacy into the range of gauging the performance.

Secondly, establish and institute a sound legal system regarding to cyber diplomacy. In fact, the law country is one of the targets for China in recent years as well as the law development. To some degrees, it is a symbol for a civilized and modern country. The law-makers should take advantage of the law of other developed countries, follow the trend of international law and combine with the practice of China. Moreover, some associations regarding cyber diplomacy, for example, the union of multinational corporations, should function as the role of self-discipline by contracting some agreements to limit their behaviors.

Thirdly, international cooperation in the cyber governance. Chinese government should take part in the circle of cyber governance positively, because it not only accords with the strategic diplomacy and national interests, but also is an issue of cyber security with the feature of cross-border crime. Only with the international cooperation, can the punishment and threat functions of cyber diplomacy laws be given into full play, solving the crime completely and cultivating a sound atmosphere in cyber space.

Fourthly, expanding the investment in technologies, such as big data, i-clouding and other dynamic regulatory models or systems. The government should mainly and initially shoulder responsibilities since the technological investment need a period of time to create the scale effect which beyond the private corporations’ patience. Yet, the cooperation

pattern, such as PPP, is likely to be a trade-off solution and they can build an information sharing system to share the benefits.

Graphical analysis:

X (in the horizontal axis): the investment in the technology in the cyber diplomacy, and the technology will be more complex and professional as X increases;

F(in the vertical axis): the utility, efficiency or profit of technology investment in the cyber diplomacy, such as a higher degree of satisfaction from foreign netizens;

R: benefits but not net benefits, which is the function of variable X;

C: total cost, including labor capital and Internet manufacture, which is also the function of X;

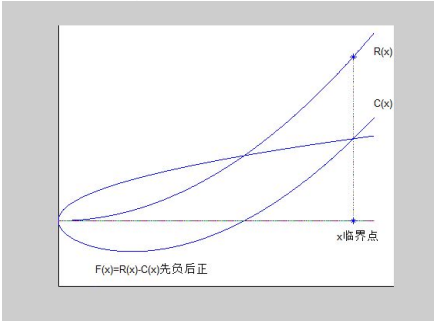


Figure 11 the functional analysis of the efficiency of investment in technology

F(z)=R(z)-C(z)=0;

$$\int_0^z |F(x)|\,dx = \int_z^x |F(x)|\,dx$$

As we can see from the chart, the utility changes from negative to positive with Z, and X as turning points in this process. At point Z, the efficiency takes effect at the first time, and if we put investment further to point X, the previous losses will be completely offset and the dividend can be shared between the government and the public capital.

In conclusion, the technology investment is a long-term investment and capital pay-off time is relatively long, but the prospects are promising if we keep patient to cross the two turning points.

4. CYBER DIPLOMACY AND NEW MODEL OF SINO-U.S. RELATIONSHIPS

4.1 Donald Trump's Twitter diplomacy (Trump effect)

Thanks to the Twitter-loving Donald Trump, the concept of "Twitter diplomacy" has gained momentum across the theory and practice, which is a new form of micro-blog diplomacy and neo-media diplomacy. As the 45th president of USA, though it takes only about a quarter of a year since he took his presidential oath in White House in January 20th, diplomacy in the USA has witnessed great changes and adjustments. From my point of view, when recalling the Twitter diplomacy with Trump style, we can divide his art of diplomacy into two parts: one is during his election campaign, the other is the time when he takes into office. During his election process, Twitter is such a powerful weapon that makes him win the support and triumph over Hilary, he expressed his thoughts, ideas about his trades policies, refuges and social welfare, hoping to make America stronger again. It is Twitter that helps him propaganda his opinions and win the height of media. However, after he takes office, with respect to diplomacy between China and America, Trump shows his "ideas of businessmen" in sensitive issues like "Taiwan issue", "one-China policy". Specifically speaking, he made a telephone call with Tsai Ing-wen and run counter to the "one-China policy" recklessly and brashly, which is the bedrock of Sino-US relations based on the three joint communiqués, causing uncertain risks to the bilateral relations. This kind of Trump effect in the area of diplomacy is unprecedented and causes new challenges to the diplomacy in China. Compared with the traditional diplomacy, Trump's Twitter diplomacy is unique in that it endows wide influence and activity before the formal declaration of policies. On my opinion, it operates like forwards market and barometer, not only showing the subjective attitudes of Trump, but also expressing the future expectations of diplomacy like briefing meeting, testing on the reactions of the market.

4.2 formal efforts, investment and construction of cyber diplomacy in the USA

There is no denying that USA leads the way of cyber diplomacy globally since 21th century. Firstly, America is the hometown of the Internet and leads the innovation, application of the information technology (IT) with advanced mechanics and engineers, which is the fundament of cyber diplomacy. Secondly, from the height of strategy, the USA has set up the departments regarding cyber security and cyber diplomacy under the framework of State Council. What is more, the federal forges good cooperative relationships with Internet giants like Google search engine to carry out its strategic cyber diplomacy, which is relatively efficient and improves the images of the America.

4.3 the road map for China's practice in the field of bilateral diplomacy with the help of cyber diplomacy

Sino-US relations meet another crossroads in history with the Trump effect and other factors, and cyber diplomacy becomes a more and more interesting and important tool in the diplomacy practice. From my viewpoint, firstly, the importance of cyber diplomacy and Twitter diplomacy should be undergrounded, secondly, Twitter diplomacy is more than an issue of diplomacy, it is an issue about security and military interests, so that the coordinated efforts should be made, thirdly, the cyber diplomacy should stick to the premise of mutual respect online, making the cyber diplomacy an edged tool to bring benefits to netizens and people of both countries.

Then, we set China and the USA as two players in the static game model of perfect and complete information, which is ideal. We suppose that two players are rational players and they respectively pursue for the maximum of utility. In respect to cyber diplomacy, China has two strategies: launch cyber diplomacy war or not, if it launches, it will gain extra profits but also punishment from the international society, such as the International Court of Justice in the United Nations. In this model, to consider more simply, we ignore the extra cost, such as transaction cost. The results of payment are assumed as: both countries will gain punishment if both of them launch the cyber diplomacy and the punishment is in proportion to their different extra benefits with the same parameter μ, moreover, if one launches and the other not, because it is difficult to recognize which side launches firstly, the global community will give both of them the absolutely same punishment in the cooperative game, finally, if both of them obey the rules of Internet, no benefits or losses are formed. The matrix of game is represented as follows:

China / USA	launch	Not launch
launch	(E1-μE1, E2-μE2)	(E1'-C,-C)
Not launch	(-C, E2'-C)	(0 , 0)

Assumption: E1'>C, (1-μ)E1>-C, (1-μ)E2>-C, E2'>C.

Conclusion: with the underlined approach to find out the equilibrium solution, it is not difficult to discover that the two players fall into the trap of "prisoners' dilemma" based on the assumption above, where the welfare of both is the least. To avoid the situation, there are two roadmaps according to the above analysis. One is that both China and the USA observe the basic rules and exclude the possibility of launching cyber diplomacy war; the other is that the community makes an equal punishment mechanism, so that the situation can be improved with the increasing cost.

All in all, in order to struggle free of "Thucydide's trap" both China and USA should obey the practical rules of "No confrontation, No conflicts, Mutual benefit and "Win-win cooperation" in the field of bilateral diplomacy on the Internet.

5. CONCLUSIONS

Despite the fact that cyber diplomacy is a double-edged tool for the diplomatic practice, nothing can avert the development of it under the tendency of informatization and globalization. From the height of philosophy, diplomacy is a concept of aesthetics. It is such a kind of arts or skills that connects the world and makes the life of human beings better and more beautiful.

Personally, this paper mainly retrospect the development of cyber diplomacy in China and the world both theoretically and practically, concluding that the emergency of cyber diplomacy is not by accident. Moreover, some personal tips are proposed based on the current situation, especially in the new era of Trump.

In summary, cyber diplomacy is a fledging and shining point of contemporary diplomacy, and with the advance of information technology and diplomacy practice, the prospects of cyber diplomacy is promising as long as we adapt to the trend and rein in it. It is the high time that the whole society in China, guided by the government, undertakes the responsibilities of cyber diplomacy to build a more powerful diplomacy country with attraction, making China and the world more beautiful and prosperous. We wish that cyber diplomacy would bear plentiful and substantial fruits on the land of China, composing the harmonious music of blossoming spring on the global village!

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The introduction of Byzantine military systems during 11th-12th Century

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Abstract: With the Byzantine Emperor Flavius Heraclius came to power, the Byzantine Empire, the empire of Romans, had came to a new generation with troubled political and military issues. The war with Sassanian Empire started at A.D.602 and ended in A.D.623. In the period of Heraclius' ruling, the Sassanian Persians were defeated, and soon Byzantine Empire experienced war against Arabian Empire. Continuing wars, the appearance of new enemies, the loss of Northern African provinces and Egypt caused the main military force of Byzantine Empire to change in differentiated sides according to new needs. The using of Theme system and mercenaries also strongly influenced the equipments and tactics of Byzantine Army. These military innovations can be easily found from the Byzantine Army in 11th and 12th Century, as the Byzantine Empire was under the rule of house Komnenos, receiving support from the Crusades and fighting against the invasion of Turkish tribes. By drawing lessons from those friends and enemies, Byzantine army experienced a new golden age.
Keywords: Theme; Pronia; feudalism; Muslim Conquest

1. INTRODUCTION

The Roman Army which we usually see in movies or dramas, were well trained, strict regulated and finely supported. As the successor of the Roman army, the Byzantine army maintained a similar level of discipline, strategic technology and training. It definitely was one of the most strong and effective armies in entire Europe during the Middle Ages. At least, before Byzantine Empire was actually shaken and weaken, its army remained strong.

Byzantine was highly dependent on Foreign mercenaries and barbarian allies in 10th and 11th century. This situation was a result of the loss of territory in Asia Minor. Of course, the distrust between military officials and Emperors also played an important role. During 11th and 12th century, under the rule of house Komnenos, the Byzantine Empire started to restore the native army. At that time Byzantine Army adopted military customs and technologies from both Western Europe and barbarians, including Turks, Slavs and Huns. Now this article will make introduction and analysis about the Byzantine army system and division of troops in 11th and 12th century. This article will also explain why this period was a golden age for Byzantine army.

2. THEME AND PRONOIA SYSTEM

Flavius Heraclius, the emperor of Byzantine Empire who shifted official language from Latin to Greek, was also a well-known military reformer. According to an accepted theory, his creation, the Theme system, was not only an military organize method but also an administrative division.

In The Alexiad by Anna Komnenos, she described a part of speech of Alexios Komnenos with following words:

"At the break of day, though it was a hard task, he summoned them all, especially the most influential and the richest men, and fixing his eyes on them chiefly, he said: "You all know how this barbarian has treated all the cities of the Armenian theme, how many villages he has sacked…"

According to what Alexios Komnenos said in his speech, he used the words of "cities of the Armenian theme". It definitely shows that even though the Theme system worked as administrative division instead of the old province system in Roman Empire.

The newer division system, which was called Pronoia. It was created in Komnenos dynasty, and its name was from Greek word "πρόνοια", means "care". From its original meaning we can see that it still worked as soldier settlement system, but it was similar to feudalism for some aspects so it was more friendly to nobles and officers.

Same with Theme system, it transferred national financial rights to individuals or military units. The biggest difference between Pronoia system and feudalism was that, the Pronoia gave its beneficiary only the possession, not the ownership of national property. For example, a soldier could be a beneficiary of Pronoia system, and he got the possession of a piece of farmland. He could only grow crops on the soil, but he could not sell it or let his son inherit this land.

(1). The funding of Theme system

According to the widely accepted theory, the Theme system of Byzantine was created during the rule of Heraclius. This theory was proved by *the Chronicle* of *Theophanes the Confessor*, which once mentioned the arrival of emperor Heraclius "in the lands of the themes" in A.D.622. However, there is also another theory about the creation of Theme system. It came out much later than the first one and suggested that the Theme system might be created later, around the period from the 640s to the 660s under the rule of

Constans II.

Here is one thing that has been widely accepted: the Theme system was created directly because of the loss of important imperial grain-producing region: Northern Africa and Egypt during Muslim Conquest. Before the applying of Theme system, the Byzantine army kept using the organization and supply method of ancient Rome, but soon the lack of grain supply made it impossible to keep an army of standing troops as large as before. For the emperor, how to feed those soldiers became a serious problem. Theme system allowed the soldiers to use a piece of farming land, as they could feed themselves by farming during peace. Formally, those soldiers were still on service, and they still follow the order from theme commander. The land which distributed to soldiers was still the property of state, and soldiers cannot sell it or buy more land from other soldiers.

Constantine Porphyrogennetos, who was the forth Byzantine emperor of Macedonian dynasty, recorded that the word "theme" originates from the Greek word "thesis", which means "placement". This proved that Theme system was designed to supply soldiers. Fall of Byzantine military supplement power, loss of farmlands and declining manpower caused the apply of Theme system.

Another reason of the creation of Theme system was the necessity and threat of combined power of provincial authorities. Emperor Diocletian used to set up the authority division which did not allow an officer to hold both civil and military power. However, the military and political crisis in 6th century necessitated the union of local civil authority and military authority, including *magister militum,* an senior officer created in 4th century.

So while the Empire turned into the period of Emperor Justinian I and Emperor Maurice, the old authority division had been broken. A new governor called *exarch* appeared with a more combined authority, played important roles in both civil and military affairs. Of course, this kind of supreme power would strengthen the border defense, but it could also be a threat against the emperor. Theme system, however, could be a chance to deprive the power of those exarchs by force. By funding new themes, exarchs had to give up their powers to new theme commanders, who were called "Strategos", means "leader of the army". They directly answered to the Byzantine emperor, who was also the Command in Chief. The govern method in Diocletian's period had been abolished, while the local provincial commander after the Roman Republic started to control army again.

The first themes were funded experimentally in Armeniacs (Thema Armeniakōn), Anatolics (Thema Anatolikōn), Opsician (Thema Opsikiou) and Thracesians (Thema Thrakēsiōn). Other areas soon created their own themes as it truly solved some of the supply problem and greatly deprived the supreme power of provincial exarchs.

(2). The declining of Theme system

The high peak of Theme system was around 8th to 10th century, while Byzantine external conflicts were eased. But when the time came to the 11th century, the "minor" themes, which were generally smaller than original themes, started to appear.

Soon, the noble families in themes appeared. These families were usually land lords, as they extorted money while they were serving as imperial officer. Thus, they actually controlled the land of themes. Privatization of land corrupted Theme system, and greatly threatened the emperor. The house Komnenos which produced several emperors was a family of that kind from Asia Minor. Knowing the importance of the support from those noble families, emperors in Komnenos dynasty used both hard and soft tactics in order to control nobles. Theme system had been used for rewarding and stabilizing the nobles, it no longer could satisfy the original uses.

Although Theme system existed in name only during the late Byzantine Empire, Theme system was kept until the falling of Eastern Roman Empire in 1453.

(3). The funding of Pronia system

Pronoia was a temporary system created in Komnenos dynasty, 11th and 12th century. The house Komnenos was a noble family from Asia Minor, which controlled the throne by mutinying. The mutiny was started by military nobles who against the former emperor Michel VI, and they supported Isaac Komnenos to be the new emperor.

Knowing the importance of the support from those noble families, emperors in Komnenos dynasty struggled against noble families. Issac Komnenos tried to remove the nobles from Constantinople by appointing them to further provinces , and this action enraged those families. This resulted in the interrupt of this dynasty's ruling. After Doukas dynasty, Komnenos family controlled the throne again, but the rest of used both hard and soft tactics to control nobles.

The distrust among officers, nobles and emperors made the native Byzantine army unusable for years. This empire started to rely on foreign mercenaries. To strengthen and restore the native Byzantine army, the emperor needs to gain support from officers and nobles.

Thus, Pronia system came out with some feudalism figures. To ingratiate nobles, Pronia system gave the beneficiaries more rights on their land. They could not only farming or cultivating livestocks but also charge tax from the people living in their areas. Soldiers could still benefit from Pronia system.

The Pronia system never completely or formally replaced the Theme system for both administrative and military affairs. Theme system existed until the falling of Eastern Roman Empire in 1453.

3. CONCLUSION

Change in military systems reflected certain factors that caused the Byzantine Empire's decline: the struggle between strengthen and weaken the nobles, the privatization of imperial property, the competing noble families, external invasion and internal revolts. But with the restoration of native Byzantine army during the rule of Komnenos dynasty, imperial military development actually experienced another and the last golden age.

For later people who are trying to judge Byzantine authority policies, the feudalism figures could be dangerous for an empire which was shaking and partly controlled by powerful noble families. However, one result of applying Theme system and Pronia system should be praised: they successfully helped emperors gain support from military. Thus, a trust between govern class and military class had been funded—— although this trust is weak and easy to be broken. It definitely kept the existence of Byzantine Empire until 15th century.

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An Empirical Study on the Factors Affecting Property Price Increase in China

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Abstract: The real estate industry occupies an important position in the national economy and makes great contribution to China's GDP growth. The real estate is also closely related to people's living space, so it helps to make people live and work in peace and contentment, and ensure social stability and sustainable development of the national economy, thus promoting the healthy and stable development of the real estate industry. At present, the continuous improvement of housing prices in China has caused great pressure to people, which may cause serious social problems if not controlled. Combined with the basic law of market economy, this paper adopts the method of theoretical empirical combination to conduct related research and analysis on the factors influencing increase in property price from the perspective of supply and demand.

Keywords: FPGA; High-speed Information Processing; X-ray energy spectrum; Electronic measurement system; Compensation measures
Increase; in property price; influencing factors; empirical research

1. INTRODUCTION

The front-end data of X-ray energy spectrum is millivolt voltage pulse sequence, the pulse width of the sequence is microsecond level. But the amplitude and number of the pulse sequence contains the is sed system is FPGA as the control core. The data acquisition and processing system is composed of program control amplifier(PCA), A/D converter, FPGA unit, MCU unit and FIFO interface unit. The system block diagram is shown in figure 1.

China's housing price is rising rapidly in recent years. By the end of 2016, the average price of real estate in China reached up to 8069 yuan / m2, which was 2.4 times higher than that of the year 2000. However, the rate of income growth of our residents can not catch up with the rising speed of housing price, so "difficulty in buying a house" has become an important social issue. There is a gigantic economic bubble in the high price. It is conducive to the development of effective housing price control measures to study the irrational influencing factors of housing price rise, thereby promoting sustainable development of economy and society.

2. THE CURRENT STATUS IF REAL ESTATE MARKET

There are significant regional differences in the development of China's real estate market. The housing price in Beijing, Shenzhen and other first or second-tier cities keeps rising, but the supply is not adequate to the demand. However, the supply exceeds demand in real estate market in less-developed third or fourth tier cities. In 2014, the national housing price had an average year-on-year increase of 9.73%, while Beijing's new house price rose 16.88%, Guangzhou 19.74%, Shanghai 17.45%, Shenzhen 20.13%, showing a much larger speed of increase in property price in first-tier cities than the national average Level. The economic development makes the land price of these large cities keep rising, along with the housing price. Our government has introduced a series of policies to regulate the soaring housing price, but little effects are obtained under conditions of the market economy. The abnormal increase trend of housing price is not affected too much by the policy.

China's real estate market economic bubble has become the fact, but no consensus has been reached in the theoretical cycle on the influencing factors of irrational increase of housing price. China's academic circle mainly makes qualitative analysis of the ways to research housing prices, from which perspective it is found that the influencing factors of housing price include real estate business credit capacity, national income level, population size and structure, future income expectations, land supply, buyers preferences, family factors and so on. Accurate data should be selected for modeling so as to research on the problems of increase in property price, thus truly reflecting the internal relation between the increase in property price and various influencing factors.

3. INFLUENCING FACTORS OF THE RAPID RISE IN HOUSING PRICES

(1) Income Increase

Since the reform and opening up in the 1970s, China has been adhering to the correct path of reform and opening up with economic construction as the center,which realizes the rapid growth of the national economy and the rising income of residents. In 2014, the level of personal national income was 1.5 times higher than that in 1997, among which the income increase of urban personal reached 17.23%, and the rural personnel reached 12.11%. The increase of personnel income has improved the consuming ability significantly. The related data displayed that the urban housing expenditure accounted for 7.1% of the total personal consumption expenditure in China in 2014. Thus, it can be seen that housing

consumption has become an important part of Chinese urban residents consumption structure, and with the increase of income level, the housing expenditure will increase correspondingly. There are increasingly more people invest more in housing expenditure in the pursuit of better living conditions. In addition, rural residents will also buy houses in the city once they are capable economically, in order to improve their living standards, which is bound to cause the housing demand increase. The income increase will lead to the improvement of consumer demand. Housing is the basic needs of people, and people will have higher requirements on housing when they have economic strength. Therefore, the demand increase of commercial housing becomes an important factor improving the increase in property price.

(2). The acceleration of urbanization process

With accelerating urbanization process, China transfers from the rural spatial form to the urban spatial form. As the city modernization level is continuously improved, and the urban living condition is constantly optimized, a large number of rural population began to gather in the city, to seek for work opportunities or better living conditions. After the policy of reform and opening up was carried, the proportion of urban population in China increased constantly. In 1999, the urbanization rate was only 34.25%, but it reached 55.41% by 2014. The acceleration of urbanization promotes the rise in house prices to a certain extent. As a large number of rural population, floating population and graduates flow to the city, urban housing demand continues to increase. When the demand is higher than the supply, the housing price will show a rising trend.This condition is more significant in first-tier cities in China.

(3). Limited supply of land resources

Although China has vast territory, a large part of which can not be used by human being. The shortage of land resources is only aggravated by large population in China. The land use survey data showed that China's construction land reached 378.98 million hectares by 2014. However, cultivated land and land used for greening were occupied and developed in many areas, which indicated severe land resource using form in China. Unlike other resources, land usage can not be changed in a certain period of time. Although some non-construction sites can be re-developed as construction land, it requires a huge amount of money, time and manpower, what's worse, there is a lack of various types of land in China. The development of real estate must be carried out on the basis of land, and the limited resources for development have promoted the rise of housing prices greatly.

(4). Population growth

The growth of the population comes along with the growth of various living demands. As one of the basic living necessities, housing becomes an important indicator measuring the living standard and happiness of people. From 2013 to 2013, China's urban population increased by an average of 21.04 million people per year. According to the average housing demand of 31.8 square meters per capita per year in 2013, the new housing area required at the same year is about 700 million square meters. However, in actual situations, it is unable to develop such huge resources of land construction. The contradiction between the shortage of land resources supply and the population increase has exacerbated the shortage of commercial housing and pushed up the housing price quickly.

4. EMPIRICAL RESEARCH

(1). data sources and variables selection

The house is still a kind of commodity in essence, the price of which is affected by the price law. In order to validate the above influencing factors of increase in property price, corresponding empirical researches should be carried out. This paper chooses the relevant statistical data of house price in China Statistical Yearbook from 1999 to 2014, which ensures the authority of the data source and the accuracy of the data itself. Through modeling and result analysis,calculation and verification of the quantitative relationship between the housing price and its influencing factors are made. In this study, there are mainly several variables selected, including income per capita, housing sales price, urban population structure and real estate land supply.

(2). Establishment of Multiple Linear Regression Model

Firstly, multiple linear regression model should be established in order to make an accurate analysis of the relationship between the housing price and its influencing factors:

$$P = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + u \quad (1)$$

P represents the sales price of housing, β_0, β_1, β_2, β_3 represent the parameters to be estimated, X1represents the income per capita, X_2 is the urban population, X_3 represents the supply area of the real estate land, and μ represents the random error.

It was regressed using Eviews 6.0 after the establishment of the linear regression model, and then the regression equation was obtained as follows:

$$P = -2557.789 + 0.143165 X_1 + 0.0099505 X_2 + -0.026006 X_3 \quad (2)$$

t=-2.21 2.34 2.91 -2.23

R2=0.9899 F-statistic=411.9982 DW=1.968978

The regression results showed that R2 = 0.9899, which indicated good imitative effect. The F statistic value was 411.9980, and the explanatory variables were all significant, and the DW value was 1.968978. There was no autocorrelation among the explanatory variables in the regression model. The estimated results of the above parameters showed that the measurement property of the multiple linear regression model was excellent.

(3). Analysis of results

In the linear regression results of the multiple linear regression model about the house price and the influencing factors, the F statistic value reached 411.9982, which indicated that the explanatory variables in the model were quite significant on the whole. The results showed that the increase in property price was under the impact of variables selected. The synthetic action of constant increase of urban population, limited supply of land resources, the improvement of residents' income and the continually accelerating accelerating urbanization played a vital role in promoting the rise of housing price. The results of empirical analysis were consistent with the theoretical analysis result of the second part of this paper, and the analysis data were credible. The statistics of each explanatory variable in the multivariate linear regression model were greater than the significance level of 0.05, which indicated that the explanatory variables in the model had significant effect on the explained variables,namely the quantity of urban population, urbanization process, the supply of construction land, the income of urban residents all had significant impact on the increase in property price. The coefficient of X1 in the regression equation was 0.143165, the coefficient of X2 was 0.99505, and all the coefficients were positive, which indicated that there was a positive correlation between X1, X2 and the explained variables, namely the increase of household income and the increase of urban population and housing sales price increase had the same direction of changing trend. But the coefficient of X3 was -0.026006, which indicated that X3 was negatively related to the explained variables, namely there was reverse increase between the supply of land resources and the sale price of housing. The less the land supply, the higher the building price. At present, the shortage of urban construction land in China will push up the housing price further. The results of the model regression were the same with results of theoretical analysis,so the trend will also be presented in the actual real estate market development. The economic significance of using the multiple linear regression model is as follows: when other factors remain unchanged, every one unit of increase of the income level of the residents will lead to 0.143135 units of housing price increase; every one unit increase of urban population will cause 0.099505 units increase of housing price correspondingly; every one unit decrease of land resource for real estate construction will cause 0.026006 units increase of housing price.

5. THE IMPACT OF INCREASE IN PROPERTY PRICE AND SUGGESTIONS ON MARKET DEVELOPMENT PROPOSALS

(1). Model prediction and testing

It is obtained through theoretical analysis and empirical research that housing price will be affected by many factors, including the above factors and consumption structure, housing area, gross domestic product and commodity retail price index and so on. Housing price change in reasonable range is favorable to the development of market, but China's real estate market has stepped into an abnormal trend of development. Over the past 10 years, China's housing price only showed slight drop in 2003 and 2012, but remained in a growing trend for the rest years. The establishment of linear regression model about housing price influencing factors can make visual manifestation of the factors affecting the increase in property price, and also make relevant economic tests. We can establish prediction model of the average decimal price of the commercial house to carry out the corresponding simulation forecast test in the certain sample interval, so as to analyze the error of the predicted value of the average sales price of the commercial house, thereby estimating the authenticity and reliability of the modeling. Combined with the predicted value and real value of housing price from 1999 to 2014 in China, the results showed that the error of the predicted data was small, which can be guaranteed to be below 0.01. It indicated that it is accurate to use multiple linear regression model to forecast and calculate the housing price.

(2). Increase in property price and financial industry

On the one hand, increase in property price showed the development of national economy and the income increase of residents; on the other hand, unreasonable rising trend will cause adverse impact on the economic development and social stability. As a capital - intensive industry, real estate is closely related to the financial industry. Since financial industry is the core of modern economic development, once it has great volatility, economic chaos may likely occur, more seriously, it will lead to the outbreak of the economic crisis. Nowadays, economic crisis tend to affect the whole world. The housing prices of China's first-tier cities stay high, so many urban residents will choose to buy a house with mortgage loan. The increase in loans is conducive to the increase in the vitality of the financial market, but the vulnerability of buyer credit verification may also lead to the increase of non-performing loan. In addition, many third and fourth tier cities have also invested a lot in real estate development, but the economic development is limited in these areas. So the housing price will not be set in a reasonable way in order to recover capital, thus leaving a large number of new houses unused. The real estate agents can not recover capital, so they are unable to repay the loans from commercial banks and other financial institutions, thus affecting the healthy development of the financial industry seriously. At the same time, the stable financial environment will also play a supporting role in the healthy development of the real estate market. Once the loan interest rate is reduced, it will promote the expansion of real estate

construction, which will relieve the housing pressure to a certain extent.

(3). Suggestions on curbing the increase in property price

Combined with the rising trend of housing prices in China and the above empirical research and analysis, it is concluded that the level of national economic development and the level of income will have a profound impact on the housing price. Under the market economic system in China, the housing price-to-income ratio is positively correlated with the housing price, namely, the higher the housing price, the more likely that there will be economic bubble. The essence that houses are commodities makes the regulation of market supply and demand the fundamental method to solve housing problems. Through curbing the unreasonable housing buying demand, speculative house buying and restring and fighting against real estate speculation, it can inhibit housing price rising to a certain extent. The government need to take the leading role in the management of housing needs, training housing gradient consumption.

First of all, it should adopt different attitude and management ways about housing demands, and crack don won real estate speculation and other behaviors. Second, it should conduct training on housing gradient consumption. The government should make full use of its own macro-control functions, enhance the propaganda on the rational concept of housing consumption, and guide residents to establish reasonable concept of housing purchase to ask them select suitable houses according to their own consumption level. It can make consumers realize the risks in real estate market through a variety of ways, and can take the economic knowledge publicity and education model to guide the public to build moderate housing consumption concept. It can give tacit consent to large fluctuations in real estate market at local areas, and give full play to the role of the market itself. Finally, the government should reduce the intervention into the real estate market, and the local governments need to reduce the protection of local real estate.

6. CONCLUSION

In summary, the rise in housing price is affected by many factors. The author made analysis of the increase in property price from the perspective of market supply and demand, and verified the results of theoretical research using empirical research, to ensure the reliability of the results. The results of the theoretical analysis and the linear regression model all showed that the population changes, the degree of urbanization, the income level of residents and the resources of construction land will play a significant role in promoting the rise of housing price. At present, China is at an important period of the transformation and upgrading of social reform and economic development mode. The contradiction between the huge population and limited land resources and the huge economic difference between urban and rural areas are the key factors that cause the abnormal rise of housing prices. It is a problem difficult to solve, since the real estate itself has obstinate influencing factors. There is a high correlation degree between the real estate industry and other industries. And the industrial chain of the real estate industry is long. As an important support industry of the national economy, it requires long time for adjustment and change to achieve the balance of supply and demand, so it is unable to solve the problem of housing price rise completely within a short time.

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Clinical Application And Prospect Of Freeze-Dried Tablets — Research On Independent Research And Development Technology Based On Quantum Hi-Tech Group

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Abstract: Freeze-dried tablet is a new type of drug dosage form, which has the advantages of rapid oral disintegration, rapid onset, high drug utilization and so on. It has broad prospects for development in China. Qsorb® freeze-dried rapid release technology independently developed by quantum hi-tech group is one of the most advanced technologies. The clinical application and advantages of freeze-dried tablets are analyzed in this paper. Achievements of the development and application of freeze-dried tablets are briefly described on this basis. And then development and application prospect of freeze-dried tablets Qsorb® technology are proposed for reference.
Key words: Freeze-dried tablets; Clinical application; Prospect; Quantum hi-tech group

1. INTRODUCTION

Freeze dried tablets are orally disintegrating tablets prepared by freeze-drying method. It is a kind of tablet which can dissolve or disintegrate rapidly in the mouth without water after experiencing saliva in 3 seconds. The main preparation process of freeze-dried tablets is: medicine and water soluble matrix, including polysaccharides, gelatin, peptides, and other accessories such as suspension of suspending agents, preservatives and colorants are quantitatively packed in certain mould. After freezing into a solid state then decompression and heating are used. The high porosity solid preparation is obtained by removing water by sublimation. The advantages of freeze-dried tablets type are shown in Table 1.

In the clinical application in domestic, because freeze-dried tablets rapidly disintegrates into particles in the mouth, the increasing surface area accelerates dissolution rate of drug, the active ingredient is absorbed rapidly, the medicine is taken effect quickly, the bioavailability is high, which is easy to carry and take. Therefore, it is often used in clinic in the treatment of acute allergic reactions, acute exacerbation of asthma and sudden cardiovascular disease. Such as nitroglycerin, nifedipine, isoproterenol and so on[1]. At present the best selling loratadine orally disintegrating tablets produced by quantum hi-tech have been widely used in clinical. In addition, freeze-dried tablets are also used in sex hormones drugs and contraceptives. After rapid disintegration in the mouth, part of the drug enters the gastrointestinal tract with swallowing power, as well as some drugs absorbed into blood through the oral cavity, bottom of tongue and tongue mucosa. Therefore, it can take effect quickly, and can avoid the damage of the sex hormone drugs by the liver enzymes, and improve the drug utilization [2].

2.QUANTUM HI-TECH GROUP'S ACHIEVEMENTS IN THE DEVELOPMENT AND APPLICATION OF FREEZE-DRIED TABLETS

(1)Qsorb® freeze-dried quick release technology

Shaanxi quantum hi-tech Pharmaceutical Co., Ltd. is the production base of Beijing Hi-Tech Research Institute, founded in 2002, covers an area of 84 acres. The company focused on promoting the "Qsorb® freeze-dried flash release tablets" technology development and industrialization, which lasted 15 years and invested huge capital, achieved a number of major breakthrough and regulatory licensing. The construction of freeze drying and disintegrating tablet preparation workshop was started in 2005. At the end of the same year, the equipment was installed and debugged, and the GMP certificate was obtained in August 24, 2008. In ten years, quantum hi-tech R & D team continues to focus on the freeze-dried quick release technology research. After bottleneck breakthrough technology such as the massive material selection, mechanism research, formulation optimization, process of exploration, material development and industrialization of docking, the "Qsorb®" freeze-dried quick release platform is finally established. Freeze-dried oral disintegrating tablets have been gradually expanded from the initial only applies to chemicals gradually expand to all drugs, health food, cosmetics and veterinary medicine and other fields. "Qsorb®" freeze-dried quick release technology is explained specifically from the

following 5 aspects:

Q. (quick) Convenient, fast-- Greatly improve the medication compliance of patients. No need to use water, no chewing, quickly scattered in 3 seconds. Rapid disintegration, rapid absorption and rapid onset. Good taste, no feeling of bitter or sand.

S. (specificity)Specific groups-- Suitable for specific treatment markets and populations. It is suitable for people who are active in taking medicine, such as children and patients with mental illness. It is suitable for people who suffer from passive medication, such as the elderly and patients with dysphagia. It is suitable for patients with rapid onset of indications, such as pain, insomnia, nausea, allergies and other diseases. It is suitable for patients with inconvenient drinking water, such as staying in bed, field work, dysuria, business people. It is suitable for animals, especially pets.

O. (originality)Original,Monopoly-- Have exclusive market competitive advantage. Advanced and original features give the product a unique value that can be implemented in separate market price operations. Trendy experience and fashion portable packaging are more attractive to consumers.

R. (reliable) Safe and reliable-- Improve drug quality. The dosage of excipients is very little, which can effectively reduce the compatibility of drugs and excipients. Medication is more secure. Low temperature process and unique packaging ensure that the product has excellent stability and validity.

B. (better)Efficient, progressive-- More excellent results, still in progress. Avoid the first pass effect of liver, no damage to the liver, and improve bioavailability and efficacy. R & D team is still strengthening platform technology,and constantly give the product more extreme value.

(2)Introduction to quantum hi-tech production support

Shaanxi quantum hi-tech Pharmaceutical Co., Ltd. is located in hi-tech Development Zone Weinan Shaanxi , founded in 2002. The factory has a unique global production line of dry mouth collapse, with an annual capacity of 300 million slices. At present, the company has become a production base for external supply chain members of Pfizer, Johnson, Swiss Novartis. 2. A full set of imported non-standard equipment are derived from the world's top equipment suppliers. 3. External supply chain members of international famous pharmaceutical company have passed several regular and irregular production audits. 4. A single line has an annual capacity of 300 million slices, and with the expansion of space. 5. Production equipment and technology are mature, which can copy the new production base for the major customer. The main production processes and equipment are imported from first-class equipment suppliers in Italy, Germany, the United States. Production line of freeze drying workshop using the group has obtained a number of international patents. Freeze drying quick release pharmaceutical technology and equipment with independent intellectual property rights is the exclusive production line in the world.

3.DEVELOPMENT AND APPLICATION PROSPECT OF FREEZE-DRIED TABLETS "QSORB®" TECHNOLOGY

(1) Pediatric dosage formulations are developed to ease the shortage of children's medication

To sum up, we can clearly see that research and development of drug formulations suitable for children can not delay. Independent research and development of "Qsorb®" application of drug delivery system has significant advantages in the field of pediatric medicine. After years of in-depth research, the company has gradually overcome the application problems of various chemical systems. According to different water soluble (freely soluble, slightly soluble and insoluble), different drug loading (conventional drug loading and large loading), different taste (Bitterness, Astringency, sour and bitter afterward) chemical composition have established a more mature system solutions. After the routine exploratory research, almost all the chemical components can be prepared into freeze-dried oral disintegrating tablets with smooth appearance and rapid disintegration.

First, It is easy to use. It is hard to swallow pill and capsule when taking pills, but it is melted when getting into the mouth and not easy to cough. Due to small airway of children, when the drug is in the trachea, it is more likely to cause airway spasm and blockage, leading to severe cough, and even suffocation. It is very convenient for children to take freeze-dried formulation, which only needs to be contained in the mouth, and the medicine is dissolved. There is no swallowing difficulty.

Second, the dose is easy to control. Through the use of accurate dosage and convenient monolithic use method, freeze-dried formulation makes sure that the amount of ingredients used is constant. Medicine is taken according to the specific amount of time required for each child medication. The utility model has the advantages of quick onset and convenient use, and is convenient for children, especially infants and young children.

Third,the high compliance of freeze-dried tablets in children. Freeze dried tablets have a certain sense of novelty, not easy to exclude by children when taking. In addition, due to the accessories of freeze-dried formulation includes spices and sweeteners, so children take medicine taste better and improve the medication comfort[5].

At present, based on freeze-dried flash technology platform quantum hi-tech development projects include: bioactive factor cosmetic items “BiotabletTM” and Structural vitamin cosmetics for skin “Skin ’ s VitaminsTM”. With the continuous

development of enterprises, quantum hi-tech continues to ferment more advanced, scientific core technology, which is bound to promote the cosmetics industry process, so as to provide consumers with more and more sophisticated, more high-quality products[6].

(2)Quantum hi-tech flagship hospital is created

Flagship hospital is a large-scale business model, which requires a higher product line. The creation of quantum tech flagship hospital is a means to prove their strength, After ten years of development, “Qsorb®” drug delivery system has a mature technology, which can provide strong technical support and security for the establishment of the hospital. The creation of quantum hi-tech flagship hospital is of great significance for the future development of the company. First of all, the flagship hospital has the authority to effectively eliminate fake and shoddy products to set the record straight. Quantum hi-tech has the world's unique freeze drying production line, and the production of products is in line with international GMP standards. The above is the clinical application and Prospect of freeze-dried tablets, please correct me. How time flies, years flow, my husband and I together founded the Shanxi quantum hi-tech Pharmaceutical Co. Ltd. for thirteen years. We devoted ourselves to the company as our child to overcome the difficulties and obstacles, together ushered in the dawn and become the greatest in the bio pharmaceutical industry. In thirteen years, I have witnessed each growth stage of quantum hi-tech, witnessed the process of Qsorb® technology from born to grow as a company mainstay, I sincerely feel proud and happy. I came to study medicine, since the beginning of the study for the ambition of saving lives, adhering to the "cure the sickness to save the patient" belief to make my own contribution to human lives, now although I am the leader of the company, but never forget the original intention of medicine. It is an opportunity to take Qsorb® technology of quantum hi-tech as a platform to provide professional medical services for the implementation of the human dream by founding company. For the future I am full of confidence and passion, and I will continue to be mature, proud, wise to stand on my own stage and calmly face all the work. I will never give up, and continue to create brilliant.

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Research on the Determination of Evaluation Indicators in the Performance Evaluation of China's IPR Protection

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Abstract: The exact evaluation of the performance of IPR judicial or administrative protection in China is normally done through constructing a IPR protection performance evaluation indicator system which consists of target-layer indicators, task-layer indicators and element-layer indicators. In this article, how to determine the indicators in each layer and their weights in the evaluation of performance of IPR protection is expounded in detail.
Keywords: performance evaluation; target-layer indicators; task-layer indicators element-layer indicators; weights

1. INTRODUCTION

While determining the performance of IPR judicial or administrative protection, we need construct a IPR protection performance evaluation indicator system which consists of target-layer indicators, task-layer indicators and element-layer indicators. The scientific and effective determination of the indicators and their weight in each layer is the key for us to objectively evaluate the performance of IPR judicial or administrative protection in China and it also plays a very important guiding role in the process of obtaining the final IPR protection evaluation results.

2. TO DESIGN THE INDICATORS AT DIFFERENT LAYERS

(1). To Determine the Target-layer Indicators

According to the structure of performance evaluation indicator system, when designing the indicators, the first-step work that we shall do is to determine the target-layer indicators. As discussed earlier in this article, target-layer indicators are located at the top of the whole performance indicator system and determine the logical relationship of the whole indicator system. Selecting the appropriate target -layer indicators is the base for ensuring that performance evaluation indicator system is more rational and evaluation perspective is more focused. The decomposition of the target-layer indicators must be closely around the performance objectives, that is, target-layer indicators represent the factors which are needed to support and achieve performance objectives. The consideration of whether an objective can be achieved can usually be analyzed from two perspectives, one is the ability to achieve objectives, another is the situation in which how some necessary and essential work must be done to achieve the objectives. The ability to achieve objectives is the foundation or environmental factor that ensures the achievement of objectives, while the work needed to be done in achieving the objectives refers to specific measures which are used to support the achievement of objectives.

Meanwhile, by observing the working principle of "designing two sets of indicators according to a unified framework", and highlighting the comparison of performance results of IP administrative and judicial protection, we think that the logic structure of IP administrative protection performance evaluation indicator system is the same as that of IP judicial protection performance evaluation indicator system. Thus, in accordance with the performance objectives of IP administrative protection——to "enhance the ability of administrative organs to manage and protect intellectual property and significantly improve China's current IP protection situations", and the performance objectives of IP judicial protection——to "make judicial protection become the main channel in China's IP protection and largely reduce right holders' cast of protecting their IP", we decompose the target-layer indicators into "protection ability" and "protection situation". The unified structure of indicators of administrative and judicial protection indicator system is shown in the following diagram.

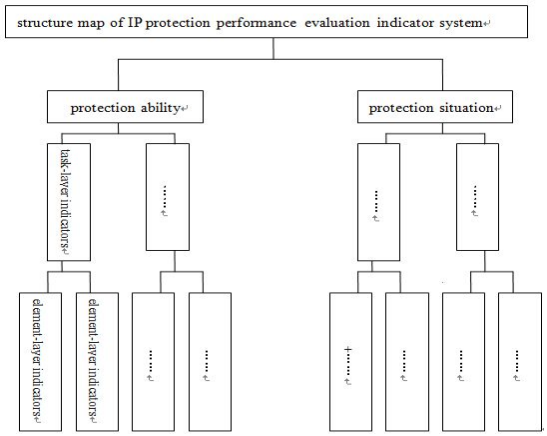

Fig. 1. map of IP protection performance evaluation indicator system

The indicator of "protection ability" aims to evaluate the ability of the administrative or judicial organs to carry out the activities of IP protection so as to obtain the objective evaluation results concerning the basic

conditions or environment in which administrative or judicial organs carry out their activities of IP protection. The indicator of "protection ability" is the essential factor to verify effectiveness of IP protection of administrative and judicial organs. The indicator of "protection situation" aims to evaluate the specific acts or measures of the administrative or judicial organs to carry out the activities of IP protection so as to analyze specific achievements achieved by administrative or judicial organs when carrying out their activities of IP protection. The indicator of "protection situation" is the most intuitive reflection to verify effectiveness of IP protection of administrative and judicial organs.

3. TO DETERMINE THE TASK-LAYERINDICATORS

The task-layer indicators refer to the actual contents of tasks which need to be completed in order to achieve performance objectives. In our performance evaluation, only we take the completion of task-layer indicators into consideration, can we reach the conclusion of whether the performance objectives can be achieved as well as to what degree these objectives have been achieved. Therefore, the task-layer indicators are the most important indicators in the whole performance evaluation indicator system. Whether the task-layer indicators are designed scientifically and objectively will directly determine the success or failure of performance evaluation. So, in our research, with the help of the experts' judgment, we use the Delphi method to determine the task-layer indicators. More detailed working steps are as follows:

(1). In our research, we made a significant discussion closely around the performance objectives of IP administrative and judicial protection. According to the decomposition principle of focus, comprehensiveness, independence and necessity and under the two target-layer indicators of "protection ability" and "protection situation", we sketch out and design a number of proposed alternatives of task-layer indicators for evaluators to select to do their performance evaluation of IP administrative and judicial protection respectively.

(2). The above-mentioned proposed alternatives of task-layer indicators shall be submitted to relevant experts who are requested to make their independent and separate judgments to these indicators. These experts shall be required to explicitly answer the following questions: under each and every target-layer indicator, how many task-layer indicators are needed? under each target-layer indicator, which task-layer indicators can be used to describe the performance objectives? or any other indicators shall be included?

(3). In our research, we take back the opinions that each expert has made for the first time and then we summarize and sort out these opinions. And then, we give back the results of summarizing and sorting out these opinions to the experts, without pointing out the specific name of each expert who has made different opinions, but just giving his or her specific opinions. Finally, each expert is requested to compare his or her opinions with those of other experts and then once again all experts are required to express their opinions and judgments.

(4). In our research, we repeatedly request the experts to express their opinions about the proposed alternatives of task-layer indicators until we finally get the opinions of experts which are relatively consistent with each other. Only doing this, can we determine the final task-layer indicators for our performance evaluation.

As discussed earlier in this article, the designing and selecting of performance indicators is an experience-based subjective judgment working process. By relying on the experts'profound theoretical foundation and broad vision, we can make this subjective judgment working process maximally objective and rational. At the same time, the relatively consistent opinions we finally get by repeatedly requesting the anonymous experts to give, analyze and revise their opinions is another guarantee for us to scientifically design and determine the task-layer indicators in our performance evaluation. According to the foregoing analysis and discussion, we got the following conclusions:

First, the task-layer indicators shall not be in great numbers. 3-5 indicators are sufficiently enough to clearly and completely describe the contents of the work which are needed to achieve the performance objectives.

Second, the determination of task-layer indicators shall be centered on the performance objective of IP administrative protection——to "enhance the ability of administrative organs to manage and protect intellectual property and significantly improve China's current IP protection situations"

By summarizing the opinions of each expert, we draw the conclusions: first, under the target-layer indicator of "protection ability" in the framework of the IPR administrative protection performance evaluation indicator system, the task-layer indicators include the following four indicators: legal status of administrative protection, working mechanism of administrative organs, administrative protection personnel and administrative protection resources; second, under the target-layer indicator of "protection situation" in the framework of the IPR administrative protection performance evaluation indicator system, the task-layer indicators include the following four indicators: administrative law enforcement, administrative examination and approval and registration, international cooperation of administrative protection and publicity and service of administrative protection. More details are shown in the following diagram:

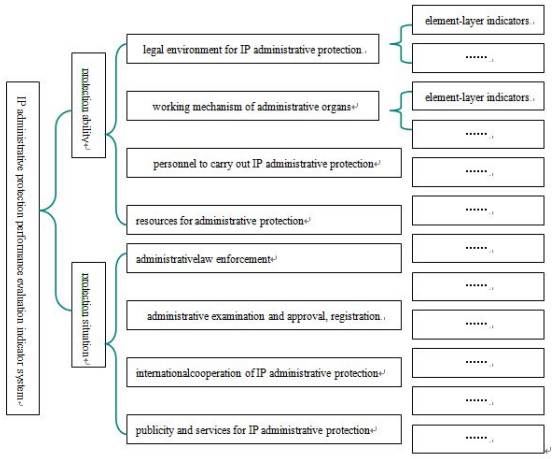

Fig. 2. map of task-layer indicators of IP administrative protection performance evaluation

The meaning of the above-said task-layer indicators is as follows:

(1) Legal status of IP administrative protection: This indicator aims to consider the construction, amendments and improvement of administrative regulations related to IP protection.

(2) Working mechanism of administrative organ: This indicator aims to consider the working mechanism related to IP protection.

(3) Personnel to carry out IP administrative protection: This indicator aims to examine the situation of human resources and the construction of personnel for carrying out IP administrative protection..

(4) Resources for administrative protection: This indicator aims to consider the administrative resources and their allocation invested by the state in IP administrative protection.

(5) Administrative Law Enforcement: This indicator aims to consider the results obtained by administrative organs while investigating IP infringement and violations through the daily activities of law enforcement and special law enforcement.

(6) Administrative examination and approval and registration: This indicator aims to consider whether the administrative organs can organize the examination and approval and registration completely in timely manner in order to ensure that the intellectual and creative achievements can be protected according to law.

(7) International cooperation of IP administrative protection: This indicator aims to consider whether China's administrative organs can effectively participate in international cooperation of IP protection for the purpose of enhancing China's international influence in the field of intellectual property.

(8) Publicity and services for IP Administrative protection: This indicator aims to consider the situation that the administrative organs to provide IP education and services for the public and IP right holders.

3. TO DETERMINE THE ELEMENT-LAYER INDICATORS

Element-layer indicators refer to the specific working elements which are used to complete the task, with each element being the decomposition and implementation of specific higher-layer task respectively. Element-layer indicators are empirical indicators which are used to describe specifically the behaviors of objects being evaluated and are the direct reflections of the contents being evaluated. Each element-layer indicator is the direct critical data to determine the results of performance evaluation. In our study, element-layer indicators are determined according to the principles of the focus, comprehensiveness, independence and necessity. All element-layer indicators are first determined in the way of brainstorms by the researchers and then submitted to the experts for examination and approval. The finally determined element-layer indicators for the performance of IP administrative protection are shown in the following diagram:

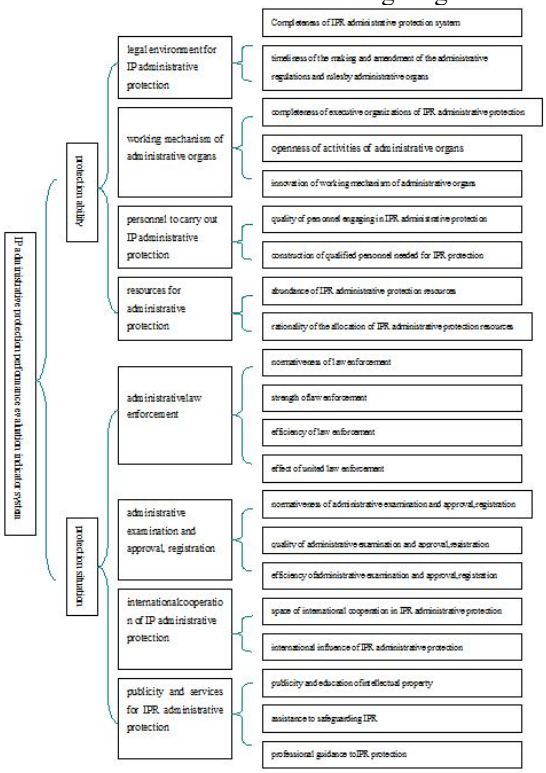

Fig. 3. map of element-layer indicators of IP administrative protection performance evaluation

The meaning of the above-said element-layer indicator is as follows:

(1) Completeness of IP administrative protection system: It means whether the administrative regulations and rules are complete and adequate enough to ensure that the administrative organs can carry out their IP protection in accordance with laws and regulations.

(2) Timeliness of the making and amendment of the administrative regulations and rules by administrative organs: it means whether the administrative organs

can make and amend the regulatory documents which are needed for IP protection in timely manner.
(3) Completeness of executive organizations of IP administrative protection: it means whether the administrative organs for the work of the IP protection are completely and adequately established and there are corresponding administrative organs to assume the commitment of IP protection.
(4) The openness of activities of administrative organs: it means whether all the information concerning the IP administrative protection activities of administrative organs is disclosed in all-round and timely manner, and the administrative organs' executive powers, working procedures and methods of supervision etc. are open and transparent.
(5) Innovation of working mechanism of administrative organs: it means whether the administrative organs can innovate their working mechanism actively so that they can make them adapt to the new development trend of IP protection.
(6) Quality of personnel engaging in IP administrative protection: it means whether the composition of working personnel of administrative organs and their quality can meet the relevant requirements necessary for IP protection.
(7) The construction of qualified personnel needed for IP protection: it means whether the training and education activities carried out by administrative organs for the purpose of enhancing the ability of qualified personnel needed for IP protection can meet the practical needs of intellectual property protection.
(8) Abundance of IP administrative protection resources: it means whether the human or material resources invested in IP administrative protection are abundant enough.
(9) Rationality of the allocation of IP administrative protection resources: it means whether the distribution of administrative resources invested in IP administrative protection is reasonable and scientific enough to ensure balanced development of IP administrative protection in different regions and fields.
(10) Normativeness of law enforcement: it means whether the administrative organs can make their administrative acts legal and normative during the enforcement activities of combating illegal acts of IP infringement.
(11) Strength of law enforcement: it means whether the administrative organs can effectively combat illegal acts of IP infringement during their IP law enforcement activities.
(12) Efficiency of law enforcement: it means whether the efficiency of IP administrative law enforcement activities of the administrative organs is adequately quick and highly effective.
(13) Effect of united law enforcement: it means whether the united law enforcement actions carried out by different administrative departments can effectively combat the cross-field IP illegal infringement acts.
(14) Normativeness of administrative examination and approval, registration: it means whether the administrative organs can carry out the work of examination and approval, registration of different types of intellectual property normatively.
(15) Quality of administrative examination and approval, registration: it means whether the intellectual property examined and approved, registered by the administrative organs is of high quality.
(16) Efficiency of administrative examination and approval, registration: it means whether the administrative organs can complete the work of examination and approval, registration of intellectual property within the time period prescribed by laws and regulations.
(17) Space of international cooperation in IP administrative protection: it refers to the situation that China's administrative organs organize or participate in relevant international conferences and international activities which are concerned with the intellectual property protection as well as the situation that China's administrative organs observe and fulfill the international cooperation treaties concerning intellectual property protection.
(18) International influence of IP administrative protection: it means whether China's administrative organs can effectively enhance China's international influence in international cooperation concerning the protection of intellectual property.
(19) Publicity and education of intellectual property: it means whether administrative organs carry out adequate publicity and education concerning intellectual property among the public and the IP awareness of the society as a whole is highly enhanced.
(20) Assistance to safeguarding intellectual property: it means whether the administrative organs can provide the IP right-holders with guidance or direct assistance necessary and essential enough for them to safeguard their intellectual property.
(21) Professional guidance to IP protection: it means whether the administrative organs can provide enterprises, the most important innovators with guidance necessary and essential for them to manage and operate their intellectual property

Section Two To Determine the Weight of Each Indicator

Indicator-weight refers to the importance of indicators in performance evaluation indicator system or the proportion of indicators in the total score of performance evaluation. The reasonable arrangements of indicators is the key for evaluators to obtain an objective result of performance evaluation, because in the evaluation indicator system consisting of many indicators, some indicators are of much importance while others are of less importance due to the uneven development of thing itself. In order to

show the degree of influence imposed by different indicators on the results of performance evaluation, we need to weigh all indicators to see which indicators are much more important and will contribute too much to the results of performance evaluation. Under such circumstance that the indicators are relatively fixed, the changes of the weight of each indicator is certain to directly affect the results of performance evaluation. Therefore, the determination of weight of each indicator is very important to direct the evaluators to obtain the results of their performance evaluation.

The structure of indicator system designed in our research is a multi-dimensional three-layer indicator system which consists of target-layer, task-layer and element-layer. We need to distinguish the importance of each indicator at different layer, because each indicator contributes differently to the results of performance evaluation, that is, the weight of each indicator, whether it is in target-layer, task-layer or element-layer, shall be analyzed in our performance evaluation.

(1). WEIGHT OF THE TARGET-LAYER INDICATORS

Located at the top of the whole performance indicator system, Target-layer indicators determine the logical relations of the overall indicator system. Target-layer indicators consist of two aspects — — "protection ability" and "protection situation". The evaluators can determine the results of performance of IP administrative and judicial protection through assessing the "protection ability" and "protection situation" of administrative organs or judicial organs. Our research shows that "protection ability" refers to the indicator which is used to measure the ability of the objects being evaluated to achieve their goals, while "protection situation" is used to measure the actual working conditions of the objects being evaluated to achieve their targets. "Protection ability" also refers to the indicator which determines the IP protection situation and protection level, while "protection situation" in turn can prove the fulfillment situation of "protection ability". "Protection ability" and "protection situation" have almost the same influence on the achievement of performance objectives. Therefore, the weight of target-layer indicator shall be determined equally and impartially, with the indicator of "protection ability" and "protection situation" accounting for 50% respectively with respect to their role and importance in performance evaluation.

Table 1 Weight Of The Target-Layer Indicators

Name of indicator	**Weight**
protection ability	50%
protection situation	50%

(2).Weight of the Task-layer Indicators

Task-layer indicators are used to describe actual task which must be completed in order to achieve performance objective. Through measuring the situation that the task-layer indicators is completed, we can determine whether the performance objectives can be achieved as well as the degree of the achievement of performance objectives. In accordance with the structure of performance indicator system designed in our research in each target-layer, there are four task-layer indicators which play a different role in supporting the achievement of performance objectives. In order to scientifically and accurately distinguish different roles played by these indicators in the whole performance indicator system ,there search team used AHP (Analytic Hierarchy Process, herein after referred to AHP) to assess the weight of task-layer indicator in the corresponding target-layer indicator.

Analytic Hierarchy Process (AHP) refers to such a process that the decision makers make their thinking process of complex problems modeled and quantitative. Through such process, evaluators can decompose the complex problems into several levels and a number of factors and make a simple comparison and calculation between each factor so that they can determine the importance of different factors in their performance evaluation. AHP does not mean that we put all factors together for the purpose of comparing each factor with each other, instead, we just put two factors together and compare them with each other. By doing so, we can try to minimize the difficulty of comparing factors which are different in their nature with each other so as to improve accuracy of comparison of factors. The specific work steps are as follows:

First, to establish a hierarchical structure model

In our research, we divide the hierarchy into five different layers. While making a paired comparison, if one factor is as same important as the targeted one, its score is 1; if one factor is little more important than the targeted one, its score is 3; if one factor is more important than the targeted one, its score is 5;if one factor is much more important than the targeted one, its score is 7; if one factor is extremely more important than the targeted one, its score is 9.Although 2,4,6,8 are not reflected in the table of hierarchical structure, they can be used to score when the above-mentioned score criteria can not be compromised. Hierarchical structure model is as follows:

Table 2 Hierarchical structure

same important as the targeted one	little more important than the targeted one	more important than the targeted one	much more important than the targeted one	extremely more important than the targeted one
1	3	5	7	9

Second, to construct the paired comparison matrix

In order to construct the paired comparison matrix in

task-layer, we need to distinguish between IP administrative protection and IP judicial protection and clearly understand "protection ability" and "protection situation". Therefore, four paired comparison matrix shall be established for the purpose of scoring. The scoring is doneaccording to the Delphi method. Experts need to give comparative value and their average value is used as theaverage score of comparison to construct the paired comparison matrix. In our research, we make use of EXCEL to complete the calculation of the paired comparison matrix and the test of its consistency. Based on this calculation, the weight of different indicators is as follows:

A. The Weight of Task-layer indicator in IP Administrative Protection

Table 3 The Weight of Task-layer indicator in IP Administrative Protection

	Name of Indicators	Weight		Name of Indicators	Weight
protection ability	administrative protection legal environment	25%	**protection situation**	administrative law enforcement	45%
	working mechanism of administrative protection organs	30%		administrative examination and approval, registration	30%
	Administrative protection personnel	20%		international cooperation of administrative protection	15%
	resources of administrative protection	25%		publicity and services of administrative protection	10%

B. The Weight of Task-layer Indicator in IP Judicial Protection

The "protection ability" and "protection situation" target-layer indicators' weight accounts for 50% in performance evaluation indicator system respectively. So, the weight of each task-layer indicator shall be multiplied by 50% before the above-mentioned task-layer indicators are brought into the indicator system of IP administrative and judicial protection so that the weight of task-layer indicator in indicator system can be calculated and converted. Such weight of task-layer indicator is shown in the following table:

Table 3. weight of task-layer indicator

	Name of Indicators	Weight		Name of Indicators	Weight
protection ability	judicial protection legal environment	25%	**protection situation**	civil case trial	40%
	working mechanism of judicial protection organs	30%		administrative or criminal case trial	30%
	judicial trial team	25%		disclosure of judicial protection	15%
	resources of judicial protection	20%		cooperation and exchange of judicial protection	15%

4. WEIGHT OF ELEMENT-LAYER INDICATORS

Element-layer indicator refers to the specific work element which is used to complete the task. Each element is the specific decomposition and implementation of the higher-level task respectively. Element-layer indicator, often described in more specific way, is the direct reflection of the object being evaluated and it is very difficult for us to distinguish the importance of various element-layer indicator in our performance evaluation indicator system. Therefore, the weight of element-layer indicator is determined according to the principle of equal weight, that is, the weight of each element-layer indicator included in the task-layer indictor is divided on average according to the principle of equal weight.

Table 4. Performance Evaluation Indicator System of IP Administrative Protection

Target-layer indicators		**Task-layer indicators**		**Element-layer indicators**	
Name of indicators	**Weight**	**Name of indicators**	**Weight**	**Name of indicators**	**Weight**
Protection ability	50%	Administrative protection legal environment	12.5%	Completeness of IP administrative protection system	6.25%
				Timeliness of the making and amendment of the administrative regulations and rulesby administrative organs	6.25%
		working mechanism of administrative	15%	Completeness of executive organizations of IP administrative	5%

		protection organs		protection	
				The openness of activities of administrative organs	5%
				Innovation of working mechanism of administrative organs	5%
		Administrative protection personnel	10%	Quality of personnel engaging in IP administrative protection	5%
				The construction of qualified personnel needed for IP protection	5%
		resources of administrative protection	12.5%	Abundance of IP administrative protection resources	6.25%
				Rationality of the allocation of IP administrative protection resources	6.25%
Protection situation	50%	administrative law enforcement	22.5%	Normativeness of law enforcement	5.625%
				Strength oflaw enforcement	5.625%
				Efficiency of law enforcement	5.625%
				Effect of united law enforcement	5.625%
		administrative examination and approval, registration	15%	Normativeness of administrative examination and approval,registration	5%
				Quality of administrative examination and approval,registration (	5%
				Efficiency ofadministrative examination and approval,registration	5%
		international cooperation of administrative protection	7.5%	Space of international cooperation in IP administrative protection	3.75%
				International influence of IP administrative protection	3.75%
		publicity and services of administrative protection	5%	Publicity and education ofintellectual property	1.67%
				Assistance to safeguarding IP	1.67%
				Professional guidance toIP protection	1.67%

5. CONCLUSION

The key toobjectively evaluate the performance of IPR judicial or administrative protection lies in the scientifically designing of a IPR protection performance evaluation indicator system. In China's IPR judicial or administrative protection performance evaluation,this indicator system mainly consists of target-layer indicators, task-layer indicators and element-layer indicators.How to determine the indicators in each layer and their weights directly affect the performance evaluation quality, therefore, in order to obtain an objective performance evaluation result of China's IPR judicial or administrative protection, we must scientifically and exactly determine the indicators and their weights in each layer.

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Research on the Impact of Finance and Taxation Policy on the Rationalization of Income Distribution

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Abstract: Since the Reform and Opening-up, with China's rapid economic and social development, the income gap between residents has been keeping expanding. Finance and taxation policy is an important means of regulating income distribution under the condition of market economy, which has been praised by many countries. In recent years, the Chinese government also adopts the method of finance and taxation policy, in order to standardize the income distribution order and adjust income gap. However, due to some reality facts, such as the duality of urban and rural structure, the problem of income gap has not been solved thoroughly. It is still a long and urgent process to perfect the finance and taxation policy for income distribution rationalization. The first part of the paper explores the relationship among finance and taxation policy and the initial income distribution, income redistribution and rationalization of income distribution; Based on the connotation and evaluation standard of the income distribution rationalization, the second part comprehensively analyzes the current situation and problems of China's income distribution rationalization, through which many index data were retained including Gini coefficient, Osima index, five division method, Engel coefficient, and urban-rural income ratio; The third part analyzes the current situation and problems of China's finance and taxation policy on rational income distribution from two angles which are primary distribution and redistribution; Finally, the last partakes recommendations of promoting the finance and taxation policy on income distribution rationalization
Keywords: Finance; Taxation Policy; Income Distribution

1. INTRODUCTION

Reforming the income distribution system and promoting the rationalization of income distribution, on the one hand, would contribute to maintain the social stability, on the other hand, would help to stimulate domestic demand and promote the nation's economy to continue to grow rapidly. Therefore, the rationalization of income distribution has always been the focus of the government and theorists. As an important means for the government to allocate social resources and carry out macro regulation, finance and taxation policy plays an important role in narrowing the income gap and promoting the rationalization of income distribution. However, there are still a lot of problems in China's public expenditure policy and finance and taxation policy arrangement. From the perspective of finance and taxation, this paper discusses the connotation and evaluation standard of income distribution rationalization. Next, based on the relationship among finance and taxation policy and the initial income distribution, income redistribution and rationalization of income distribution, the paper deeply studies the status quo and problems of finance and taxation policy and rationalization of income distribution in our nation. Then, it puts forward suggestion on promoting finance and taxation policy to rationalize the income distribution.

2. REVIEWS OF THE RELATIONSHIP BETWEEN INCOME DISTRIBUTION AND FINANCE AND TAXATION POLICY

(1)The connotation of income distribution and income distribution rationalization

Income distribution is a kind of economic activity, which refers to the behavior of distributing social activities production in a certain period among the social groups or members according to certain criteria. It includes the distribution of national income and personal income distribution. In this paper, it refers to the distribution of national income only. It could be defined as the economic behavior of a nation to distribute its net value created in a certain period among different economic entities. Under the market economy system, the distribution of national income includes two basic levels: primary distribution and income redistribution. The income distribution pattern includes the following aspects: (a) maintain the basic line —to maintain the basic living income line for the low-income population (b) adjust the structure— to optimize the income distribution structure (c) narrow the gap— to narrow the gaps between urban and rural areas, regions, industries and enterprises(d) Accord with our national conditions— to adapt to the development of China's financial and economic ability (e) be efficient— income distribution needs to meet the economic efficiency.

The measurement index of income distribution mainly includes: (a) Gini coefficient, the most widely used index to measure the income gap of residents. And it is very sensitive to the change of medium

income level. (b) Engel coefficient, an important index to measure the wealth of a family or a region. (c) Theil index, an index to calculate the income gap by using the concept of entropy in information theory. (d)the non-performing income index, also known as Osima index, which is an important indicator to measure the income gap. (e) the method of five division, being used to measure the income gap, which is quite popular worldwide. (f) Urban and rural income ratio. The greater the income ratio between urban and rural residents is, the larger the gap between urban and rural residents exists.

(2).The significance of promoting the income distribution rationalization

(a).The need for social stability

Fairness and justice are the basic requirements and objectives of the harmonious development of society, and they are also the fundamental principles for a nation to resolve social contradictions and solve people's livelihood problems. It is of great significance for safeguarding people's rights and interests and maintaining social order. To realize the rational income distribution is the process to increase the proportion of middle-income population, to increase the income of low-income population, and to narrow the income gaps between urban and rural areas, regions, and residents, through which helps to ensure the fairness and justice of the distribution, and helps to resolve social conflicts and maintain social stability.

(b).The need for the economic structure adjustment

There is a close relationship between income distribution and economic development. If there is some problem of income distribution in a region, the economic structure of the region may be affected. To start with, if the low-income population took a large proportion in an area, it would lead to the lack of effective demand of consumption, and the economic development would over depend on investment, which is not conducive to the sustained and stable economic development in the region, and would lead to the deterioration of other economic structure. In addition, the unreasonable income distribution would easily lead to the development of the third industry is seriously lagging behind that of the second industry, which is not conducive to the optimization and upgrading of industrial structure in that region. Moreover, the income gap between urban and rural areas is not only an important reflection of income distribution, but also an important cause of the economic gap between urban and rural areas. Therefore, to promote the income distribution rationalization is an important measure to adjust the economic structure.

(c). The need for macro-control pressure alleviation for the government

On the one hand, to promote the rational income distribution is conducive to the rational adjustment of income distribution, which helps raising the income of low-income groups, expanding the proportion of middle-income population, improving residents' consumption capacity, and enhancing the economic development momentum of the entire area. On the basis of the stable development of the economy, the regional financial resources have been optimized, which provides a strong financial support for the government's macro-control. On the other hand, the reform of the income distribution is one of the important goals of the government's macroeconomic regulation and control. Undoubtedly, to promote the rationalization of income distribution would relieve the government's pressure of macroeconomic regulation and control.

(d). The need for reflection of socialism superiority

"Liberate the productive forces, develop the productive forces, eliminate exploitation, eliminate polarization, and ultimately achieve common prosperity."This is the essence of socialism, as well as the performance of socialist superiority. The goal of promoting the rationalization of income distribution is to build socialism with Chinese characteristics and "to eliminate polarization and achieve common prosperity", so that "the people could share the fruits of reform and development".

(3).The overall relationship between finance and taxation policy and income distribution rationalization

On the one hand, to make finance and taxation policy play the role of promoting the rationalization of income distribution, we must first control the primary distribution and redistribution process, therefore, we could determine the rational income distribution effect.On the other hand, the rational income distribution essentially is the process of rationalizing primary income distribution and incomeredistribution.In this process, the primary distribution and redistribution would be constantly adjusted and developed, so that it can influence the formulation and implementation of finance and taxation policy.The primary distribution and redistribution of income play anextremelyvital role in finance and taxation policy and the income distribution rationalization. They are the key connecting points to the relationship between the two.The rationalization of income distribution in essence can be divided into primary distributionrationalization and redistribution rationalization. Therefore, in the latter part of the analysis, we focus ontwo aspects to carry out related studies, which areprimary distributionrationalization and redistributionrationalization.

3. ANALYSIS ON THE CURRENT SITUATION AND PROBLEMS OF CHINA'S INCOME DISTRIBUTION RATIONALIZATION

In recent years, with the high attention of the Party and the government, China's income distribution reform has obtained some achievements: the income level has been improved, and the income gap has been alleviated. But with the rational income distribution evaluation standards, the current income

distribution in our nation still has many problems, mainly are: the lack of economic efficiency of income distribution; imbalance of income distribution structure; and the significant income distribution gap.

(1). The life quality in urban and rural areas continues to improve

With the rapid development of China's economy, for both urban and rural residents, the per capita income has increased significantly year by year, and the life quality has been improved significantly. In Figure 3.1, in 2006, China's per capita net income of rural residents is 3,587 yuan, while in 2010 the per capita net income of rural residents rises to 5,919 yuan.The actual growth rate exceeds 10%, and to be specificthe rate is 10.9%. Up to the year of 2013, the per capita net income of rural residents rises to 8,896 yuan, and the actual growth rate is 9.3%. The per capita disposable income of urban residents in 2006 is 11,760 yuan, while in 2012 is 26,955 yuan.The average annual real growth rate reaches 9.2%.

With the increase of per capita income year by year, the Engel coefficient of urban and rural residents also keeps decreasing. According to our nation's urban and rural Engel coefficient statistics, compared with the previous data, China's current urban and rural Engel coefficient has been much reduced, for example, in 1990, the urban and rural Engel coefficient are 54.2% and 58.8%; but in 2000, urban and rural Engel coefficient are reduced respectively by 14.8 percentage points and 9.7 percentage points; up to 2012, urban and rural Engel coefficient reduces to 36.2% and 39.3% respectively. The income for both urban and rural residents has been significantly improved, and the life quality has been greatly improved at the same time.

Data sources: *China Statistical Yearbook 2013*

(2). The industry average wage rises year by year

Since the Reform and Opening-up, with the continuous improvement of production efficiency and international competitiveness of enterprises, the wages of employees are also rising. In 1995, the average wage of urban units in our nation is only 5,348 yuan, while the average wage in 2001 exceeds 10,000yuan, reaching 10,834yuan; in 2005 the average wage rises to 18,200 yuan. During 2006 to 2012, the average wages for the employment in urban units still maintains a rapid growth trend, and the amounts of increase are maintained at above 10%, among which the amount of increase in 2007 rises to 18.5%.In 2012, although the increase is somewhat lower, the figure still reaches 11.9%.

(3). Income gap shows incipient trend of remission

(a). The value of Gini coefficient decreases yearly

Gini coefficient is the most widely used in the world to analyze and measure the income gap. According to the recent ten years statistics released by the State Statistical Bureau, the Gini coefficient of our nation in 2003 for 0.479, and in 2008, the Gini coefficient reaches the highest value of 0.491 in recent years. Since then, the Gini coefficient has been slightly decreased. In the year of 2009, 2010, 2011, 2012, and 2013, the Gini coefficient are 0.49, 0.481, 0.477 0.474, and 0.473, respectively.

Urban and rural income ratio is an important indicator to measure the income gap between urban and rural areas. China's urban and rural income ratio in 2002 exceeds 3, reaching 3.11. In the year of 2007 and 2009, the ratios reach the highest point in recent years, which are 3.33 in. Since then, the urban and rural income ratio declines slightly year by year. In 2010, 2011, 2012 and 2013, the values are 3.23, 3.13, 3.10and 3.03, respectively.

Tab. 1 China's urban and rural income situation over the years

Data sources: Based on the data of *China Statistical Yearbook in 1990 -2013*

Year	Per capita net income of rural residents (yuan)	Per capita disposable income of urban residents (yuan)	Urban-rural income ratio
1990	686	1511	2.20
2000	2252	6280	2.79
2001	2366	6861	2.90
2002	2475	7703	3.11
2003	2622	8471	3.23
2004	2936	9422	3.21
2005	3254	10493	3.22
2006	3587	11760	3.28
2007	4140	13785	3.33
2008	4761	15780	3.31
2009	5153	17174	3.33
2010	5919	19109	3.23
2011	6977	21810	3.13
2012	7918	24565	3.10
2013	8896	26955	3.03

(b). The income gap between urban residents narrows down

In recent years, China's urban residents income gap has narrowed, which is mainly manifested in two aspects: one is that the per capita absolute income balance between the 20% highest income of urban residents and the 20% of the lowest income of urban residents has been narrowed. According to the five division method, in 2008 the proportion of the absolute income balance is about 0.301979, and has

declined ever since. By the end of 2012, the absolute proportion of the income is about 0.294728; the other one is that the non-performing income index of urban residents has been decreased year by year. In 2006, the non-performing income indexes 5.65, while in 2008, the value increases to 5.76.Then it decreases year after year. In 2009, 2010, 2011, and 2012, the non-performing index are5.51, 5.34, 5.29, and 4.94, respectively.

Tab. 2Comparison of urban income by five division method

Data sources: Based on the data of *China Statistical Yearbook in 2007 -2013*

Year	Income level	Absolute per capita income	Absolute per capita income balance	Absolute income proportion	Absolute income proportion balance
2006	Lowest 20%	4892.50	22756.61	0.084	0.305
	Highest 20%	27649.33		0.389	
2007	Lowest 20%	5779.56	26190.15	0.087	0.296
	Highest 20%	31969.73		0.382	
2008	Lowest 20%	6551.31	31196.61	0.086	0.302
	Highest 20%	37747.93		0.388	
2009	Lowest 20%	7445.08	33604.31	0.089	0.295
	Highest 20%	41049.40		0.384	
2010	Lowest 20%	8450.97	36672.83	0.091	0.290
	Highest 20%	45123.80		0.381	
2011	Lowest 20%	9764.32	41894.32	0.092	0.289
	Highest 20%	51658.63		0.381	
2012	Lowest 20%	11437.80	45050.47	0.097	0.276
	Highest 20%	56488.26		0.371	

4. ANALYSIS ON THE PROBLEMS AND REASONS OF CHINA'S FINANCE AND TAXATION ADJUSTMENT POLICY

(1). Public service

(a). Public education

In the field of public education, China's financial support for education is still small, and the fiscal expenditure on education accounted for the GDP is much lower than the average level of the world (China: 4%, International: 7%). In this case, China's investment in education shall still focus on urban and other developed areas, and a large number of financial support funds are mainly used for the development of higher education, but ignoring the vocational and technical education.

(b). Employment security

In aspect of employment security, the government lack of financial supervision, resulting in the absence or wastes of the employment and re-employment occupation training subsidy funds. The main performance are: the lack of effective constraints on capital approval authority before the issuance of training subsidies; When the training subsidy is issued, the qualification and training quality of training institutions are lack of investigation. And to subsidize only by recruit students roster and employment contracts provided by the training institutions would easily result in fraud; after training institutions gain the subsidies, they use them to construct office buildings and office expenses, rather than use or introduce them on the training according to the specified procedures or the occupation training standards; and at the completion of training, there is no follow-up supervision on the students who are claimed to be employed.

(2). Tax levy policy

(a). Small and medium enterprises preferential tax policy does not substantially reduce their burden

Small and medium-sized enterprises are the backbone of absorbing employment and ensuring the basic living standards of the backward areas and low-income groups. But the existing tax policy in our country does not substantially reduce their burden. There are still many problems, mainly as follows: compared to small and medium-sized enterprises and foreign enterprises and domestic large enterprises, preferential treatment is still less, and the tax burdens heavy; tax preferential is single and limited to tax reduction and tax concessions, which cannot play a good role in reducing the burden on enterprises and lowing investment risk.

(b). State owned enterprises profit distribution policy turned over a small proportion

Most of State owned enterprises; especially the state owned monopoly enterprises, run smoothly and be able to make profits in a long-term, because of their advantages in resources, capital, policy support and other aspects. According to the data released by SASAC, in 2013 the central enterprises realize a total profit of 1 trillion and 300 billion yuan, while the central state owned capital operating income is only 113 billion and 22 million yuan, which means that the central enterprises pay dividends only accounted for 8.7% of the total profit. In 2010, 2011, and 2012, the proportion remains less than 10%, which are 6.7%, 8.7%, and 7.7%, respectively. The proportions of each enterprise turned over are as the following table:

Tab. 3 the proportion of profits turned over by various state owned enterprises in China

Type of state owned enterprises	proportion

Monopoly enterprises related to tobacco, petrochemical, electric power, telecommunications, coal	15%
Construction of steel transportation electronic trade, and competitive enterprises	10%
Enterprises being brought into the central state-owned capital operating budget, such as military research institutes, postal groups and other enterprises	5%
Policy enterprise: COFCO Corporation	free
China National Tobacco Corp.	20%

(3).Analysis on the problems and reasons of redistribution finance and taxation adjustment policy

(a). Social security and employment

Fiscal expenditure is still slightly weak. First, compared with other countries, China's fiscal expenditure on social security is still low. For example, during 2007 to 2011, China's social security and employment expenditure accounted for the proportion of fiscal expenditure remain at 9.9%-11%, while in developed countries the proportion is maintained at 30%-50%.The level of social security in China once is even lower than those in India, Thailand and other countries. Second is that the inequality level of social security of our country insignificant, mainly for the implementation of urban high employment, high subsidies, social security system, and the coverage is broad, but the rural social security standard is low, and the coverage is narrow; the social security system of state owned enterprises and institutions is more comprehensive and perfect, while society security level of urban collective units is relatively low. This inequality would cause the national economy redistribution tilt to urban residents, state-owned enterprises and workers, so that the original income gap continues to expand.

(b). Issues of agriculture, farmer and rural area

China has invested a lot of financial capital, but the effect is not up to expectations. There are reasons. On the one hand, it is because of the financial support for agriculture management confusion, resulting in the wastage of a large number of financial supports for agriculture. On the other hand, because of China's financial investment structure is not coordinated, which is mainly reflected in three aspects. First, the financial input of large agricultural province cannot meet the needs of agricultural development. Second, the structure of agricultural investment projects needs to be further optimized. Third, financial support for agriculture is mostly used directly in circulation, leading to agricultural subsidies benefit the enterprises and consumers, but not the farmers.

(4). The transfer payment system in China

First, China's tax return system may have no effect on narrowing the income gap, or even could widen it, because it returns more in the high taxation areas, and returns less in low taxation areas. Second, the horizontal transfer payment is an effective means to narrow the income gap between regions, but China's current horizontal transfer payment has not risen to the legal level, lacking of legal constraints and self-consciousness, for example in Kyushu and Han chuan earthquake, the horizontal transfer payment is enforced by the central task assignment, rather than the implementation of active area. Third, in the transfer payment, a large number of financial funds are detained by the superior, resulting in the amount of financial funds that can be used by who are really need them largely reduced.

5. CONCLUSION

From the finance and taxation point of view, this paper cites a lot of data, charts and resources, and effectively analyzes China's rational income distribution situation and problems, as well as the shortcomings of the current China's fiscal policy. With the outstanding foreign experience in fiscal policy, this paper put forward tax policy to further promote the rational income distribution. The conclusions are as follows: firstly, it summarizes the current situation and problems of China's income distribution, and finds that the problem of income distribution in China is still serious. But the optimistic side is that through the analysis of the latest data and other data, we find that the income gap has eased in recent years, and the income distribution reform has made some achievements. Secondly, through the research on finance and taxation policy in recent years for the implementation of income distribution in our country, the paper summarizes the status quo of China's finance and taxation policy for rational income distribution. Combined with the effect of policy implementation, it points out the existing problems of China's finance and taxation policy. Third, through the thinking and research, the paper aims at solving the problems and shortcomings of China's current finance and taxation policy of income distribution. Combined with the international experience, the author puts forward to promote the rationalization of income distribution in China from two angles, which are the primary distribution and redistribution.

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Financial development and economic growth--Taking Wuxi as an example

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Abstract: In view of whole nation, the influences of regional financial development on economic growth have been strategically considered by various places. In response to different mechanisms for financial development and economic growth, the corresponding strategies and development policies adopted are different. Meanwhile, the transformation and development of resource-based cities is a major issue related to the overall development of economy and society such as national energy security and coordinated development of regional economy. Therefore, according to the actual development of Wuxi City, this paper chooses the evaluation index which can represent the level of local financial development and economic growth according to local conditions, and adopts the method of empirical analysis to analyze growth mechanism of financial development and economy growth of Wuxi from both static and dynamic aspects.
Key words: finance; economy; growth

1. INTRODUCTION

In economics, Cobb-Douglas production function is one of the most widely used forms of production. It occupies a very important position in the research and application of mathematical economics and econometrics. Its general expression is: $Y=AL^{\alpha}K^{\beta}\mu$

Among them, $\alpha + \beta = 1$, Y on behalf of the output, L on behalf of the labor level, K on behalf of capital investment; α is the share of labor output and β is the share of capital output. The production function represents that the regional production level is a function of capital investment and the level of labor development, except a certain level of technology and interference factors.

Wuxi is a labor-intensive and investment-driven economy open city, whose generation process coincides with the Cobb-Douglas production function. Considering the increasingly prominent role of current financial factors to promote economic growth, we will add financial factors to the Cobb - Douglas production function, as the research model, ie: $Yt=A(t)Lt^{\alpha}Kt^{\beta}Ft^{\gamma}\mu$

Among them, $\alpha + \beta + \gamma = 1$, Y on behalf of the economic development level of Wuxi in the t period, L on behalf of the level of labor development in the city in the t period, K on behalf of the investment level of the city in the t period, and F on behalf of the finance development level in the t period. α is the output share of labor, β is the output share of capital, and γ is the output share of the financial industry.

Making the logarithm from both sides of Function (2). It could be available that:

$LnYt=\alpha 0+\alpha LnLt+\beta LnKt+\gamma LnFt+\mu$

This paper measures financial development level from the aspects of financial development scale and financial development efficiency, combining with the actual financial industry development of Wuxi City, which is also based on the research on the relationship between financial development and financial development and economic growth. Therefore, function (3) can be expressed as:

$LnYt=\alpha 0+\alpha LnLt+\beta LnKt+\gamma 1LnF1t+\gamma 2LnF2t+\mu$

Among them, F1 represents the financial scale of Wuxi in the t period, and F2 represents the financial efficiency of Wuxi in the t period.

2. INDICATOR SELECTION AND DATA SOURCES

(1). Indicator selection

In order to study the relationship between financial development and economic growth in Wuxi, and by the lights of lessons from the experience of existing research, this paper constructs the corresponding index system from three aspects. First, the selected indicator should be scientific. The selected indicator could withstand the historical verification, and be studied by the predecessors. The selected indicator pass down historically or is modified on a practical basis. It cannot verify the scientific nature of a fancy index. Second, the selected indicator should be adaptable. The selected indicator should be realistic, which is not only suitable for the selected research methods, but also appropriate to the local financial and economic development. Third, the selected indicator data should be available. For empirical analysis, the data is important. The indicator should be reasonable, while the data of indicators must also be accurate and easy to get. Economic Growth Indicators: In previous studies, GDP and per capita GDP are most often used to measure the level of economic development in a region. In order to eliminate the impact of population factors on the analysis results, this paper uses per capita GDP (RG) as an indicator of the economic growth level of Wuxi.

Finance scale: the Maxwell index and the Goethe index is most widely used. McKinnon believes that the proportion of M2 in the GDP should be used to measure the scale of a region's financial development, and Goldsmith considers to adapt all the financial assets as the proportion of GDP. However, Li Yang et

al. (1998), Sun Gang et al. (2001), Wang Yi (2002) and Wu Zhi (2010) pointed out that it is an abnormal trend of China's M2 share of GDP. Wang Yi (1999) also viewed that China's M2 / GDP is higher than that of both emerging market countries and the United Kingdom, the United States and other developed countries. China's specificity of financial industry and economic development determines the following. In China, the higher M2 / GDP does not represent a higher scale of financial development. At the same time, China's stock market started late and the scale is relatively small, with large part of non-circulation. In Zhao Zhenquan et al. (2004), they concluded that China's stock market did not have a significant effect on economic growth. Nie Qiang (2010) also pointed out that compared with the banking industry, China's securities industry influences on the economy are smaller than that of the bank.

Labor level: In China, especially its eastern region has been relatively abundant in labor, and relatively scarce in capital. In Wuxi, in the region, labor-intensive enterprises occupy a large proportion. There are relatively few high-tech and cutting-edge talents. The overall level of labor is low in the quality and quite few. Therefore, this article selected the number of employees in the whole society as a evaluation index of measuring labor development level (EM).

Investment level: In wuxi, economic development mainly rely on domestic demand and the influence of export is minimal. As one of two most influencing strength, the investment boosted the city's economic growth, and contributed significantly to economic growth, demonstrating the role of investment in the economy more clearly. This paper uses the investment of fixed assets as a percentage of GDP to measure the city's investment level (ING).

(2). Data sources

The data of Wuxi city before 1990 is the 5-year statistics and incomplete; the data is in a very serious shortage. However, when the time series data are studied empirically, too little data may affect the research results. Therefore, this article selected all the annual data of Wuxi City since 1990 (that is, 1990-2012), a total of 23 years. The data used in this paper are from the Statistical Yearbook of Wuxi City from 1990 to 2012 and the Statistical Bulletin of Wuxi. The model is used to eliminate the heteroscedasticity, which satisfies the model used. All the data are in the form of natural logarithm. To simplify it, all the indicators in the text did not mark with the Ln logo. In the impulse response function, automatically generated by the system, the corresponding indicator is with Ln. Its representative meaning is consistent with the previous no Ln sign. In this paper, when conducting the empirical analysis, the software used is Eviews6.0.

3. EMPIRICAL ANALYSIS

(1). Unit root test

In econometrics, the order of the variables is the prerequisite for the existence of covariance and causality between variables. ADF and PP unit root tests are the most commonly used methods for verifying the stability of variables. Therefore, this paper uses these two methods to analyze the five variables of RG (economic growth), FIR (financial scale), FE (financial efficiency), EM (labor level) and ING (investment level) and its first and second order differences to verify unit root test. Among them, the economic meaning of the first-order difference of each variable is the growth of the index, and the economic meaning of the second-order difference is the change of the index growth rate. For example, the first-order difference of per capita GDP (RG) represents the increase in per capita GDP, and the second-order difference represents the amount of change in per capita GDP growth. The first-order difference of the financial correlation ratio (FIR) represents the increase in the proportion of the financial correlation, and the second-order difference represents the amount of change in the financial correlation ratio. It can deduce the rest from this.

When inspecting, according to the principle from the general to the special, this article carries on the regression of the test type with the lag item and the trend item, the test type with only the lag item and the trend item of the test type without the lag item, until the test results no longer contain the unit root. When the ADF unit root test is inspected, the optimal hysteresis order is determined according to the Akaike information criterion and the Schwarz criterion (the smaller the AIC or SC value is, the better it will be). Specific test result are as shown in Table 3-1, with the left side of the ADF test results, and the right side of the PP test results.

The results show that the level of almost all variables is not stable, whether it is the ADF unit root test or the PP unit root test. When testing the index of first order differential sequence, except for the economic growth index, the other indicators are first order single integral; the second order differential sequence of all variables rejects the assumption that there is a unit root at a significant level of 1%. It is proved that the sequence of variables is second order single integral and conforms to the requirements of the same order. Other relationships between variables can be continued to be tested.

(2). Cointegration Test

The premise of any covariance test is the same order single integral. Unit root test results show that the sequence of variables is second order single integral. Therefore, covariance tests can be performed on variable sequence groups. Engle-Granger Two-step cointegration test is based on the regression residual sequence of the test, which is usually used for covariance between two variables. And Johansen (1988) and Juselius (1990) proposed a method of testing the regression coefficients to determine the

covariance of variables, which can be used to test the cointegration between multiple variables. We can also find the cointegration relationship between them, that is, JJ cointegration test.

(3).Granger causality test

The cointegration relationship between variables can only explain its relevance, but cannot explain the causal relationship between variables. Granger theorem states that if the variables are cointegrated, there will be at least one direction of the Granger cause. In this paper, by granger causality test among RG and FIR, FE, EM and ING respectively, the causal relationship is determined.

We could make conclusions from the results: (a) In the case of lag 1, FIR is not the Granger cause of RG. In the lagged period 2, FIR is the Granger's Granger cause at the significant level of 5%. Whether it is lag period 1 or period 2, FIR Granger reasons are that RG are under the significant level of 5%. It indicates that only when the economic development reaches a certain level, the scale of financial development on the effectiveness of economic growth will be revealed, and economic growth will always affect the scale of financial development. On the whole, there is a two-way Granger causality between financial scale and economic growth in Wuxi, that is, economic growth can affect financial scale, and financial scale can also affect the economic growth. But the effect of financial scale on economy growth will lag behind.

(b)Whether it is in the lag period 1 or period 2, FE are RG Granger reasons. And in the lag period 2, it will be more significant. In the lag period 1, RG is the Granger cause of the FE. But after lagging 2, RG is not the Granger cause of FE. It shows that there is a two-way Granger causality relationship between financial development efficiency and economic growth in Wuxi. Economic growth can affect financial efficiency and financial efficiency can also affect economic growth. At this stage, the city's financial development influences economic growth, which is mainly reflected by financial efficiency. The impact of economic growth on financial efficiency is also more obvious in the current period.

4. CONCLUSION AND SUGGESTION

From the dynamic analysis, the article explains that when there is only one factor change, the impact of changes in financial scale will have positive long-term effects on economic growth. The impact of changes in financial efficiency will have a negative long-term impact on economic growth. Both the role of the intensity are larger. And the impact of economic growth changes will give the financial scale to bring long-term negative impact, which will have a long-term negative impact on financial efficiency. Both impacts are relatively small. For the whole economic system, the impact of financial efficiency changes on economic growth is higher than that of financial impact. The impact of the fluctuation of the labor force has the greatest impact on the financial scale. Financial scale and financial efficiency has the greatest impact on financial efficiency. And the degree of financial impact is higher than that of financial efficiency. But all variables are most influenced by themselves eventually, which are all more than 60%.

In Wuxi City, financial industry has developed to some extent, which made some contribution to the city's economic growth. However, through empirical analysis, this paper found that the city's financial development has a long-term impact on economic growth, but the short-term impact is not significant. Through dynamic research and analysis, the conclusion has been drawn that its changes will be the impact of economic growth. It shows that there are still some problems of the city's financial development in the short term. Short-term action mechanism has not been formed, and doesn't give full play to the financial development of economic growth to promote the role. The dynamic study of economic growth also found that the impact on financial development is relatively small, and doesn't give full play to economic growth on the financial development. The action mechanism is not perfect. The city's financial development is not coordinated with economic growth. Considering these problems and combining with the status of financial development and economic growth of the city, the following suggestions for the coordinated growth of finance and economy are put forward in Wuxi:

To accelerate the adjustment of industrial structure and the transformation of economic development mode, and realize the coordinated and sustainable development of economy. To actively develop the characteristics of agriculture, and conduct the training of agricultural enterprises, farmer professional cooperatives construction and professional farmer. To encourage and support the family farms and large business, improve the degree of agricultural organization, and guide the agricultural economy to the high value-added direction. To improve the level of agricultural economic development and the grade of agricultural products. All the above promotes the formation of the characteristics of agriculture scale and the brand. In the process of optimization and upgrade of industrial structure, to constantly improve the upgrading pace of the traditional industries, especially the local coal industry transfer, ceramic and cement industry and processing extension of aluminum products. To cling to various policy opportunities, industry opportunities, nurture the development of continuing industry, achieve brand strategy, highlight the characteristics of the development of industry, and cluster development and expansion of industrial scale, in order to finally realize double breakthrough of total growth and transformation development of the industry. To continue to enhance the proportion of services in the economy, and highlight the brand to lead the strategy.

While expanding the scale of traditional service industry, we will speed up the development of modern service industries such as tourism, logistics and finance, promote the growth of the service industry that is higher than the GDP growth rate and stimulate the economy to achieve rapid growth, which ultimately feeds the first industry, and second industries. In the process of transformation of the mode of economic development, we should pay attention to sustainable development, environmental protection, pay attention to borrowing and develop external forces, and give full play to the guiding role of policy on the investment, in order to realize the sound development of regional economy.

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Impact of Replace the Business Tax with a Value-Added Tax on Real Estate Enterprise and Countermeasures

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Abstract: In recent years, the structural reform of the supply front has triggered a structural tax cut, and the reform of replacing the business tax with a value-added tax is one of the important initiatives. The new policy was announced on May 1, 2016, the State Council announced the full implementation of the replacement of the business tax with a value-added tax reform, and the scope of the pilot has been extended to the Real Estate Industry. The release of this policy has important practical significance for the sustained and steady development of the Real Estate Industry. In view of the fact that the deduction of corporate income tax in the process of tax payment and the actual operation of enterprises in the investment process have not been taken into account in most existing research literature, in this paper, I will carry out study on both the enterprise income tax deduction and "Material Supplied by Party A" and "Contract for Labor and Materials" the two investment operational modes. By developing mathematical models of the impacts of replace the business tax with a value-added tax on the tax burden of real estate enterprise based on different investment operational modes, a conclusion is drawn that the tax cut effect of "Material Supplied by Party A" is significantly better than that of "Contract for Labor and Materials". This paper at last puts forwards constructive suggestions according to the new policy and principle introduced by the state in the process of reform of replace the business tax with a value-added tax and based on the issuance and use of VAT invoices, the input tax deduction, the internal financial management supervision and the government financial tax subsidies, policy implementation in pilot phase and other key points that related to the effective implementation of replacing the business tax with a value-added tax.
Key words: The reform of replace the business tax with a value-added tax; Real Estate Industry; Changes in the level of tax burden

1. INTRODUCTION

With the process of urbanization, industrialization and modernization, the Real Estate Industry has become the main growth point of China's economy and one of the pillar industries in the national economy. It involves a very complicated upstream and downstream industry chain in the whole operation cycle of the Real Estate Industry. Upstream industries include metallurgy, chemical industry, machinery, building materials industry, while the downstream industries include decoration, furniture, home appliances, property, garden and other industries. The Real Estate Industry is closely related to the bank, and typically featured by large capital investment and long income cycle. Meanwhile, as a policy-oriented industry, the Real Estate Industry is highly policy-oriented and sensitive to the central government's macroeconomic policies, particularly by tax policies. Tax policy has a great effect on the level of tax burden and profit of the real estate enterprise, which is one of the determinants of the final economic benefits of the real estate. At present, China's tax system is very complex, which involves many stages in the operation of real estate market, such as land value-added tax, business tax, urban maintenance and construction tax, education tax surcharge, cultivated land occupation tax, stamp duty, enterprise income tax, investment direction adjustment tax, urban land use tax, deed tax and many other taxes. So vast and complex tax system not only increased the tax burden on real estate investment companies, also hit the real estate investment enthusiasm of entrepreneurs to invest in the Real Estate Industry to some extent. In recent years, under the macro background of economical "New Normal", the Real Estate Industry has also entered a gradually stable and gentle "New Normal". The government has repeatedly introduced the corresponding new policies based on developmental changes in the Real Estate Industry, but failed to achieve significant results, serious problems of the real estate enterprises are still unresolved. China's Real Estate Industry has experienced a serious housing stranding phenomenon in 2015. The revenue acquisition speed of real estate investment companies has been slow down after a significant capital investment, and there was even the funding chain scission appeared, which shook the investment will of real estate investors, but also greatly reduced the speed of real estate development. To help the recovery of the Real Estate Industry, the central and local governments continue to introduce new policies and optimize and adjust the bank credit and financial investment policies to increase the effort on encouraging the real estate investment. However, the

investment interest of the real estate investment enterprises has not been able to be improved, the development process of new real estate is still depressed. In 2016, Li Keqiang the Prime Minister of the State Council, in his "Government Work Report", said that From May 1, 2016, the pilot range of replacing the business tax with a value-added tax will be expanded to the construction industry, the real estate industry, the financial industry, the service industry, the value-added tax included in the new real estate of all enterprises will be included in the scope of the deduction to ensure that the tax burdens of all industries are reduced. The taxes burden of the real estate investment enterprises has been reduced as the Real Estate Industry joined the reform camp of replacing the business tax with a value-added tax, which greatly increased the enthusiasm of investors, but also brought about the reform of the sustainable development of the Real Estate Industry in China.

2. A REVIEW OF THE RELATED LITERATURE RESEARCH PERSPECTIVES

The concerns of the literature related to "the impact of replacing the business tax with a value-added tax on the Real Estate Industry" published by domestic experts and scholars are mostly focused on the extent of the impact of replacing the business tax with a value-added tax on the tax burden. In the study of Xian Linzhang and Zheng Yan, it is assumed that the VAT rate of the Real Estate Industry is always maintained at 11% and all the input tax included in the deductible range can get the corresponding value-added tax invoice, so that all input tax in the range has been deducted, then thus concluded that the tax burden of real estate enterprise after replacing the business tax with a value-added tax was 0.82 percentage points lower than before. The study of Zhou Zongde and Zong Shihua on the basis of 17% VAT rate of the Real Estate Industry has drawn the following conclusion: Taking the material costs accounted for 65.5% of the total income as a tax burden equilibrium critical condition, when this ratio is less than 65.5%, the level of corporate tax burden will show an upward trend and when this ratio is greater than 65.5%, the level of corporate tax burden will decline. In the study of Xiao Qiang and Peng Xiaojie,it is assumed that replace the business tax with a value-added tax is implemented in all the major industries in the real estate upstream and downstream industry chain, and the mathematical model was constructed under this premise to the changes in the level of tax burden under different tax rates, so it is conferred that the two main factors that affect the tax burden of real estate enterprise are deductible input tax and VAT rate. In the case where the VAT rate is stable, the tax payable by the enterprise will decrease as the increase in the effective deductible input tax.

The authors of these domestic literatures I mentioned above only stay in the simple comparison of the tax balance before and after the reform when studying the impact of replacing the business tax with a value-added tax on the taxes of the Real Estate Industry, and accordingly draw conclusion that the level of tax burden is increased or decreased. Apparently, they ignored the deductible portion of business tax paid by enterprises in the study of the relevant tax burden. Moreover, when studying the changes in the level of real estate tax, they only incorporated the cost of materials into the deductible input tax source without combining the actual situation in the accounting of the Real Estate Industry. In this paper, in the study of the changes in the level of tax burden for the Real Estate Industry, the deductible effect of the deductible portion of the corporate income tax in the business tax of real estate enterprise is taken into account as well as "Material Supplied by Party A" and "Contract for Labor and Materials" the two kinds of actual investment operational modes in the Real Estate Industry, and the tax changes in the two models are modeled through the use of mathematical models.

3. ANALYSIS OF THE CHANGES IN TAX BURDEN OF THE REAL ESTATE INVESTMENT ENTERPRISES BEFORE AND AFTER REPLACING THE BUSINESS TAX WITH A VALUE-ADDED TAX

In the actual work of levying taxes, it is necessary to take into account that the real estate enterprises usually adopt the sales mode of "sale first launch after", so the pre-sold principal in the current period should not be included in the "main business income", but be accounted in "in advance payment". Therefore, the corresponding turnover of the pre-saled principal of the real estate investment enterprises should be included in the corresponding "business tax and additional" account for accounting. According to the relevant provisions of “the sales tax of the developed products and the additional provisions in the current period shall be deducted in accordance with the provisions" No. 31 Document [2009] issued by the State Administration of Taxation, the portion of the business tax that has been paid and counted as "business tax and surcharges" in Real estate enterprise shall be deducted from the enterprise income tax paid in the current period. VAT is a kind of out-price tax, which is characterized by its taxation object is the value-added part. As a result, different with the operating income tax should be deducted before the tax, VAT will not appear in the income statement of real estate enterprise, so it can not participate in the pre-tax deduction of income tax. In the study of changes in the real estate industry before and after the reform of replacing the business tax with a value-added tax, the deduction effect of the pre-tax deduction of the income tax on the enterprise's business tax can not be ignored.

As a large number of different industries will be involved in the process of real estate investment,

complex links and numerous projects lead to unusually complex and huge development costs, and the main project costs includes land cost, tax cost, construction cost (construction and installation) and so on. The two investment operational modes "Material Supplied by Party A" and "Contract for Labor and Materials" are mainly used in the actual operation process. The material cost can be used to offset the VAT as long as the conditions are met in "Material Supplied by Party A", but in actual operations, investors often use "Contract for Labor and Materials" to obtain more input tax deductible share through a unified issued construction invoice.

(1) Model Specification

According to the "Notice on the Comprehensive Implementation of pilot of the replacement of the business tax with a value-added tax" Tax〔2016〕No. 36 Document that jointly issued by the Ministry of Finance and the State Administration of Taxation on March 23, 2016, Take the business tax with a value-added tax in the Real Estate Industry on May 1, 2016. A 5% business tax was applied to the Real Estate Industry before replace the business tax with a value-added tax, and after which, the VAT rate shall be applied to the Real Estate Industry and determined as 11%.

Taking all taxable income of one real estate investment enterprises for the Y and X for operating costs a the assumption, the enterprise should pay 5% Y of the business tax before the implementation of replacing the business tax with a value-added tax, by taking into account the income tax deductible part of the business tax, the amount of tax to be collected becomes (1-0.25)×5%Y=3.75%Y. After implementation of replacing the business tax with a value-added tax, The ratio of the input tax deductible to the total cost of the tax is θ. In the "Material Supplied by Party A" mode, The ratio of material costs invested by the real estate investment enterprise to operating costs is approximately θ1. It is known that θ1> 0 holds in this mode, and when θ1 = 0 indicates that the real estate investment enterprise adopt the "Contract for Labor and Materials" mode. When the real estate investment enterprise adopt "Material Supplied by Party A" mode, the VAT rate of its the material cost shall be 17% in the calculation of input tax deductible part. It is known that VAT rate of the Real Estate Industry is 11%, and accordingly, the formula for calculating VAT shall be paid by the real estate investment enterprise as the general taxpayer is: VAT = sales tax - input tax, that is Y/(1+11%)×11% －[X×θ×17%＋X×(θ-θ1)×11%](1).

(2) Model Analysis

Based on the differences of the supply side for the materials of the Real Estate Industry, the operation modes of real estate investment enterprises can be divided "Material Supplied by Party A" and "Contract for Labor and Materials". After the reform of replacing the business tax with a value-added tax, the two operation modes have different input tax rates for VAT. Meanwhile, this paper also constructs the mathematical model based on the deduction effect of the enterprise pre-tax income in the business tax shall be paid by the real estate investment enterprises to analyze the change of the tax burden before and after the reform of the two operation modes. The model all input tax of the real estate investment enterprises within the effective range can get the corresponding value-added tax invoices, so that deductible part of VAT input tax should be deducted. When the level of tax burden remains unchanged before and after the reform of the real estate investment enterprises, replace the business tax with a value-added tax will not increase the tax burden of the real estate investors should be guaranteed(That is: Business tax before replace the business tax with a value-added tax ＝ Business tax after replace the business tax with a value-added tax).

(a)When the real estate investment enterprise adopts "Material Supplied by Party A" investment operation mode,θ1 ∈ (0, 1), X/Y = 6.16% / (θ1 × 6% + 11%) and X/Y ∈ (36%, 56%) by the formula (1). After the implementation of replacing the business tax with a value-added tax, if X/Y ＞ 6.16%/(θ1×6%+11%), the tax burden of the Real Estate Industry decreases and increases with the increase of the ratio θ1; on the contrary, the tax burden of the Real Estate Industry is on the rise.

(b) When the real estate investment enterprise adopts "Contract for Labor and Materials" investment operation mode, θ1 ＝ 0, X/Y ＝ 56%. When X/Y> 56%, it means that the tax burden of the Real Estate Industry decreases after replacing the business tax with a value-added tax; on the contrary, the tax burden of the Real Estate Industry increases after that.

(3) Result Analysis

The analysis of the model shows that the VAT deduction amount obtained through the use of "Material Supplied by Party A" significantly higher than that of "Contract for Labor and Materials" after the reform of replacing the business tax with a value-added tax. At the same time, it can be seen that the replacement of the business tax with a value-added tax ensures the reduction of tax. Based on the assumption that the Real Estate Industry's value-added tax rate remains at 11% and all deductible input tax VAT invoices can be successfully obtained, the real estate investment enterprises can achieve tax reduction effect with any of the two operating modes.

4.THE IMPLEMENTATION OF THE POLICY OF THE REAL ESTATE INVESTMENT ENTERPRISES AFTER REPLACING THE BUSINESS TAX WITH A VALUE-ADDED TAX

After the implementation of replacing the business tax with a value-added tax, an enterprise to obtain a VAT invoice for a deductible input tax if it wants to

obtain a tax cut. However in the actual process, not all main items that make up the cost of real estate investment (such as land cost, cost of construction and installation, financial cost, etc.) can get VAT invoices for input tax deductions. The higher the proportion of the corresponding value-added tax invoice in the investment cost, the more obvious the tax reduction effect obtained by the enterprise after replacing the business tax with a value-added tax.

In addition, the current replacement of the business tax with a value-added tax is in the transition phase of the pilot, policy and principle are not stable. In response to this situation, specific recommendations are made as follows.

(1). Increase the deductibility of major costs. The land cost is the primary cost of the real estate investment enterprises, , and its deduction of input tax has an important impact on the effect of replacing the business tax with a value-added tax. The following means can be used to effectively reduce the tax burden of the real estate investment: The amount of land obtained by the enterprise through a variety of ways will be used as sales after deducting; The first payment of financial land will be credited to the input VAT deductible basis; In the choice of upstream and downstream partners, enterprises should be inclined to choose the material supply and construction and installation providers that can issue VAT invoices as partners, to increase the deductible share, and reduce the taxes of real estate investment enterprise; enterprises should strengthen the tax cuts awareness in all aspects of VAT tax, , strengthen the management and supervision on the issue and usage of VAT invoices, improve the utilization of VAT invoices to reduce the taxes of real estate investment enterprise.

(2). To solve execution time issue for the implementation of replace the business tax with a value-added tax in the pilot phase. Under normal circumstances, due to the long operating cycle and slow profits acquisition in the Real Estate Industry, enterprises are faced with the choice of tax system in pilot phase of replace the business tax with a value-added tax. Based on the full implementation of the provisions of the reform of replacing the business tax with a value-added tax issued by the State Council, May 1 is the demarcation point for "business tax" tax system and the "VAT" tax system. In the real estate contracts, the projects should be included in the "business tax" tax system if the date of commencement before May 1, and the others should be included in the "value-added tax" tax system if the date of commencement after May 1. However, taking into account the special circumstances of the transition period, the government should develop policies to give developers a certain relaxation time, as well as provide a reasonable policy to ease the implementation period.

(3). Improve the financial management capacity of the pilot real estate enterprises, and implement the tax reduction work. Faced with this comprehensive tax reform, unpredictable tax changes may be encountered in the actual tax levy. Enterprises should actively face the unstable policy and tax situation, improve the internal financial management system, strengthen the financial management capacity, properly manage the tax invoice, improve the acceptance rate of the invoice, perform special persons for special management and implement the relevant responsibilities. Meanwhile, enterprises should also strive to expand the input tax, and push for greater efforts to reduce the tax burden after the enterprise reform.

(4). Implement the financial subsidy system to help enterprises through the difficult period. Replace the business tax with a value-added tax policy in the Real Estate Industry is still in the pilot phase that faced a huge uncertainty. If the pilot real estate investment enterprises want to smoothly through tough period of replace the business tax with the pilot of a value-added tax reform, it not only requires improve the internal financial management system and strengthen the financial management and operation capacity, but also requires the supports of the state financial subsidies and other external forces. The real estate pilot enterprises with tax increase during the pilot phase shall be given financial subsidies, and the interests and benefits of the enterprise should be guaranteed not to be compromised during the reform pilot period. In addition, in the actual work during implementing the financial subsidies, the relevant departments should simplify the relevant procedures to improve the efficiency of the work so that to to bring convenient and smooth service for the relevant enterprises. In this way, it is beneficial to reduce the capital occupation of the real estate investment enterprises, expand the cash flow of the enterprises, increase the investment enthusiasm of the investors, and speed up the process of the reform of replacing the business tax with a value-added tax, and it is also conducive to making a solid progress in the supply side structural reform in the field of replace the business tax with a value-added tax.

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Research of Internet Finance on Traditional Banking

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Abstract: Internet as a prevailing modern information technology, especially in search engine, mobile payment, third-party payment platform, Internet sociality, cloud computing and big data storage etc., have integrated into different aspects of social life and caused tremendous effects to consuming habits and financial demands. With continuous development of Internet technology and great prosperity of third-party payment, Internet lending, crowd-funding, mobile payment, electronic bank and so on, it has caused a massive impact on traditional banking. This thesis is aimed at analyzing the impact of Internet finance on traditional banking
Keywords: Internet finance; Traditional banking; effect research; strategy research

1. INTRODUCTION

Internet is considered as one of the technologies that have most profoundly changed people's life in human history. Over the last thirty years of rapid development, Internet has developed from a toy in computer expert's lab into an indispensable part of people's life and work. According to open data, as of the end of 2014, the number of Internet users kept increasing up to 0.648 billion with a Internet penetration rate of up to 46.54%. Faced with thriving and growing Internet finance, traditional banking was not well-prepared for these challenges, since traditional banking has for a long time been in a dominant position in finance industry. Due to traditional and conservative organizational culture, enormous organizational culture etc and the fact that consumers have not acknowledged financial service provided by traditional banks, therefore it started to show its weaknesses in face with challenges from Internet finance.

1. CHARACTERISTICS OF INTERNET FINANCE

(1). Based on application of big data

Big data adequately analyzes potential risks in the process of different financial transactions, which is the top concern of finance users. In large transactions, high-frequency transactions should be analyzed based on big data. The essence of big data is to make rearrangement and adjustment for financial data and strategic sequential trading is a mode used in the process of high-frequency transactions. In times of big data, it does not only make adjustment in original finance structure and finance mode, but also plays a significant role in rebuilding financial system. Through data analysis, it's easier to access transparent credibility and trade fairness etc. of both sides. Regarding fund users' credibility, it takes much longer for traditional banks to collect needed information. However, in most cases, it becomes easy. With a storage of massive information, it's more convenient for people to find useful information, which will help them make comprehensive decisions and therefore avoid potential loss.

(2). Diversified Management Modes

Finance Internet subsystem has a fundamental function, which is the core of whole finance system function. To meet market demands, its establishment requires a solid financial strength and effective methods to provide comprehensive service. It possesses technological functions and needs to be operated by means of technology and information search functions. Its main service covers providing platforms for financial product sales and supporting service. Besides, online sales is achieved accomplished via application of technologies. Another mode is to set up sales platform, online stores and apply used Internet platform to set up online virtual store. For example, Pingan insurance has set up a great deal of stores on online shopping malls, which is a new mode operated in form of platform sales.

Internet finance is established based on the development of Internet. Therefore, it provides service for the public in society, which is same with the purpose of Internet finance, namely public availability. Among traditional banks, it generally classifies people into different classes for load partition and categorizes large-sized companies as main target clients for service. However, small- and medium-sized companies have great difficulties obtaining loan, which, for a long time, has been one of the reasons hindering the development of small- and medium-sized companies. From the perspective of traditional banks, large-sized companies are target clients and privately-owned companies suffer from discrimination to certain degree. Furthermore, small financial services are not even included in the service system. However, Internet finance is of public availability, which meet demands of different groups. Regarding different groups, Internet finance innovates new financial products for them to choose from, which does not help them solve financial problems but also guarantee transparency in transactions. On top of that, analysis and storage of big data on the Internet does not only guarantee

sophisticated information and financial security, but also stimulate financial liquidity, which an embodiment and extension of financial service.

2.IMPACT OF INTERNET FINANCE ON TRADITIONAL BANKING

(1). Impact of Internet Finance on Traditional Banking Profit Model

2.1.1 Property

In the aspect of property, Internet finance has an impact on traditional banking service to certain extent, but target clients of Internet finance are limited to small-sized companies and individuals. And its impact on banks is also limited to small-sized companies and individual lean. To better analyze its impacts, this thesis classifies online loan platform into individual and institutional platforms according to different categories of investors. Institutional platform mainly provides loan service for online platforms while individual platform focuses on individual loan. (As illustrated in Table 1)

Table 1 Different Analysis Chart of Clients Group of Banks and Online Loan Platforms

Platform Type	Services of Bank to be impacted	Interest Rate of Bank	Interest Rate of Internet Finance	Bank Clients	Internet Finance Clients
Individual Online Loan Platform	Individual consumption/operating lease	6.4%-9.6%	16%-24%	Quality individual clients	Individual/private employer unqualified for bank loan
Institutional online loan platform	Individual/small-sized or micro companies operating lease	6.5%-9.5%	15%-21%	Quality individual/small-sized and micro companies	individual/small-sized and micro companies unqualified for bank loan

Notes: information collected and provided by Guotai Junan Securities and CITIC securities

Through analysis from chart 2-1 above, it is concluded that development mode of Internet finance does not generate intensive impact on traditional banking services. In addition, it's also found that Internet finance is connected to credit loan service of traditional banks in cooperation and supplements. Through cooperation with Internet finance and credit loan service of traditional banks, it is not only beneficial to promoting development of banking service, but also improving current situation of banks to certain extent.

2.1.2 Debt

Operating fund of traditional bank is generally obtained from deposit, which is massively impacted by Internet finance. Deposit service affect traditional banking in following aspects:

Firstly, deposit service is the fundamental financial cost for traditional banking and profit margin of banking service is directly affected by interest rate. Secondly, supervisory institute demands that proportion between traditional bank credit loan service and deposit service should be less than 75%, which, to certain extent, affected regular operation of traditional banking fund. Meanwhile, due to external pressure and demand, traditional banking has to keep raising interest rate as a result, which, to certain extent, hampers healthy development of traditional banking.

Development of Internet finance service has an impact on debt project of traditional banks, particularly in financing and individual deposit etc, which are mostly from P2P credit loan service and thirty-party payment platforms etc, As illustrated in Table 2.

Table 2 Impact of Internet Finance Over Traditional Bank Debt

Internet Finance Service	Third-party Payment Settlement	Internet Financing	Third-party Financing Products Sales Platform	Yu E Bao type of Financing Products
Specific Impact on Bank	Loss of individual current deposit	Slight transferring of individual fixed deposit and financing fund	Slight transferring of individual deposit and financing fund	transferring of individual deposit and financing fund

Notes: information collected and provided by Guotai Junan Securities and CITIC securities

(2). Impact of Internet Finance on Traditional Banking Operation Model.

(a) Electronic Finance Changes Operating Idea of Traditional Banks.

Advanced improvement of Internet information technology has greatly stimulated the development of electronic finance service. Currently, there are more than 200 online E-commerce companies with electronic payment authority, approved by National Finance Department. These E-commerce companies

apply online platforms to develop electronic payment, collection and reservation service. Under such circumstances, Traditional financial institutes are faced with huge challenges. In order to comply with demands of new era and improve self-competence, a great number of entity bank organizations have altered to Internet for further development. With SPD BANK (Shanghai Pudong Development Bank and CMB (China Merchants Bank) as examples, at present more than 80% of services can be accomplished online and now they are leading banking industry nationwide. Besides, in recent years, different major banks have been engaged in Internet service. As of now, 60% of banking services can be completed online. However, in the process of transmitting into electronic platforms, major bank institutes still have a long way to go to match E-commence companies. Faced with challenges and pressure, traditional banking must adapt to the now normal demands of Internet and constantly strive for technological breakthroughs and research, in order to maintain its position in era of information finance.

(b). Electronic Finance Changes Banking Service Model

Banks and other service industries are all aimed at meeting customers' demands. Only by seizing customers can they occupy market for development. However, with popularization of electronic finance service, the new change occurring in the field of contemporary finance service is that more and more people prefer electronic finance platform. According to statistics by the end of 2015, there were an estimated number of 670,000,000 people using Internet while more than 400,000,000 people using online shopping and electronic payment. Therefore, a developed and sophisticated electronic payment system has graduated replaced the service of traditional banks. However, at present, a mainstream phenomenon is that the function of banking institutes is weakening and they are losing the majority of customer resource. So it's necessary for traditional banks to make changes and start customer-centered service innovations. Therefore, in face with impact and challenges from electronic finance companies, banks must make bold innovations ,constantly improve service content and quicken innovations of finance products. Besides, it's also very important to adapt to demands of Internet development and make adjustment based on customers' psychological preferences. Hence only by satisfying and attracting customers' demands, can they maintain an invincible position in changing market.

3. STRATEGY RESEARCH OF TRADITIONAL BANKING DEVELOPMENT UNDER THE OF INTERNET FINANCE

Booming development of Internet development has caused huge pressure and challenges to traditional banking, which has aroused social attention. This paper focuses on the impact of Internet finance on traditional commercial banks and strategies and proposes corresponding strategies by analyzing the challenges that Internet causes to traditional commercial banks from different aspects.

(1). Practices of Traditional Banking on Internet Finance

With the development of Internet technology and finance service of online companies, traditional banking does not only feel the challenges from Internet companies trying to penetrating into finance field, but also feel the huge room for finance service based on Internet. In face with impact of Internet companies, traditional banking has gradually attempted to extend its service to Internet, rebuild service process and make finance strategy distribution, in response to challenges caused by Internet finance.

By the end of last century, Internet had just started prospering in China. CMB managed to seize the opportunity and get ride of the fast train of Internet. Hence CMB became one of the first banks developing Internet finance service by developing finance service products, optimizing service structure and seeing new development mode for banks. Therefore, CMB has become one of the best banks applying Internet finance system. As illustrated in Table 3 of CMB Internet development analysis, we can see the Internet finance development progress of CMB in service model.

Table 3 CMC Internet Finance Development Progress Analysis

Classification	Form	Operating time	Product
Internet Finance	Internet Bank	1997	All in one net
Remote Finance	Remote Bank	1998	QQ&Wechat Customer Service
Mobile Finance	Mobile Bank	2003	Mobile bank, mobile payment
Light Finance	Light Bank	2012	Comprehensive deposit platform, online supply-chain finance

After CMB, many traditional banks, in face with challenges of rapid Internet finance development, has seized the opportunity to promote Internet finance service in traditional banking and make strategic distribution in Internet finance service, as illustrated in Table 4..

Table 4 Different Banks' Internet Finance Strategies

Name of Bank	Internet Finance Strategies
China Construction Bank	Focus on the direction of "wisdom, ubiquity, cross-boundary" and build up a "domestically leading and world-class" electronic banking system

Industrial Bank of China	Build up a comprehensive platform of "payment and financing" based on B2C and achieve an integration of "cash flow, information flow and logistics"
Bank of China	Establish a mobile and service-centered Internet bank based on e-commerce and development of Internet bank as core strategies
Bank of Communications	Based on Internet, establish payment medium platform and credit medium platform and establish credit loan medium platform ; achieve transition from traditional bank to Internet finance with "three steps" strategies
China Minsheng Bank	Adopt "walk with two legs" principle: set an individual Minsheng E-commerce company ;stimulate micro-finance service; establish strategic partnership with Alibaba; comprehensive boost business cooperation

China Construction Bank (CCB) has been leading traditional banking industry in promoting Internet finance service and incorporated it into comprehensive plan of electronic banking service. CCB put forward three directions regarding business development from 2011 to 2015, which are wisdom, ubiquity and cross-boundary. "Wisdom is placed as top priority, which demands electronic bank in the future should be more intellectual and more accurately locate demands of customers with efficient service. "Ubiquity" means banks are able to get rid of limits of time and space and achieve easy access to third-party service. Meanwhile, CCB's products and service can be delivered to customers in time. CCB can not develop alone without cooperation with other parties, particularly in an era of prospering development of Internet finance. If financial institutes do not seek cooperation, they will soon be isolated from market. Therefore, to traditional banks, cross-boundary cooperation is particularly important. Faced with challenges and impact from Internet finance, CCB has actively explored cross-boundary cooperation and developed effective finance products and service. On top of that, CCB has taken firm measures to make reforms and promote transition of banking structure, in order to provide corresponding finance products. Through applying E-commerce platforms for data analysis, cross-boundary management can be well operated.

(2). Strategic Research of Traditional Banking on Internet Finance

(a). Comprehensively Explore and Development New Bank Development Model

Traditional banks should establish close cooperation with Internet finance companies and actively seek to develop a comprehensive banking model. They should also seek new areas for business growth, develop new finance products, enrich banking products structure and establish a comprehensive business development model, instead of escaping or viciously supplanting Internet companies. In face with competition from Internet companies, they should make full use of their own advantages while avoiding their disadvantages and actively development more effective finance products and service, therefore making mutually beneficial but sustainable development model.

(b). In face with impact of Internet finance, actively explore new cooperation model

Internet finance still can not affect CMB, so strengthening cooperation is extremely important. Internet finance does not simply damage or replace commercial banks, but also expand and enlarge its service scale to certain extent. Therefore, traditional financial institutes and Internet finance companies shall not be competitors, but partners. Traditional commercial banks should fully cooperate with Internet finance companies and correctly evaluate the opportunities that Internet brings, instead of escaping or using vicious methods to supplant Internet companies. In face with competition from Internet companies, they should make full use of their own advantages while avoiding their disadvantages and actively development more effective finance products and service, thus making mutually beneficial but sustainable development model. Therefore, correctly evaluating the effects on CMB caused by Internet finance is a significant factor that stimulates CMB's transition of development model, optimization of system structure, improvement of service quality. Only by enhancing interior managerial control, improving service quality and combining with Internet platforms can CMB effectively present from potential risk of Internet finance, achieve industrial update and there stimulate the development of CMB.

(c). Headquarter & Branch Bank Divide and Share Responsibility, Co-build Finance Products Development Structural System

Headquarter bank, in face with pressure from Internet finance, shall develop core system , have a real-time track of market and acquire related data information. Besides, it should make quick response to potential risks occurring in market and analyze obtained data. At last, headquarter bank shall provide important data support for Internet finance service in the process of research and development. However, headquarter have difficult directly reaching customers and therefore can't get to know their suggestions and demands, which makes it hard for headquarter bank to have a deep understanding of market circumstances and customers' needs. Therefore, R& D team of headquarter shall still make scientific R&D standards and guarantee a feasible system based on surveyed customer data provided by branch banks.

4. SUMMARY

Great challenges from Internet finance bring traditional finance service new opportunities and enormous pressure to make bold reforms in face with

competition. First of all, whether to folks' life or public work, it has brought tremendous changes and Internet finance has been developing rapidly with the stimulation of many factors : 1、big data 2、cloud computing. Secondly, Internet finance has its own peculiar advantages, which is a result of a wide variety of effective products that keep up with time. Furthermore, it brings great convenience and development opportunities to customers. Thirdly, this type of finance does not bring many theoretical opportunities, but also provide financial support for all kinds of enterprises, including micro-enterprises. Fourthly, This model also brings motivation for a highly-efficient finance service and stimulates reforms of finance market.

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