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CONTENTS

Analysis on the Promotion of Demand-Oriented Remote Education Industry Mode

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Abstract: With technical advantages such as big data, cloud computing and mobile Internet, coupled with the “free access” Internet thinking, the Internet has set off a wave of revolutionary in education field. The thesis will analyze the users’ experience model based on mobile terminal APP that is appropriate in the background of the deep integration of “Internet plus education” on the basis of probing distance education industry mode, in order to explore teaching module and interactive system that is suitable for distance higher education.
Keywords: Demand Oriented, Distance Education, Mobile Terminal APP, User Experience

1. INTRODUCTION

Networking and education still stays in the “joint” stage rather than the “integration” stage, which has not given full play to the potential of mobile education and does not follow the trend of mobile phone whose function is small but all-inclusive. With the rapid development of mobile Internet and data, APP education learning is enjoying a wider application. With education APP focusing more on scientific and systematic contents in its product design, the use of education APP to learn gains a widespread popularity among people. Therefore, the design of APP module based on mobile phone according to the characteristics of distance education, can provide more intelligent and convenient service for a fast-pace life, making the lifelong learning become a must and a possibility. In the near future, education will march towards community, family, elder population, remote areas from school, which can fundamentally solve the unbalanced education resources.

2. LITERATURE REVIEW

From the beginning of September 1998, the Ministry of Education approved Tsinghua University as the first batch of pilot colleges and universities in modern distance education, which recruits the first batch of online students, marking the official start of network education. In recent years, network education gains a wide popularity gradually due to unrestricted time and space. Just like a dark horse breaking the original model of traditional education, prompting a huge change in the educational circle [1]. "Innovation is the soul of a nation and an inexhaustible driving force for the prosperity of a country." Under the guidance of innovation, the concept of lifelong learning gains an increasing recognition among people. With the increasingly sharp contradiction between the rapid growth of learning needs and the shortage of educational resources, the traditional education model is unable to meet the huge demand for learning [2]. It is necessary to build a learning society to provide the corresponding learning platform at anytime, which online education just provides such an opportunity [3].Yu Xianglin proposed that in the training content, it is necessary to learn the related computer skills and teaching method to learn how to integrate and share distance education resources [4]. Liu Wenjun put forward that the aim of innovative teaching model is to give full play to the comprehensive advantages of modern distance education and traditional education, so as to form a benign interaction between the two, which can retain the rich feelings of traditional education, while adding advanced modern educational technology at the same time.[5] Wu Shuyu and Tian Chunyan argued that only by having perfect guarantee system can reform become more meaningful. It is necessary to strengthen the transformation of teaching model and enhance the reform efforts to ensure the full integration of traditional adult education and modern distance education. [6-7]. With the advent of knowledge economy era, there is a growing popularity of the mobile Internet era, tablet PCs and smart phones among college students. Mobile devices have developed to a great extent in informal learning field. It has become the trend of the times and irreversible trend for learners to study in fragmented time [8-9].

Literature shows that at present, distance education based on the mobile APP in Internet economy is still in the exploratory stage, making its debut in the education circle. Related researchers are affirmative towards the application of smart phone in education and teaching, but they also reflect on the shortcomings of distance education based on mobile terminal APP in application [10], for example, the conflict between the screen size of mobile terminal APP and its portability, insufficiency in potable learning resources, the charge model of courses and profitability standards, the shortage of learning consciousness, etc. With the development of the times and the improvement of people's learning awareness, people will gradually realize the

convenience brought by distance education based on mobile terminal APP, which is bound to get further development in information society.

Market benefit analysis of online education

From the table of the market size of China's online education from 2006 to 2015, it can be seen that Internet education, a very promising industry, has huge development space and potential markets, which can bring more considerable economic benefits, as shown in Tab 1.

Table 1 The market size of China's online education from 2006 to 2015

Year	Market size(billion)	Market growth rate	Internet penetration
2006	220	22%	10.5%
2007	282	28%	16.0%
2008	363	29%	22.6%
2009	450	24%	28.9%
2010	525	17%	34.3%
2011	610	16%	38.3%
2012	723	19%	42.1%
2013	839.7	16%	45.8%
2014	1069	27%	47.9%
2015	1600	50%	48.8%

The business model of Education APP can be streamlined as network education resources collection-online education course construction - market promotion, user registration- market circulation. Analyzing with value chain theory, it can be seen that there are economic benefits in each link of the whole business mode. Meanwhile, judging from the fact that Internet plus education can boost other industries' development, Internet education has economic benefits. On the one hand, Internet education improves the drawbacks of traditional education industry. On the other hand, it promotes the development of industries such as information technology industry, service industry and electronic industry. Obviously, Internet education can bring economic benefits in every way.

●In network education resources collection link, enterprises can cooperate with other educational platforms to realize the sharing of resources while increasing their economic benefits. For the public, the economic benefit is more reflected in the sharing of resources, enabling more people to obtain more and better quality resources through the Internet.

●In online education course construction link, according to a survey, what attract people most in educational APP are interest courses and skills courses, with the former focus in language learning courses, such as daily English and minority language courses, while financial courses rank first among the latter. Companies can pay partial courses fee to increase economic benefit. On the other hand, economic benefits can be reflected in the collection of information distribution. As a software platform, education APP should conduct strict control when publishing the relevant courseware of related teachers. The use of information distribution fees can not only increase economic benefits, but also ensure course quality.

●In market promotion and user registration link, first of all, O2O model can be used in market promotion to let APP come into the public view first, and then gradually expand the number of users. Secondly, campus promotion can be adopted to promote class learning management mode, which can help the class to build online learning method to help teachers better supervise students. These methods and measures can increase the amount of users, thus increasing economic benefits.

Industrialized operation mode

3. APP MODULE DESIGN

As an important supplement of network education, mobile learning is not simply to transplant network education resources based on Web to mobile terminal. Instead, it is a comprehensive system that contains a variety of function modules and integrates with various subsystems, including educational administration management system, course learning system, examination system, and teaching support service on the basis of multi-user. Learning from the design experience in the existing mobile learning system, the system structure of mobile learning system in distance education can be divided into three layers, i.e., presentation layer, business logic layer and data layer. It is necessary for the functional design of module to be streamlined with the use of some transaction modules that are commonly used and easy to deal with. The function of mobile learning system in distance education should represent mainly in the mobile learning contents. However, when developing more and better curriculum resources of mobile learning, function modules such as simple educational management and teaching support services of distance education should be involved to help teachers participate in management and teaching and coaching. In the division of modules, mobile learning system can design administrator to set relevant users via system management functions. Specific users can set information such as school grade, class, curriculum, teachers, and head teacher and can publish the

relevant announcement through educational administration management. Similarly, teachers can organize teaching resources and assign homework based on curriculum unit for the synchronization of students. Students can use mobile devices and servers to realize the synchronization in the upload and download content.

Mode One: Class Learning

The mode is mainly concerned with problems such as the lack of communication between teachers and students, and the communication among students that is pervasive in nowadays universities, to help users such as teachers and students to establish online virtual classroom mode, which can combine offline class and online one closely, providing better mobile service for teachers and students. System administrator sets relevant users via system management functions, while specific users can set information such as school grade, class, curriculum, teachers, and head teacher and can publish the relevant announcement through educational administration management. The class learning mode

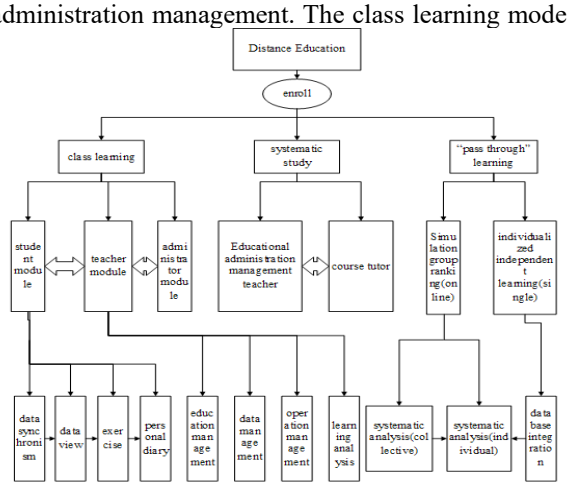

Figure 1 Hierarchy Diagram of System Module

The promotion of distance education mode

The universality and practicality of distance education based on mobile terminal is becoming increasingly prominent. Be it domestic Netease classroom and Hujiang network, or the well-known global education platform MOOC overseas, they are all "shining stars" in distance education based on mobile terminal, who have distinctive success pass in their fields, indicating the irresistible vibrant development of distance education based on mobile terminal. The future society is one full of mobile information. Despite the fact that the development of mobile education in an all-round way is immature, the unceasing development of communication technology and Internet as well as people's desire for education and the strong demand for education of the whole people, are bound to lay a solid foundation for the success of distance education.

Demand analysis stage

The result of demand analysis phase is the data flow diagram of the system. Then it is necessary to further divide the module of the system according to the data flow diagram. In general, a module in a program can complete an appropriate sub-function. To organize the module into a good layered system, it is necessary to construct the module's calling relation. The top module calls its lower module to realize the procedure's full function, whereas the latter then calls its lower module to complete the procedure's sub-function, while the lowest module completes the most specific function.

Each module should be designed to complete a relatively independently specific sub-function to reduce the coupling degree with other modules as much as possible. Generally, modules with low coupling and high cohesion are independent. At the same time, we must make sure that the size of the module should be moderate in that the too large modules generally can not be fully discomposed. However, further decomposition must be consistent with the structure of the problem. In general, further decomposition should not reduce the independence of the module. The overhead of a module that is too small is greater than the effective operation, while too many modules will make the system interface complex. Therefore, a module that is too small is not worth being alone, especially when it is only called by one module. It can be integrated into a higher level module instead of being alone.

Marketing promotion stage

Among the distance education based on mobile terminal APP in the "Internet plus" background, different application categories of APP marketing model need different modes, which mainly include embedded-ad mode, user-participation mode and shopping website transplantation mode. APP marketing strategy system can be divided into "product" and "brand", and "integrated", and the takes user objects as standard and divides them into groups of students, teachers and administrators. Due to the different user objects, there are some differences in function design.

Mode Two: Systematic Study

This module is mainly concerned with the fact that in the big data era, there are fragmentation problem in the life and study of most people. After a simple survey of users, we are committed to tailor a learning plan for users, so as to realize systematic learning. Teachers can organize teaching resources and assign homework based on curriculum unit for the synchronization of students.

Mode Three: "Pass Through" Learning

This module mainly concerns with the procrastination problem encountered by most people. By using the "pass through"mode to further conduct incentive and punishment mode, students' enthusiasm can be mobilized to the greatest extent. Students can use mobile devices and servers to upload and download and use client platform to view and submit resources.

promotion of APP can be conducted in application recommendation website and application store.

Hard promotion methods are mandatory promotion, such as to cooperate with handset manufacturers, and insert bundled installation in the production of mobile phones, or conduct brush list promotion in APP installation platform. Soft promotion methods use media in the daily life of users for promotion, for example, news spread, post promotion, Weibo promotion, database marketing or word of mouth spread. It is of particular importance to pay attention to product experience when providing free App application on hardware. Software must maintain the balance of triangle.

4. CONCLUSION

The teaching method of mobile education can liberate both teachers and students from teaching environment and teaching time, but it also raises higher requirements for teachers and students. For teachers, the development of mobile education teaching method requires them to have a higher sense of responsibility and dedication, in order to ensure that mobile education teaching methods can be conducive to the normal development of students' learning. For students, mobile education makes the link between the teachers and the students become looser, with less supervision of teachers during learning, which requires students to have a high degree of learning autonomy and initiative to maintain a good learning desire and motivation.

Mobile education appeared along with the development of mobile communication technology and wireless network technology. Technology is the foundation and guarantee of mobile education, but the fundamental goal of mobile education is to use modern information technology to improve teaching effect and quality. Therefore, to carry out mobile education at any time and in any place is the core of mobile education. Therefore, the development of mobile education must be combined with the actual situation of schools and students, and make full use of the existing facilities, and emphasize the "mobility" rather than "wireless" of mobile education. The realization of teaching goal needs the guarantee of rich teaching resources, so is mobile education, which is the main teaching mode of future lifelong learning. In the course of learning, learners should be surrounded in an environment with resource service that is rich, easily accessible and is of different quality. The existing resource service which centers in single website and need domain name to gain the accurate positioning, can not meet the demand for mobile education in many aspects. It is necessary for the joint efforts of different educational resources to build resource system that is distributed and has unified scheduling and management. Users can choose the corresponding resource service according to their needs.

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REFERENCES

[1] Wenzhe Ma，Guohui Wu，Hui Zheng，Wenjuan Zhang，Zhihang Peng，Rongbin Yu，NingWang. Prevalence and risk factors of HIV and syphilis, and knowledge and risk behaviors related to HIV/AIDS among men who have sex with men in Chongqing,China[J]. Biomedical research magazine (English version).2016(2)：101-111.

[2] Wen-Juan Fan，Shan-Lin Yang，Harry Perros，Jun Pei.A Multi-dimensional Trust-aware Cloud Service Selection Mechanism Based on Evidential Reasoning Approach[J].Journal of International automation and computing (English version).2015(2)：208-219.

[3] Shuang Huang，Chun-Jie Zhou，Shuang-Hua Yang，Yuan-Qing Qin. Cyber-physical System Security for Networked Industrial Processes[J]. Journal of International automation and computing (English version).2015(6)：567-578.

[4] Eduardo Cintra Torres.The Intertextuality of Works of Art in Advertising[J].Advertising & Society Review.2015(No.3).

[5] Poster Session II Tuesday, December 8, 2015[J]. Neuropsychopharmacology. 2015(Suppl 1).

[6] Panels, Mini-Panels and Study Groups Monday, December 7, 2015[J]. Neuropsychopharmacology. 2015(Suppl 1).

[7] 115th Annual Meeting of the American Associaton of Colleges of Pharmacy, Grapevine, TX, July 26-30, 2014[J]. American Journal of Pharmaceutical Education.2014(No.5).

[8] Guo Yuwei. Analysis on the integration of Modern distance education with traditional adult education mode[J]. Adult Education, 2016,05:46-48.

[9] Zhang Xinwei. The approaches and measures in improving the quality of distance education service from the perspective of the enhancement of the whole nation's quality [J]. Adult Education, 2016,05:59-62.

[10] Tian Chunyan. Study on the integration path of traditional adult education with modern distance education [J]. Adult Education, 2016,05:75-77.

Research on Employment Ability Training under “3+1” Educational Mode

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Abstract: Students' employment ability has become the focus of attention of the society, colleges and universities, employers, parents and students.This paper takes the School of Software Engineering, University of Science and Technology Liaoning as an example. This school develops the applied undergraduate college students' employment ability by carrying out integrity education activities, developing learning interests, reforming Innovative talents training modes, establishing and perfecting the system of college students' learning effect analysis and graduates’ training quality tracking.
Keywords: “3+1”educational mode , Employment ability training ,teaching and research

1. THE TRAINING MEASURES ON STUDENTS' EMPLOYMENT ABILITIES.

Since the university enrollment expansion in 1999, the number of college graduates is increasing, and there are 7.27 million graduates in 2014 which was called “the harder employment season” for more than 0.28 million graduates in 2013—the hardest job season in history. According to the Chinese Education Online Data, total graduates of national colleges and Universities will be about 7.49 million, so the employment problem is more serious under this graduation season with the highest number of graduates. On the one hand,the graduates feel hard to find jobs, meanwhile, enterprises and employing units can not get their wanted people, so there is structural contradiction between the scale of the university graduates and the social demand. Therefore, it is practical and strategic to discuss the issue of college students' employment ability training under this serious employment situation, especially for the college of the second rank, research and practice on employment ability training of application oriented undergraduate students mean a lot.

The school of Software Engineering, University of Science and Technology Liaoning has acquired a lot of precious experience through adaptation to market demands, constant deepening teaching reforms, positive exploration of “3+1” training mode and the great support for the cooperation between university and enterprises. First of all, we find out students’ problems in integrity, learning interests, independent learning ability and practical innovation ability after the analysis of current situation of students in Software College with the help of questionnaire and discussion. Next, we make research and practice in many aspects such as honesty education, learning interests, the cooperation training mechanism of university and enterprise, engineering education mode, curriculum system, practice teaching, teaching methods, teaching resources and materials, teaching team building, and young teachers training.

Then, we encourage students to participate in scientific research projects, and actively apply for patents, to obtain professional certification, to participate in professional competition, leading to the establishment of practical teaching. Last, we study on evaluation of teaching effect for the future improvement of teaching.

A. The implement of integrity education activities and cultivation of students' interests in learning.

a. Students’ lack of honesty under the effect of the diversification of social values has become a problem in higher education which needs to be solved as fast as possible. Many teachers such as Jiang Dujun from Wuhan University of Technology, Huang Junguan from Yulin normal college, Li Honghua from ShanDong JiaoTong University, and Qin Zhaoxia from Jiangnan University have studied on honesty education of college students. [1-4] The school of software has gradually created the honest and trustworthy, fair and competitive learning environment atmosphere with the innovation of honesty education, inculcation of the core values of Chinese socialism, increase of ideological and political education, the establishment and improvement of the integrity of college students files.

b. Learning interest is the most active and the most active factor in learning motivation which can stimulate students' thirst for knowledge, improve students' enthusiasm for learning, and provide an inexhaustible motive force for the realization of lifelong learning and sustainable development. Many teachers such as Chen Xiaohua from Southeast University, Jiang Xiaoping from Hebei Normal University, Sun Wei from Beihang University have studied on the college students’ interests in learning.[5-6] Since cultivating students' interest in learning is an important way to improve the quality of undergraduate teaching, the software institute guides educators to realize the importance of learning interests. Students are allowed to participate in the practice of autonomous learning to obtain the fun of learning. Class tutorial system has been adopted to make sure a good job in freshmen education.

B. reform and innovation of personnel training mode

In recent years, in view of the applied talents training plans and the current situation of the school of software, the constant exploration of university and enterprises interaction“3+1”talents training mode which oriented industrial development has been done. Many innovative measures have been taken such as talents development scheme based on the cooperation of university and enterprises, curriculum and practical teaching system reforms, the construction of application oriented teacher team.

a. The focus of engineering practical ability and the establishment of talents training mechanism of university and enterprises cooperation.

As the information technology construction continues to develop, social demands for the software are increasing. However, the fresh graduates usually can not satisfy the requirements of enterprises.The key reason for this phenomenon is the graduates' lack of engineering practical ability after the survey of relevant enterprises and graduates and analysis of the reasons for this problem. In order to change this situation, the institute has signed cooperation agreement with Xiao Cai science and technology Ltd.(the global vocational education program operator) to carry out course construction. The institute has also established the outside campus practice training bases like ChinaSoft, DHC Software, and Beijing Tianyuan, where internship and designing work have been done to cultivate students' engineering practical ability.

b. Emphasis on the training of manipulative ability and the construction of scientific curriculum and practical teaching system

On the basis of applied talents of professional training objectives and the combination with the university of applied undergraduate positioning and professional characteristics, the institute puts emphasis on the training of manipulative ability, revises training program and construct perfect course and practical teaching system. The construction of practical and open curriculum has been emphasized during the revise and improvement of specialty cultivation program mes.

During the implement of training plans, the institute makes relevant adjustments according to IT industry development and economic and social development needs, and the feedback from undergraduates, graduates and enterprises. The institute also cooperates with the Oracle to introduce series of courses and engineering cases made by enterprise, and intensifies efforts to carry out practical courses, leading to the formation of a modular professional knowledge structure.

Meanwhile, the institute takes the various elements of the teaching system into consideration so as to proceed the overall design of teaching.

The institute follows the "market demand oriented" principle to determine the the knowledge system which students should master, and make deletion and integration of curricula which are relevant to personnel training objectives and the employment direction. However, the industry engineering courses which embody the new progress of the subjects and the new technology of industry. The arrangement of curricula stresses practicality and recombination to achieve the goal of learning for practice. The institute has built multi-stage and multi-level curricula system of professional platform courses, professional orientation courses. On the basis of companies' projects, the institute has established comprehensive practical projects which are decomposed level by level to practical teaching system which corresponds with talent training programs and professional ability training.

The introduction of case system improves students' programming team cooperation and systematic programming ability. The introduction of engineering cases improves students' interests in learning and practical abilities, enhances their ideas of course knowledge in engineering projects, accumulates the experience of engineering practice, and increase their employment abilities and the quality of teaching.

c. Encouragement for the students to participate in different kinds of professional competition and the intensification of students' application ability training.

Students are encouraged to make subjects research and exploration by themselves in ACM programming contest, embedded programming contest, and college students innovation and entrepreneurship training, among them, the subjects designed by themselves are most important. During this process, the experienced students help the new ones, and the competitions take the place of exercises. Therefore, the engineering ideas and innovative abilities of students have been improved.

In view of different levels of university and colleges, the school of software has held campus ACM competition which students from all grades are guided to take part in. Meanwhile, students with high levels are selected to participate in ACM programming contest, embedded programming contest, and college students innovation and entrepreneurship training in Liaoning province and four provinces in northeast China.

Emphasis is put on cultivation of applied ability and the proportion of applicative and innovative experiments in the main curricula teaching plans, trying to link up knowledge, ability and quality. With the specific knowledge of the course as the carrier, professional ability training and professional quality education are arranged, and the establishment and training of applied innovative awareness are stressed. Students are encouraged to adopt new methods for the resolution of problems. The institute also links teaching practice with national, provincial and municipal competitions. Meanwhile, the institute employs heuristic teaching methods to guide students

to think independently, to cultivate students' ability to analyze and solve problems independently, and to encourage students to use divergent minds to consider the problems.

C. Vigorous training of young teachers

Young teachers are the mainspring of the teaching teams. Therefore, emphasis on the training of young teachers is the basis of teaching teams development. Sticking on the principles of the combination of training and introduction, equal emphasis on ability and education, and equal emphasis on quality and quantity, but quality-oriented, the institute has taken many measures to build a teaching team with good ideological and political quality, reasonable structure, strong operational capacity and background of engineering practice. The young teachers are trained in three aspects which are young teachers' quick beginning in class, the improvement of the comprehensive teaching and research level of young teachers and moral education. The teams educate the young teachers to establish the idea of dedication and teach as examples of students.

a. The system of the experienced teachers helping the new ones is established to improve the teaching level of young teachers. With the help of the experienced teachers, the young teachers can get training and improvement by lectures, participation in the experiment counseling, jobs of marking, interpretation of exercises.

b. Before teaching, the young teachers should make trial lecture in faculty which other teachers will evaluate. After the young teachers proceed formal teaching, their tutors should examine the young teachers' courses at least once a month and make comments. The young teachers can attend lectures to get the experience from excellent teachers, achieving their improvement. The teaching team of network engineering hold research activities every week to solve the problems in teaching in time, and establish tuition system under which the timetable of each teacher is made public.

c. The training plans of young teachers' participation in long or short-term learning class and internship at plants help young teachers to apply practical technologies to the teaching, making content-rich classroom and stimulating students' interest in learning. For example, many teachers attend embedded training, 3G mobile software development, .Net training, excellent engineer education and training projects, modern educational technology training, Oracle advanced teacher training, and instructional design training under the information environment. The teachers are encouraged to study higher degrees so as to enhance quality and ability.

d. Teachers are arranged to participate in all levels of business and government organizations training to enhance the ability of teachers' practical application. The teachers of software are distributed in batch to participate in training and actual project development in Oracle, RedHat, Chinasoft international Limited, and Huaxin. Meanwhile, teachers are selected to join provincial Excellence engineer training. These measures have greatly enhanced the quality of teachers of engineering and ensured the enhancement of practical teaching.

d. The teaching teams always pay attention to the combination of daily teaching and research to establish teaching echelon that teaching and research are in close connection. The young teachers are encouraged to make researches for the aim of promote teaching by scientific research and promoting faster growth of young teachers. The young teachers are required to join the training of postgraduates and assist tutors in the direction of postgraduates. While the teachers finish teaching, they are encouraged to study teaching reforms. The young teachers are inspired to undertake teaching research, promoting the transform of teachers from the role of pedagogue to the role of teaching research.

f. In order to enhance the young teachers' operational capacity, they are organized to participate in course ware and teaching material construction. Preparation of teaching materials, preparation of guide books, course ware development and the perfection of teaching websites are conducive to young teachers' understand and master of course contents and the improvement of their teaching quality.

g. The institute organizes the young teachers to participate in collegiate programming contest coaching. The introductory course of ACM improves not only teachers' practical ability and students' interest in learning and professional level but also broadens the view of teachers and students.

2. THE ANALYSIS MECHANISM OF STUDENTS' LEARNING

The analysis and evaluation of students' learning are the important step for the improvement of teaching quality in colleges and universities. The analysis of students' learning can find out their learning ability, learning processes and learning outcomes in comprehensive and systematic way, providing important information for the major advancement and the adjustment of teaching plans. Multi-level learning outcomes analysis mechanism is set in the process of teaching such as formative and summative assessment.

A. Formative assessment

Usually, the formative assessment is used to evaluate students' performance and learning outcomes in the process of learning. This assessment features the collection of the data of students' study and makes descriptions and judgments of their development, including usual performance(like attendance and performance in class), experimental work, midterm(like written examinations, oral examinations and examinations on computer), test analysis, the feedback from teachers and experts of supervision,

the results of teachers' assessments, the student learning communication organized by the office of student, and the relevant information about their learning from parent meetings and home visits. The results of this assessment can give students feedback and specific advice to let students know the situation of their learning. It also helps monitor the progress of teaching and point out areas for improvement.

B. Summative assessment

This assessment is to make appropriate evaluation of the results of class teaching. At the end of teaching, all the information will be gathered to judge its effect. This assessment includes final exams(like written and oral examinations, examinations on computer, and reply), systematic review of achievements, analysis of grades and students' master and application of their majors reflected in graduation design and internship. The purpose of this assessment is to make conclusive evaluation of the quality of students' learning in different stages. The methods for evaluation are make conclusion or mark for the students which indicate their expected study effects attained in the aspects of projects, courses and major plans.

3. THE TRACKING MECHANISM OF GRADUATES TRAINING QUALITY

In order to track employment status, quality of employment and career development of graduates, the institute makes regular survey of graduates and the main employing units to find out recruitment needs, recruitment channels, hiring and treatment for the graduates as well as the units' requirements for graduates' basic ability and core knowledge, their attitudes toward graduates' compliance and performance, and their advice for employment and school-enterprise cooperation. The information from supply and demand is beneficial for colleges and universities to adjust the structure of majors, perfect training contexts and manners, improve training quality and the competitiveness of graduates, and ameliorate employment services and employment guidance.

The personnel who have made evaluation for the training quality and professional quality of graduates: 1) Relevant people in graduate internships units. After the graduation internship finishes, the institute will contact with the internship units to gather the evaluations and advice from the units for graduates training quality and professional quality. 2) Relevant people in graduates employing units. After graduates find jobs, the institute will contact with the employing units which make judgments for graduates training quality and professional quality. 3)Schoolfellows. The institute can know the evaluations from schoolfellows through schoolfellows meetings, QQ groups, telephone, e-mail. The university also set schoolfellows online survey system to easily consult their advice for the teaching.

In view of the employment status of graduates in recent five years, graduates training quality and professional quality have gain positive evaluation. It is believed that students with prominent characteristics and the spirit of teamwork who generally have strong engineering practice and adaptability, and advanced methods and technologies can meet the requirements of enterprises. The employment rate has been at a high level. Since the graduates of 2011, employment rate has increased steadily. The employment rates of the following four years are separately 92%, 96.8%, 98.0% and 99.11%. The average salary of graduates also increase year by year, the average month salary of graduates of 2015 is over 4000 Yuan. The school of software has attained the title of employment advanced unit in 2013 and 2014. The employment status of the institute in 2015 remains the best. The employment rate and quality increase every year. Many graduates work in famous enterprises. Since graduates work in many units in different places, more and more employing units come to institute to recruit interns. It indicates that graduates have gained positive evaluation from the units so this virtuous cycle appears.

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REFERENCES

[1] Outline of the national medium and long term educational reform and development plan (2010-2020) . http://www.gov.cn/jrzg/2010-07/29content_1667143.htm.(in Chinese)

[2] Junguan Huang. On honesty education of Contemporary College Students[J].Heilongjiang Researches on Higher Education，2013,129-131.(in Chinese)

[3] Dujun Jiang. On the innovation of College Students' Honesty Education[J].Journal of Zhengzhou University，2013：27-29.(in Chinese)

[4] Zhaoxia Qin,Minfen Yan.Reflections on College Students' Academic Integrity Education[J].Education Exploration，2014:124-126.(in Chinese)

[5] Xuming He, Xiangming Chen.Research on the influence of teaching equity on students' learning interest[J].China University Teaching，2012:81-84.(in Chinese)

[6] Xiaoping Jiang. The effective way to stimulate students' learning interest in Teaching[J].Education and Vocation，2010:148-149.(in Chinese)

Using Data Mining Technology to Improve Management Performance: A Case Study

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Abstract: Data Mining is often an inductive process, tending by nature to be open-ended and exploratory. This paper focuses on the use of data mining technology and explains how these can be applied to analysis of specific data. As a case study, this paper first constructs two models to analyze the treatment of space debris. Afterwards, in capturing system, this paper develop two-grade optimization model combining the two models, based mainly on Game Theory. This paper modifies the initial models to fit for two-grade optimization. The basic tools that we use to this model are Analytic Hierarchy Process and Game Theory. The rational behind the model is to quantify the trade-off between builders and the affected. To ground these models in reality, we incorporate extensive demographic data and run a case study on International Space Station. Then, this paper arrives at the conclusion that Pareto optimum is the best choice.
Keywords: Data Mining, Management Performance, Case Study.

1. INTRODUCTION

(1) Problem Background

Recently, a growing concern has been aroused about the amount of debris in orbit, being a threat to spacecraft health and safety. Although a number of methods to remove the debris have been proposed, some factors still make the capture difficult, such as the debris' size, mass, high velocity and so on. To address the space debris problem, we now face mainly four problems: build a mathematical model to determine the best alternative or combination of alternatives, using as a commercial opportunity for a private firm. Discuss how our model can be applied with a time factor taken into account, or across costs, risks, benefits, as well as other important factors. Analyze an economically attractive opportunity exists or not, then give a comparison of the different options for removing debris, including a recommendation that describe debris removing process in detail, and provide innovative alternatives which prevent collisions respectively.

(2) Literature Review

There are models to solve such problems. One is the Virtural Manipulator Model, developed by Z.Vafa[1][2] . The model provides a comprehensive and rational framework for analyzing the workplace of robots, representing and quantifying its elements, and researching inverse kinematics. Combining Lagrange equation of motion, E.Papadopoulos set up the Kinematic Model [3][4]. The model can reflect characteristics of parameters to some extent, taking quality into account. However, the second differential equations contained in dynamic model increases the difficulty of computation. Besides, for the robots working in space, the Kinematic model covers kinetic parameters and kinematics coupled with dynamics, differing from the fixed base robot previously. Domestic scholars have developed space modeling methods. Professor Liang Bin, who defines the equivalent manipulator dynamics [5][6], extends virtual robotic arm in a positive way.

2. ASSUMPTIONS

- Ignore other debris' affect exclude target debris, assume measurement information is all known.
- In the whole process, the relative velocity and covariance matrix are constantly changing for both debris and spacecraft. Ignore those changes near the intersection of this moment.
- When intersection occurs, there is no change in velocity, that is to say move uniformly.
- Do not consider secondary game.

3. MODELS DESIGN

(1) Autonomous Capture of Space Debris Model

Space robot has high economic and military value so that many space agencies develop their further research on it, such as NASDA, NASA and so on. The process, executing space service, however, is rather complicated. And the space robot system is a huge system consisting of different single blocks; the area is divided into a simple path programming, executive agencies, dynamics and target measurement. These processes can be described in the following steps:

- Step 1: Target measurement and image capture are shown in information measurement. After obtaining image information, measurement module will deal with it, then get valid information, including relative pose of the target spacecraft, relative speed, etc.
- Step 2: The measurement module eventually outputs the expectation of orientation and velocity, connected with the true of robot's joints in dynamics.
- Step 3: Executive agencies intercept programming information, and then computationally put joint driving torque to the dynamics module.
- Step 4: finally, dynamics module use the former information to drive robots to move. Analogously, it put true information of robot's joints to other

modules.
We find the whole process is a closed loop. To demonstrate the process better, we show it in Figure 1.

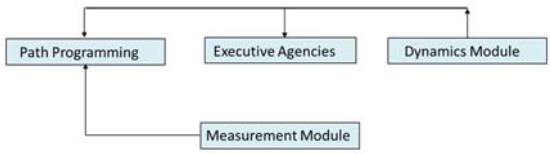

Figure 1 Components of Service Robots
Aiming at the failed target spacecraft's, space robot measures their information and instructs to take control when carrying out service tasks, with the help of visual sensors. During the visual booting, the new problem will be aroused called time-delayed problem, if we put the results generated from measurement image into path programming module. The time-delayed problem may lead to space robot accuracy decline in motion so that tasks fail. The model makes some predictions to the target motion by virtue of image measurement. Afterwards, it provides robots with path information through real and predicted data. This method preferably makes up for the delayed time in controlling process. Additionally, this model considers path programming methods of continuous acceleration, which is thought to eliminate driving force mutation problem. Model is applied as a constraint to control the joint driving force. Once the power's values change regularly like harmonic curve, the friction between joints will be effective to keep stable motion and enhance control accuracy.
Before modeling, we give the following definition:
The coordinate system described by Euler angle [7]: $\sum A$ axis and $\sum B$ axis coincide with each other respectively. Then $\sum B$ rotates α angle around ρ_0 -axis, β angle around Y_B -axis and γ angle around Z_B -axis in turn. That is, when Euler angle reflect rigid body posture, the rotational movement singly is around coordinate $\sum B$ rather than $\sum A$.
Here is the transformation matrix from $\sum A$ to $\sum B$.

$$A_{RB}(\alpha,\beta,\gamma)=R(z,\alpha)R(y,\beta)R(x,\gamma)$$
$$=\begin{bmatrix} c_\alpha & -s_\alpha & 0 \\ s_\alpha & c_\alpha & 0 \\ 0 & 0 & 1 \end{bmatrix}\begin{bmatrix} c_\beta & 0 & -s_\beta \\ 0 & 1 & 0 \\ -s_\beta & 0 & c_\alpha \end{bmatrix}\begin{bmatrix} 1 & 0 & 0 \\ 0 & c_\gamma & -s_\gamma \\ 0 & s_\gamma & c_\gamma \end{bmatrix}$$
$$=\begin{bmatrix} c_\alpha c_\beta & c_\alpha s_\beta s_\gamma - s_\alpha c_\gamma & c_\alpha s_\beta c_\gamma + s_\alpha s_\gamma \\ s_\alpha c_\beta & s_\alpha s_\beta s_\gamma + c_\alpha c_\gamma & s_\alpha s_\beta c_\gamma - c_\alpha s_\gamma \\ -s_\beta & c_\beta s_\gamma & c_\beta c_\gamma \end{bmatrix} \quad (1)$$

The angle velocity and the pose velocity can be connected with the following equation

$$\omega=\begin{bmatrix}\omega_x\\ \omega_y\\ \omega_z\end{bmatrix}=\begin{bmatrix}0 & -s_\alpha & c_\alpha c_\beta\\ 0 & c_\alpha & s_\alpha c_\beta\\ 1 & 0 & -s_\beta\end{bmatrix}\begin{bmatrix}\dot\alpha\\ \dot\beta\\ \dot\gamma\end{bmatrix} \quad (2)$$

Here

$$\begin{vmatrix}0 & -s_\alpha & c_\alpha c_\beta\\ 0 & c_\alpha & s_\alpha c_\beta\\ 1 & 0 & -s_\beta\end{vmatrix}=s_\alpha^2 c_\beta - c_\alpha^2 c_\beta = -c_\beta \quad (3)$$

Where the singular condition is

$$c_\beta = 0 \quad (4)$$

Consider the uncontrolled system of space robot's arm , such as shown in Figure 2.

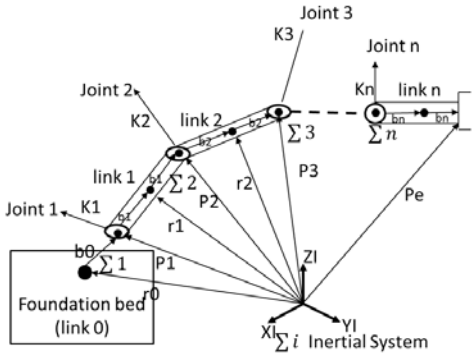

Figure 2 A simplified schematic diagram of robot
In Figure 3, we point out all the relations among joint system.

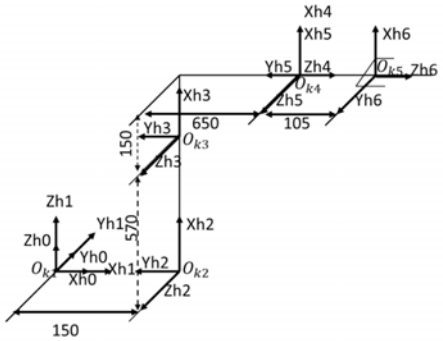

Figure 3 Relations among joint system
This model performs a program analysis on target capture. Having experienced motion prediction and spatial path program, we can make the best of those results to autonomous capture of space debris. Besides, the space robot is considered to accomplish capture on the grounds that terminal actuator arrives at deviated position of docking ring.
According to some references, we find that visual

servo control is usually applied into the process of autonomous approach and capture. To analyze concisely, we see process as two steps and observe some important outcomes.

- Step 1: To save time, it is necessary for space robot to accelerate if they are at a long distance.
- Step 2: As they become closer, the space robot will move slowly to accomplish capture aiming to improve accuracy.

Based on the hypothesis, our key is to discuss the first step and set points that deviated 5cm from target or at the terminal of manipulator, as virtual arrest points or arrest points in short.

(2) Intersection Collision Model for Space Debris

There exist many important sections in warning system that we cannot ignore, dynamic track database, intersection relations and prediction, error analysis, for example. Warning work is able to proceed smoothly on the premise of solving the above issues. We substitute this process to a flow chart diagram, in order to show it clearly.

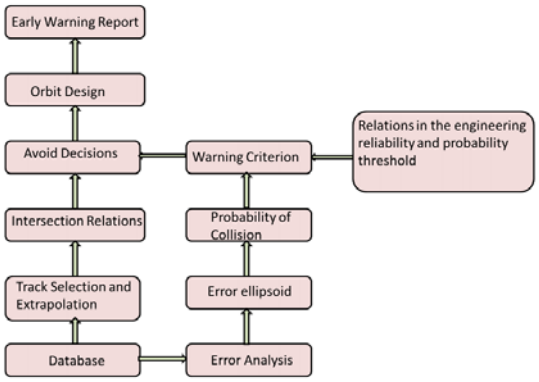

Figure 4 Flow chart of collision in warning system

The application of rendezvous reference system we redefined makes for a tremendous rise in calculated speed. The reference intersection is solely determined for each intersection. Figure 5 depicts the reference system in general.

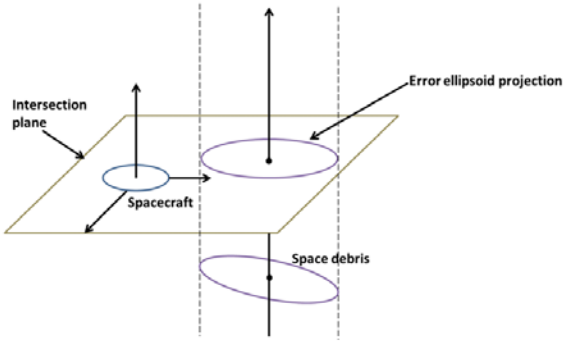

Figure 5 Intersection reference

It should be noted that the reference system has nothing to do with orbital rendezvous intersection system. We have to emphasize the system is for the propose of simple calculation and acknowledge the fact that this approach doesn't impact the final results through simulation. Afterwards, we can convert three-dimensional problem into two-dimensional problem without losing any information, which do simplify the calculation to a large extent. Thus, the goal of computing the space debris intersection events uniformly comes true. According to the previous assumption, debris moves along the direction of the relative velocity at the collision time, so that linearization method can be employed to simulate. Additionally, changes in direction can be ignored in intersection coordinates. On the other hand, since the direction of projection is the same with speed, we only pay attention to intersection time due to elimination of time term. From Figure 10, the relationship between the spacecraft and debris can be seen on the intersection plane.

4. SENSITIVITY ANALYSIS AND RESULTS

Space junk modeling, especially in the era of rapid development in technology, is known for its dependence on initial conditions and minor variable differences. While our model is significantly more complex than simple dynamic models, the large number of variables and components within our model makes it extremely vulnerable to chaotic disturbances arising from minor factors.

To better characterize the sensitivity of our model to the realistic variations and errors present in our initial conditions and simulated components, we have performed a large number of simulations on these three models. These sensitivity tests are divided into effects expected from errors arising at collision conditions and those effects expected from tradeoff between the affected and builders. The method, results, and implications of these tests are given a thorough treatment below.

In a fixed coordinate system $Oe_xe_ye_z$, assume the capture point is on z-axis, with its coordinates 219 mm. The point moves only along z-axis, so it is seen as a special circumstance in slow rotation. Recall the analysis of spacecraft's orbital motion, we adopt the same method here: take the inertial system is an reference system, the original pose is [0 0 219 4 6 3] and the component of angular velocity on the inertial system $OE_xE_yE_z$ is: [10.0975 0.0376 0.9323]. (Position unit: mm pose unit: deg angular velocity unit: deg/s) In the beginning, the origin of two systems coincides with each other, and the deviation angle from z-axis is θ = 5:710. Given this constraints, we simulate to get the following results.

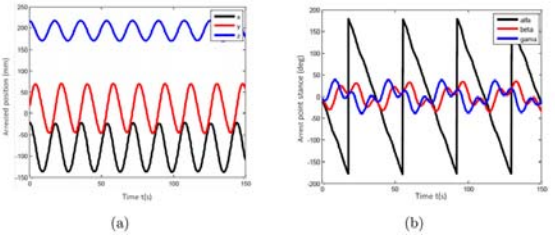

Figure 6 Capture point's position and pose

Above pictures show simulation results, the first case displays a circular trajectory when the target spacecraft rotates around -axis in fixed system. The other case explains a complex motion characteristic in common cases. The capture point rotates not only around the -axis of fixed coordinate system, but also along the z-axis in the inertial system. Both results are rather desirable, complying with previous conclusion.

In our approach, target spacecraft's movement in orbit can be simulated to verify the correctness of our dynamic model. Simultaneously, it also contributes to the prediction for spacecraft's movement.

5. FURTHER DISCUSSIONS

We have obtained reasonable results from the model, and sufficient analysis is also made to help understand the problem and process of addressing space junk. However, all the results are received in terms of reasonable assumptions. Some effects of the parameters involved in the model are simplified by referring to some references. More analysis should be made. In this part, we will point out the further prospective of these unsolved problems and do some little explanation with the help of references.

- The capture point's movement has difficulty in simulating on the grounds, account for the complexity of failed spacecraft's motion. In the future, we imitate this movement to spread its significance, by using more degrees of freedom motion.
- In warning system, since the collision probability method relays heavily on the error, reducing errors will improve reliability in calculating probability to a large extent. It plays an important role in environmental monitoring and data handling. Therefore, more attention should be paid on monitoring efforts and improving track forecast accuracy in future work. Then, in calculation, probability "dilute" problem will be avoided fundamentally so that the warn system is able to perform well.
- Compared to one-grade optimization model, two-grade optimization model take more advantage upon comprehensive consideration. Although they both take the economic benefits into account, the later relates to environment factor as well as the impact on the society. The optimal solution in this model contributes to the service quality environmentally. The application of it into reality will create harmonious atmosphere for economic, social and environmental benefits.

6. ACKNOWLEDGMENT

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REFERENCES

[1] Vafa Z. On the dynamics of manipulators in space using the virtual manipulator Approach[C]. The IEEE Internet Conference Robotics Automat. Raleigh, NC, 1987:579-585.

[2] Vafa Z, Dubowsky S. On the dynamics of space manipulator using the virtual manipulator with application to path planning [J]. The Journal of the Astronautical Science, 1990,38(4):441-472.

[3] Papadopoulos E, Dubowsky S. On the Nature of Control Algorithms for Fre-floating Space Manipulators[J]. IEEE Transactions on Robotics and Automation, 1991, 7(6):750-758.

[4] Dubowsky S, Papadopoulos E. The kinematics, dynamics and control of free-flying and free-floating robotic systems[J]. IEEE Transactions on Robotics and Automation, 1993, 9(5):531-543.

[5] Liang B. Mapping a free-floating space manipulator to a dynamically equivalent manipulators[J]. ASME Transactions on Dynamics, Measurement, and Control, 1998, 120:1-7

[6] Liang Bin. Dynamically Equivalent Manipulator for a Space Manipulator [J]. Acta Automatica Sinica, 1998, 24(6):761-764.

[7] Liu Yanzhu. On the mathematical expression of the rigid body posture [J]. Mechanics in Engineering, 2008, 30(1):98-101.

Based on the Desire to Explore Curriculum Mode of English Teaching Development

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Abstract: Mu imposed a connecting theory and network learning, on the basis of the open education is the course covering subjects of science and technology, social sciences and humanities. The course category is various, takes the form of "course", and is an important part of the hybrid teaching, laid the foundation for a new round of education reform. Logic analysis, this paper USES the methods of literature review and statistical analysis, according to the characteristics, origin, longed for curriculum development, the development of design theory and its combination with ESP are studied, in order to class as well as the development of the course combined with other forms of teaching to explore the path. The research results show that the lesson for the traditional teaching mode, students in the classroom, venue, the learning process, time distribution, learning management and curriculum evaluation and so on seven differences between teaching elements, from select close to the students, the level of language curriculum as a breakthrough point and in stages, with focus on academic English skills training for two angles, this paper expounds the longed for class and the development approach of ESP.
Keywords: Teaching interaction; Teaching design; Coursera platform; English teaching

1. INTRODUCTION

"Mu class (MOOCs)" the first letter "M", said the "Massive" large-scale, refers to the course registration Numbers; First O said "Open", refers to the course have interest as the guidance, do not set the threshold, the principle of just a tank, it can be registered to participate in; The second O said "Online", refers to the course of time, space is very flexible, open throughout the day. As a result, the course of people for nearly overturned the traditional course of cognition, in the course of development mode and the actual effect, the subversive feature is benign, the core is likely to become a new round of education reform. In this paper for the characteristics of the course is analyzed, so as to the combination of the course and ESP to explore feasible approaches.

For mu curriculum itself and combined with the teaching of research of the efforts of many people, these people's efforts in longed for the practice of curriculum development play a role in promoting. Among them: feng been reflected (2014), expounds the college foreign language education in the process of informationization, the integration of information technology and foreign language courses based on and challenges faced by, and for the future foreign language education technology in the application of the foreign language courses in colleges and universities has made the outlook, involved in the analysis of longed for curriculum characteristic analysis [1]. Qian Minjuan (2014) for lesson for ESP curriculum mode of the development of new opportunities to discuss, reveals the lesson for the rise of the online course of new experience, make learners has been improved, the urgent request of academic English skills are also made to the development of English for special purposes (ESP difficult opportunity [2]. PangGuoBin etc. (2014) study and draw lessons from the development of the idea for class, starting from the situation of our country, with the help of a large number of high quality education resources, further to explore the building of international curriculum system in colleges and universities, in order to put forward feasible Suggestions for the sustainable development of Chinese higher education [3-5]. in this paper, on the basis of previous studies, according to the characteristics of mu courses is analyzed, in order to the development of curriculum in our country to lay the theoretical basis, as well as the course combined with traditional teaching path exploration to provide reference.

2.THE CONCEPT AND DEVELOPMENT OF LONGED FOR CLASS

Zhang Gongyan (2014) pointed out that the Massive Open Online courses, namely the Massive Open Online Course, or MOOC, translated into mu class; it is based on the mass of the Internet network Open courses [4].

Longed for class is emerging in recent years, a kind of integration of traditional education resources and network resources and developed to the public, "" massive open online courses, it is a kind of spread on the Internet public collection of courses system, a large-scale network open courses management system, is built based on a certain network platform. Courses are divided into the speaker, TingKeZhe and network platform of three links, including of course the speaker is generally well-known university of outstanding teachers and researchers, TingKeZhe is college students from all over the world and the social public, mainly in the form of lecture by teaching video on the network, the network interactive discussion, offline practice.

For course have the following four characteristics:
1) Unprecedented openness.
2) Unprecedented transparency.
3) Easy access to unprecedented high-quality education resources.
4) Unprecedented convenience.
Of course development process can be divided into embryonic stage, prototype stage, stage of concept was born, enters the stage, growth stage and mature stage, the following description, according to the development of the course in order to understand the meaning of curriculum, the necessity of its application.
Phase 1. The budding stage, in 1962, an American inventor and knowledge innovator Douglas Engelbart, puts forward a research program entitled "improve human intelligence: a conceptual framework of the Stanford research institute, in this research project, Douglas Engelbart emphasized the computer as a kind of promote the wisdom of the possibility of a collaboration tools to apply, since then, including Ivan's rich, many computer experts and education reform, have published a large number of academic journal articles, white papers and research report, longed for course development is also since 1962, officially entered the stage of bud.
Phase 2. The prototype stage, in 2001, the online course 1.0 era, innovative announced at the Massachusetts institute of technology course for free on the Internet, in 2009, Harvard University out high quality hd "justice", etc., has a new open video courses construction boom, in 2010, notecase exit "global famous video public class project", the first 1200 sets course online, online course 1.0 era of online courses, also became the longed for classes in the future development of important prototype.
Phase 3. The concept was born stage, in 2008, Dave Cormier with Bryan Alexander, a professor at first proposed mu class concept, with the concept of birth for the first time for class; 2.0 times the official arrival network course, the standard puts forward the concept of mu class times, and laid a theoretical foundation for future development.
Stage 4. Enter the stage, in 2011, after the class to accelerate its steps into the limelight, the fall of 2011, the first lesson for online courses storm arose, longed for class is also from that time on, known as "the greatest innovation education since the printing was invented, present a new dawn of" education "in the future.
Stage 5. The growth stage, the New York times will be referred to as the "mu" of the first year of classes, 2012 mu class triggered a "storm" education, the "storm" begins in the autumn of 2011, 190 people from more than 190 countries registered at Stanford university, Sebastian Shi Lang free course introduction to artificial intelligence, which later gave birth to the present, one of the three major platforms Udacity (online university), November, another important platform, founded by Stanford university professor Coursera courses (age), MIT MITxt project, launched in December, on this basis, then at harvard and MIT cooperation formed online course project edX platform, release massive open online course [5].
Stage 6. Mature stage, in February 2013, mu class into regular higher education system of open channel, 5 of Coursera courses into the American council on education (ACE) credits referral program, students at the university of elective credits will be able to get admitted, at the same time, cooperate with Coursera university achieved more than 60, providing 300 courses, including five languages, marked the longed for lessons to ripen.

3. MOOCS CONTENTS ANALYSIS ABOUT COURSERA PLATFORM

Coursera platform is by far one of most popular MOOCs platforms in the world, in December, 2013 relevant scholar Ma Wu-Lin made statistics of the platform established 575 courses [6-8], course contents get involve in statistics, data analysis, chemistry, education, art, biology, social science and teachers' education and else twenty-five main types, the platform presently totally provides twelve kinds of languages courses, each country language course quantities distribution. From above data and pie chart, it is clear that English course occupies the vast majority, secondly is Chinese course and French course. The paper sorts Coursera platform provide 486 disciplines of English courses, in it that humanity type of courses are 90 disciplines, social science type of courses are totally 68 disciplines, health and social type of courses are 67 disciplines, biology and life sciences type of courses are 63 disciplines, these courses mainly face to group of undergraduate students, then is courses classification is relative concrete, as computer science is refined as artificial intelligence, software engineering, system and security as well as computer science theory and so on.

4. MOOCS COURSE DESIGN THEORETICAL BASIS

Core content of MOOCs course is famous teachers' lecturing, implementing by network platform and presenting to learners, the idea actually is a kind of extensive course way in network remote education courses, so in MOOCs course design processs, and it also should have certain rules that need to follow. The rules are also theoretical bases of course designing, especially in ESP's MOOCs design that needs to focus on researching.
The chapter analyzes teaching interaction theory and teaching design theory, in the hope of building theoretical basis for ESP development exploration in MOOCs course model.

4.1 Teaching interactive theory

Doctor Chen Li of Beijing Normal University thinks that teaching interaction was a kind of event that appear between students and learning environment, it

contained students and teachers, and communications among students, and also contained students and each kind of materialization resources mutual communication and mutual effects[7].

Teaching interaction core is student, the purpose is in students learning process, by each kind of mutual communication and mutual effects, change learners behaviors, and then implement teaching objective, when environment to learners' reaction can let learners behaviors to develop towards teaching objective orientations, teaching interaction is effective, therefore, teaching interaction should have two aspects effects, on one hand, it is leading to learners changes, on the other hand, it is letting learners changes to gradually get closer to teaching objective, teaching interaction should focus on mutual communication and mutual effects significances to learners' learning.

Teaching interaction model is as Figure 1shows.

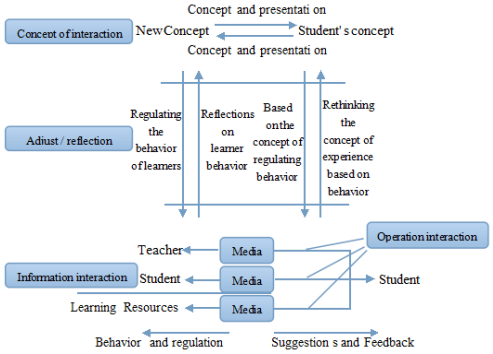

Figure 1 Teaching interaction model

As Figure 2 shows, teaching interaction is composed of operation interaction, information interaction and concept interaction three levels, their effects also show in Figure. As Figure 1 show teaching interaction hierarchical tower.

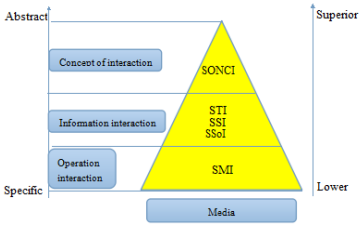

Figure 2: Teaching interaction hierarchical tower

In Figure 2, SONCI represents student's new and old concepts interaction; STI represents students and teachers interaction; SSI represents students and student's interaction; SSoI represents students and learning resources interaction; SMI represents students and media interface interaction. Teaching interaction hierarchical tower illustrates three kinds of teaching interaction according to orders of operation interaction, information interaction and concept interaction, from low level to high level, from concrete to abstract, high level teaching interaction is on the condition of low level teaching interaction, no operation interaction and information interaction, then it will have no concept interaction, interaction of higher level and more abstract will have more important significances in generating real learning.

Teaching interactive theory has larger enlightenment in MOOCs course designing, the writer thinks that in design course process, it should try to perfect media functions, make detailed explanation of course resources usage, in the hope of reducing students learning efficiency declination due to media operation aspect problem, and ensure learners have certain learning technique operability before learning. Secondly, in the level of teaching design, according to learning activities-centered theoretical design teaching scheme, it mainly takes cultivating students' remote learning required each kind of learning strategies as main course objectives, carries out learning activities design, strives to let students to have ability to better adapt to MOOCs course learning requirements after fulfilling such series of relative independent and mutual connected learning activities.

4.2 Teaching design theory

Teaching design process mode also calls teaching design mode, is description of teaching design process simplified, theorizing, teaching design model normally regulates teaching design activities main tasks and their flow relations in macroscopic view, it can reflect the mode-based teaching design theory some basic opinions to certain extents.

Teaching design mode most direct effect is carrying on macro specification on teaching design operation, learning activities-centered teaching design theory thinks that teaching system is composed of learning activities, therefore learning activities are basis units of teaching design, learning activities core elements are activities tasks, activities tasks and teaching objective compose direct causal relations. Learning activities-centered teaching theory can use a kind of "Knowledge network deformation method" approach to effective design activities tasks, and instructing network graph deformation method operation basis is field knowledge analysis result, He Fang according to above thoughts, constructed as Figure 3 showed learning activities-centered teaching design mode.

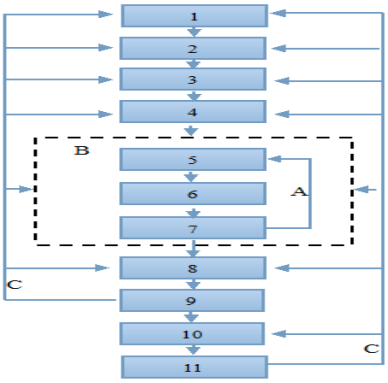

Figure 3 Learning activities-centered teaching design mode

Teaching design evaluation can apply AHP analysis

method to evaluate, the method implementation steps are as following:

STEP1 Construct paired comparison judgment matrix;

Every layer element relative to last layer one element single arrangement problem can be simplified into a series of paired elements judgment comparison, in the paper it introduces Saaty (1-9 ratio scale measurement table), and then writes into matrix form.

STEP2 Convert initialized judgment matrix into comprehensive judgment matrix; at first, according to geometric mean calculation method calculate initialized judgment matrix each indicator paired comparison values, and convert them into final matrix, after that, for final matrix, according to formula(1) showed calculation method, it can get comprehensive judgment matrix:

$$\begin{cases} A(S)=\left\lfloor a(S)_{ij}\right\rfloor_{n\times n} \\ a_{ij}=k^{*}\sqrt{\prod_{S=1}^{k^{*}}a(S)_{ij}}, S=1,2,\cdots,k; i,\ j=1,2,\cdots,n \end{cases} \quad (1)$$

STEP3 Calculate comprehensive judgment matrix maximum feature root corresponding feature vectors, and then normalize the vectors that are each indicator corresponding weights;

STEP4 Comprehensive judgment matrix consistency test.;

Consistency indicator CI computational method is as formula(2)show

$$\mathrm{CI}=\frac{\lambda_{\max}-n}{n-1} \quad (2)$$

When comprehensive judgment matrix has completely consistency, $\mathrm{CI}=0$, when CI gets bigger, it represents consistency gets poorer, in order to define satisfaction membership of CI.

5. MOOCS IMPACTS ON TRADITIONAL TEACHING MODE AND ITS COMBINATION WITH ESP DEVELOPMENT PATH EXPLORATION

5.1 MOOCs impacts on traditional teaching mode

Fudan University vice chancellor Lu Fang thought that current higher education needed to solve resources share and learning mode two problems, information technology popularization and development bring new vitality into teaching reformation, network technology as important intervention way of course teaching, it broke through traditional course teaching basic structure, and optimized and reconstructed course teaching contents, teaching flow structure, teacher and students interactive structure.

MOOCs course development has great impacts on traditional education, the impacts are optimum that can play positive roles in education development, impact content mainly shows in MOOCs course and traditional teaching differences. When analyzing teaching course differences, the paper takes course elements as categories to carry on distinguish analysis, course teaching elements are teachers, students, lecturing site, learning process, time distribution, learning management and course evaluation, differences between MOOCs course and traditional teaching in above five elements:

1） Course scale mutation:the word“MOOC”starting letter “M”has two levels definitions, the first level is it can provide learners course quantities are not three or five disciplines but massive, the second level is the number of people that can simultaneously learn same courses are massive rather than traditional classroom’s several dozens of people.

2）Teaching ways mutation: one is implementing realistic “hierarchical teaching”, MOOCs admits students differences, and can really implement hierarchical teaching, every student can learn according to his speed, students with fast learning speed can master more difficult course contents, students with low speed can carry on repeatedly learning, and seek help from teachers. Two is implementing knowledge imparting “overturn”.

3）Learning ways mutation: MOOCs video course is cut into 10 minutes or even smaller micro-course, one core feature is reducing teachers’ lecturing time in class, and leaving more learning activities time for students, finally changing into promoting students understanding levels on knowledge, in addition, when teachers carry on performance-based evaluation, interaction in class will become more effective, according to teachers’ evaluation feedback, students will more objective get acknowledge of their learning status, and better control their learning. In addition, due to MOOCs video course is cut into micro-course, and there are many questions inserted and linked up, just like games’ levels setting, and if students have doubts, they can directly present in platform, it will have teachers or students to provide answers in five minutes, which no doubt will extremely promote students’ learning interestingness and initiative.

4）Teachers’ roles mutation: MOOCs lets teachers to change from traditional classroom knowledge initiator to learning promoter and guider, which means teachers are no more the core of knowledge interaction and application, but they are still main propeller to students learning, teachers become staging for students convent acquiring resources, utilizing resources, handling with information and applying knowledge in real situations.

5）Students’ roles mutation: MOOCs is an activate class that needs students to highly participate, with technological development, education enters into a new era, in personalized learning under technological supports, students become learners with self-assigned pace, they can control selection of learning time and sits, and can control learning contents, quantity of learning, however in MOOCs, students are not fully independent to carry on learning, therefore, MOOCs is a constructive covering knowledge class, the class

leading role is student rather than teacher.

5.2 MOOCs and ESP combinative development path exploration

MOOCs development brings challenge for university students' course design and development、teaching organization 、credit certification 、faculty construction, and also bring opportunities for higher education development. Deng Hui (2013) pointed out by mixing teaching, students grasping on problems were deeper, and meanwhile their expression ability, critical thinking skills had been trained, and team collaboration function was strengthened. In the following, carried out exploration and discussion on how ESP teachers effective combine with MOOCs course in language, in the hope of providing references form MOOCs and ESP combinative development path exploration.

Firstly, it needs to select courses that get closer to students major, language levels as entry points. In class organized ESP teaching can fully consider "individualized teaching", according to students professional backgrounds and interests, adopt students recommendation、team or group discussion ways, select correlation course in MOOCs platform as ESP teaching online supplement. Cai Ji-Gang(2013)pointed out that real ESP teaching was language teaching rather than contents teaching, language teachers were qualified only needed to have some basic knowledge in professional aspect. [14] For students' differences in adaptation state of online full English lecturing, ESP teachers can also distinguish when select courses, for students of relative weak base, they can select some courses that their theoretical properties are not so strong, focus on general academic English teaching(EGAP), stress training students academic oral communicative ability and academic written communicative ability, and for some students that already own stronger listening, speaking, reading and writing abilities, they can select some stronger professional courses, stress cultivating students special academic English ability, expand professional vocabulary, get familiar with professional fields' syntax and text structure features, and make language and contents preparation for next professional course learning. When training academic writing, guide students to collect relative literatures, fulfill literature reviewing, reasonable quote others opinions and so on, avoid plagiary. When organizing classroom discussing on lecturing contents, guide students to carry on net or library information searching on one topic, reasonable organize information, report discovery and results, in the process, it can also focus on cultivating students critical thinking skills, and meanwhile can give consideration to provide students pronunciation, intonation and grammar.

6. CONCLUSION

In the paper, targeted at MOOCs contents' Coursera platform, it makes analysis, displays MOOCs course category aspect features, gets English type course are most, and disciplines categories are also very exquisite, and as largest world population country's China's Chinese type of course are very little, now that English type courses can develop, then Chinese type MOOCs course development is also feasible, which builds good foundation for Chinese MOOCs course development. And then, targeted at MOOCs course design theory, it makes analysis, focuses on analyzing teaching interaction theory and teaching design theory, explores course design important links and details that need to pay attention to, which provides theoretical basis for MOOCs course designing. Finally, targeted at MOOCs impacts on traditional teaching mode and its combination with ESP development path exploration, it makes researches, gets MOOCs differences from traditional teaching mode in classroom, students, lecturing site, learning process, time distribution, learning management and course evaluation and else seven teaching elements by comparing, states course scale, teaching ways, learning ways, teachers roles and students roles mutation details problems. Finally, state MOOCs and ESP development path from selecting courses that get closer to students major, language levels as entry points and staging, emphasis carry on academic English technological training two perspectives.

REFERENCES

[1]Qian Min-Juan. ESP development new opportunities in MOOCs course mode[J]. Overseas English. 2014(4):19-20.

[2]Pang Guo-Bin etc. "MOOCs" struck: Chinese universities internationalization course system construction exploration[J]. Journal of Dalian Education College. 2014.30(1):23-25.

[3]Zhang Hong-Yan. MOOCs and MOOCs triggered education reformation exploration and analysis [J]. Chinese education technical equipment. 2014(12):16-17.

[4]Ma Wu-Lin etc. International MOOCs impacts and reconstitution on Chinese university English courses[J]. Media in foreign language instruction. 2014(157):48-54.

[5]Chen Li. Terms "teaching interaction" essence and its relative concepts discrimination[J]. Chinese remote education. 2004(2):24-28.

[6]Zhu Jian-Ping etc. Big data era vocational teaching four-dimensional challenges and innovation [J]. City management teaching and research. 2014(1):81-83.

[7]Zhang Yu-Jiang. "Overturn class" reformation[J]. Chinese information technology education. 2012(10):12-13.

[8]Zhang Jin-Lei etc. "Overturn class" teaching mode research[J]. Remote education magazine. 2012(4):25-26.

Technical Statistics Analysis between Chinese Women's Basketball Team and Japanese Women's Basketball Team in the 26th Asian Women's Basketball Championship

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Abstract: In the 26th Asian women's basketball championship, the Chinese team won the second place with the results of 5 winnings 2 losses, and was defeated by the championship team, the Japanese team respectively in the group stage and in the finals. In the finals, the Chinese women's basketball team was defeated by the Japanese team with 35 scores inferiority, making the biggest score gap in the history of the Chinese women's basketball team in the Asian women's basketball finals. It can be known from the analysis of statistical techniques and videos between the Chinese women's basketball team and the Japanese women's basketball team in the group stage and in the finals: at present stage, the age structure of the Chinese women's basketball team is young on the whole, they lack competition experience, the team lacks the real core team player; in the match against the Japan, the psychological pressure of the Chinese women's basketball team is too large, leading to abnormal performance in the final; the players are too slow to react to tactical changes, the linebacker are insufficient sensitive to tactical changes, the physical ability and coordination consciousness of center players need to be strengthened, the air cutting consciousness and passing ability of the strikers need to be improved. And In the confrontation with the strong teams, the physical fitness of the Chinese team is at a disadvantage. It is suggested to strengthen the player's psychology, basic technology, and physical fitness, and improve the quality of domestic women's professional league.
Keywords: Chinese women's basketball team; Technical statistics; Comparative analysis

1. INTRODUCTION

In the 26th Asian women's basketball championship, after 7 matches, the Chinese team won the second place with the results of 5 winnings 2 losses, and was defeated by the championship team, the Japanese team respectively in the group stage and in the finals. In the finals, the Chinese women's basketball team was defeated by the Japanese team with 35 scores inferiority, making the biggest score gap in the history of the Chinese women's basketball team in the Asian women's basketball finals[1-5]. It can be known from the analysis of statistical techniques and videos between the Chinese women's basketball team and the Japanese women's basketball team in the group stage and in the finals: there is some gap of technical indexes between the Chinese women's basketball team and the opponents, it can be known by combining the videos that the main reasons for the gap are as follows: psychology, technical and tactical play, the age structure of the team, staffing, on-the-spot commanding of the coaches [5-9]. In view of these deficiencies, it this paper, the corresponding suggestion is put forward, which has a certain reference value for the future development of Chinese women's basketball.

2. RESEARCH OBJECT

The Chinese women's basketball team in the Asian women's basketball championship is taken as the research object.

3. RESEARCH METHODS

3.1 The Methods Of Literature Consultation

Relevant literature on the Chinese women's basketball teams is searched from full text database of China National Knowledge Internet, the data are collected and organized, the researches on the Chinese women's basketball team from domestic and foreign scholars are summarized and classified, which is taken as an important theoretical basis for the paper.

3.2 Video Analysis

The videos of the two matches between the Chinese women's basketball team and the Japanese women's basketball team in the Asian championship are play backed and analyzed so as to find out the existing problems in tactical use and arrangement of the Chinese women's basketball team.

3.3 Comparative Analysis

The offensive and defensive data between the Chinese women's basketball team and the Japanese women's basketball team in the current Asian championship are compared and analyzed so as to explore the advantages and disadvantages of the Chinese women's basketball team.

4 RESULTS AND ANALYSIS

4.1 Comparative Analysis Of Physical Morphologic Index Of The Chinese Women's Basketball Team

It can be known from the research, the basketball

players' height and the age are important reference indexes to measure a team. At this stage, the development trend of world women's basketball match is the masculinity of women's basketball, with increasingly fierce physical confrontation. In the basketball match, the basis of physical confrontation is the body confrontation, on the basis of physical confrontation, the tactics, technique, experience, consciousness, psychology and other comprehensive confrontations, and these factors are closely related to age [10-15].

It can be seen from Table 2 that, the average height of the Chinese women's basketball team is 186 cm, the average height of the Japanese team is 177.5 cm, the average height of the South Korean team is 179 cm, the height of the three team has certain advantages compared with other teams, at the same time, China, Japan and South Korea are the top three of the Asian championship, indicating the height of basketball players has important influence on the outcome of the match. But from the perspective of the development trend of the world basketball, in addition to the height, for a basketball match, it is needed to perfectly combine speed, technology, tactics, skills, performance to win the match. Therefore, if the height is not equipped with the speed, which will affect the team's overall offensive and defensive speed. For example, the Chinese women's basketball team has the highest average height in the current Asian championship, it can be seen in combination with video, in the confrontation with the Japanese team, the pace of Chinese team was too slow, the counterattack of the Japanese team was quick, the fast rhythm of attack and sensitive determination of defensive attack caused a lot of obstacles to the Chinese team, and slow movement speed is one of the problems existing in current China Women's basketball team.

The research indicates that the age to some extent, represents the experience, especially for the collective items such as the basketball match. If the age structure of the players is within a certain larger range, the degree of tacit agreement and understanding among the players is relatively high, it is very important for the reasonable tactics use of whole team[1]. Table 1 shows that the average age of the Chinese team is 25 years old, the average age of the Japanese team is 26 years old, and the average age of South Korean team is 27 years old, the age structure of Chinese women's basketball team is small on the whole, they lack competition experience, which mainly manifested in more mistakes of processing of big shot for the Chinese women's basketball team. In the group match against Japan, the Chinese team was disastrously defeated by the Japanese team in the last minute. Before the end of the match, the Chinese team had one point lead, Chen Xiaojia's breakthrough caused a foul of the opposing player, Chen Xiaojia missed two free throws, the Chinese team lost the an excellent chance to win. Yoshika, the core of the Japanese team, cut the defense of a center at the last minute, had a shooting; the Chinese team lost the match by one point. Thus it is concluded that the age structure of Chinese women's basketball team players is low, they lack enough competition experience, their offense system is not mature, and the basic technology, mutual cooperation and tacit understanding degree need to be improved.

Table 1 Comparison of Average Height, Performance of All the Teams at Wuhan Women's Basketball Championship

Country	Average age	Average height（cm）	Score
Japan	26	177.5	champion
China	25	186	silver medal winner
South Korea	27	179	third place
Taipei China	27	177	fourth place
Thailand	24	171	fifth place
India	22	175	sixth place
The Philippines	24	170	seventh place
North Korea	25	173	eighth place
Kazakhstan	26	177	ninth place
Malaysia	23	172	tenth place
Hong Kong, China	27	169	11th place
Sri Lanka	29	166	12th place

4.2 Technical Statistics Analysis Between Chinese Women's Basketball Team And Japanese Women's Basketball Team

In the group stage, in confrontation with the Japanese team, with the active defense, the fierce fighting, the Chinese team took a leading position in most of the time, but lost the match in the final two minutes by one point.

Advantage analysis: the two-point shooting percentage of the Chinese team is 35% , the three-point shooting rate is 31%, the free throw percentage is 42%; for the Japanese team, the two-point shooting percentage is 40% , the three-point shooting rate is 7%, the free throw percentage is 75%. In the match, Chinese team had five three-pointers, while the Japanese team only had 1 three-pointer. As for the free-throw shooting, China was slightly better, in against strong teams, rebounding is crucial, the total number of China's rebound was six more than Japan and this is one of the reasons why the Chinese team can be deadlocked with the Japanese team.

Disadvantage analysis: the Chinese team's error is up to 14 times, 7 times more than the Japanese team and the Japan's steals is 9 times, 5 times more than the Chinese team. It was found by replaying the video

that the ability to catch-pass the ball and ball protection of the Chinese team were worse than the Japanese team with more errors, while the footsteps of Japanese team were flexible, responsive, had a strong capability to launch a counterattack, and Chinese team had a slow movement, in positional warfare, its screen quality was not high, there is often the satiation of playing with one for more, the Chinese team did not give full play to the height advantage.

In the final stage, in the match with the Japanese team, the Chinese team suffered its crushing defeat by 35 points, in this match, the young Chinese players were once stunned by the opponent's blow, the reasons can be found through data statistics combined with video analysis are the following:

Firstly, the psychological pressure is the major causes of Chinese women's basketball team's abnormal performance. In the young Chinese women's basketball team, 4 of the players participated in the Asian Championships for the first time, the dual pressure of playing at home and fighting for the seat of the Olympic Games put a heavy psychological burden to the players.

Secondly, from the point of statistic data, in terms of shooting: the two-point shooting percentage is 24%, the three-point shooting percentage is 47% the free throw percentage is 60%; while for the Chinese team, the two-point shooting percentage is 55%, the three-point shooting percentage is 33% the free throw percentage is 75%; it can be seen that, except the penalty, the Chinese team is inferior to the Japanese team in shooting, poor shooting is one of the reasons of losing the match. In rebound aspect: for the Chinese team, the offensive rebounds are 18, the defensive rebounds are 25; while the Japanese offensive rebounds are 9, and defensive rebounds are 27. With height advantage, Chinese team had nine offensive rebounds than the Japanese team, and the offensive rebounds of the Chinese team did not translated into scores, the reason is that after the post players got the rebounds, they were double-teamed by the Japanese with quicker footsteps, leading to a difficult attack for the Chinese post players. When the ball was transformed to the outside, the low shooting rate of the perimeter players once made the match become very passive. In terms of mistakes: the Chinese team had 12 mistakes than the Japanese team; in steals: Chinese team had 4 steals; the Japanese team had 12 steals, 8 steals more than the Chinese team. In terms of passing, the Chinese had more errors, after the ball entered the frontcourt, the match was given priority to individuals, when the player with the ball breakthrough, the players with no ball did not actively run, cover, thus forming a passive situation of playing one for more. And a thorough research on several players with stronger breakthrough ability of the Japanese team showed, the steals of the Japanese team were more transformed into quick attack, the first passer had a fast speed, the movement route of the players without ball is clear, resulting to a more score. In the cover: the Chinese team blocked 1 shot, while the Japanese team blocked six shots, although the Chinese team had the height advantage, the quick and decisive attack and defense of the Japanese team caused the inadaptability of insider players, they barely shot, then were covered, reflecting the poor coordination awareness, weak combat capability of the post players of Chinese women's basketball, and poor awareness of passing in the process of the double-team.

Thirdly, the lack of competition experience of the young Chinese women's basketball players is one of the important reasons for losing this match. It can be seen through video analysis that the breakthrough point of the Chinese team successfully created open shots, but Chinese team had a lower perimeter shooting in the whole process, the open shots created by the tactics were not converted into scores, so the players were more impatient. Thus it can be seen that the Chinese women's basketball team lacks the competition experience, self-adjustment ability, ad their compressive ability is poor.

Fourthly, an important reason for the crushing defeat of Chinese women's basketball team is the poor performance of the guard. In the group stage, Chen Xiaojia had a worse performance than the Japanese point guard Yoshida (Chen Xiaojia with the performance of eight points and, six rebounds and three assists and Yoshida had the performance of 6 points, 10 rebounds and 7 assists), Yang Liwei had a poor performance (0 points and 2 assists), but Chen Xiaojia and Yang Liwei had good performance in controlling the rhythm. However, in the final stage, the Chinese women's basketball team was lagged behind on the final score, both Chen Xiaojia and Yang Liwei had failed to protect Chinese women's basketball team from being passive, then the Japanese women's basketball team was at the offensive rhythm. More often, the role of Chen Xiaojia and Yang Liwei is to pass the ball safely over half court, as the breakthrough point, or at the first time, to pass the ball for the teammates. In the whole process, the two players only had 1 assist, and the Japanese Yoshika had 7 assists.

Fifthly, the coaches' slow response to changes in the match team, in the second half of the first quarter, the Chinese team was badly defeated by the opponent, the coaching staff did not pause to adjust in time, causing the gap was widening.

Table 2 Technology Statistics in the Match between the Chinese Team and Japan Team

		two points	three points	free throw	offensive rebound	defensive rebound	assist	foul	error	Interception	block	score
			Shooting rate									
In the group stage	China	18/52	5/16	5/12	12	32	14	9	14	4	5	56
		35%	31%	42%								
	Japan	24/60	1/14	6/8	11	27	11	12	7	9	4	57
		40%	7%	75%								
	Difference value	-6/-8	4/2	-1/4	1	5	3	-3	7	-5	1	-1
		-5%	24%	-43 %								
In the final stage	China	10/42	7/21	9/12	18	25	9	9	18	4	1	50
		24%	33%	75%								
	Japan	29/53	8/17	3/5	9	27	11	10	6	12	6	85
		55%	47%	60%								
	Difference value	-19/-11	-1/4	6/7	9	-2	-2	-1	12	-8	-5	-35
		-21%	-14%	15%								

5 CONCLUSIONS AND SUGGESTIONS

5.1 Conclusions

In the current Asian championship, the height advantage of the Chinese women's basketball team is obvious, but in the high strength competition, their combat ability is weak. Small age structure is one of the existing features for the Chinese women's basketball team. There are four players who participate in the Asian championship for the first time, the team lack the guidance of the core team players, the lack of experience is one of the reasons for this failure.

In the Asian championship, the Chinese women's basketball team has a higher error rate; the players in position have a poorer ability to pass the ball and a poor shooting rate, the running consciousness of the players without the ball is weak, the protection consciousness, the breakthrough ability, passing vision of the dribblers needs to be improved. Defenders are not sensitive to the tactical changes; the strikers' cut-over and the players without the ball have a poor ability to get rid, the coordination consciousness of center players is poorer.

In the two matches with the Japanese team, in addition to the technology and tactics, the psychological imbalance of Chinese players is one of the important causes leading to the loss. The double pressure of playing at home and fighting for the seats of the Olympic Games places heavy psychological burden on the players. So in the face of adversity, the young Chinese women's basketball team is at loss. It is worth approving of the players' fighting, but the ability of psychological adjustment and anti-pressure needs to be improved.

In the final, the coach team responded to the situation change of the match slowly, they didn't adjust timely at the key moment of the score being pulled away; they didn't make sufficient preparation for the match, and they expected an insufficient extent of difficulties.

5.2 Suggestion

Old players should act as the mentoring function, young players should actively promote their ability in the domestic league, accumulate experience, and the team's managers should increase the playing time of younger players, find and cultivate core players.

It is suggested to strengthen speed sensitivity training, in the Asian championship, although the Chinese team has the height advantage, in the confrontation with the strong teams, the slow movement speed is one of its important problems

It is needed to boost the skills of passing ball and breakthrough the point, through the analysis of the video, in this Asian championship match, more than 80% error of the Chinese team in every match is the mistakes of passing and catching. The passing and catching ability of the Chinese women's basketball team players is weak; in terms of the ball breakthrough, there is often the satiation of playing with one for more for the Chinese team, it is urgently to strengthen the cutter consciousness of the players without ball and the covering ability of the center players.

In confrontation with the strong team, the self-adjustment and compressive ability of the players are weak; it is needed to strengthen the psychological training so as to raise anti-pressure ability.

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teaching, training and competition ,

REFERENCES

[1] Lu Changqing. The Comparison of Age and Body Shape Features of Top 8 Athletes in Women's Basketball Team at the twenty-ninth Olympic Games [J]. Journal of Beijing Sport University, 2009,32 (9): 133-135.

[2] Mao Xiaoping Analysis of technical statistics of Chinese Women's Basketball Team at 2011 women's basketball championship [J]. Journal of Physical Education, 2012（2）: 65-68.

[3] Du Shaohui, Wei Lixiang, Looking at the Chinese Women's Basketball's Progress from the Contrast of the Group Games at the 28th and 29th Olympic Games Women's Basketball Team[J]. Journal of Guangzhou Sports University,2008,28（5）：72-75.

[4] Feng Haicheng, Zheng Shangwu, Pan Zuojian . Cause Analysis of the Chinese team loss at the 16th World Women's Basketball Championship [J]. Journal of Physical Education, 2011,18（2）：101-105.

[5] Deng Fei, Yu Lili, Chen Xizhen. Looking at the World Women's Basketball from WNBA [J]. China Sport Science and Technology, 2002,38（12）：33-35.

[6] Wu Guozheng, Du Yu, Xie Tietu. Study on Causes of Instability and Development Strategies of Chinese Women Basketball [J]. Journal of Beijing Sport University, 2002,25（2）：264-266.

[7] Wang Shouheng, Zheng Gang, Zuo Wei, Liu Yinlong, Zhao Wenge, Xue Zhengwu, He Rui, Zhang Wei, Zhou Longyun, Liu Xinggang. Discussion on the Gap between Chinese Women's Basketball Team and the World Strong Teams [J]. Journal of Wuhan Sports Institute, 2011,45（3）：88-92.

[8] Sun Jixin. Analysis of the Overall Strength of the Chinese Women's Basketball for 2008 Beijing Olympic Games [J] Journal of Physical Education, 2005,12（4）：110-112.

[9] Pan Zhiguo, The study of Tom Maher 's Teaching Concept [J] Hubei Sports Science, 2015,34（7）：609-611.

[10] Liu Minghui, Pan Jing. Spatial and Temporal Analysis of Offensive Movement Route of the Chinese Women Basketball in Different Positions [J] Journal of Chengdu Sport University, 2012,37（2）：62-65.

[11] Wan Hong. Comparative Study of Technology Use between the Centers of the Chinese Team and Excellent Centers from the World Teams. [J] Journal of Chengdu Sport University, 2012,38（3）：70-73.

[12] Wang Shouheng, Gong Luming, Li Xiaoyong. Study on the Transformation and Innovation of the Chinese Women's Basketball Defensive Concept [J] Journal of Capital Institute of Physical Education and Sports, 2005,17（4）：59-61.

[13] Wang Fengqin. The Dilemma of the Reform and Development of Chinese Women's Basketball League System [J] Journal f Sports Culture Guide, 2014，（3）：96-99.

[14] Guo Sijiang, Analysis of Technology Comparison the Women's Basketball Among China, Japan and South Korea [J] Journal of Zhaoqing University, 2015,36（2）：77-81.

[15] Liu Weihao. Deng Fei. The Match of the World's Best Women's Basketball Leagues [J] Journal of physical education, 2004,11（4）：121-123.

The Research on Practice Teaching Mode of Internet of Things Engineering

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Abstract: On the basis of analysis of the status quo at home and abroad Practical Teaching Mode of Internet of Things(IOT) project, combined with our hospital curriculum, teachers and other experimental conditions and circumstances, put forward by analyzing and comparing the practice teaching model for our hospital Things engineering. Through this study, the new hospital building professional to provide new ideas.
Keywords: Practice teaching; IOT; Teaching Mode

1. INTRODUCTION

Things in the name of foreign Internet of Things, related technology research and standards currently carried out by EPCglobal, UID Ubiquitous ID Center, ISO / IEC, AIM and IP-X international organizations.Things Engineering professional foreign universities no relevant reports.In China, the Ministry of Education in 2010 began setting up things engineering undergraduates, has launched the professional colleges more than 200.In theory teaching system matures today, the practice of teaching is still in the exploratory stage, the main problem that the professionals involved in multidisciplinary practice teaching application technology.Reflected in the lack of mature practice teaching system; practical teaching weight verification experiment, light innovative design; less teacher experience in engineering practice; to things less intelligent case basis; there is no high level of integrated practice teaching platform.

Things engineering professionals involved in computers, communications, electronics, control, electrical and automation more discipline, its curriculum, training goals in the research stage.In particular, to carry out teaching practice in a multidisciplinary professional environment will be the focus of research.Currently, Huazhong University of Science and Technology, Chongqing University of Technology set up networking engineering school research Things Engineering Practice Teaching building is also being carried out.

Things my school engineering is the first country approved by the undergraduate programs, through years of teaching has accumulated a wealth of experience, the basic teaching and experimental conditions are more perfect, is to practice teaching reform and innovation of the best period.

2. RESEARCH METHODS

2.1 Research Content:

According to the existing basic disciplines, curriculum and training to carry out the situation, internal and external situation of teachers teaching and research, new ideas, new methods of teaching research and practice training program, combined with laboratory conditions, internal and external practice.

By analyzing current situation of things at home and abroad Engineering Practice Teaching and problems, the formation of an effective set of practices subject to the "teacher-led, student-centered" concept, the evaluation mechanism practice, practice philosophy, practice and practice level process for the practice of teaching system integration, and analysis of the implementation of the key issues to be solved by the practice system.

2.2 Research Target:

Focus on talent needs and their educational advantages, in reflected domestic Things engineering common characteristics on the basis of outstanding professional characteristics of our school networking project, cultivate, innovative spirit and practical ability under Internet + background the composite professionals.

2.3 Features:

Practice is the sole criterion for testing truth, consolidate hardware is the basis for teaching and research networking experiments.Since the creation of a new professional networking professional, not a mature program and experience to draw on, various colleges and universities are exploring how to set up the course, lab how to build, how to practice teaching.Things multiple disciplines electronics, computers, communications and other cross-professional, is the application of highly specialized high-tech, so the construction of practice teaching system based on CDIO is innovative teaching practices, with distinctive professional features.

2.4 Innovation:

To achieve the organic integration of multi-disciplinary technology, the formation of a scientific and reasonable teaching system, so that the perception of things through the teaching process layer, transport layer, the support layer and application layer throughout the system of knowledge and skills.

Application value: the successful implementation of the project, not only fully reflects the relevant professional inheritance and development, and

strengthening practical training, outstanding ability, professional development has far-reaching significance, as well as to cultivate applied talents as the goal of the relevant professional construction reference.

3. CONCLUSION

In this paper, in the theory and practice of the basic principles of implementation practices of teaching cases.In the case of education, the use of "learning by doing, do teach" teaching method, a set of case studies from the industrial sector as a carrier to teaching factory-type training base as a platform, so that theoretical knowledge, practical skills, professionalism and practical application environment together to achieve the integration of work processes and teaching process.According to the working process cases learning and training, to enable students to professional competence, method of capacity, social capacity gradually increase.

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REFERENCES

[1]Mingsian Bai,Jiamin Huang, Minghong Hong,Fucheng Su. Fault diagnosis of rotating machinery using an intelligent order tracking system. Journal of Sound and Vibration. 2005

[2]C Burak Ozyurt,Abraham Kandel.A hybrid hierarchical neural network-fuzzy expert system approach to chemical process fault diagnosis. Fuzzy Sets and Systems . 2001

[3]Z. Hameed,,Y.S. Hong,,Y.M. Cho,,S.H. Ahn,C.K. Song. Condition monitoring and fault detection of wind turbines and related algorithms. Areview, Renwable & Sustainable Energy Reviews . 2007

[4]Changzheng Chen,Changtao Mo. A method for intelligent fault diagnosis of rotating machinery. Expert Systems With Applications . 2004

[5]Dohono DL.De-noising by soft-thresholding. IEEE Transactions on Information Theory . 1995

[6]Fansen Kong,Ruheng Chert. A combined method for triplex pump fault diagnosis based on wavelet transform,fuzzy logic and neuro-networks. Journal of Mechanical Systems . 2004

[7]W Hu,,A G Starr,Z Zhou,A Y T Leung. A systematic approach to integrated fault diagnosis of flexible manufacturing systems. International Journal of Machine Tools & Manufacture . 2000

[8] E. Kaszkurewicz,A. Bhaya,N. F. F. Ebecken. A fault detection and diagnosis module for oil production plants in offshore platforms. Expert Systems With Applications . 1997

[9]McArthur,S.D.J,Booth,C.D,McDonald.J.R,McFadyen.IT. An agent-based anomaly detection architecture for condition monitoring. IEEE Transactions on Power Systems . 2005

[10]Tavner PJ,Xiang J,Spinato F.Reliability analysis forwind turbines. Wind Engineering . 2007

Consumption Rule of Spare Parts Whose Life Submit to Gamma Distribution Under Preventive Maintenance

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Abstract: Through making a analysis of the maintenance methods of different kinds of spare parts whose life submit to gamma distribution in some equipment under preventive maintenance, this paper has respectively established the consumption models of must replace spare parts and consumption models of on-condition replace spare parts under preventive maintenance. Applicability of the models are given by way of a numerical example.

Keywords: preventive maintenance; gamma distribution; spare parts consumption

1. INTRODUCTION

In a unit, it has some type of equipment with some spare parts. The life of distinguished spare parts has a different probability distribution. Some spare parts' life submit to exponential distribution, some submit to weibull distribution, some submit to normal distribution as well as some spare parts' life submit to gamma distribution[1-2] .

For the need of spare parts with the gamma distribution lifetime (in short: gamma spare parts), the unit should reserve a number of gamma spare parts. In the running, the fault rate of gamma spare parts λ(t) is changing with the evolution of time, and different types of gamma spare parts adopted different repair methods. Some gamma spare parts in the process of preventive maintenance adopt the must replace method and others adopt the on-condition replace method. It brings some kind of loss, to have either more or less gamma spare parts. It is a key issue for this paper to determine to reserve the reasonable number of gamma spare parts through mastering the consumption regulation of gamma spare parts.

By the abstraction of the above mentioned issue about the gamma spare parts, we divided it into two kinds of situations: must replace spare parts or on-condition replace spare parts, and investigated their consumption regulation.

2. MUST REPLACE IN PREVENTIVE MAINTENANCE SELECTING A TEMPLATE

Suppose that the interval between preventive maintenances of some types of equipment is T, if the some type of equipment is minor repaired at a fixed time, the gamma spare parts must be replaced, and T is the minor repairing interval of the equipment; If the gamma spare parts must be replaced at the medium repairing period rather minor repairing period, then T is the medium repairing interval of the equipment. If the gamma spare parts must be replaced at the major repairing period rather minor or medium repairing period, then T is the major repairing interval of the equipment.

In the preventive maintenance, the probability of the consumption amount of the must replaced gamma spare parts $y_1 = k$ ($k = 2,3,4\cdots$) at the time period [0,T] is[3-4]:

$$P(y_1 = k) = \int_0^T \frac{\beta^{(k-1)\alpha}}{\Gamma[(k-1)\alpha]} t^{(k-1)\alpha-1} e^{-\beta t} dt - \int_0^T \frac{\beta^{k\alpha}}{\Gamma(k\alpha)} t^{k\alpha-1} e^{-\beta t} dt \quad (1)$$

In the preventive maintenance, the probability of the consumption amount of the must replaced gamma spare parts $y_1 = 1$ at the time period [0,T] is:

$$P(y_1 = 1) = 1 - \int_0^T \frac{\beta^{\alpha}}{\Gamma(\alpha)} t^{\alpha-1} e^{-\beta t} dt \quad (2)$$

In the preventive maintenance, the probability of the consumption amount of the must replaced gamma spare parts $y_1 = 0$ at the time period [0,T] is:

$$P(y_1 = 0) = 0 \quad (3)$$

In the preventive maintenance, the probability of the average consumption amount of the must replaced gamma spare parts $\overline{y}_1$ at the time period [0,T] is:

$$\overline{y}_1 = \sum_{k=0}^{+\infty} kP(y_1 = k)$$

$$= \sum_{k=2}^{+\infty} k\left[\int_0^T \frac{\beta^{(k-1)\alpha}}{\Gamma[(k-1)\alpha]} t^{(k-1)\alpha-1} e^{-\beta t} dt - \int_0^T \frac{\beta^{k\alpha}}{\Gamma(k\alpha)} t^{k\alpha-1} e^{-\beta t} dt\right] + \left(1 - \int_0^T \frac{\beta^{\alpha}}{\Gamma(\alpha)} t^{\alpha-1} e^{-\beta t} dt\right)$$

$$= \sum_{k=1}^{+\infty} \int_0^T \frac{\beta^{k\alpha}}{\Gamma(k\alpha)} t^{k\alpha-1} e^{-\beta t} dt + 1 \quad (4)$$

3. ON-CONDITION REPLACE IN PREVENTIVE MAINTENANCE

If some type of equipment is minor repaired at a fixed time, it adopts the on-condition replaced strategic, T is the minor repairing interval of the equipment; If the gamma spare parts adopt the on condition replaced strategic at the medium repairing period rather minor repairing period, then T is the medium repairing interval of the equipment. If the gamma spare parts

adopt the on condition replaced strategic at the major repairing period rather minor or medium repairing period, then T is the major repairing interval of the equipment.

Before you begin to format your paper, first write and save the content as a separate text file. Keep your text and graphic files separate until af Suppose that at time T, we repair the gamma spare parts depending on the situation, if the running time of the gamma spare parts is more than $T_0(T_0 \le T)$, or the reliability function of gamma spare parts $R(t)$ is decreased and lower than the specified value w, we should replace the spare parts immediately, otherwise we do not replace the spare parts. Apparently, $T_0 = R^{-1}(w)$.

Note that in the i th（$i = 1,2,3\cdots$） preventive maintenance, the fault density function of the on-condition replace gamma spare parts is $f_{T_i}(t)$, then

$$f_{T_i}(t) = \frac{\beta^{\alpha}}{\Gamma(\alpha)} t^{\alpha-1} \mathrm{e}^{-\beta t} \qquad (5)$$

Note that in the k th（$k = 1,2,3\cdots$） preventive maintenance, the sum of density function of the on-condition replace gamma spare parts' life is $f_{\sum_{i=1}^{k} T_i}(t)$, then[5]

$$f_{\sum_{i=1}^{k} T_i}(t) = \frac{\beta^{k\alpha}}{\Gamma(k\alpha)} t^{k\alpha-1} \mathrm{e}^{-\beta t} \qquad (6)$$

In the preventive maintenance, the probability of the consumption amount of the on-condition replaced gamma spare parts $y_2 = k$ $(k = 1,2,3\cdots)$ at the time period [0,T] is:

$$P(y_2 = k) = \int_0^{T-T_0} \int_{T-\sum_{i=1}^{k-1} t_i}^{+\infty} f_{\sum_{i=1}^{k-1} T_i}\left(\sum_{i=1}^{k-1} t_i\right) f_{T_k}(t_k)\,\mathrm{d}\left(\sum_{i=1}^{k-1} t_i\right)\mathrm{d}t_k + \int_0^{T} \frac{\beta^{k\alpha}}{\Gamma(k\alpha)} t^{k\alpha-1}\mathrm{e}^{-\beta t}\mathrm{d}t - \int_0^{T-T_0} \int_{T-\sum_{i=1}^{k} t_i}^{+\infty} f_{\sum_{i=1}^{k} T_i}\left(\sum_{i=1}^{k} t_i\right) f_{T_{k+1}}(t_{k+1})\,\mathrm{d}\left(\sum_{i=1}^{k} t_i\right)\mathrm{d}t_{k+1} - \int_0^{T} \frac{\beta^{(k+1)\alpha}}{\Gamma[(k+1)\alpha]} t^{(k+1)\alpha-1}\mathrm{e}^{-\beta t}\mathrm{d}t \qquad (7)$$

In the preventive maintenance, the probability of the consumption amount of the on-condition replaced gamma spare parts $y_2 = 0$ at the time period [0,T] is:

$$P(y_2 = 0) = 0 \qquad (8)$$

In the preventive maintenance, the probability of the average consumption amount of the on-condition replaced gamma spare parts $\bar{y}_2$ at the time period [0,T] is:

$$\bar{y}_2 = \sum_{k=1}^{+\infty} \int_0^{T} \frac{\beta^{k\alpha}}{\Gamma(k\alpha)} t^{k\alpha-1}\mathrm{e}^{-\beta t}\mathrm{d}t + \int_T^{+\infty} \frac{\beta^{\alpha}}{\Gamma(\alpha)} t^{\alpha-1}\mathrm{e}^{-\beta t}\mathrm{d}t + \sum_{k=1}^{+\infty}\left[\int_0^{T-T_0} \int_{T-\sum_{i=1}^{k} t_i}^{+\infty} f_{\sum_{i=1}^{k} T_i}\left(\sum_{i=1}^{k} t_i\right) f_{T_{k+1}}(t_{k+1})\,\mathrm{d}\left(\sum_{i=1}^{k} t_i\right)\mathrm{d}t_{k+1}\right]$$

$$= \sum_{k=2}^{+\infty} \int_0^{T} \frac{\beta^{k\alpha}}{\Gamma(k\alpha)} t^{k\alpha-1}\mathrm{e}^{-\beta t}\mathrm{d}t + \sum_{k=1}^{+\infty}\left[\int_0^{T-T_0} \int_{T-\sum_{i=1}^{k} t_i}^{+\infty} f_{\sum_{i=1}^{k} T_i}\left(\sum_{i=1}^{k} t_i\right) f_{T_{k+1}}(t_{k+1})\,\mathrm{d}\left(\sum_{i=1}^{k} t_i\right)\mathrm{d}t_{k+1}\right] + 1 \qquad (9)$$

4. EXAMPLE

At time T= 0, the equipment work till the time for regular minor repair $T = 3000\mathrm{h}$. When the equipment is minor repaired at the fixed time, for the first class gamma spare parts, it must be replaced, and for the second class gamma spare parts, it depends on the situation whether or not to replace the spare parts. In the on-condition replace maintenance, if the reliability value of the second class gamma spare parts is decreased and lower than the set value $w = 0.5$, it must be replaced immediately, otherwise it won't be replaced. If these two kinds of gamma spare parts broke before the time of regular minor repair, in order to guarantee the normal running of the equipment, they must be replaced immediately. Try to analyze the essential consumption regulation of these two kinds of gamma spare parts during the time $[0,3000\mathrm{h}]$.

A. The Consumption Regulation Of The First Class Gamma Spare Parts

According to the formulate（1）, the first class gamma spare parts must be replaced, we have the probability of the consumption amount of the first class gamma spare parts $y_1 = k$ $(k = 2,3,4\cdots)$at the time period $[0,3000\mathrm{h}]$ is:

$$P(y_1 = k) = \int_0^{3000} \frac{0.01^{6(k-1)}}{\Gamma[6(k-1)]} t^{6(k-1)-1}\mathrm{e}^{-0.01t}\mathrm{d}t - \int_0^{3000} \frac{0.01^{6k}}{\Gamma(6k)} t^{6k-1}\mathrm{e}^{-0.01t}\mathrm{d}t \qquad (10)$$

According to the formulate（2）, we have the probability of the consumption amount of the first class gamma spare parts $y_1 = 1$ at the time period $[0,3000\mathrm{h}]$ is:

$$P(y_1 = 1) = 1 - \int_0^{3000} \frac{0.01^{6}}{\Gamma(6)} t^{6-1}\mathrm{e}^{-0.01t}\mathrm{d}t \qquad (11)$$

According to the formulate（3）, we have the probability of the consumption amount of the first class gamma spare parts $y_1 = 0$ at the time period $[0,3000\mathrm{h}]$ is:

$$P(y_1 = 0) = 0 \qquad (12)$$

According to the formulate（4）, we have the probability of the average consumption amount of the first class gamma spare parts $\bar{y}_1$ at the time period $[0,3000\mathrm{h}]$ is:

$$\bar{y}_1 = \sum_{k=1}^{+\infty} \int_0^{3000} \frac{0.01^{6k}}{\Gamma(6k)} t^{6k-1}\mathrm{e}^{-0.01t}\mathrm{d}t + 1 = 5.86 \qquad (13)$$

That is: in order to meet the requirement of the repair guarantee of the first class gamma spare parts consumption of this equipment in the next 3000 hours, the unit needs to reverse 5.86 the first class gamma spare parts on average.

B. The Consumption Regulation Of The Second Class Gamma Spare Parts

The second class gamma spare parts replaced depends on the situation, $T_0 = R^{-1}(w) = R^{-1}(0.5) = 1000\mathrm{h}$, according to the formulate （7）we have the probability of the consumption amount of the second class gamma spare

parts $y_2 = k$ ($k = 1,2,3\cdots$)at the time period $[0,3000\text{h}]$ is:

$$P(y_2 = k) = \int_0^{3000-1000} \int_{3000-\sum_{i=1}^{k-1} t_i}^{+\infty} f_{\sum_{i=1}^{k-1} T_i}\left(\sum_{i=1}^{k-1} t_i\right) f_{T_k}(t_k)\,\mathrm{d}\left(\sum_{i=1}^{k-1} t_i\right)\mathrm{d}t_k + \int_0^{3000} \frac{0.005^{5k}}{\Gamma(5\alpha)} t^{5k-1}\mathrm{e}^{-0.005t}\mathrm{d}t$$
$$- \int_0^{3000-1000} \int_{3000-\sum_{i=1}^{k} t_i}^{+\infty} f_{\sum_{i=1}^{k} T_i}\left(\sum_{i=1}^{k} t_i\right) f_{T_{k+1}}(t_{k+1})\,\mathrm{d}\left(\sum_{i=1}^{k} t_i\right)\mathrm{d}t_{k+1} - \int_0^{3000} \frac{0.005^{5(k+1)}}{\Gamma[5(k+1)]} t^{5(k+1)-1}\mathrm{e}^{-0.005t}\mathrm{d}t \quad (14)$$

According to the formulate (8) , we have the probability of the consumption amount of the second class gamma spare parts $y_2 = 0$ at the time period $[0,3000\text{h}]$ is:

$$P(y_2 = 0) = 0 \quad (15)$$

According to the formulate (9) , we have the probability of the average consumption amount of the second class gamma spare parts $\bar{y}_2$ at the time period $[0,3000\text{h}]$ is:

$$\bar{y}_2 = \sum_{k=2}^{+\infty} \int_0^{3000} \frac{0.005^{5k}}{\Gamma(5k)} t^{5k-1}\mathrm{e}^{-0.005t}\mathrm{d}t + \sum_{k=1}^{+\infty}\left[\int_0^{3000-1000} \int_{3000-\sum_{i=1}^{k} t_i}^{+\infty} f_{\sum_{i=1}^{k} T_i}\left(\sum_{i=1}^{k} t_i\right) f_{T_{k+1}}(t_{k+1})\,\mathrm{d}\left(\sum_{i=1}^{k} t_i\right)\mathrm{d}t_{k+1}\right] + 1 \quad (16)$$

Using MATLAB software to program [6],we have: $\bar{y}_2 = 3.45$. In order to meet the requirement of the repair guarantee of the second class gamma spare parts consumption of this equipment in the next 3000 hours, the unit needs to reverse 3.45 the second class gamma spare parts on average.

5. CONCLUSION

Through making a analysis of the maintenance methods of different kinds of spare parts whose life submit to gamma distribution in some equipment under preventive maintenance by the stochastic process theory, investigated the consumption regulation of must replace spare parts and on-condition replace spare parts. This paper have a significant meaning to provide a method to completely master the consumption regulation of gamma spare parts, predict the consumption number of the gamma spare parts in the fixed future, and then determine a reasonable number of the gamma spare parts reservation . Referring to this kind of approach, we can further study the spare parts whose life distribution is approximated by the normal distribution, exponential distribution and weibull distribution,ect.

REFERENCES

[1]Gan Maozhi, Kang Jianshe and Gao Qi, Military Equipment Maintenance Engineering, MA: National Defense Industry, 2005.

[2]Gao Qi, Ordnance Maintenance Materiel Equipment Managemen, MA: National Defense Industry, 2011. Report

[3]Zhang bo and Shang Hao , Applied Stochastic Processes, MA: China Renmin University Press, 2009. Journals

[4]Fima C Klebaner, Introduction to Stochastic Calculus With applications, MA: Post & Telecom Press, 2008.

[5]Sheng zhou, Xie shiqian and Pan chengyi, Probability And Statistics, MA: Higher Education Press, 2008.

[6]Zhang defeng, MATLAB Probability And Statistics Analysis, MA: China Machine Press, 2010.

Research on Ascension Path of Emerging Technology Entrepreneurial Competence

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Abstract: With the development of science and technology, emerging technology plays a more and more important role in the development of our country's economy, The primary problem to promote the development is how to improve the ability of entrepreneurship in emerging technology enterprises. In this paper, on the basis of related literature review of entrepreneurship, building evaluation index system of emerging technology entrepreneurship, using the analytic hierarchy process (ahp) and fuzzy comprehensive evaluation to build new technology entrepreneurial competence model, and carries on the appraisal ,on this basis, giving related advice, that is increase investment in science and technology, providing financial support for technological innovate; establishing practice base, and actively promoting university-enterprise cooperation; strengthening ties with the overseas research institutions and enterprises, introducing overseas talents and experts; implementing the strategy of independent research and development, strengthening independent research and development ability.
Keywords: Emerging technology enterprises, Entrepreneurial ability, Ascension path

1. INTRODUCTION

1.1 Backgroung Of The Research

The eighteenth report of the party clearly pointed that "Promote the healthy development of strategic emerging industries, advanced manufacturing industry". This important decision deployment has very important practical significance in speeding up the transformation of the pattern of economic development and promoting strategic adjustment of economic structure. Therefore we must scientifically judge the trend of future demand change and technology development, developing the emerging technology enterprises, improving the entrepreneurial ability of emerging technology companies, only in this way can promote the rapid development of emerging technology enterprises, accelerate the transformation of the pattern of economic development, promote strategic adjustment of economic structure [1-3].

1.2 Related Concepts Of Emerging Technology Enterprises Entrepreneurship

1) The concept of emerging technologies

George s. day and Paul J H. Schoemaker in University of Pennsylvania, Wharton school first studied emerging technologies , They think the emerging technology is a innovation based on science, they may create a new industry, or they can change an old industry is generated by the discontinuity of technology breakthrough innovation, by focusing on independent research results in the integration of the multiple past and formation of the more innovative technology , ,at the same time they also summarized the connotation of emerging technologies : ①The base of emerging technology knowledge is expanding; ②Emerging technology application in the current market is experiencing innovation; ③ Emerging markets are developing or forming. Domestic scholars also did some relative research on emerging technology：(1) Lu Yin and Zhongguo Shi(in 2005) argued that, emerging technologies are those that appear recently or are developing, have an important impact on economic structure or industry development of high technology. And points out that the characteristics of emerging technologies : ① Market uncertainty; ②Technology uncertainty; ③ Management uncertainty; ④ High complexity.(2)Yinglong He(in 2009)argued that consensus about emerging technology is defined as: Emerging technology is based on information technology, biotechnology and other disciplines development, it has the potential industry prospects, its development, requirement and the management has a high degree of uncertainty, it may lead to a huge change of industry, enterprise, competition and management thinking, business process, organization structure, business model .(3)Shuxiong Lin (in 2006) expounds the understanding of the connotation of the emerging technologies from the perspectives of time, the maturity of the technology itself, and the impact on the industry, the impact on the management methods, etc[4-7].

On the basis of the above documents, This paper holds that the means of emerging technology is: Based on information technology, biotechnology, energy technology and other science and technology, has a high degree of uncertainty on technology, market, management and the characteristics of creative destruction, has important impact on the industry development and economic structure, the newly appeared or are developing new and high technology.

2) The concept of the emerging technology enterprises

At present, although there is not a clear concept of the emerging technology enterprises, but some scholars already had preliminary research for the emerging technology enterprises. Ying Zhang thinks that the emerging technology is: Through the introduction of new technology at home and abroad, conducting related production, management and service, transforming the achievement of emerging technology into product and then promoting and applying it, and on the basis of technological progress expanded reproduction and the establishment of the enterprises. Zongfang Zhou, Yinglong He, ect. summarized the characteristics of emerging technology companies, in their view , characteristics of emerging technology enterprises mainly includes three aspects: ① The key technology of industry generally belongs to the information technology, nanotechnology and bioengineering technology; ②The uniqueness of the product or service derive from at least one product or service of high-level technology innovation including information technology, nano technology, biological engineering technology(including single technology in the field of independent innovation and the cross and combination of two or more technology innovation); ③Companies in the industry is small or medium-sized high-tech enterprises with the qualifications of independent legal[8].

Based on the existing literature, this paper argues that the emerging technology enterprises are: Taking emerging technologies as the main technical support for production and provide related services, finally realizes the commercialization of emerging technology.

3) Concept of entrepreneurship ability

With the rapid development of economy and all kinds of enterprises, the study of entrepreneurial ability of the enterprise at home and abroad have been greatly developed, however, academia are still unable to agree on the definition of entrepreneurship and dimensions. Through the related literature we found that scholars carry out their research on entrepreneurship ability mainly from the aspects of individual and orgnization. Based on individual: Lumpkin & Dess(in 1996) believed that the concept of entrepreneurship ability is closely related to entrepreneurship and entrepreneurship ability is the concrete embodiment of entrepreneurship in general management process. Gartner(in 1998)believed that entrepreneurship ability(entrepreneurship) is a kind of knowledge or talent, to be reflected in the process of specific work. Entrepreneurship is considered an instinctive ability to entrepreneurs(Thompson, in 2004), or entrepreneurs completed work effectively and successfully（Man.ect，2008）[9].Xia Zhang and others (in 2011) also define the entrepreneurship ability as the combination of personality, knowledge, skills and abilities to promote entrepreneurial success and the growth of entrepreneurial enterprises[10]. Jiayu Zhang(in 2012) believed that the entrepreneurship ability of new business entrepreneurs or entrepreneur teams is mainly a kind of ability to identify, development, management, improve the integration ability of existing and new assets of the enterprise, and it has the innovation of restructuring and reengineering the existing assets of the enterprise .Based on organization: defining entrepreneurship as an ability of organization to develop opportunities or construct the new market opportunities according to the recognition to the market opportunity and obtaining the required resources(Arthurs and Busenitz, in 2006; Karras.ect in 2008). Miaomiao Yin and Li Cai(in 2012):Defined the entrepreneurship ability as the ability of identifying and developing opportunities and provide continuous power for entrepreneurial activity through the efficient allocation of resources[11].

Because the object in this article is the emerging technology enterprises, so defining entrepreneurship from the organizational aspect, entrepreneurship means the organization found and use the new business opportunities, realizing the sustainable development of entrepreneurial success and enterprise through effective resources integration and operation management.

4) The division of entrepreneurship dimensions

Deqiang Mei and Yong Long(in 2011) put forward two aspects of dynamic and static dimensions on the entrepreneurial ability, dynamic dimension is the enterprise ability of opportunity; Static dimension is the capacity of an enterprise. Jing Tang and Yanfu Jiang (in 2008) :Entrepreneurship was firstly divided into opportunities and operational management ability two first-order dimension. Then on the basis of the two first-order dimension, six second order dimension was set up, that is to set up chance recognition ability and development ability two second-order dimension under the opportunity ability dimension, and set up the relationship between the organization and management ability, strategic ability, skills and the ability to promise four second-order dimension under the operation management ability dimension. Miaomiao Yin and Yupeng He(in 2013) believed entrepreneurship should include opportunities related to ability, the ability to relate to strategy, the network related ability, management ability and leadership ability to five dimensions[12]. Miaomiao Yin and Li Cai(in 2012), divided the different dimension of entrepreneurship from the individual and organizational aspect, and analyzed the different importance of the two companies in create period, growth period, mature period. In the create period, entrepreneur qualities, business opportunity recognition, vision and commitment ability that belongs to the individual aspect of entrepreneurial abilities play a major role; In the

mature period, strategic capabilities and organizational skills that belong to organizational aspect plays a vital role[13].

Although there is not an agreement on the division of entrepreneurship dimensions in academia, but the opinion has similarities and coincidence. In this paper, on the basis of combing and summarizing the existing literature, combining the emerging technology enterprises the characteristics of the high degree of uncertainty and high risk, dividing and supplying the entrepreneurship dimensions. This article divided entrepreneurship ability into opportunity and operation management ability two first-order dimension, divided the opportunity ability into opportunity recognition and utilization ability, innovation ability, learning ability, conceptual ability, relationship, knowledge sharing, in the meantime, divided operation management into strategic ability, ability of organization, financing ability, ability of risking management, cooperation ability, ability to promise, such as Tab. 1.

Table 1 Dimension division of the emerging technology enterprises entrepreneurship ability

First-order dimension	The second-order dimension	
opportunity ability	opportunity recognition and utilization ability	Ability to identify and implement market opportunities in some way
	innovation ability	Ability to generate new technology, new ideas, new products, etc
	learning ability	Ability to acquire new knowledge in a fast, simple and effective way , and put it into the existing knowledge, to change the existing knowledge structure.
	conceptual ability	Ability to coordinate all the interests, the benefits and activities within the organization, conceptive ability, generate new ideas continuously to improve the survival and development of enterprise
	relationship	Whether can establish individual to individual, group or individual on the good interactive relationship
	knowledge sharing	Ability to organize the members of the organization to communicate knowledge and achieve improvement together.
Operation management ability	strategic ability	Whether can develop, evaluate and implement business strategies
	ability of organization	Organizing various internal and external human, material and financial and technical resources, including team construction, leadership staff, training and control
	ability of risking management	Ability to monitor, warn and control counter, prevention, resolve and assess the risk
	financing ability	Ability to access to long-term capital with high quality through various channels, low cost.
	cooperation ability	Able to effectively coordinate internal departments
	ability to promise	Whether can management enterprise, implement commitment of suppliers, employees, customers, venture capitalists and other benefit community

2. ESTABLISHMENT OF THE EMERGING TECHNOLOGY ENTERPRISES ENTREPRENEURSHIP ABILITY EVALUATION INDEX SYSTEM

In order to build the emerging technology enterprises entrepreneurship model, the first thing is to establish entrepreneurial ability of basic system, quantify the indexes on this basis. Through the above division of entrepreneurship in emerging technology enterprises, in this paper, the evaluation index system of emerging technology enterprise is divided into two levels, such as in Tab. 2.

Table 2 Emerging technology enterprises entrepreneurship ability index system

Goal	Norm	Index
Emerging technology enterprises entrepreneurship ability index system A	opportunity abilityA1	opportunity recognition and utilization ability A11
		innovation ability A12
		relationship A13
		learning ability A14
		conceptual ability A15
		knowledge sharing A16
	Operation management ability A2	ability of organization A21
		strategic ability A22

		ability of risking management A23
		financing ability A24
		ability to promise A25
		cooperation ability A26

2.1 Comparison Of Model Of Corporate Entrepreneurship Ability Based On Fuzzy Comprehensive Evaluation

AHP -- fuzzy comprehensive evaluation method

AHP --a method combining fuzzy comprehensive evaluation method and the fuzzy comprehensive evaluation. It first use analytic hierarchy process (AHP) to determine the weight of evaluation index system, and then on this basis, carrying out the fuzzy comprehensive evaluation. This method takes into account various factors influence on the research question, combining multiple evaluation subject, and can effectively solve the many fuzzy problems appeared in the process of evaluation, quantify these fuzzy problems, combining qualitative assessment and quantitative calculation organically, greatly improved the accuracy of the evaluation.

1)The Analytical Hierarchy Process

The Analytical Hierarchy Process is a method that was put forward by saadi (A.L.Saaty),professor at the university of Pittsburgh in operational research, in the early 1970s, in dealing with complex decision problem, scheme comparison sorting.

When using AHP to make decisions, generally can be divided into four steps:

①Emerging technology enterprises entrepreneurship ability index system Analyzing the relationship between each element in the system, establishing class analysis structure of the system, such as in Tab. 1.

②Comparing the importance of a certain criteria of each element on the same level, constructing two comparative judgment matrix. Comparing the value of the matrix element people reflects the relative importance of various factors (or preference, quality), in order to compare the unified standard, Sauty puts forward 1-9 scaling method, such as in Tab. 3. On the basis of the comparison of the evaluation index scale, calculating each index between the importance of the judgment matrix:

Table 3 The meaning of scaling

Determine scale	Definition
1	A and B are equally important
3	A is a little more important than B
5	A is more important than B
7	A is much more important than B
9	A is absolutely more important than B
2, 4, 6, 8	Between the above two adjacent judgments
multiplicative inverse	The ratio of the importance of A and B is λ, the ratio of the importance of B and A is $1/\lambda$

For the important between the various indicators of judgment matrix:

$$\begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ a_{n1} & a_{n2} & \cdots & a_{nn} \end{bmatrix}$$

③Calculated by the judgment matrix elements are being compared to the relative weights of the standards, then check the consistency. working out the biggest eigenvalue of the matrix λmax, calculating the consistency index $C.I = \frac{\lambda \max - n}{n-1}$,try to make C.I comparing with random consistency index R.I , working out the check number $C.R = \frac{C.I}{R.I} < 0.1$,that is if C.R ＜0.1，the consistency of judgment matrix is satisfied, otherwise, you need to adjust the initial values of judgment matrix. R.I. (random index) is associated with the order of judgment matrix, in general, the larger the order number is, the larger the possibility that consistency random deviation is, such as the following data in Tab. 4.

Table 4 The mean random consistency index

dimension	1	2	3	4	5	6	7	8	9	10	11	12	13	14
R.I	0	0	0.52	0.89	1.12	1.26	1.36	1.41	1.49	1.52	1.54	1.56	1.58	1.59

④ Computing synthesis weights of each element on the system target, and sorting.

2.2 FUZZY COMPREHENSIVE EVALUTION

Fuzzy comprehensive evaluation is a method that using some of the concepts of fuzzy mathematics to provide methods of evalution on some actual comprehensive evaluation problem. Specifically, fuzzy comprehensive evaluation is a method based on the fuzzy mathematics, applying the principle of fuzzy synthesis quantifying factors those boundary is not clear and not easily quantified, evaluating the comprehensive evaluation on the level status of things from numbers of factors. The basic steps of fuzzy comprehensive evaluation is:

(1)Determine the evaluation index and evaluation level

Tab. 1 illustrates the U= (Technology innovation ability, the ability of opportunities, strategic ability, organization and management ability), establishing a evaluation index a variety of experts to be the general

evaluation results of the collection, V: V=(Strong, stronger, in general, not too strong, not very strong), n is the number of evaluation object.

$$R=\begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1n} \\ r_{21} & r_{22} & \cdots & r_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mn} \end{bmatrix} r$$

(2)Constructing the evaluation matrix and determining the weight

Evaluating index of each factor to determine the membership degree of impact indicators of evaluation set, then composing a matrix of membership degree of each index, the resulting matrix is fuzzy matrix R:

$$R=\begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1n} \\ r_{21} & r_{22} & \cdots & r_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mn} \end{bmatrix} r$$

(3)Fuzzy synthesis and make decisions

Introducing a fuzzy subset of B on V, called fuzzy evaluation set, also called the decision set. B=（b1, b2, …bn）.In general, making B=A*R(* is symbol for operator), called fuzzy transform.

$$B=A^*R=(a_1 \quad a_2 \quad \cdots \quad a_m)^*\begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1n} \\ r_{21} & r_{22} & \cdots & r_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mn} \end{bmatrix}=(b_1 \quad b_2 \quad \cdots \quad b_n)$$

With "*" for fuzzy synthetic operator, In this paper, the fuzzy synthetic operator is $M(\wedge,\vee)$ ($\wedge$means to take the small, $\vee$ means to take the big , namely to take small and then take big)and $M(\bullet,\vee)$,($\bullet$ said multiplication, $\vee$means to take the big, namely first multiplication and then take the big). If the evaluation results $\sum b_j \neq 1$, it should be normalized.

3. EMPIRICAL ANALYSIS

In this paper, the Liaoning stujulong group as the representative of the emerging technology enterprises and evaluate its entrepreneurial ability, on this basis analyzing and comparing the influence of various indicators on corporate entrepreneurship and choosing the path of ascension. This article designed questionnaires of the evaluation index related to the emerging technology enterprises entrepreneurship, evaluation index system of entrepreneurship of the questionnaire have two level of index and 12 secondary indicators, the questionnaire using the method of filling in the questionnaire to collect data, using stratified sampling method, questionnaire were randomly distributed to people surveyed (including director, employee, customers in julong group), let them complete questionnaires by themselves, and checking out the effectiveness of each questionnaire. 300 questionnaires were issued, 271 were recycled, recovery rate is 90%, 259 valid questionnaires, the effective rate was 96%.

(1)Build the emerging technology enterprises entrepreneurship index system, such as Tab. 1.

(2)Build pair of comparative judgment matrix

By the method of AHP, respectively establish A, A - A1, A - A2 of the judgment matrix.

$$A=\begin{bmatrix} 1 & 2 \\ 1/2 & 1 \end{bmatrix}$$

$$A_1=\begin{bmatrix} 1 & 1/2 & 2 & 3 & 5 & 6 \\ 2 & 1 & 3 & 4 & 6 & 7 \\ 1/2 & 1/3 & 1 & 2 & 4 & 5 \\ 1/3 & 1/4 & 1/2 & 1 & 3 & 4 \\ 1/5 & 1/6 & 1/4 & 1/3 & 1 & 2 \\ 1/6 & 1/7 & 1/5 & 1/4 & 1/2 & 1 \end{bmatrix}$$

$$A_2=\begin{bmatrix} 1 & 4 & 2 & 5 & 7 & 8 \\ 1/4 & 1 & 1/2 & 2 & 4 & 6 \\ 1/2 & 2 & 1 & 3 & 5 & 7 \\ 1/5 & 1/2 & 1/3 & 1 & 3 & 5 \\ 1/7 & 1/4 & 1/5 & 1/3 & 1 & 2 \\ 1/8 & 1/6 & 1/7 & 1/5 & 1/2 & 1 \end{bmatrix}$$

(3)Computing the relative weights of elements are being compared to the standards according to the judgement matrix , check the consistency and calculating the synthetic weight of each element on the system goat, Such as Tab. 5.

Table 5 Elements in each layer to Synthetic weights for the aims of the system

A	A1	A2	Synthetic eight w
	0.667	0.333	
A11	0.252		0.168
A12	0.382		0.255
A13	0.166		0.111
A21	0.111		0.074
A22	0.053		0.035
A23	0.036		0.024
A31		0.354	0.118
A32		0.174	0.058
A33		0.272	0.091
A41		0.116	0.039
A42		0.052	0.017
A43		0.033	0.011

According to the algorithm the largest matrix eigenvalueλ max, combined with Tab. 3, consistency inspection results are as follows: In the matrix A, λ max =2， CR=0<0.1；In the matrix A1, λ max = 6.167, CR = 0.027< 0.1 ； In the matrixA2, λ max =6.013, CR =0.002< 0.1. According to the calculate result, A, A1, A2 all passed the consistency check.

(4)The establishment of the fuzzy matrix

The establishment of the fuzzy matrix by marking the each influence factor of questionnaire, working out the fuzzy matrix of all the factors, among them:

$$R_1=\begin{bmatrix} 0.2 & 0.3 & 0.3 & 0.1 & 0.1 \\ 0.2 & 0.3 & 0.2 & 0.2 & 0.1 \\ 0.2 & 0.2 & 0.3 & 0.2 & 0.1 \\ 0.1 & 0.3 & 0.3 & 0.2 & 0.1 \\ 0.2 & 0.2 & 0.3 & 0.2 & 0.1 \\ 0.2 & 0.3 & 0.3 & 0.1 & 0.1 \end{bmatrix} \quad R_2=\begin{bmatrix} 0.2 & 0.3 & 0.2 & 0.2 & 0.1 \\ 0.3 & 0.2 & 0.2 & 0.2 & 0.1 \\ 0.2 & 0.2 & 0.3 & 0.2 & 0.1 \\ 0.2 & 0.3 & 0.1 & 0.3 & 0.1 \\ 0.2 & 0.3 & 0.3 & 0.2 & 0 \\ 0.2 & 0.3 & 0.2 & 0.2 & 0.1 \end{bmatrix}$$

(5)Calculation and results of fuzzy comprehensive evaluation

Follow the steps 2, 1:

$$B_1 = A_1 \circ R_1 = (0.2 \quad 0.3 \quad 0.2 \quad 0.166 \quad 0.1)$$

$$B_2 = A_2 \circ R_2 = (0.2 \quad 0.3 \quad 0.272 \quad 0.2 \quad 0.1)$$

$$B = A \circ R = A \circ \begin{pmatrix} B_1 \\ B_2 \end{pmatrix} = (0.133 \quad 0.2 \quad 0.133 \quad 0.111 \quad 0.067)$$

The normalization of B: $B' = (0.207 \quad 0.311 \quad 0.207 \quad 0.172 \quad 0.104)$ It can be seen that the entrepreneurial ability of julong group is strong. According to the result of fuzzy comprehensive evaluation: The entrepreneurial ability of julong group is strong. While according to the AHP: The innovation ability has more effect on julong group.

4. CONCLUSION

This paper constructs the emerging technology enterprises comprehensive evaluation index system of entrepreneurship, at the same time using the analytic hierarchy process (ahp) to calculate the specific weights of each indicator, and through the fuzzy comprehensive evaluation to evaluate entrepreneurial ability of julong group. The evaluation index system combines qualitative analysis with quantitative analysis, has strong maneuverability . By applying this model, can avoid evaluators personal subjective faults, to ensure the objectivity of the evaluation work, applicability, and the convenience of operation, can also find entrepreneurial ability of the enterprise, can evaluate the enterprise's entrepreneurial ability more accurately.

Through the on-the-spot investigation of julong group understands, Julong group took great efforts in scientific and technological innovation, talent introduction and system management, etc. First, carry out a variety of forms of production, study and research combining, and widely establish open and stable cooperation relations with institutions of higher learning, scientific research institutes, Julong group signed comprehensive cooperation agreement with university of science and technology in anshan, jointly established the julong group. Second, bringing in overseas talents, and constantly strengthen exchanges and cooperation with overseas students; In addition, Julong group also implement the strategy of the independent research and development, the group has had more than dozens of independent intellectual property rights and inventions at present. And it is these measures make the Julong group has strong ability of entrepreneurship. It can be seen from the index system of weights innovation ability, opportunity, ability and organization ability in julong group occupies very important position in the assessment of entrepreneurship, especially innovation ability. Thus in order to improve the ability of emerging technology enterprises must improve the innovation ability of enterprises in the first place.

4.1 Increasing Investment In Science And Technology ， Providing Financial Support To Technological Support

Starting from the strategic height, increasing investment in science and technology, raising funds in many ways, to ensure the fund demand of enterprise technology innovation; Expanding the source of technology innovation capital, besides extracting 1% of sales as technology innovation funds , it is also required to make loans and turn to the government for financial aid, and other channels and measures to enrich the enterprise technology innovation fund; Advocated by the government to establish the technological innovation fund and technology innovation risk investment funds to promote and push rapid development of emerging enterprises technological innovation.

4.2 Establishing Practice Base, And Actively Promoting The Cooperation Of University And Enterprise

The cooperation of university and social enterprise is the best way to solve the problem of enterprise technology innovation ability is insufficient. On the one hand, there are various talents and extensive research field in colleges and universities, and the results are more and disperse. On the other hand, the system of emerging in the enterprise management is flexible, and it is sensitive to respond to the market, equity capital and scattered gradual investments are the main way of investments. However, it still faced with the reality of insufficient science and technology innovation ability. Therefore, the "marriage" of society small and medium-sized enterprise and college is not only the best way to solve the above problem, but also the intrinsic demand of both sides. In this way, not only can make the small and medium-sized enterprises get over the lag of technology innovation, introducing advanced technology, occupying the market first, rapidly improving their competitive ability in the market, prompting the development of small and medium-sized enterprises ,but also can greatly improve the conversion rate of scientific and technological achievements.

4.3 Strengthening Ties With The Overseas Research Institutions And Enterprises, Introducing Overseas Talents And Experts.

With the development of economic globalization, the relationship between countries is closer and closer, emerging technology enterprises those are in the initial stage of development should strengthen the cooperation and exchanges with other countries, implementing the strategy of ''going out and bring in''. The emerging technology enterprises need taking high-new technology as support, but in the field of many high-end technology in our country is still in a lower level, and can't meet the needs of

enterprise development, therefore, strengthening the communication with the scientific research institution that has a high and new technology, timely absorbing the international advanced scientific research achievements can help companies find new business opportunities and improve the technical innovation ability of enterprises. Increasing the attraction to students studying abroad and high levels of experts, improving the level of their treatment, and properly arranging their life in China, the introduction of overseas talent will also introduce advanced knowledge and advanced technology, it can help to improve the innovation ability of enterprises.

4.4 Implementing The Strategy Of Independent Research And Development, Strengthening The Ability Of Independent Research And Development

When introducing foreign advanced technology, it is more important to strengthen independent research and development ability, this is the core competitiveness of enterprises. In order to strengthen independent research and development ability , the first step is to increase the research and development funding to ensure the smooth progress of research and development projects; Second, strengthening the construction of research and development team, attracting the talents that have different knowledge and technical structure of high-tech talent and innovative management to the team, at the same time, improving the r&d incentive mechanism, implementing the form of distribution that associate income with the r&d achievements to inspire their creativity; In addition, it is required to create a good environment for innovation in the enterprise, strengthen the innovation consciousness of all staff, provide staff with innovation training regularly, and encourage staff to put forward new idea, new concept, formulating the corresponding reward to improve the enthusiasm.

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REFERENCES

[1]Yin L., Shi Z.G., Emerging technologies: The concept, characteristic and Manage new thinking, Modern management science, 2005, (4): 32-36.

[2]He Y.L., Emerging technology enterprise product forecast, market value and characteristic research, University of electronic science and technology, 2009: 2-3.

[3]Lin S.X., The connotation of emerging technology and its uncertainty analysis, Value engineering, 2006, (9): 32-33.

[4]He Y.l., Zhou Z.F., my of Management Review, 1996, 21(1).

[6]Thompson J. L., "The facets of the entrepreneur: Identifying entrepreneurial potential," Management Decision, 2004, 42(2).

[7]Man T. W. Y., Theresa L., and Chan K. F., "Home-grown and abroad-bred entrepreneurs in China: A study of the influences of external context on entrepreneurial competencies," Journal of Enterprising Culture, 2008, 16(2).

[8]Zhang J.Y., Study on the relationship between the entrepreneurial capacity and entrepreneurial performance relationship -- based on the perspective of business model, Nanjing university of finance and economics, 2012: 10-11.

[9]Zhang X., Wang L.X., Zeng X.W., Research on the transformation mechanism of entrepreneurship ability based on start-ups grow of entrepreneurship, Scientific and technological progress and countermeasures, 2011(11): 77-78.

[10]Yin M.M., Cai L., Research on entrepreneurship ability status analysis and looking to the future, Foreign economic and management, 2012 (12): 72-73.

[11]Mei D.Q., Long Y., Research on the relationship between high and new technology enterprise entrepreneurship, innovation type and the financing way, Technological innovation management, 2010(1): 64-65.

[12]Yin M.M., Fei Y.P., Research on entrepreneurial ability empirical status evaluation and looking to the future, Foreign economic and management, 2013(10): 22-24.

[13]Tang J., Jiang Y.F., The concept of entrepreneurship theory building and empirical test, Science, and science& technology management, 2008(8): 52-54.

The Energy Management Research about Tourist Hotel in China

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Abstract: It has increasingly become a heavy burden Energy that costs as an important part of modern hotel operating costs for most Chinese hotels ,Saving energy has become an important topic in tourist hotels. From a practical point of view the operation of Chinese tourist hotels, Should be tapping the potential energy integrated energy management hotel management from energy use, operation and adjust the energy structure and operation of energy saving and other aspects of the overall operation, To make hotel strategically with minimal cost to get the best results.
Keywords: Tourist hotel， energy management， energy-saving potential.

1.CONSTANTLY STRENGTHEN THE INTEGRATED MANAGEMENT OF ENERGY USE OF THE HOTEL

Energy costs as an important part of modern hotel operating costs for the majority of Chinese restaurant has increasingly become a heavy burden, to save energy has become an important subject of tourist hotel. In fact the hotel energy conservation is a system engineering with strong character o appliance and operational, energy saving consciousness cultivation, management methods and operation pattern and so on all need time to set up and improve. In isolation by establish certain system or by some technology for energy saving is often the overall effect is not big. On the measures, early money people can not achieve the best effect. Due to the improper management and operation method, not only have little effect, even will cause a waste of money. So you need to put hotel energy saving as a basic strategy of the hotel to get to know and research. In the hotel energy saving management not only should play the positive role of the staff, and want to lead the guests to the energy-saving operation. To advocate the right energy consumption idea, must consider the hotel from the long-term development of the energy structure problem. From the perspective of the actual operation of China tourist hotel, the hotel energy management and energy saving can be divided into three main parts, namely the energy use of comprehensive management ,operation and the potentialities of energy saving retrofit and adjust the energy structure, make hotel strategically with minimal cost to get the best benefit.[1]

1.1 Strengthen Basic Management, Control Energy Consumption

(1) Analysis of energy structure and the key to determine the energy using situation. Analysis of the hotel's energy and cost structure is the foundation of the hotel energy conservation, as the first step of energy strategy implementation, helping us find the hotel key breakthrough of energy saving. [2]

For most tourist hotels, energy to electricity, coal, and oil, gas, water as the basic form, the most is the transformed non-renewable energy of secondary energy, the cost is higher, its the cost of electricity and heat energy accounted for about hotel more than 80% of the total cost. In southern China hotel use of thermal energy to fuel for this offer, the use of electricity and fuel costs. The electricity power savings focus on guest rooms, public area lighting, and power consumption of refrigeration and air conditioning. Fuel saving focus on the heating, hot water and the hotel laundry ironing steam use these links. Though the proportion of the cost of the water, but water is a kind of irreplaceable source of energy. The consumption of water control should focus on the guest living water, laundry water bath and employees of aqueous humor.

(2) Improve the energy measurement and statistical analysis. The key energy consumption situation of hotel each department scientific measurement is the important basis of making energy plan. The number of measuring instrument Settings and installation site to facilitate all departments and units, the hotel floors, restaurants and other units are relatively independent of energy use measurement, accounting and index evaluation for energy consumption. In order to fully grasp the energy consumption of the hotel each energy-using link, it is necessary to establish the scientific statistical system. Statistical content seize representative and facilitate analysis of the main projects, maintain hotel management must be able to reflect the lowest basic energy consumption, restaurants, all kinds of energy consumption and single hotel energy consumption for major energy-consuming equipment, in different seasons and periods the hotel energy consumption, the hotel occupancy rate of energy consumption and other information. Statistical methods can be according to the different needs of energy analysis, the combination of different statistical project comprehensive use. Such as statistics, according to

equipment system according to the using department statistics, statistics, according to the number of guests according to hotel overall statistics, etc. The statistical data for the analysis of energy consumption and not only to provide timely information will also become the basis of a hotel energy plan. Which related to the number of guest reflect the average energy consumption of per person per day is one of the measure of hotel energy consumption level, and make reference for basic prices of the hotel. Its record daily, monthly, and yearly results, in addition to a variety of energy consumption, also must be recorded accordingly during the hotel operating, the weather and energy prices, and so on and so forth, and attached this time of year comparative data, statistics should be detailed and accurate. Differ in quantity, to find out the reason, and put forward the modified data and methods, so that the accurate analysis of energy consumption. [3]

(3) The plan management to improve the quality of energy use. To control the energy use of the energy consumption index as the core program is on the basis of energy management of the hotel. With statistical results for your reference, according to the hotel's business plan, market prediction, energy supply and energy saving measures may lead to the comprehensive energy saving effect, etc. To determine the energy budget, so as to make a clear energy use data index and energy saving measures the enforceability of strong energy plan. The management of the energy usage plan to implement system of energy consumption analysis, the statistical results of energy use on a regular basis for analysis. Each department monthly or quarterly should regularly analysis of energy use and control of the situation, if there are any breakthrough plan indicators to find out the reason and take effective measures. Every month and every quarter, restaurant shall be convened by the general manager or chief financial officer of specialized energy cost analysis, the whole hotel and department of comprehensive discussion and analysis, the implementation of energy plan for energy saving result timely affirm, recognition and encouragement, and for abnormal energy consumption in a timely manner to correct, found that larger gap to formulate control scheme jointly by all related departments to take measures to make up for, and the whole process of the whole hotel energy use for effective tracking, supervision and control.[4]

1.2 Strengthen The Consciousness Of Energy Conservation And Rational Use Of Energy

(1) Enhance the staff's energy saving consciousness. Staff awareness of energy conservation is the basic guarantee for the energy conservation work, the cultivation of the energy saving consciousness is not only by the form of propaganda and education, but also the specific measures and the system implement to every department, every team and every piece of equipment. Through organizing to allow employees to participate in energy conservation planning and energy management system, to carry out the energy saving measures, improve the transparency of energy consumption, regularly for energy consumption and cost analysis, subtly united make the staff in thinking. By establishing the responsibility system for energy conservation, the energy consumption plan indicators as an important content of the inspection department of energy use, formulate rational and effective energy saving measures such as rewards and punishment system to further strengthen the staff's energy saving consciousness. [5]

Hotel should attach great importance to the subjective factors of managers to staff awareness on energy saving, energy conservation and enthusiasm. To fully realize the rewards don't live and punishment is not strictly will make employees feel energy formalization and not serious, can make the employees' energy saving consciousness, loss of energy saving initiative, is also a hotel in the aspect of ineffective training employees and energy saving consciousness.

(2) To promote green energy consumption for the guest's active participation. Enhance the energy saving consciousness include the guest propaganda and mobilization. To make the guest understand hotel energy saving, not only for the benefit of the hotel itself, is also the need of human sustainable development, it is the basic responsibility of every people. To the use of energy as a kind of service content and consumption process for green energy consumption to advocate the guests. Formulates corresponding green energy consumption reward system to encourage guests to the hotel energy saving ideas, advice, and reduce unnecessary energy consumption in the process of consumption and actively participate in energy conservation action, to create favorable conditions for the hotel energy saving. [6]

2. CONTINUOUSLY STRENGTHEN POTENTIAL IN ENERGY CONSERVATION AND HOTEL MANAGEMENT OPERATION

2.1 The Operation Of Power Supply System And The Key Link Of Power Consumption Potential

Power supply system is the source of power supply and the key nodes, which can get twice the result with half the effort on the energy saving operation. By energy-saving power supply system, experiments prove that the best way is to optimize the power supply voltage. In many cases, the hotel's supply voltage exceeds the rated voltage, which will not only affect the use and life of the electric equipment, but also make energy consumption increased significantly. Test and operating parameters show that most of the hotel's electrical equipment can be used in 5%-10% under the condition of normal operation. Taking the hotel lighting as an example, the hotel's largest electricity consumption is generally

used for lighting, which can choose 90% of the rated voltage as the optimal operation of building lighting power supply and energy saving voltage. For the use of multiple transformers, power supply of the hotel can through appropriate distribution circuit transformation and use independent transformers to provide optimized voltage lighting. For the power supply voltage than rated voltage of the hotel, the voltage must be reduced to a reasonable range, and the power consumption can be reduced by a large margin. [7]

For the power of electric system, it should be started from the largest power consumption, and the longest period of time with the power. Measures should be chosen from the aspect of the relative outstanding effort, simple operation, less human input in priority. The hotel who has no conditions for the use of the power supply transformer to optimize the voltage supply can use the smaller power lighting automatic voltage regulator device Lighting circuit which diverts different service function area can proceed 90% rated voltage to regulated power supply. In addition, the widespread adoption of energy-saving lamps and taking measures to control houselights also has a greater power saving potential to reduce unnecessary location and the period of the lighting electricity

By running energy -saving operation, the most direct and effective means to air conditioning system is reasonable to control the operation time of the air-conditioning system, which can avoid unnecessary nonoperation and nonproductive air conditioning energy consumption. For example,business premises is according to business hours.And the hotel is according to the customers dining room area to arrange the air conditioning, at the same time，kitchen and laundry room is according to the production time to control the wind operation. In the spring and autumn season, the use of outdoor air cooling and other control measures is an effective means to achieve energy saving. In addition, we can take the heat insulation measures to reduce the heat radiation of the glass window, so as to reduce air conditioning load.[8]

The concept of using air conditioning should be changed and conservative standard of tourist hotel air conditioning temperature is not suitable for the current energy environment,so air-conditioning temperature should be advocated in moderation. Now in the summer many developed countries advocate ‘cool business’, which is that wage earners do not wear suit jacket, through the appropriate adjustment of high air conditioning temperature to reduce air conditioning energy consumption. Hotel should strive to obtain guests’ support in order to a greater range of reducing air conditioning energy consumption, and gradually change the concept that central air-conditioning as a high-end hotel infrastructure standards,at the same time, combining the operation of the central air-conditioning and local air conditioning can reduce a large number of unnecessary air conditioning energy consumption. Hotel is also able to use the role of plant climate because of its good green environment which can not only improve the air and environmental quality, but also can play a role in maintaining the environment temperature.What’s more, the conditional hotel can take full advantage of the use of green plants to reduce air conditioning energy consumption.

2.2 The Operation Of The Fuel Consumption Link With Potential In Operation

Now most restaurants use fuel boiler heating，so the run and operation measures should begin from the biggest influence on energy consumption the two aspects of boiler and heating system. According to the demand of steam equipment, conditional hotel can adopt different specifications or steam pressure of boiler steam supply respectively and also set up special hot water boiler to provide air conditioning heating and domestic hot water. Because this operation and heating mode can reduce the loss of operation, saving a lot of fuel.

The heating steam pressure and temperature setting can be taken on to reduce heat loss in the transportation and use of energy. Concentrating around the kitchen, laundry room, as far as possible, can reduce the time of the boiler running state of heavy load. Part of the area such as staff living hot water supply can be controlled by the specific usage of time.

2.3 Guide Guests To Green Consumption And Improve Measures To Conserve Water Resources

The hotel's water consumption is mainly domestic water. Water conservation fundamentally should strengthen the propaganda and guidance in the guest, and advocate green consumption to guide the guests’ initiative as much as possible in order to decrease the number of guest room cloth washing. Daily operation on appropriate adjustments to the housekeeping cleaning procedures can reduce the guest room cleaning water and toilet flushing times. In addition, Starting from the emphasis and source on the technical measures is able to control the biggest water yield of each terminal hot and cold water. The washing operation by reasonable deployment of washing procedures and paying attention to the washing capacity of laundry equipment, especially avoiding the phenomenon of ‘large horse drawn car ’also can effectively reduce the use of detergents and washing water. [9]

3. CONSTANTLY ADJUSTING THE HOTEL ENERGY STRUCTURE TO IMPLEMENT COST STRATEGY EFFECTIVELY

3.1 Using Natural Renewable Energy To Decrease The Hotel Energy Costs

Using natural renewable energy as provided hotel energy to change the current backward and passive energy structure is one of the core of hotel energy

strategy, which should be the first choice for energy saving investment projects.

(1) The solution that the heat pump system which absorb low grade heat from the nature (such as the atmosphere, rivers and lakes, groundwater, geothermal, solar energy) for hotel heating is high efficiency Through the system reform from hotel discharge of wasted heat, waste water recycles heat energy. At present ,using the water source heat pump and ground source heat pump to provide hot water supply system has been used successfully in many hotels, which is an increasingly mature energy saving programme and worth promoting the hotel heating supply.

(2) The utilization of solar energy can change the hotel fundamental energy structure, so using solar energy for cooling and heating is the main direction to energy saving technology. The problem to be solved is the stability of the system when using solar energy. The use of solar energy refrigeration is consistent with the need, and the effect of ambient temperature is the higher the better; while heating, considering how to guarantee the quality of water supply in different seasons, and increasing ground source heat pump and other auxiliary heating device if necessary in the short winter sunshine. In order to improve the thermal efficiency of solar panels, hotels can use the enclosed forced circulation of solar water heating system, the characteristics of which is to put the sun collected heat through the heat exchanger for heat pump auxiliary heating device and domestic water system. The whole solar system is operated in a closed state under forced circulation, so the work efficiency has nothing to do with living hot water consumption, which can not only greatly improve the collection efficiency and heating speed, but also improve the winter heating capacity of the system. [6]

3.2 Full Application Of Energy Recycling Technology And Improve Energy Efficiency

In tourist hotel, most of the heat as waste heat discharged after consuming a lot of resources both in production and life , so energy utilization rate is extremely low. Therefore, the wasted heat recycling is an important way of hotel energy saving. In order to improve the investment benefit, we should start from the system of maximum wasted heat discharge, Such as steam condensate water recycling, air-conditioning refrigeration system of wasted heat recycling , pump heating system of residual cold recycling, sanitary sewage of wasted heat recycling ,and boiler wasted heat recycling ,which are the potentiality of energy recycling project. And the heat pump technology is a kind of better means to heat recycling and utilization

3.3 Taking Advantage Of Relevant Policies As Far As Possible To Reduce Energy Costs

In order to save energy use and reduce the pressure of energy supply, the government or the regional electricity management department has often introduced a lot of the related policies of encouraging energy saving facilities, such as the cold storage and heat storage technology to enjoy peak and valley price policy and other policies. In some parts of the hotel, as long as using energy-saving equipment ,which can also be charged in accordance with preferential tariff charging . Therefore, the hotel can take advantage of these favorable policies to further reduce their energy costs in the actual operation. [9]

REFERENCES

[1]Lixin Ruan. Research on the hotel industry, energy saving evaluation method-Jiangsu Province. Jiangsu Commercial Forum, 2011,(4).

[2]Xia yu. Energy Saving proceeds. Urban Development, 2012,(09).

[3]Liping Xia. Sub-metering and energy management platform mobile classroom visits well-known enterprise energy management, energy-site seminars - Into Ankerui. Electric automatic transmission, 2013, (03).

[4]Zhou Ming Zhen. On energy saving and energy management of hotel. Energy Engineering. 2000, (05).

[5] Junxiu Su. Consciousness of hotel energy management. Modern business. 2010, (26).

[6]Cai Jing. Strengthen efforts to improve the economic benefits of hotel energy management. Guizhou Commercial College. 2005, (03).

[7] Xidi Yu. Energy management implementation programs for five-star hotel. Value Engineering. 2010, (21).

[8] Jiangang Huang. Research about Our tourist hotel energy management and Conservation Strategy. Special Zone Economy, 2006, (10).

[9]Shuliang lou. Experience of hangzou Dragon Hotel facilities and energy management. Energy Engineering, 2000, (03).

Industrial Ecologicalization Estimation of Poyang Lake Based on DEA

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Abstract: Based on the theory and methods of DEA, this paper estimates the development level of Poyang Lake industrial ecologicalization. It is found that although the ecological development of Poyang Lake Industry has made a great progress, there are still many problems yet to solve, namely, redundant inputs, insufficient outputs and severe pollution. Proceeding from objective realities, this paper pushes forward related suggestions such as improving the technology to reduce and control environmental pollution, strengthening the propaganda on environment-protecting awareness and taking practical methods to improve the ecological development of Poyang Lake.
Keywords: Data envelopment analysis, Method, Industrial ecologicalization, Estimation

1. INTRODUCTION

Poyang Lake Eco-economic Zone covers a total number of 38 counties, including three major cities, namely, Nanchang, Jingdezhen and Yingtan, sub-cities like Jiujiang, Yichun, Shangrao and a few counties of Jian. Its land area has reached as large as 51 200 square kilometers with a population of nearly 20 066 000. On Dec, 12th 2009, the Chinese State Council officially approved “Project on Poyang Lake Eco-economic Zone”, a mark that it had been upgraded into a national strategy. With ecologicalization as its characteristic and development as its core, this project aims to work out a road for sustainable development where the economy and ecology grow harmoniously. Through the relevant policy support and a good use of its exceptional ecological advantages, the ecological construction of Poyang Lake industry has made a remarkable progress. However, these achievements also bring a series of problems along, such as similar industrial structure, incomplete ecological chain, excessive emission of three industrial wastes, and low recycle and utilization efficiency of rejected materials and so on. Generally, the Poyang Lake Eco-economic Zone still lacks an organic industrial chain and cluster between various industries and its internal enterprises. Currently, it has possessed ten provincial eco-industrial parks, accounting for 50% of the whole province. Although it is entitled ecological park, essentially most parts of it have never developed ecologically. All of these lead to an increasingly sharp contradiction between social economic development and environmental protection. Therefore, it is badly in need of handling the relationship among population, resources and environment appropriately. Based on the above discussion, this paper aims to estimate the current state of actual efficiency and operational status on the ecologicalization of Poyang Lake industry, conduct an in-depth analysis on the existing problems, and finally come up with practical countermeasures. This is actually a critical issue which must be taken into consideration by our national government, enterprises, and academic community in the 12th Five-Year Plan.

Based on DEA and fully applying its advantages of comprehensive estimation on multiple inputs and outputs, this paper estimates the development level of Poyang Lake industrial ecologicalization. According to evaluation model promoted, a series of countermeasures would be proposed to improve the efficiency on industrial ecologicalization, hoping to provide a basis and suggestions for setting related goals.

2. BASIC IDEAS OF DATA ENVELOPMENT ANALYSIS (DRA) AND ITS APPLICATION IN THE ESTIMATION OF INDUSTRIAL ECOLOGICALIZATION

Data Envelopment Analysis (hereafter DEA), an academic field involving operational research, management science and mathematical economics, was first eshed in 1978 by Charnes and Cooper [1]. DEA mainly applies mathematical programming to estimate the relative efficiency between related departments or decisionmaking units (hereafter DMU) with multiple inputs and outputs. It is not only a nonparametric but also an effective method for the estimation of production frontiers. Its distinctive feature lies in that there is no need to consider the function relationship between inputs and outputs or to prior estimate any parameter and hypopaper on various weights. In this way, the subjective factors could be avoided. At the same time, the input and output efficiency of DMU could be worked out directly through the ratio of weighted sum between inputs and outputs. Supposed that there are n independent DMUj(j=1,2,,,n), with m kinds of inputs Xj=(x1j, x2j, , , xmj)T and s kinds of products as the outputs Yj=(y1j, y2j, , ,ysj)T, the whole producing activity thus could be demonstrated by (x,y). In order to measure the output efficiency of an enterprise, Farrell introduced a new concept of “production frontier”. Firstly, set (x, y)∈T, if there is no (x, y′)∈

T and y′≥y, (x, y) is an effective productive point, meanwhile (x, y) is also positioned on the production frontier. The production frontier is referred to as a hypersuface composed of all of the effective productive points (x, y). It is used to demonstrate the maximum outputs acquired by each input combination, fully reflecting the current state of technology application in an industry. In order to estimate the efficiency of each DMU, all one has to do is to measure the distance between each productive point and production frontier. The longer distance is, the less effective DMU (productive point) measured is, which means the lower efficiency. Otherwise, it means the higher efficiency. When the distance between them reduces to zero, i.e., the productive point is above the production frontier, the productive point is considered effective.

In China, although the estimation research on eco-economic development is just initiated, many scholars have been conducting the research about ecological performance based on DEA. Lv Bin and Yang Jianxin (2006) reviewed the history of computing method on ecological efficiency as well as its application [2]. Zhang Bing (2008), Wang Bing (2006) and some other scholars introduced environmental factors and then conducted an analysis on total factor efficiency and its composition [3][4]. Yang Wenju (2008) carried out a static analysis on ecological efficiency measure based on DEA [5]. Du Chunli and Cheng Jinhua (2009) introduced pollution emission into DEA model as undesired input and combining Malmquist's productive index made a dynamic analysis and estimation on the circular economic efficiency of part of Chinese iron and steel enterprises [6]. Zhu Jinyan and Wei Xiaoping (2010) adopted DEA model to estimate the comprehensive and technological efficiency of mineral resources. They also made a further analysis on the reasons leading to the poor resources allocation [7]. With the above researches focusing on the dynamic estimation of eco-economic efficiency as the good beginning, we will get some enlightenment on relevant analysis in this respect. However, most of the previous researches are specific to a particular industry and in short of the estimation research on the comprehensive development of regional industrial ecologicalization. With this in mind, based on production function Y=F (K, L) and combining the characteristics of industrial ecologiclization, this paper is intended to apply DEA model into computing the development of industrial ecologicalization of Poyang Lake Eco-economic Zone, conduct an estimation and finally propose relative improvement measures accordingly.

3. ESTABLISHMENT of THE EVALUATION INDICATORS on POYANG LAKE INDUSTRIAL ECOLOGICALIZATION

In terms of traditional DEA model, whether CCR model or BCC model, when estimating the efficiency of DMU, only capital, labor force, output and earnings and some other economic indexes are considered as input/output(desirable inputs/ outputs). It is generally believed that the less inputs of DMU the better or the more outputs the better. Indexes like this are often considered as desirable inputs/outputs. However, for ecological estimation, desirable inputs/outputs and undesirable inputs/outputs often coexist. Take the steelmaking plant as an example, it would discharge huge amount pollutants including SO2, CO2 and dust. Here steel serves as the desirable outputs whereas SO2, CO2 and dust as undesirable outputs. When estimating the efficiency of steelmaking plant, it is generally believed that the less pollutants the better. Similarly, in the industrial ecologicalization estimation of Poyang Lake, due to the existence of undesirable inputs /outputs, it is not appropriate to simply use the traditional DEA model to handle these indexes. Hence based on the above discussion, a developed efficiency-system of industrial ecologicalization is designed in this paper, where the output indexes involve desirable outputs and undesirable outputs, the input indexes consist of labor input, energy input, capital input and water resource input (See Tab. 1).

TABLE 1 EVALUATION INDEX SETTING AND DESCRIPTION OF ECOLOGICAL DEVELOPMENT OF POYANG LAKE INDUSTRY

Category	index	unit	description
Input	Fixed asset investment	100 million	Capital input
	Social employment figure	10 thousand	Labor force input
	Comprehensive energy consumption	10 thousand tons of standard coal	Energy input
	Water consumption	100 million cubic meter	Water resource input
Desirable output	Added value in primary industry	100 million	Output in primary industry
	Added value in secondary industry	100 million	Output in secondary industry

	Added value in tertiary industry	100 million	Output in tertiary industry
	Comprehensive utilization rate of industrial solid wastes	%	Output level of comprehensive utilization of industrial wastes
Undesirable output	Waste water discharge	10 thousand tons of standard coal	Waste water discharge
	Sulfur dioxide emission	Ton	Carbon dioxide emission
	Smoke and dust emission	Ton	Smoke and dust emission

A. Input

This index is mainly used to inspect the condition of inputs in industrial ecologicalization. In this respect, four sub-indexes are designed and put into this estimation, in which fixed asset investment and social employment figure are used to estimate the input on capital and labor force, comprehensive energy consumption for energy input. In addition to energy consumption, water resource also serves as an important input for the development of various industries. In particular, the consumption of water resource would exert a direct impact on the amount of waste water discharge. So we designed the index of water consumption. ① fixed asset investment. This index describes the scale, structure and development speed on fixed capital investment. The change of it indicates the process of related industry and investment effect. ②Social employment figure. This index is the mean of employment figures at the beginning of a year and at the end of a year, adopting the annual average of social employment figures in the counties (city, district) of Poyang Lake Eco-economic Zone as its input index on labor force. It indicates the condition of practical utilization of the whole labor force resources in the economic zone within a certain period. ③Comprehensive energy consumption. This index applies the comprehensive energy consumption within the counties (city, district) of Poyang Lake Eco-economic Zone as the proxy variable. It is referred to as the aggregation of primary energy of particular energy consumption system, respectively converted according to speculated measurement and units from practically consumed-coal, refined oil, electric power and some other kinds of energy in a certain period of time. This index covers a wide range of aspects including terminal energy consumption, energy losses during processing and conversion as well as energy losses. Comprehensive energy consumption could best reflect the changes of industrial ecology efficiency. ④ Water consumption. This index describes the total water consumption in agriculture, industry, daily life, and ecological field in a certain period. It serves as critical quantitative index for the input on industrial ecologicalization.

B. Desirable output

This index mainly investigates the condition of output under the requirements of ecological development. Hence, comprehensive utilization rate of industrial solid wastes should be added into this index based on the three existing indexes including added value in primary industry, added value in secondary industry and added value in tertiary industry. It is referred to as how much the comprehensive utilization of industrial solid wastes accounts for the production of industrial solid wastes. It indicates that how well the solid wastes convert into available resources, energy and other raw materials. The higher utilization rate the better industrial ecological condition.

C. Undesirable output

As is known, industrial development brings with various pollutants like waste water, waste gas and some other waste materials. As the desirable output has already covered comprehensive utilization rate of industrial solid wastes, here we only need to adopt three indexes namely waste water discharge, sulfur dioxide emission and smoke and dust emission.

4. DEA MODEL for THE ESTIMATION of POYANG LAKE INDUSTRIAL ECOLOGICALIZATION

With the development of DEA in the past half-century, many scholars have been dedicated into its further expanding, advancement and a lot of new models thus are developed. However, the fundamental theory remains the same. What's more, most of the researches apply the basic CCR model and BOC model simultaneously. In the former model, the comprehensive efficiency is measured assuming that the returns to scale are fixed. Yet as it is impossible for the fixed returns to scale to be suitable for all of the production process of DMU, Banker, Charnes and Charnes [8] (1984) no longer supposed the returns to scales is fixed and turned to consider it as a variable. Raising this as a hypopaper, the pure technical efficiency and the scale efficiency could be easily separated. The scale efficiency of DMU is just calculated through dividing the efficiency value in CCR model by the one in BCC model. In this way, in the case where production technology is variable, we could estimate that whether DMU is producing under the best scale of production. Besides, the result of BCC is the same with CCR.

$$\underset{u_r,v_i}{Max} h_k = \sum_{r=1}^{s} u_r Y_{rk} - u_0 \qquad (1)$$

$$\text{s.t.} \frac{\sum_{r=1}^{s} u_r Y_{rj}}{\sum_{i=1}^{m} v_i X_{ij}} \le 1,\ j = 1,2,\ldots,n$$

$$u_r, v_i \ge \varepsilon \ge 0 \quad , \quad r = 1,2,...,s \quad , \quad i = 1,2,...,m$$

Using dual transformation to cut down some constraints, as follows

$$\underset{\theta_k,\lambda_j}{Min}\, h_k = \theta_k - \varepsilon\left[\sum_{i=1}^{m} s_{ik}^{-} + \sum_{r=1}^{s} s_{rk}^{+}\right]$$

$$\sum_{j=1}^{n} \lambda_j X_{ij} - \theta_k X_{ik} + s_{ik}^{-} = 0 \qquad (2)$$

$$\sum_{j=1}^{n} \lambda_j Y_{rj} - s_{rk}^{+} = Y_{rk}\ ,\ \sum_{j=1}^{n} \lambda_j = 1$$

$$\lambda_j, s_{ik}^{-}, s_{rk}^{+} \ge 0 \quad , \quad j = 1,2,\ldots,n \quad , \quad i = 1,2,\ldots,m\ ,\ r = 1,2,\ldots,s$$

In equation (2), s_{ik}^{-} represents the slack variable of input, s_{rk}^{+} represents the slack variable of output, λ_j is the multiplier assigned to each DMU, θ_k reflects how much the inputs of DMU scale down. When h_k equals to 1, DMU has comprehensive technical efficiency. When h_k is less than 1, DMU has no comprehensive technical efficiency. As for the inefficient unit k, its coordinates on the production frontier for estimation are $(\sum_{j=1}^{n} \lambda_j^* X_{ij}, \sum_{j=1}^{n} \lambda_j^* Y_{rj})$, whereas the constraints in equation (2) display $\sum_{j=1}^{n} \lambda_j^* X_{ij} = \theta_k^{\,*} X_{ik} - s_{ik}^{-*}$ and $\sum_{j=1}^{n} \lambda_j^* Y_{rj} = s_{rk}^{+*} + Y_{rk}$. Hence, some adjustments must be made on the inefficient units in pursuit of the best efficiency:

$$\Delta X_{ik} = X_{ik} - (\theta_k^{\,*} X_{ik} - s_{ik}^{-*}),\ i=1,2,\ldots m \quad (3)$$

$$\Delta Y_{rk} = (Y_{rk} + s_{rk}^{+*}) - Y_{rk},\ r = 1,2,\ldots,s \quad (4)$$

That is to say, the inefficient DMU should decrease the input ΔX_{ik} and increase the output ΔY_{rk} simultaneously in order to achieve the best efficiency. The above are the analysis of input-oriented slack variables in BCC model.

5. ESTIMATION on THE ECOLOGICAL DEVELOPMENT of POYANG LAKE INDUSTRY

This study is conducted based on the data from "Poyang Lake Eco-economic Zone 2010 Statistical Yearbook". However, as the city of Gongqingcheng was officially approved by our state council to be county-level city, some administrative regions thus had been adjusted for the transformation. Hence some of the regions got no record and the related data was not included into this study. Therefore, this sample data and analysis covers a total number of 37 counties (city, districts) except the city of Gongqingcheng.

After collecting the research data and feeding it into BCC model, we could acquire the CRSTE, VRSTE and SE finally. We first fed the input-output data of the 37 counties (city, district) covered by Poyang Lake Eco-economic Zone into Deap 2.1 for DEA, then acquired and disposed the above three values. Finally we got the picture of each efficiency value.

Based on the analysis of the above three efficiency values, it is found that:

(1) The ecological efficiency of Poyang Lake Eco-economic Zone Industry is relatively high, which has reached 0.832 and 0.929 in 2009 and 2010 respectively. This demonstrates that its economy and ecology has made a significant progress on harmonious development. This owes to the construction of ecological industry in recent years and the implementation of the scientific and innovative "Six Major Projects". All of the above has provided a good environment and firm technological support for the development of industrial ecologicalization.

(2) In terms of the average variation, from 2009 to 2010, the technical efficiency of Poyang Lake Eco-economic Zone industry has increased remarkably, mostly driven by the VRSTE and SE. However, the productivity of general production factors and technical transformation decline compared with the previous year. Among the 37 samples, only two of them suffer a decrease of industrial technical efficiency (respectively Qingshanhu District and Duchang County), while the remainder all witness a rise in technical efficiency. With respect to technical transformation, only 7 counties (city, district) are on the rise, illustrating that most of the counties (city, district) see a decline. Similarly, except the Wannian County, the VRSTE of the rest has made an improvement. As for SE, only five of the counties drop down. In terms of the productivity of total production factors, 20 counties are rising and 17 descending. This shows that on one hand, in the current stage of economic development, exportation, investment and their role in driving the economy account for a large proportion in the composition of the aggregate demand in economic zone. This means that the development of

productivity of total production factors is lack of internal stable conditions. On the other hand, the diminishing marginal returns of inputs results in its limited potential to drive economic development. What's worth mentioning is that the absence of scale eco-economy may pose a direct impact on resources utilization and recycling cost of waste materials [9]Therefore, we should improve the technology and core competiveness in order to achieve better scale efficiency. This is the key for the development of industrial ecologicalization in economic zone.

(3) In 2010, the redundancy of fixed asset investment, employment figure, comprehensive energy consumption and water consumption reached 88.3 million RMB, 9.67 thousand people and 190.15 thousand tons of coals, 54.5 million cubic meters. While the above indexes in 2009 were 218.6 million RMB, 8.81 thousand people, 169.61 thousand tons of coals and 57.2 million cubic meters.

(4) The desirable outputs of added value in primary, secondary, tertiary industry and the solid waste materials are still somewhat insufficient. Cases like this even take up 50% of all the samples. Combining the above data with the slack variance of inputs, it is found that the outputs show great deficiencies. Compared with input redundancy, Poyang Lake Eco-economic Zone is faced with more serious issues of insufficient outputs. As is seen in 2010, added value in secondary, tertiary industry and comprehensive utilization of solid waste material respectively lack 156 million RMB, 538.4 million RMB and 12.31%. While these values in 2009 arrived at 20.6 million RMB, 209.9 million RMB, 773.4 million RMB and 44.4%.

On the other hand, except a few counties (city, district) on the efficiency frontier, most of counties have a considerable redundancy of waste water discharge, sulfur dioxide emission as well as smoke and dust emission. In 2010, the above three kinds of undesirable outputs reached 5364.58 thousands of tons, 562.5 tons and 306.324 tons respectively. In 2009 the figures were 992.06 thousands of tons, 480.423 tons and 140.874 tons. Based on the above three points, one can draw the conclusion that although the efficiency of industrial ecologicalization has been enhanced, there is still room for further improvement as evidence by the redundant inputs and insufficient outputs. It requires us to strengthen technological innovation and increase related inputs in cyclic economy, including discouraging resource-consuming technology, encouraging resource-utilizing technology, applying alternative sources technology, cutting down the use of technology causing environmental pollution and fostering technologies against pollution and so on [10].

6. SUGGESTIONS for PROMOTING THE ECOLOGICALIZATION of POYANG LAKE INDUSTRY

The empirical analysis has shown that although Poyang Lake industry has made a progress, it is still faced up with a series of problems, constraining its ecological development. Hence, making out related measures to promote the Poyang Lake industrial ecologicalization developing in a sustainable and healthy way has turned out to be an urgent issue.

A. We should proceed from the realities and set a rational and challenging goal.

The foreign experiences have shown that it is a must to select and exploit a field as a leading project according to our national and regional conditions. Then by exploiting the rich resources of Poyang Lake and its water basin and based on the current state of industrial development, an industrial development pattern with unique characters must be gradually developed. Therefore, the ecological process must be combined with the specific situation of local politics, economics and society, especially the industrial current situation and foundation. We should select a field as the beginning and carry out the work from it step by step. In recent years, with the strengthening awareness on ecological protection and using resources efficiently and intensively, all the regions have begun actively introduce new enterprises into the industrial zone. Now the major industries have been centered in the industrial zone (industrial park and base). However, most parts of it haven't formed a block-shaped economy just like Zhejiang province and the towns specialized in certain field. Our Poyang Lake Industrial Zone is still facing the problems such as poor industrial organization and relatively small enterprise scale. For instance, only four enterprises ranked into the national top 500 in 2010, namely, Jiangxi Copper Corporation, Xinyu Iron & Steel Group, PX Steel Industry Co.,LTD and Jiangling Motors. To sum up, the well-developed industries mainly cluster in industrial zone (industrial park and base). The current conditions are still not yet ripe enough to carry out ecological construction regional wide. So it is proper for us to select a key area as pilot project, guiding the ecological construction of the rest parts and finally spread that into the whole region.

B. Encourage Scientific Innovation and Speed up the Transformation of Scientific and Technological Achievements.

Transform the economic development mode. Both the economy and ecology rely on science and technology, which serve as the core to build nationally designated Eco-Demonstration Region. Currently, it is still lack of high-tech researches and development centers as well as science and technology demonstration garden focusing on ecological protection, economic development and industrial characteristics. Due to its little impact on other related industries and poor independent and innovative power, the whole Poyang Lake Eco-economic Zone has not formed a complete

independent and innovative system. To promote the ecological development, we must focus on strengthening the research and development on energy-saving, water-saving, new material technology, biological technology and related techniques. We should also accelerate transforming scientific and technological achievements so as to improve the whole level of technology on resource conservation and environmental protection. At the same time, based on the development of cyclic economy, we should strive to develop environmental protection industry. As a new economic growth area, it is regarded as one of three major areas with the greatest potential and shares the name with biological technology and information technology. By means of using waste water, waste gas and waste materials comprehensively, environmental industry could make the best of various resources and dispose those unrecyclable pollutants harmlessly. All of these will not only increase economic profits, reduce environmental pollution but also provide more job opportunities, thus achieving more social benefits. In addition, our national research institutions and universities should active carry out related scientific researches to meet the actual requirements for the development of key industries. A targeted scientific and technological research and innovation could contribute to eliminate those backward techniques which consume a great energy, materials and causes severe pollution. In this way, the resources would be better utilized and the ecological environmental destruction would be reduced. While enhancing our economic benefits, the energy and material consumption will also be cut down. In addition, integrating various scientific resources contributes to raising the awareness of scientific institutions serving enterprises, building the mechanism combining production, teaching and research. At last, we could turn the scientific technology into real productive force.

C. Make New Fiscal, Tax and Financial Policies, Expand Channels for Capital Investment.

Although Poyang Lake Eco-economic Zone has been raised into our national strategy, no specific fiscal and tax policies has been made and implemented like Tianjin Binhai New Area and Shanghai Pudong New Area and some other national Pilot Zone for Overall form. Currently, despite principal economic indexes a little higher than the average level of the whole province, the economic scale is still too small. Especially after being positioned as ecological economy, it is not possible to follow the old road featuring increasing input, expanding production scale and taking measures after polluting the environment. It is necessary to realize our goal by means of upgrading industrial structure, introducing and developing resource-saving and environment-friendly industry. This process requires a large amount capital investment, scientific research and development as well as environmental protection. What's worse, it is hard to achieve only based on the existing industrial foundation and corporate strength. Our central, provincial and municipal governments should work together to establish a clear and specific fiscal and tax system to stimulate industrial development. Meanwhile, given the underdeveloped regions, the economic zone calls for help from capital market, which will provide money for the industrial ecologicalization process through financing.

D. Guide Public Opinions, Strengthen Propaganda and Supervision, Enhance the Social Source-saving and Environmental-protection Awareness.

Within the scope of Poyang Lake Eco-economic Zone, it is imperative to make good use of public opinion and mass media to strengthen propaganda and education work for building an economical society. We should improve the peoples' awareness on source-saving, environmental protection and conversation by combining its importance with relative knowledge, so as to build social public moral codes featuring green production, moderate consumption and environmental protection. To accomplish the above goals, first, we should educate people and the units at all levels to reduce wastes emission to a minimum degree. Second, cut down the packaging wastes as much as possible. We should do away with over-packaging and guide the citizens to achieve environment-preserving or environment-friendly consumption. Third, raise the awareness of people to reutilization and multi-utilization. Whatever it is disposable consumable or durable goods, we should use it as much as possible. It is critical of raising general public's awareness on cyclic economy and expanding participation for forming a solid social opinion foundation on ecological consumption during industrial ecologicalization process.

REFERENCES

[1]Charnes, A., Cooper, W.W., Rhodes, E, Measuring the Efficiency of DecisionMaking Units, European Journal of Operational Research, 1978 (2):429～444.

[2]Lv Bin, Yang Jianxin, Progress and Application on Estimating Ecological Efficienc. Acta Ecologica Sinica, Acta Ecologica Sinica.

[3]Zhang Bing, Bi Jun, Huang Heping, Estimation of Corporate Ecological Efficiency Based on DEA: A Case Study of Fine Chemical Park in Hangzhou Bay, Systems of Engineering-Theory & Practice, 2008 (4): 159-166.

[4]Wang Bing, Wu Yanrui, Yan Pengfei, Environmental Regulation and Total Factor Productivity: A Case Study of APEC, Economic Research Journal, 2008(5):19-33.

[5]Yang Wenju, Environmental Performance of Chinese Industry: An Empirical Analysis Based on

DEA, The Journal of Quantitative & Technical Economics, 2009 (6): 87-98.

[6]Du Chunli, Cheng Jinhua, Zou Weijin, An Empirical Analysis on the Scale Efficiency of Chinese Steel & Iron Plants, Statistics and Decision, 2009 (2):79-83.

[7]Zhu Jinyan, Wei Xiaoping, Estimation on the Resources Allocation Efficiency of Mining Industry in Heilongjiang Province, Resources & Industries, 2012,12 (2): 145-151.

[8]Banker, R.D.A. Charnes, and W. W. Cooper, Some Models for Estimating Technical and Scale Inefficiencies in Data Envelopment Analysis, Management Science, 1984,30(9):1078-1092.

[9]Yang Touping, An Analysis on the Economic Development Model in Underdeveloped Regions and Enlightenment to us- A Case Study of Hukou and Pengze in Poyang Lake Eco-economic Zone, Economic Geography, 2012(1): 13-18.

[10]Zhang Wei, Environment and Resource Restriction and Resource-oriented Economic Development, Contemporary Finance & Economics, 2008(10):23-29.

Training of Art Design Professional Talent in Cultural Creative Industry

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Abstract: Cultural creative industry that takes culture resource, creative idea, creative class, business management as the basic elements is gradually expanding in China. Creative talent as a new capital becomes the core conditions of cultural and creative industry success. However, the biggest bottleneck of China's cultural and creative industry is the extreme lack of creative talent, especially in the training of talents in combination with the market. In this paper, to make the art design professional talent meet the needs and development in the future, training of art design talents and cultural and creative industries demand and development is combined taking the height of cultural and creative industries. It is concluded that attentions shall be paid to the content and direction of cultivation research when training the art design professional talent under the environment of cultural and creative industry.
Keywords: cultural creative industry; culture; creativity; talent training

1.DEVELOPMENT OVERVIEW OF DOMESTIC AND OVERSEAS CULTURAL CREATIVE INDUSTRY

The British government began to promote the trend of cultural creative industry in 1997 in order to get rid of the sustained economic downturn; later "Cool Britannia" became the UK's new national image and economic development momentum. As the old industrial city Manchester became the "Creative Studio", Liverpool gained the title of "European Capital of Culture", the cultural policy of Cool Britannia had brought life to the ancient the UK. In 2000, creative industry became the UK's second largest industry, second only to financial industry, and it further ranked first in 2003. Not merely the UK benefited from setting cultural creative industry as a national policy, the US has integrated cultural strategy in the veins of social and economic development, forging a rock-firm global monopoly position in television, music and other copyright-based industries. In Asia, the real success is achieved in Korea, East Asia, South Korean President Kim Dae-Jung proposed a "saving the nation through culture" slogan facing the second economic crisis hitting South Korea. In 1998, Ministry of Culture and Tourism was established in Korea, in 2001, a cultural industry scheme--"Development of Korean Wave" was issued by the Ministry, which officially promotes film, animation, Internet, mobile phones and other content-related cultural industries nationwide in the name of "Korean Wave", opening a sweeping global craze of "Korean Wave", and later stimulating the output of tourism, agriculture, Korean cuisine, plastic surgery and other related industries. As a small country lacking natural resources, Korea revived national self-confidence, improved the country's soft power and became a global-influencing cultural output power in just a few years by promoting cultural creative industries. [1]

As the American psychologist John William Atkinson once put it in 1998, "Capital Times has ended, and creative time has come".[2] Facing worldwide countries' achievements in cultural creative industry, China formally proposed cultural industry in the "Tenth Five Plan" in 2000, and China's first *Plan on Reinvigoration of the Cultural Industry* was officially released to society through deliberation by an executive meeting of the State Council in 2009.[3] Besides, Ministry of Culture proposed that cultural industries shall have a target of an average annual growth of 15%, corresponding development strategies to establish culturally grand provinces were also introduced by provinces, stating that cultural industry growth shall exceed GDP growth rate, and the era of Chinese cultural creative industry is coming soon.

In the industrial age, land, labor and capital are the three major economic elements in industry. However, in the era of cultural creative industry, culture is the core element, creativity is the driving force and talent is the condition for success, which together constitute new industrial elements.[4] At present, cultural creative industries in most Chinese regions are still resting on the level of cultural industry and are yet to upgrade and transform to cultural creative industries with more vitality, but certain theoretical research has been made. Moreover, reports, published works and related cases in Western countries regarding cultural creative industry can be used as a reference. China possesses long-standing and far-reaching culture and history, these advantages of cultural accumulation can be well utilized for the development of industry. However, the extreme lack of Chinese cultural

creative industry is the biggest bottleneck of creative talent, in particular, research on the training of cultural creative industry talents is still insufficient. This paper aims at presenting research and exposition on how to enable the training of art design creative talents to adapt to future needs and development of cultural creative industry.

2. TRAINING OF ART DESIGN TALENTS IN CULTURAL CREATIVE INDUSTRY

The global leading network provider Cisco Systems (CISCO) believes that a world-class engineer and five colleagues will be able to go beyond 200 ordinary engineers.[5] In cultural creative industry, as a new economic capital, the significance of talent has gone beyond monetary capital and productive capital. The US public professor Richard Florida defined Creativity Index (3Ts) as talents, technology and tolerance in his book *Cites and the Creative Class*, wherein talents ranked first. However, creativity is not something out of nothing, fundamentally it results from the edification of culture and art as well as interaction between society and culture. Thus, to a certain extent, creative industry is based on high development of education, and "education has become the secret for accumulating original creativity". [6]

In China, training of art design talents has always been inclined to training on design and conception of a single field, with weak awareness of cultural mining and transforming, deficient realization of the connection with industrialization, untight combination with the market, lack of "collaborative innovation" spirit, obscure concept of art and technology integration, and the lack of practical interfaces between acuity and related operations. Artistic products are lack of social interaction and design consciousness to attract public participation. If the above-mentioned problems are not resolved, art design students in colleges and universities will lack the design philosophy and competitiveness that match the era progress in the future environment of cultural creative industry.

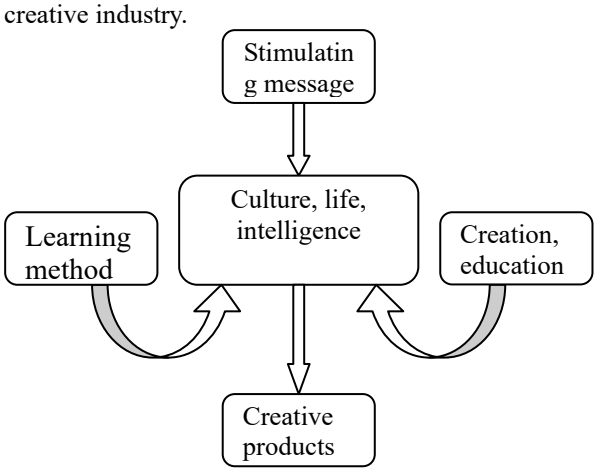

Figure 1 Schematic diagram of cultural creative products production2.1 Culture Is King

If we assimilate creativity to soul, culture should be the flesh of creative industry. As culture is the foundation of cultural creative industry, the quantity of cultural resources will be proportional to innovative ability.[7] China has a cultural history spanning five thousand years, if we shall take advantage of the resources for creativity, brilliant creativity differ from other countries would be produced for sure. By viewing the successful cases in international cultural creative industry, the United States mainly relies on copyright, the UK relies on creativity, while Japan and South Korea feature culture brands, which evolve cultural creativity into commodities and carry out global marketing through extensive use of local traditional ethnic culture. Therefore, cultural contents with original creativity are the core value of cultural creative industry, innovation without cultural contents is merely a bunch of worthless shells no matter how large the product quantity is.[8]

Artist Hu Xiangcheng believes that if a nation loses its long-standing cultural memory, everything needs to be re-started, then re-learning and learning outcomes will be very rough. Therefore, culture and creativity need to stand on the shoulders of giants, in order to gain further growth. Even making a chair takes generations' sedimentary accretion, induction and improvement to complete. Taking culture as a resource, especially mining and application of traditional regional culture, are the key points in cultural creativity. However, if you blindly adopt bringism, simply moving traditional cultural assets to apply, you cannot get recognition of the social majority. Because any cultural heritage or resource cannot naturally be a product or commodity, cultural assets must go through the baptism of times and modern interpretation in order to get attributes of the times, and to become a cultural product with rich intellectual property.[9] Hence, while training art design talents, we shall not only pay attention to culture edification and interpretation of cultural contents in design, but also lay emphasis on mastering development capabilities and skills of popularization of classical culture.

On a practical level, we should draw on local materials, excavate, neaten, promote and interpret regional cultural resources and cultural heritage, which will not only enrich and expand the cultural accumulation thickness of regional cultural products, but also has a practical significance in the protection, inheritance and development of regional cultural resources of the country. Take one of China's four most famous jade--Liaoning hsiuyen jade as an example, there are abundant hsiuyen jade resources, ranking first in the world, with profound cultural heritage and is known as "best Chinese jade". However, the slow expansion of regional culture and shortage of creative designing talents lead to lack of cultural connotation in hsiuyen jade products,

resulting in a long-term status of large yield, second-rate quality and low-price at home. Furthermore, with low added value of products, hsiuyen jade failed to win recognition of high-end market and academic market. As a local art design university unit, we can start from the existing cultural resources, take advantage of the convenience of resources in the aspects of study, research, extraction, interpretation, application, etc., enabling it possible for art design teaching to excavate, research and expand traditional cultural resources. Meanwhile, it contributes to form an integrated "industry-university-research" industrial chain linking local industry and academic institutions, assisting the establishment and development of local cultural creative industry.

2.2 Collision Of Technology And Art

The word art comes from the Latin word ars, part of its original meaning refers to skills, methods and techniques. Einstein believed that only art and science can change the real world of human and realize the dreams of mankind, science and art are not exclusive, but fellow travelers.[10] Early in the 1920s, the founder of German Bauhaus School--the birthplace of world's art design--Walter Gropius proposed a concept of "new unity of art and technology", and incorporated the concept into the early Bauhaus educational system. Drawn by Paul Klee in 1922, Bauhaus teaching philosophy and structure sketch clearly indicated the syncretic relationship between material research and theory teaching, integrated all creative activities facing a common goal, which contained re-integration of the separated and irrelevant disciplines and methods.[11]

In the era of cultural creative industry, the basic content of creativity is to strengthen the integration of art and technology, technology products become more wonderful because of art, and artistic products usually possess high technological properties, two seemingly different academic disciplines often tend to produce unique creativity after interaction and fusion. Therefore, interdisciplinary cooperation has become a means and method of generating creativity. In 1994, Yuan Ze University in Taiwan--the first university that carried out cross-strait college and university project exchanges received a graduate student Zeng Hua from the Art Institute of Chongqing University, since the instructor went abroad, Zeng Hua, originally learning visual design, was guided by Professor Wang Liwen who was a major of machinery. There were many pictures that observe flow fields in Professor Wang's experiments, Zeng Hua and Professor Wang appreciated the artistic beauty from these ordinary experiment intermedium, and blended the two academic disciplines of art and machinery relying on a little bit of communication theory, jointly making a fluid sculpture and integrating cold technology and art to a more innovative creation.[12] Fluid art sculpture has become an important outcome of cross-strait college and university exchanges, and its success shows us the feasibility of blending science and art, as well as the unique spark of creativity brought by interdisciplinary cooperation.

Another important approach to combine art and technology is to make full use of advanced electronic information resources. The importance and application of data information technology will assist designers, production personnel, management staff to achieve better collaborative innovation, share artistic product data, and achieve cooperative work from products' requirement definition, conceptual design to manufacturing and other product innovation links, so as to shorten design cycles, optimize production processes and reduce costs.

2.3 Collaborative Innovation

Seen from the successful experience of research-based education of colleges and universities in developed countries, the cultivation of top-notch talent and "collaborative innovation" is the trends of today and the future.[13] If art design products are to create value, they must enter the market as a commodity, an industry will be formed upon product quantity reaches a certain size, once an industry takes shape, it will no longer rely on individual artists. Therefore, any kind of design will be an interdisciplinary team cooperative behavior under the industrialization of design and manufacture, art design personnel should not only have excellent design capabilities and skills, they should also have the capacity of communicating and collaborating with multiple related personnel of other areas, such as science and technology, manufacturing, management, business, venture capital, etc.

In the training system of art design talents, the practice of "collaborative innovation" may be embodied as school-enterprise collaboration, curriculum design-specific practice collaboration, teacher-student collaboration, art-technology collaboration, multi-disciplinary collaboration, superior team collaboration, etc., laying reasonable academic conservation and knowledge structure required by innovation through cross-sectoral integration of practice, disciplines and sections. In addition, "collaborative innovation" will further optimize the integration of resources in practical teaching, especially in school-enterprise collaboration, it is possible to achieve complementation of their strengths and resources, improving enterprise's acuity in absorbing and applying explicit knowledge and tacit knowledge, and facilitating academic institutions' knowledge appreciation and knowledge commercialization. Therefore, the introduction of "collaborative innovation" concept in the training system of art design talents plays an important role in driving the cultivation of contemporary art design talents with a new vision, and also has strategic significance for cultural industries in transforming

into cultural creative industries with more expanding force and vital force.

2.4 Interactivity Of Art Design

In a certain sense, design is a trial and error process that requires designers, users and producers to communicate and exchange repeatedly in order to generate a design prototype therefrom, or to gain new creativity and new ideas for perfecting the design; this cycle will not stop until the design completely matches the user. International experience has shown that many of the government's cultural strategies in the past laid more emphasis on cultural preservation, display and publicity of cultural works, as well as cultivation of writers and artists, but seldom paid attention to the psychological needs of consumers and market requirements.[14] Thus, causing it hard for artistic products to form an industry and to be recognized by society and the vast audiences. A Taiwan interactive designer--Ye Jinrui believes that design thinking includes three parts--science & technology, business and people, in which people represents the psychological impact brought by the direct participation of users.[15]

Designers no longer face an independent entity under an industry scale, but rather a wide range of domestic and overseas audiences. Huge quantity of production and attraction of the perfected product design have become the key to product success. Designers should consider not only the elegant visual appearance and personalization, but also functionality and usability, designers need to research and try repeatedly, finally enabling design to completely match the use. Therefore, a pleasant product should exceed its usability, not only can be used, but also can bring soothing interaction between people and products.[16]

2.5 Social Responsibility Sense Of Art Design Workers

Whether an artistic product is full of goodwill depends on the designer's artistic appreciation, public benefit mind as well as moral consciousness. A socially responsible designer, his inner mission will drive his design to show consideration for people's livelihood (for the convenience and favor of the people) with kindness and love, to care and commit to motivate growth of the entire social civilization and culture. Let the audience experience the convenience and joy of life from the thoughtful design, as well as appreciating the environmental protection, conservation, culture, civilization and other positive concepts from the product-conveyed information.

In 2013, Taipei World Trade Center hosted the 32nd Taiwan Design College graduation design exhibition, throughout the design of the new generation of Taiwanese designers, screening and consideration of the user's territory, climate, environment, career, life, mentality and all-dimensional elements are fully revealed. In which the green planting bonsai of O. S Life (Office Spirit Life) that won the Special Award for Design takes white-collar workers' mentality of easing sub-healthy physiological state and longing for nature as target projection. Its aesthetic image accommodates imagination, culture and technology elements, concentrating forest and earth scenery on desktop, selecting good seeds to be planted by user himself according to climate and environment, providing nutrient soil that only requires water, thus the image improves the interaction between bonsai and user as well as convenience of operation. In addition, environmental protection, finishing instruments, use and storage of mix-material and other additional features allow users to have more choices and convenience.[17] A lot of caring design is devoted in this small product, the creator's goodwill and caring of urban office workers is very impressive. A good cultural creative product will not only lead to commercial success, and more importantly, the good wishes it conveys will contribute to the growth of long-term social interests and people's livelihood. Therefore, it is of significance to improve cultural awareness and social responsibility of art design workers.

3. CONCLUSION

The aristocratic art era enjoyed by a few people has come to an end, and the mature of plebeian culture and consumption of artistic products marks the advent of the era of cultural creative industry. With the prosperity of cultural creative industry, creatives will rise as an important stratum in future Chinese society. And as an education system that incubates and cultivates creatives, it should keep pace with the times while optimizing the theory, contents, practices and approaches of creative education, project industrial elements in the development of talent training standing on the height of cultural creative industry, and become a new wind indicator for training art design talents in the era of cultural creative industry.

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REFERENCES

[1]Hu W.Y., Research on the Original Creativity of Cultural Creative Industry, Shanghai: Fudan Journalism School, 2009, 28.

[2]Atkinson. R. D, R. H. Court, The New Economy Index, Washington D.C: Progressive Policy Institute, 1998.

[3]Hu W.Y., Research on the Original Creativity of Cultural Creative Industry, Shanghai: Fudan Journalism School, 2009, 28.

[4]Li Junming's translation, Chris Smith: Creative the UK, Taipei: Five Concept Art Publishing House, 2005.
[5]Jin Y.P., Rising of Human Capital and Creative Class [EB/OL], Cultural Development Forum http//www. ccmedu, com.
[6]Du Mingcheng's Translation, Mihaly Csik Szentmihalyi: Creativity, Taipei: China Times, 2006.
[7]Zhang J.G., Cultural Resources and Cultural Competitiveness [EB/OL], Cultural Development Forum http//www.ccmedu,com, 2005.
[8]Hua J., Wu Z.N., et. al, Cultural Industry Competitiveness, Taipei: Yu River Culture Press, 2008.
[9]Zhang J.G., Cultural Resources and Cultural Competitiveness [EB/OL], Cultural Development Forum http//www.ccmedu,com, 2005.
[10]Li Puliang's Translation, John. Hawkins: The Creative Economy, Taipei: Collection Art Family Publishing House, 2003.
[11]Zhou S.Y., Building? Or Stage? , New Arts, 2013, (10): 44.
[12]Hu W.Y., Research on the Original Creativity of Cultural Creative Industry, Shanghai: Fudan Journalism School, 2009, 68.
[13]Song J.M., When "Cultural & Creative Design" Research-based Education meets the Context of "Collaborative Innovation", New Arts, 2013, (11): 20.
[14]Hu W.Y., Research on the Original Creativity of Cultural Creative Industry, Shanghai: Fudan Journalism School, 2009, 30.
[15]Ye J.R., Introduction to Interactive Design, Taipei: Taiwan Artist Publishing House, 2010.
[16]Jordan P.W., Pleasure with product: Beyond Usability, London: Taylor France, 2002.
[17]Qiu X.X., Close to People's Livelihood in Every Possible Way, Decoration, 2012, (10): 78.

Language Transfer in Second Language Acquisition--Review and Reflection

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Abstract: The role of mother tongue is considered as complicated but vital in Second Language Acquisition(SLA). Language transfer is not only a result but also a process related to various factors in the cognitive process of SLA. On the whole, the studies on the "myth" of language transfer are still in the early stage especially in domestic research field and the influence of L1 in SLA is worthy more effort to figure out, because the significance of it can not be undervalued. This essay is going to: Firstly, review the development of Language Transfer or the role of learner's mother tongue in second language acquisition on the base of the longitudinal studies and my own learning and teaching experiences. Secondly, I will share my perspectives on the role of L1 in SLA and provide suggestions in English language teaching on the base of my understanding of language transfer in SLA.

Keywords: language transfer; second language acquisition, interlanguage; markedness;

1. INTRODUCTION

Definition of Language Transfer

The term of "Language Transfer" (LT) stemmed from Learning Psychology. Some researchers believed "language transfer is an interference", some assumed it as a kind of "borrowing" of first language knowledge to achieve purposes in L2, and some stated "language transfer is a cross-linguistic influence". The different understandings of language transfer are good proofs of the attraction of language transfer and show the significance of the role of first Language in SLA. In this essay, language transfer is considered as a process that first language knowledge influences second language acquisition, and the process is continuing, changing and affected by complicated aspects in different fields such as linguistics, psychology, sociology and others associated with cognitive sciences.

Historical Development of Research in Language Transfer in SLA.

Contrastive Analysis Hypothesis

Contrastive Analysis Hypothesis (CAH) was established underlying the theoretic framework of Behaviorism. Behaviorists regard the language learning mechanism as a formation of habits through three stages: stimulus, response, and reinforcement. [1] The model of "Language Transfer Hypothesis" was first put by with by Charles Fries, who designed language teaching methodology of contrastive linguistics in 1927. [2] Charles Fries was firmly convinced that first language plays the decisive role in new language learning, and the knowledge of first language would be transferred to the foreign language learning consciously and unconsciously, especially in the beginning learning stages. Robert Lado wrote down some basic principles of CAH which were acknowledged by the theoretic circle. [3] CAH guided by behaviorism holds some general assumptions about language transfer: 1.Second language acquisition is mainly interfered by the already-set habit of first language. 2. The contrastive analysis of the similarities and differences between L1 and L2 will help find efficient ways of new language teaching and learning. 3. The greater the difference between the first and second language, the greater the difficulties in the way of new language acquiring.

UG & Interlanguage Hypothesis

In 1950s, the theoretic foundation of CAH was severely shocked by Universal Grammar theory. Chomsky hold: "The theory of a particular language is its grammar; the theory of languages and the expressions they generate is its universal grammar." [4]. UG advocates human beings were born with the language programs that only need to be activated to acquire languages automatically. Researches of SLA began to switch the view from the behaviorism to cognitivism, as a result, the previous beliefs in L1 as the main decisive influencing factor in SLA were shaken correspondingly.

Error Analysis Hypothesis

Error Analysis theory, founded by Corder in late of 1960s emphasized the importance of the learner's errors in SLA. [5] Richards found in empirical researches that a certain proportion of errors made by learners were not rooted in the difference of L1 and L2. [6]. Corder said language transfer was just a kind of "borrowing" when the knowledge of the new language was not sufficient enough to produce the new language. [5].The rising of EAH, stressing on revealing the "myth" of how to learn, moved the research focus from the difference between the L1 and L2 to learner's errors. The switch unavoidably further diminished the dominating importance of mother tongue. Meanwhile, the emergence of Error Analysis hypothesis inspired researchers to reflect SLA and reevaluate language transfer in SLA from cognitive perspective.

Markedness Hypothesis

Markedness theory is contributed as a feasible measuring instrument in SLA to analyze the "myth" of language transfer. Core grammar is considered unmarked, while peripheral grammar is marked. [7] Chomsky's UG hypothesis was proposed on the base of theory (Theory-driven), while Greenberg tended to prove the UG according to data collected by empirical researches (Data-driven), and presented that unmarked language components can be used in a more original, natural and regular way than the marked language components. [8] In fact, they almost shared the same central view towards the identity of Markedness, but Greenberg's explanation to the distinctions between the "marked" and "unmarked" seems more understandable and feasible.

New Perspectives in Language Transfer

As the cognitive science widely acknowledged and applied in the research of SLA, the role of L1 in L2 is believed as a cognitive factor in SLA. Kellerman considered language transfer as a kind of leaner's language strategy. When learners' target language knowledge is not sufficient enough to apply to achieve specific purposes，knowledge of L1 would be used to help realize the goals. [9] Moreover, researchers not only focused on the role of linguistic knowledge of L1 in L2 acquisition, but also noticed the non-linguistic factors which refer to logic, value, belief, morals and so on. Chinese researchers also had drawn the same conclusion by an empirical experiment that Chinese writing skills were used widely in English picture composition. [10]

2. DISCUSSION

After reviewing the historical development in language transfer for more than 60 years, when we look back at the question what is the role of L1 in L2, it is still hard to offer an answer. The more we are approaching the truth of language transfer, the more we found it is complicated to explain.

In the time of CAH, L1 played the vital and dominating role in SLA which was considered as a process of establishing a series of new habits of L2 on the base of kicking old habits of L1. At that time, L1 was seen as the biggest obstacle in SLA. Chomsky's UG theory stirred up a revolution in the research circle of SLA. Language was not believed acquired by imitating and repeating but by activating innate language mechanism. The significant position of L1 was greatly lowered down; some scholars even believed L1 played no impact in SLA during that period. In 1960s Mistake analysis gradually replaced CAH and researchers found a certain of mistakes could not be accounted by the influence of the L1 but by other reasons. The role of L1 was diminished further and becoming more mysterious in SLA . As the arising of Markedness Hypothesis, people tried to figure out when and how the L1 affect interlanguage in SLA. Markedness theory was a milestone that Language Transfer enters the field of Psychological Cognitivism. The role of L1 in L2 was becoming clearer but more complicated to explain, which is related to linguistic and non-linguistic factors in different sciences.

SLA is a learning process in which learners are continuously adjusting their inter-language to approximating L2 by the complicated mental interaction between knowledge of L1 and knowledge of L2 through analyzing, contrasting, inferring and so on. Since SLA is a complicated cognitive process, the role of L1 in L2 acquisition should be analyzed in both linguistic and non-linguistic way.

3. SUGGESTIONS

The marked linguistic points of L2 in difference between Chinese and English should be picked out as difficult teaching point, meanwhile the interlanguage-similarity should realized by learners. According to the markedness theory, no matter under what circumstance, interlanguage always turns out unmarked. For this reason, the markedness of L2 should be the learning difficult points. For example, 1.In pronunciation, the marked features of [V] [θ] [ʒ] in English need much practices , for the unmarked pronunciation of "f" "s" "sh" in Chinese with more natural tongue position and mouth shape can be easily transferred to interlanguage. 2. In grammar, the marked rules such as the third person singular, verbal inflections under tenses, and nonfinite verbal inflections should be explained to help learners master the features. 3. In discourse, teacher should encourage student to know the markedness of English cohesion and coherence, since both of them are marked with different features such as English writing style is followed the "Principle of Unity" while Chinese writing style is followed " Formless but well-knit in spirit". [11] Meanwhile, importantly, the linguistic similarities of L1 and L2 are also should not be ignored but emphasized, because if learners are aware of the similarities, learners will be more confident in mastery the new language with the help of L1, since the "perceived similarity" is also a significant effective factor which can reduce the psychological difficulty of new language acquisition [12]

Culture introduction should be introduced in to English language teaching. Teacher should help learners understand the difference and notice the similarity between English and Chinese cultures, otherwise learners are used to considering culture of L1 is the same as the culture of L2 or have to 'borrow" Chinese culture in English communicative situation inappropriately since they have no idea of what is the culture of L2. Unmatched culture knowledge would cause communicative failure under certain circumstances. However, the similarities between the two cultures should also be noticed by learners, which would shorten the psychological distance between English and Chinese.

Mistakes should not be discriminated as negative. Some mistakes could be the reflection of the

interactions between knowledge of L1 and L2 in various stages in the way of approaching L2 in SLA. Some so-called “mistakes” in interlanguage actually are kind of “unfinished forms” of L2. Learners establish L2’s language system step by step, and “mistakes” belong to the whole process, which are unavoidable and valuable. For the learners, mistake caused by language transfer is a signal that they are trying to cognize the new language. If the teacher criticizes learners for the mistake-making or convey the message to learners that you do something wrong, learners would feel confused and discouraged therefore they would probably lose the passion and interest in SLA. Kellerman had ever demonstrated the leaners' psychological distance between target language and native language directly related to the willingness to the target language acquisition. For teachers, “mistake” relevant to language transfer is the window to see how the learner is going in SLA. They should encourage student to experience, notice, reflect, and express in learning process rather than focus on the accuracy of language usage. Meanwhile, they should pay attention to learners’ progress and communicative effect rather than over-emphasize correct answers.

Communicative Approach (CA) would be an effective teaching approach to help learner acquire new language. Since SLA is a learning process in which learners are continuously adjusting their inter-language to approximating L2 by the complicated mental interaction between knowledge of L1 and L2. How to achieve the “adjustment” in an effective and efficient way is a key point. CA is an approach aiming to improve leaner’s’ communicative competence by communicative experiences, which could contribute to the cognition of L2 and accelerate new language acquiring in a scientific way.

4. CONCLUSION

Although the role of L1 in SLA has being discussed and arousing a plenty of arguments on the ground both of theoretic inference and empirical researches, there is still no “acknowledged” answers to it. However, according to the great effort of researchers, some consensus on language transfer in cognitive view have reached , which expand the research horizon of the “myths” of language producing and made great contribution to the SLA and language teaching. However, the role of L1 in SLA is still a field unrevealed but worthy revealing with much more effort.

REFERENCES

[1]Richards.J.C&Rodgers.T, Approach and Methods in Language Teaching, Cambridge University Press, Cambridge, 2003.

[2]Selinker,L.(Eds.). Second language acquisition, Routledge, Newbury House, New York, 2003.

[3]Lado.R , Lingustics Across Cultures, MI: University of Michigan Press, Ann Arbor, 1957.

[4]Chomsky,N, The Minimalist Program. MA: MIT Press, Cambridge, 1995.

[5]Corder,S.P.. The Significance of the Learner’s Errors. International Review of Applied Linguistics 1967, 5:169-89.,

[6]Richards, J. A Non-contrastive Approach to Error Analysis, English Language Teaching Journal 1971, 25:204-19

[7]Chomsky, N, Markedness and Core Grammar, Theory of Markedness in Generative Grammar, 1981

[8]Greenberg, J.H. Universals of language. Mass :MIT Press, Cambridge,1966

[9]Kellerman,E, Aspects of Transferability in Second Language Acquisition. Unpublished Ph.D.thesis. University of Nijimegen, 1987

[10]Guo Yujie & Liu Fan A Dynamic Research into L1Influence on L2 writing. Modern Foreign Language 1997,78:31-38

[11]Kaplan, R., Constrastuve grammar: teaching composition to the chinese students. Journal of English as a Second Language1968,3:1-13.

[12]Ringbom, H. The influence of the mother tongue on the translation of lexical items. Interlanguage. Studies Bulletin 1987,3:80-101.

On the Training of the Soprano's Singing Skills

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Abstract: the soprano is one of the more difficult singing methods, which plays an important role in the vocal music. With the characteristics of wide range and mellow voice, soprano known as the band "the violin", and specially in the treble area color bright and the power is strong. If the singer wants to achieve very deep attainments in the high pitched, they must be trained for a long time before they can master the skills of singing. In this paper, the soprano singing skills and training should be paid attention to the problems of a simple analysis, for reference only.
Key words: soprano; vocal area; training method; matters needing attention; application

1. BREATH TRAINING

Respiration is the key factor to decide the success or not. In vocal music works, if you want to achieve perfect results singing, the singer must perfect to control its breath, and according to the different needs of their breath made timely adjustment. In many pieces of art works, the flavor adjustment is very strict. Especially in the Baroque vocal art works, many parts need to be long time control to complete the effect of drag. In vocal music, either the treble or alto area, the singer must own breath good control. In the connection of the Changle sentence, the singer must have to carry on the fast air change to complete. Therefore, the atmosphere is the most basic factors in vocal music, if the breath control, the singer can very good complete register between smooth connection, the true sound mixing and transform, and can effectively mobilize the chest and head cavities.

Therefore, in the female high pitched training, breathing steady training is particularly important. In the breath training, you can use the following ways.

a. The singer can practice with a sense of surprise and shock. When the surprise and shock, their breath is kept in a static state, will not inhale, and will not breath. Students can be based on the sense of surprise and shock to practice the control of breath, slowly feel the state and feeling of breathing.

b. The singer can slow absorption of three seconds, then stop smoking for three seconds, then slowly call seconds. When training slow absorption time, the singer made his belly up slowly. When you stop breathing to keep in the state of inspiration, the waist still has a sense of expansion when the inspiratory time. The singer should grasp the feeling of breathing gas, and gradually control and control the breath.

c. S sound blowing exercise. The singer can often use the voice of "S" to grasp the breath. First breath, their own tongue against the bottom of the chamber, and then the "S" sound pronunciation. At this time, the teeth will produce resistance to pronunciation, will make the abdominal contraction. While the waist is outward expansion, the two other two of the two to produce a sense of confrontation. After mastering this antagonism, it can be a good control of the atmosphere, and random adjustment.

d. Breath support practice. First of all, the singer in your body like a breath like a balloon. Continuous outflow from the body. When there is no gas inside the body, use the power of the abdomen to assist breathing, and then continue to maintain the feeling of living at this time, and then carry out the cycle of training. Using this method can help the singer to carry on the broken sound training. The singer can through the "ha" word to practice, and can be two for a shot, and can also be four words for a shot, so that the singing in the scale of the jump, and better for the female voice of the practice and service.

2. THE TRAINING METHOD OF THE SOUND AREA OF THE SOPRANO

a. Distribution of sound area

Sound area refers to the singer singing voice area range. The range is divided into the bass, treble and Alto area. Where the bass area is located in the chest, the area where the high pitched area is located in the head. Each part of the sound has a different tone. The bass sound is vigorous, alto area tone softer, and the treble has bright characteristics. Sound as there is sound area division, there is the existence of sound.

The process of changing from one sound area to another. Change mainly through the physiological skills to adjust, and then complete the transformation of the sound, to achieve the unity of the various sounds and make the work more with the artistic characteristics. The silent area is a high attainments of the tenor. Many famous singers are of the view that the excellent singers should eliminate acoustic differences and achieve a sound area, thus forming a seamless range. Soprano vocal area generally is: low zone (C1 F1), in the sound area (F1) -#f2, shouted (# F2 C3), and change the position of the acoustic area in general about the sound in the area #f1 and shouted # F2.

b. Training of singing skills in vocal area

The training of sound area is relatively complicated.

Because there are several higher in the area of the scale of the sound area is the scope of the area, there are several subordinate to the natural sound area. In training, the sound area to maintain the volume of the intensity, can not be too high, the mouth can not be a lot of tension. In the sound, we use abdominal breath sounds to the gum, and then return back. In a number of musical scale, it must be kept in a breath. Such as S sound higher than other scales, but not over the sound too much gas, but also because the breath is not enough to produce the phenomenon of collapse. We should always use the diaphragm and the two rib to support the breath of each tone of the uniform. At the same time, to maintain the balance of the body and relax, mandibular not forward. When the sound in the area of training, we should not be so anxious to gradually progressive training stable up to the throat, and formation of breath fulcrum, and can easily grasp the breath sound transformation, and keep smooth voice out, achieve high naturally.

c. Singing skills training of the vocal area changing

the vocal area changing can be changed from one sound area to another. If the singer has mastered the zone singing, when from bass to treble the area change tone, this tone to inhale the throat located below and keep back posture, let the pharyngeal cavity to open. At the same time, the Alto area atmosphere as the scale increases and continue to move upward, and gradually open the mouth. If there is a sound to send the feeling to the distance, the sound of the sound at this time to the sound area.

d. Training techniques of the soprano zone

When singing the high notes, you should keep the body relaxed and the facial expression level. The body slightly upward, to give people some exciting feeling, and chin to relax. When the upper arch appears, we keep the breath up, and from the top of the head slowly to the front to send out. When the scale continues to the upper, the jaw remains relaxed. At the same time, the jaw to the back on both sides of the stretch, lift the small tongue. The throat to continue down, make breath stay in the lowest position. In concert, whether a beginner or old singing home, as long as they have mastered the skills of sing the treble using the correct breathing method, reasonable use of head cavity and the resonance region, and diligent practice, can be a good ending soprano singing.

3. FLEXIBILITY TRAINING OF THE SOPRANO

Soft training is the voice of the training, but also the most basic training content. It can effectively improve the quality of the voice of the high pitched voice, and is a very effective training method. When the female high pitched training, not impatient. Under the condition of singing, the singer has a certain regularity and rhythm of vocal training, so that the performance of the individual physiological skills to get effective regulation and perfect coordination. In the voice of the soft training, the singer to maintain a smooth atmosphere. According to the different needs of breath good adjustment to achieve antagonistic effect and mechanism of body and expansion of the diaphragm are better, in concert can through the vocal techniques to adjust the tone. In addition, we have to train the voice of the throat. We can the tongue forward stretching and compression of laryngeal cavity, and open laryngeal cavity, and pharyngeal tube taut, and set up the pharyngeal cavity of the channel. At the same time, when opening the throat, tongue of throat push, which stretch before and after, and the formation of the correct type of larynx.

4. DECORATIVE TONE TRAINING OF THE SOPRANO

Decorative tone is an important part of the melody. Decorative tone can be a perfect interpretation of the work of the rhythm and melody, so that the song has a vibrant and distinctive color. In general the repertoire, ornamentation is divided into echo, arpeggio and glide etc.. It is the factor that must have in the female high notes, therefore, should pay attention to the training and teaching. In the decoration of the tone for training, the singer to maintain a full enthusiasm, the throat open, and the use of breath vibration to lead the pronunciation of the vocal cords, so that each of the notes issued. At the same time, in the training, we can not act with undue haste, slow down the speed and rhythm, and the volume adjustment practiced in a relatively stable state. When the decorative tone to a certain degree, you can adjust the speed and volume of training according to the demand. The performance characteristics of each decorative tone are not the same. When the decorative tone to a certain degree, you can adjust the speed and volume of training according to the demand. The performance characteristics of each decorative tone are not the same. Herefore, when the singer in the study and practice of decorative tone, we must firmly grasp the various decorative tone pronunciation skills and the connotation of the performance, so as to better interpretation of art works.

5. STACCATO'S TRAINING OF THE SOPRANO

Staccato is an important part in the soprano. Staccato is also martellato. When sound, Staccato is the voice of the closed gas block and the formation of sound. This kind of sound quality can show the elasticity of note. The sound can exhibit cheerful songs or leaping emotion when singing soprano. The singer to use staccato to complete the treble. Such as "the motherland-spring's story", in the "ah" singing, The singer is the use of staccato to complete the pace of the whole note, and reflected in the songs of the active, cheerful mood. In carries on the training to the staccato, the singer to make full use of the contractility of the diaphragm and abdominal muscles, and the voice from the pharyngeal cavity after issued. This sounds are generally more elastic and penetration. At the same time, in the course of

practice, when with the relevant interval jumped into the fast track to practice, we gradually speed up, and can promote the students' mastery of staccato. In its practice, we must grasp the breath, otherwise it will increase the difficulty of its practice.

6. THE TRAINING MATTERS NEEDING ATTENTION OF THE SOPRANO

a. Select the appropriate vocal repertoire

It is very important for the singer to train the sound of the soprano. Different track exercises will bring different effects to the practitioner. Therefore, according to the different characteristics of the singer to choose a different track for the high notes, in order to effectively promote the progress of the singer. For the problem of the sound area for practitioners to choose some rhythm and melody more gentle songs. Such as "fishing light song" and "sleep, baby". They use this temperament is gentle tracks of the singer for sound practice and make the midrange and treble zone are connected. After the solution of the sound area for existing problems in, we can choose some melody and rhythm jump larger repertoire of practice, step by step. And in reality, many singers did not follow this rule. If we are forced to choose not to meet their own vocal repertoire of practice, not only does not help their sound, but will give the practitioner a counter effect.

b. Attach importance to the role of the head cavity resonance

In singing, the voice of the soprano is not strong, and it can not reach a very good performance. General soprano in concert, we will cooperate with the head cavity resonance, so that the sound loud and magnetic. The resonance region mainly includes the oral cavity, the nasal cavity, the throat cavity, the thoracic cavity and the pharyngeal cavity. In concert, the head of the soprano in front of the head, and followed by a slight vibration, which is caused by the sound of the resonance.

6. CONCLUDING REMARKS:

To sum up, the soprano is a kind of vocal music with strong technical ability. In the training of the soprano, the singer must carry out the hard training according to their own characteristics, and master the skills of the female singing, and constantly overcome their own problems, so that they can continue to progress. In the actual training, the singer can be based on the previous training experience as a guide for their own learning. However, we can not be a reference, otherwise there will be a stereotyped works, and limited to the individual development of the singer, and can not be innovative in the field of vocal development.

REFERENCES

[1]Alderson Richard. Li Weibo. Voice training manual [M]. Central Conservatory of Music press, 2011 (10).

[2]John Addo because. Cheng Shuan. Callas at the Juilliard lectures set [M]. Jiangsu literature and Art Publishing House, 2012 (05).

[3]Jerome Hanniesi. Translated by Huang Bochun. A great singer on the superb singing skills of [M]. Chinese Youth Press, 2014 (01).

[4]Caruso's voice method [M]. people's music publishing house, 2013 (11).

[5]Li Wenhua,"Soprano sound transition register training", originally published in the "Journal of Shenyang Conservatory of Music, 2011 (01).

[6]Zhu Fengyu,"Soprano voice shifting point on", originally published in the "Journal of Xuzhou College of Education Vol. second, sixteenth, 2013 (05).

[7] Liu Xiaomei, The soprano mix way singing training points ",mockups in Xinjiang Education Institute Journal, Vol. 19, No. 2, 2012 (06).

Status and Problems of Rural Finance—Survey Based on the South Village and Dongshan Village

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Abstract: With the rapid development of China's modernization process, the construction of new socialist countryside has made great achievements. However, the disadvantages of rural financial management are increasingly exposed .Particularly the financial disclosure system, democratic supervision mechanism, Financial Management System. And on no account can we ignore the importance of financial awareness. Based on the South Village and Dongshan Village questionnaire. This paper analyzes the problems that exist in rural financial management. And put forward the corresponding countermeasures.
Keywords: financial disclosure; financial management; appointment system;

1. INTRODUCTION

The development of rural areas is one of the most important issue in the process of China's Economy,and rural finance is also a focal point exists in rural areas.In recent years, some problems exist in most rural areas are the financial management.The rural financial management system is not perfect, and the village accountants don't have professional skills .The villagers expressed dissatisfaction.It is seriously affecting the officials and the public relations, becoming an important factor affecting rural stability.Based on the questionaire of South Village and Dongshan Village,this paper propose the use of Appointment System and democratic management team and put forword some reasonable suggestions.

2. LITERATURE REVIEW

For the theoretical study of rural financial management, there are many domestic scholars have made a personal insights.Song Xiaomei (2006) identified the concept of village-level financial.Premier Wen Jiabao (2004) explicitly pointed out: "We must promote village-level financial management to a regular, standardized and institutionalized development."In addition, some scholars have raised some effectively solutions, for example, Lee commentary (2005) proposed village escrow account practices.Nie believes proxy accounting system can effectively improve the situation of rural financial chaos, and describes the feasibility and necessity of the implementation of accounting agency service system. Chinese scholars have fewer study on abroad rural situation,due to the different form of rural organizations at home and abroad, which is reflected in the collective economy of socialism with Chinese characteristics and economic components, but there are still some references.For example, South Korea had a "New Village Movement", the villagers built a hall to improve the national cultural and moral level, in order to strengthen village-level financial management.Britain determined the "voluntary and open membership system, members of democratic management, non-profit, and members participate in the distribution, self-reliance, concern for community affairs," the world's recognized "seven principles of cooperatives" in the International Cooperative Alliance Conference.Japan carry out the "village-made movement," so that the villagers were willing to participate in the financial management, it is self-improvement and development of rural areas. These methods have emphasized the importance of financial management among the villagers, as well as guidance for its government, and these are worth learning .

3. STUDY DESIGN

On the status of our current view of the countryside, many village cadres are legal consciousness and the supervision mechanism is not perfect, the low level of implementation of the financial management system, the financial disclosure normative is poor. And it often lead to the cases.These problems have seriously affected the village modernization. We decided to compare the two villages representative survey to find the root cause of the problems, which allows the government to understand the contradictions, and provide a scientific basis for the government to solve the problem.

Research Methods

This paper took the following two survey methods.
(1)Literature survey:We collect through the network, books, library database retrieval, newspapers and literature, such as a large number of relevant data research and analysis, combined with the current

situation and the survey results of the last two years, come up with effective countermeasures.

(2)Questionnaire:Our village is mainly taken personally delivered paper questionnaires, online mail sent, etc., collected a large number of financial management information and objective analysis.

Questionnaire design

We use paper questionnaires as the main methods of investigation. The questionnaire included five basic information questions, 30 multiple-choice questions. We selected a total of 50 samples of the South Village and Dongshan Village to investigate. 50 questionnaires, 50 valid questionnaires were recovered, the recovery rate is 100%.

Findings

Through the investigation we found that there are many problems in the rural financial management, mainly reflected in the following aspects.

Rural financial disclosure and the degree of democratic supervision

We extended the rural financial disclosure from two perspeective analysis.One is financial disclosure interval, the other is whether public finances during the general election.

First, according to "how often is your village have the public finance declosure" this issue, 38% of village thought it took few years, 16% a year, a quarter accounted for 16%. This shows that the majority of rural financial disclosure is not timely, or even unpublicly.

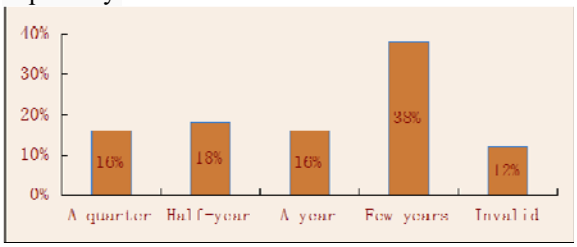


Fig. 1 how often is your village have the financial disclosureThen, according to "Did the rural finance disclose when the general election held" the problem, we can see that 76% of the time when the village committee is not public financial situation, only 20% of the time will public finances. It can be seen, the degree of financial disclosure in rural areas is very low.Table 1 Did the rural finance disclose when the general election held

Answer	Public	Unlisted	Invalid	Total
Number of samples	11	38	1	50
Percentage	22%	76%	2%	100%

According to "What is your understanding of the financial situation " this issue, we can see that 8 percents of the villagers are well aware of the financial situation, and 60% of The villagers know nothing about them. Villagers are generally low level of understanding. (Table 1-2)

Table 2 What is your understanding of the financial situation

Answer	Very understanding	Understanding	Do not know	Invalid	Total
Number of samples	4	15	30	1	50
Percentage	8%	30%	60%	2%	100%

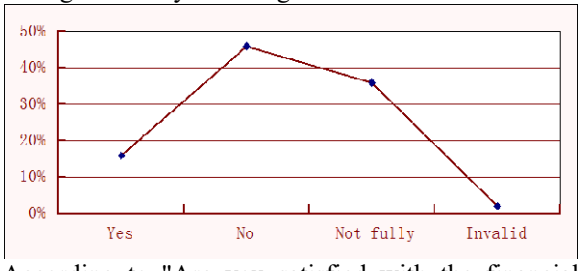
According to "Do you have motivation for oversighting the villiage collective financial" this issue, we can see that 18 percents of the villagers are actively monitoring the financial condition, while 13% of the villagers only found the problem before going supervision, 56% villagers are never supervision. We can see that the low level of democratic supervision of the villagers. (Table 1-3)

Table1 3 Do you have motivation for oversighting the villiage collective financial

Answer	Actively monitor	Identify problems and then supervise	Never supervision	Total
Number of samples	9	13	28	50
Percentage	18%	26%	56%	100%

Village leaders and finance staff awareness of financial work

Fig. 2 Are you satisfied with the financial management of your village



According to "Are you satisfied with the financial management of your village," this issue, we can see that 26% of the villagers considered satisfactory and timely response to the problem of financial irregularities village, 72 % of the villagers are not satisfied because there is no response. (Table 2-1)

According to "What is your village whether the new financial staff on financial issues were summarized term deal," this issue, we can see that 16% of the villagers that the new financial officers thought the summarized treatment, 46% of the villagers that no treatment, while 36% of the villagers believe that treatment is not comprehensive. (Figure 2-1)

Table 4 Are you satisfied with the financial management of your village

Answer	Satisfied	Dissatisfied	Invalid	Total
Number of samples	13	36	1	50
Percentag	26%	72%	2%	100 %

e				

Rural Financial Management System

According to"What kind of financial management is better," this issue,we can see that 62% of the village thought the village accountstubes, only 4% believe that the accounting agency.We can see that village-level financial management model is stilllagging behind.(Table 3-1)

Table 5 What kind of financial management is good,

Answer	Village	Township	Accounting agency	Invalid	Total
Number of samples	31	14	2	3	50
Percentage	62%	28%	4%	6%	100%

According to "What problems does the village financial system have," It is a multiple-choice, we can see that 60% of the villagers think that the management system is not perfect, and 56 percents believe that arbitrary financial expenses, 32% believe that accounting treatment is not normal, 20% were considered democratic management work behind, 42 percent think the village house staff supervision. (Table 3-2)

Table 6 What problems does the village financial system have

Answer	System is not perfect	Accounting business processes are not standardized	Financial expenses randomness	Village house staff supervision	Money Work lag
Number of samples	30	16	28	21	10
Percentage	60%	32%	56%	42%	20%

Results of the survey

Financial disclosure system is imperfect, supervision mechanism is not perfect

First, the villagers lack of supervision consciousness. We can see from Table 1-3, most of the villagers supervise consciousness rather weak. Supervision of consciousness is the main condition for democratic oversight of the villagers. And in most of the underdeveloped rural economy, so some villagers lack the necessary oversight power.

Secondly, information transparency and fidelity of our village affairs is not high (Table 1-1). On the one hand, the village cadres have difficulties to achieve complete financial disclosure. On the other hand, the villagers do not participate in the management of village affairs.

Finally, the village accounting supervision system is not perfect (Table 1-3). According to regulations, the township Street finance, auditing station response level financial audit, supervision and guidance. But in many places neglect of village-level financial work specific guidance and supervision, making the rural financial problems can not be effectively addressed.

Lack of awareness of the importance of the financial part of the village cadres to work

We from Figure 2-1, Table 2-1 can be seen low in rural management, lack of awareness of the work of village cadres. It can not adapt to new problems in the new form. Most rural areas rarely appointing high-quality, high cultural level management personnel, and even some outsiders who are also engaged in a highly specialized accounting, management of work, which will also rural modernization have a negative impact.

In our rural areas, many village cadres lack ideological act for the people from the central to the local paper on strengthening the rural financial management, management does not attach importance to rural finance, contrary to the interests of the people. This leads to the enforcement of policies is not enough, make village-level financial management more confusion.

Financial management system is not perfect

From the current situation of China's rural financial point of view, most of the accounting treatment of business are more rural, should set the accounting office. But there are still some rural country accounting bodies are not set, or set up accounting bodies, but chaotic management, accounting personnel choose not to comply with the "Accounting Law". Many accountants rural village cadres are directly appointed by the emergence of "cronyism" ugly phenomenon. This makes rural financial oversight fatal flaw, it is difficult to effectively carry out financial disclosure.

Other aspects

1)Basic business finance staff ranks low quality and unstable

Due to financial constraints in rural areas, the quality of general education level is relatively low . According to a sample survey results show that only part of the village accountant have college-level education and qualification certificates, most only primary and secondary education level, or even impossible accountancy qualifications.

In our countryside, accountants should require relatively stable, accountants selection should Cautious assessment, but in practice most are appointed by the village cadres, the designated officer. Every general, accountants will follow the rotation.

2)Corruption part of the village cadres, legal supervision is not enough punishment

China's rural legal supervision system is not perfect, which are open to rural finance and economic development has had a negative impact. Strengthening legal supervision and enforcement in rural areas is imperative.

Main countermeasures

and improve financial disclosure system

First, the integrity. Conducting financial disclosure is to ensure the integrity of the accounts, not only to public ledger, but also open a breakdown, as well as its description, only the question of the appropriate financial officers should explain. So as to facilitate a full understanding of the financial status of the villagers.

Second, authenticity. Financial officer must ensure the authenticity, village officials will not be affected. For the village cadres should be reported as soon as mandated by the relevant departments for processing.

Third, financial disclosures must be discussed democratic management team after the consent of the disclosed embodiments, the individual will decide to avoid the disclosure of the phenomenon.

Village cadres to strengthen the rule of law and enhance awareness of the villagers democratic supervision and Power

Sound legal system is the key to building a new countryside, strengthening rural financial management.

First, the village cadres have to fully recognize the importance of financial management for promoting rural modernization, and include the important aspects of management of village affairs, and ensure that solve real problems.

Second, strengthen the majority of the villagers the importance of democratic oversight and public education, awareness and effectively improve the oversight and supervision of the power of the villagers. It recognizes the democratic supervision related to the actual interests of its own.

Township government should change its functions, strengthen supervision and management.

Township government should strengthen the rural financial usage, supervision and management of capital flows, unreasonable on its proposed amendments shall promptly, avoiding the village a "supervised" "unsupervised" situation.

According to departmental functions, to further clarify the government departments in rural management guidance and supervision duties; but also to rationalize the organization, will be placed under similar functions similar unified management.

Improve democratic management system

Democratic management team is an effective form of democratic supervision of rural finance, it effectively solves the problem of unreasonable financial disclosure process exposed the countryside, to ensure the interests of the masses.

Around the village should strive to ensure the existence of democratic management team and their commitment to play its role, and the need for democratic management team held regular meetings to address the urgent need to solve the financial problems of villagers.

Improve rural accountants professional level. And strengthen the management of optional mode

Sound system hire accountants to thoroughly strengthen the quality of rural business accountants. On the one hand, for the community to recruit, absorb young and dynamic, educated high-quality talent, breaking the previous "cronyism" situation. On the other hand, for itself some of the old accounting system of professional training, and the establishment of archives, unified management by the town.

References

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The Medium-Term Results of Social Science Project of Hebei Province People's Republic of China,. Research on inclusive Finance, SME Financing Path Selection Strategy------Based On Survey Data in Hebei Province（HB14GL081）

REFERENCES

[1]Song Xiaomei.Problems and Countermeasures of current rural financial management〔J〕.Agricultural accounting of China.2006(02).

[2]Du Xinming，Gong Lijie.Accountant appointment to different villages norms tenure village level financial management in Shandong Zibo City Zhangdian District Fu Jia Zhen carry out village class accountant appointment system of investigation 〔J〕.Rural management and management，2004(01).

[3]Li Ping.The village committee Tuo Xiang agent when advocate.Rural economy and technology〔J〕，2005(12).

[4]Zhou Changfeng.Some relations of the proper handling of rural accounting system〔J〕.Scientific and technological information〔J〕，2008（22）.

[5]Gong Sheng.Problems and Countermeasures of village level financial management.Ji'an financial research，2005(7)

[6]CPC Central Committee Office. The general office of the State Council on strengthening and perfecting the village affairs and democratic management system views[J]. The State Council of the people's Republic of China, 2009, (24):127-128.

[7]Cui Guoping.Study on the mode of rural financial accounting management〔D〕:Shandong Agricultural University，2008.

[8]Qi Youfa.Some problems on the implementation of accounting assignment system and accountant proxy system in rural areas〔J〕.Agricultural accounting of China，2005(03).

Talking about the Cultural Characteristics of Chinese Wushu

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Abstract: In China, the Wushu is an important part of the traditional culture of the Chinese nation; its performance form has certain elegance. At the same time in the performance process, Wushu has certain characteristics of philosophical, entertainment and body building, these features are the essence of the traditional culture of Wushu and the outstanding cultural form also make Chinese Wushu gradually move toward the world and let the world recognize China.
Keywords: Wushu; culture; philosophy; development

1. INTRODUCTION

Wushu is the treasure of traditional culture of the Chinese nation; it also is a independent system but is a collection of rich performance in the form of sports. The sport has certain social functions; its promotion and development in the country are very quickly, especially with the Chinese martial arts spread in the global scope. Chinese Wushu has become Chinese sports and been an important part of the development of world sports culture. Chinese Wushu and Chinese traditional classical culture philosophy, political theory, theory of military culture, social customs, etc. are interrelated and interact with each other; another is the Chinese martial arts to the basic characteristics of Chinese traditional culture are in different places displayed.

2. THE CULTURAL CHARACTERISTICS OF CHINESE MARTIAL ARTS HAVE A FEW ASPECTS.

Having a feature of philosophy

Chinese Wushu is one of the most national cultural characteristics of sports. It has the traditional Chinese philosophy of "harmony between man and nature", so it is very strong. The thought of "harmony between man and nature" holds that man and nature are interlinked in nature, and that man should be in order to obtain existence and development. The thought of "harmony between human and nature" to the Chinese traditional philosophy into a series of, such as unity of form and spirit, combination of subject and object, Qi a... "Zhou Jizhi:" on the history of Chinese philosophy history and the formation of a thought pattern ", see" on the history of Chinese philosophy ", Zhejiang people's Publishing in 1985 edition[1], this idea also laid the ideological foundation for Chinese martial arts. First of all, martial arts and acrobatics is the people as a whole to training, pay attention to "the practice of vitality, practice outside the skin bones", "the combination of internal and external, Xingshenjianbei." And, put people into nature, the movement of people closely linked with the surrounding environment. According to the different seasons, the hour, the seasonal and so on, according to changes in the nature and function of the body by different methods, to achieve the acrobatics martial arts and acrobatics. Such as sun Fuquan "Bagua" by heaven and earth climate form method[1], "Shaolin gossip five power" according to season different practice different exercises. In addition, from the concept of "harmony between man and nature" and "circle" and "empty", it is the understanding of the natural characteristics of heaven and earth, and is the best way and state of dynamic work. Circle is flexible, empty light unimpeded, round and empty so lively and comfortable, endless. So many boxing to round, empty as the basic type and practices, such as Emei boxing and Taijiquan are round, empty as the martial art characteristics. Especially Taijiquan is to learn the "easy to Tai Chi, is to the world" ("book of changes") and "no and Tai Chi, Tai Chi move while the Yang; moving and very quiet, and calm, but Yin" (Zhou Dunyi: the Taiji tushuo ") Taiji philosophic theory.

Having a feature of combative

The core of China martial arts is the art of attacking and defending. The martial arts fitness function, entertainment and athletic performance function, the education function is formed on the design principle of the action of the art of attack and defense in every offensive and defensive action to achieve, different types of martial arts in the methods of attack and defense and attack and defense principle is slightly different, but follow the rules and characteristics of attack and defense. Therefore, due to the characteristics of attack and defense of Wushu, it is different from other sports. From the historical development of the China Wushu, martial arts and martial art routines have two kinds of forms. Combat sport Sanshou and push against the project, focus on practical, there are obvious attack and defense characteristics; exercise routines will pay attention to the effect of the performing arts, the pursuit of beauty, but are still in order to reflect the martial arts the fundamental characteristics of the art of attack and defense for the purpose, seeks to show the realistic offensive and defensive moves and gives people the combative feel.

Having a feature of body building

Chinese Wushu is a form of physical exercise in the

final analysis, it is part of the human body science group, and China's human science is built on the basis of traditional medicine and traditional Chinese medicine. Yin and Yang in traditional Chinese medicine five line said, meridian theory, dirty like theory and other basic theory for physiological studies on the basis of the theory of traditional Chinese Wushu and acrobatics. Theories of Chinese medicine think that: Three vitalities are the spirit of one person[2]. Vitality is related to each other, "Jing surplus is arrogant, arrogant is the God of the whole, God is full of body health; fine was born in gas, gasification in fine, refined gas, gasification in God". Wushu Exercises not only pays attention to the exercise within the essence of God ", but also stresses within the shape on the outside, focusing on external attack and defense skill drills, and thus receive internally and externally, strong and healthy body fitness effect.

Having a feature of entertainment

Chinese Wushu entertainment has existed since ancient times; it is one of the main Chinese willing to thrive in the martial arts. Away from entertainment, Chinese Wushu will not die out, but its universality is bound to be greatly affected. In modern times, with people's pursuit of entertainment to reach a new height, people's requirements for the entertainment of martial arts will also be improved. Specifically, the Chinese Wushu entertainment includes two aspects: one is people from Wushu to physical and mental pleasure has been widely developed and spread in the community; second, people from the enjoyment of martial arts appreciation for art, martial arts and drama, dance, acrobatics, literature, film, and television art forms combine performance, both to the people to cultivate sentiments[2]. With the development of modern science and technology culture, more and more people entertainment to entertainment method is also more and more novelty, so the martial arts practitioners to achieve self entertainment for the purpose of martial arts participants dwindling, and martial arts as an entertainment to more and more participants. With the understanding of the evolution of the modern life style and the people to the martial arts fitness, self-defense practical value to improve the from individual to group, from closed to open direction of entertainment of martial arts and cultural characteristics of change, it is more beneficial to the Chinese martial arts to the world.

Conclusion

overview of the history of the development of human culture, the existence and development of a kind of any form of culture is bound to have a unique role, Chinese martial arts is also true, otherwise it will definitely be out of the long river of history. Chinese martial arts, like all sports, are closely related to the development of politics, economy, science and technology and culture of the country or nation. Chinese martial arts in the cultural connotation contained is crystallization of the thousands of years of traditional Chinese culture, also is the Chinese modern economy by leaps and bounds a reflection, is a symbol of the Chinese nation is highly developed and the people all over the world common cultural wealth. Therefore, Chinese Wushu is also with its unique cultural characteristics and forms to the world, so that the whole world can learn more about Chinese Wushu and make a better understanding of china.

REFERENCES

[1]Jianmin Li, Review on the inheritance of traditional Wushu, fight-wushu science, 2015, (4):34-36.

[2]Baorui Zhang, Discussion on the inheritance of Wushu Culture in today's society. intelligence, 2014, (35): 317-317.

The Emotional Grasp and Handle in Excerpts "Although You of Frosty" on the Opera "Turandot"

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Abstract: "Turandot" is a theme selected from Chinese operas. The composer is a famous composer of Italy during the period of romanticism, who is Giacomo Puccini. Its mysterious storyline and beautiful music rich oriental flavor, which is charmed the audience. This as Puccini's last opera composer works devoted all the hard work and effort. The writer presents "Liuer" is the representative figure of the play, who is aria also loved by vocal music learners and soprano. In this paper, the main research objects are the characters, such as the character, the psychological change and the dynamic of the characters. In this paper, through their own practice in the specific experience of singing, and combined with their own singing practice of liuer's aria "although you of frosty " a detailed analysis of the music. Then to singing this song needs to payattention to the language, the breath, the mood, and other aspects of the second creation, which need a clear and detailed exposition. This study attempts to sing this perspective characteristics play Liuer aria, while a better understanding of the role of Liuer interpretation of her character.
Keywords: Turandot; Puccini; Liuer;Aria

1. INTRODUCTION

The opera "Turandot" is a romantic period of Puccini's last work. In terms of creative themes, he vividly expose the inequality of the society, trying to show that ordinary people feeling and fate, he particularly sympathetic to those who have a kind heart but suffered a miserable fate of the little people. Some rich emotional and tragic female images in his writing is very successful. In the opera "Turandot", there is a very popular character: Liuer, who devotion for love story and her aria by the audience favorite.

Liuer opera "Turandot" in a very critical role, she appeared in this opera in the Romantic period, played a role in the symbolic, revealing the bourgeois process of growth - from a beautiful mere weak woman gradually grown into a hero model, which played a role in the class with the then trends have some consistency features.For this reason, in the play Liuer Aria "Although you of frosty" not only has a strong lyricism, while the dramatic tension and atmosphere.

Female characters Liuer in the opera "turandot", it is also designed many of the more influential and expressive arias. Per capital has a very important significance, which "though you of frosty" Puccini in line with the style of play, namely the pursuit of real, natural, authentic style. Also in this aria, it possesses the characteristics of the lyric and dramatic in terms of singing is also a very challenging song. So before singing this song, it should be done to understand the causes and consequences familiar with opera music and story development, which can help us better interpret Liuer this figure. In this paper, the above aspects of the corresponding analysis and summary analysis of the background of the creation of the work, the psychological change characters, personality traits, emotional dynamics.

2. LIUER ARIA "ALTHOUGH YOU OF FROSTY" SENTIMENT ANALYSIS

In the performance Liuer character image and personality characteristics, Pucciniuses a different music design. In this aria, who is using a relatively euphemistic Lyric temperament style, the music melody natural smooth. So that the character and characters female characters play Liuer delicate and subtle performance .At the same time, it also has a vivid description of the state of mental activity, and the music is also very beautiful and expressive. The composer Liuer hearted, love and loyalty to her tragic fate perfect performance, which make people shock. And with composer style continues to mature, easy temperament, the artistic image of Liuer is full of strong inner spiritual force, has become a classic of Western opera characters.

2.1 The Background Of Aria In "Although You Of Frosty"

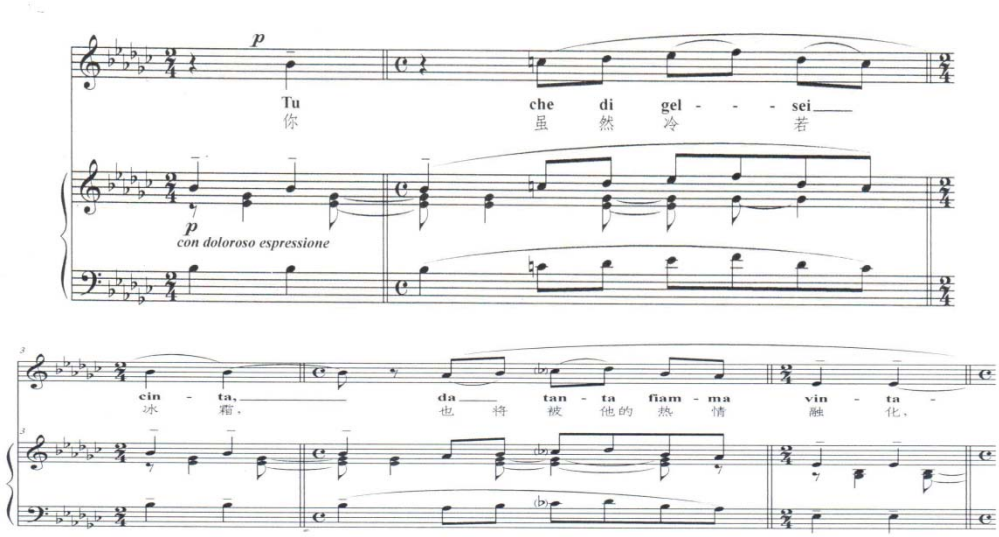
Liuer aria "Although you of frosty" contains a deep emotional characteristics and thus requires work on singing background in concert. Especially this arias position in the entire third act of the opera should be given more attention. It isthree levelsin this context of cultural context of the creative interpretation that should to focus on. First of all ,it need to focus on the story and character issues behind this aria, which requires deep connotation modest excavation; Second, the need to focus on the emotional aria performance with characters from the background well discover the identity of the appropriate performance Liuer maid singing tone and actual results, the atmosphere

and so on Characteristics; Third, the story behind the need to pay attention to this aria connotation, and the need for the integrity of the aria style and concreteness combination of performance means. Only from the above three levels of interpretation and understanding of the background culture, it is possible to make the performance of the singer's style and skills to deal with more convincing. Otherwise, it can only be a shallow story, which is not enough for the artist to get creative and emotional energy in the interpretation of the works.

In addition, attention should be paid to the difference between the global context and the fragmented scene. Because in this aria, the character is not isolated .The level of emotional connotation is not isolated .Need to be combined with the background, to build a complete scene, the atmosphere, the emotional level. The scene in the play is as follows: Since the inner court palace tonight everyone preoccupied and unable to sleep at night in this tough, tough echoed in the air, it seems from a distance constantly floated "no one allowed to sleep," the echo terror, because this night will be significant changes in the results and the fate of ups and downs. At this point Prince Calaf was alone in the palace of jade lane male voice singing his aria "Nessun Dorma."In this song prince self-confidence on the arrival of the dawn victory will certainly belong to himself. At this time Liuer is being escorted on stage to accept the interrogation Princess. When turandot interrogation to endanger the safety of the prince. Liuer come forward and said: "Only I know the prince's name". Liuer did not tell the Princess Prince's name, so that it can not guess the answer to face failure. Princess implemented various means of torture against Liuer, while Liuer never told her the name of the prince andtold the princess why to do "is the power of love. "Finally, there is no way the princess decided to let the executioner for execution Liuer. Liuer in the final moments of life to sing the aria "Although you of frosty".It showed to the prince's infinite love and willing to die for him."You are wrapped in cold, and when you know how to love, the cold heart will be conquered by the fire. His love will wake you up".After that who took the knife to commit suicide.Liuer's body was carried by people, accompanied by their sad chorus, gradually disappeared in the darkness of the stage this scene is also darkness over.

2.2 The Analysis Of The Music Of Aria In "Although You Of Frosty"

It is the last aria that before liuer dead. This is the nature of all Puccini sentimental performance. The whole song from the beginning to the end with the strength of P, so that the liuer’s image can be maintained (figure1). The aria is to be minor, adagio. At the beginning of the music, the symbolic meaning of the "death motivation" was adopted ".Which permeated with rich suggestive of slow rhythm figure, making the overall musical style is more melancholy, combined with a heavy emotional accompaniment chord characteristic color and sadness, so be minor aria melody and tuning are reflecting a heavy melancholy atmosphere it indicates Liuer unfortunate ending.2/4 and 4/4 both beat cross, so that the aria in the rhythm has been powerful internal driving force, increasing the dramatic effect of the song.



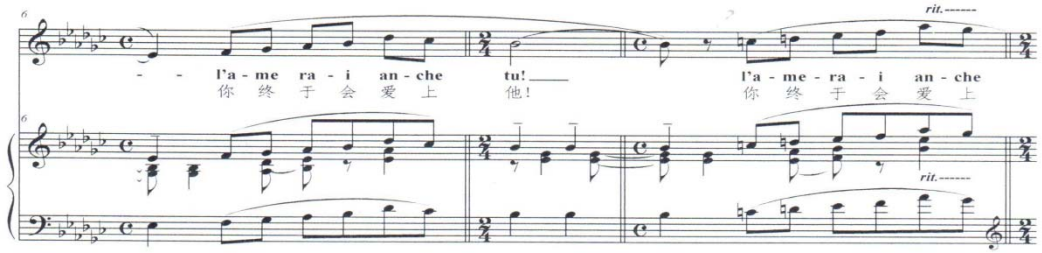


Figure 1 The analysis of the music of aria in "Although you of frosty(1)

From the lyrics, the whole song can be basically divided into three parts. The first section (section 1 a 9) has two main fragments of phrases. In front of the rich melody lines showing a slow, progressive characteristic musical material, it symbolizes the prince reluctantly Liuer grief; the second half will reflect the princess's heart has a very cool features. Music using some jumped into the conduct, especially the accompaniment part, resulting in a strong contrast. In the second word "L 'a-me-ra-i an-che - Tu!". Melody to improve the pure five degrees into the last sentence, and at the end will gradually slow down, to further promote the mood. Once again stressed that "then you will fall in love with her" showed who resentmentof princess turandot. Music eventually ends up on the D7, which leads to the second paragraph.

The second paragraph is followed by a section 10 subsection 20 of section. The main is to show female role "liuer" ready to sacrifice for love in the heart of the prince of the complex mood. The tune has a lot of ups and downs, is divided into two and a half before and after the sentence, and each of the four sections. Material has connection effect between the two sections. Thus the singer's concert should pay attention to the weak from the middle and keep the tone mark, but also to maintain the intensity of each tone to do breathing and fluency. A, B two musical materials remained the same, but the ups and downs of enhanced sense of section B melody, accompaniment becomes dense, there are two (rit) excerpts, one is "I will close my tired eyes (io chiudo stanca gl'occhi). "There are hints at the end of rit. The concert also need to pay attention to phrases with three holding tone.

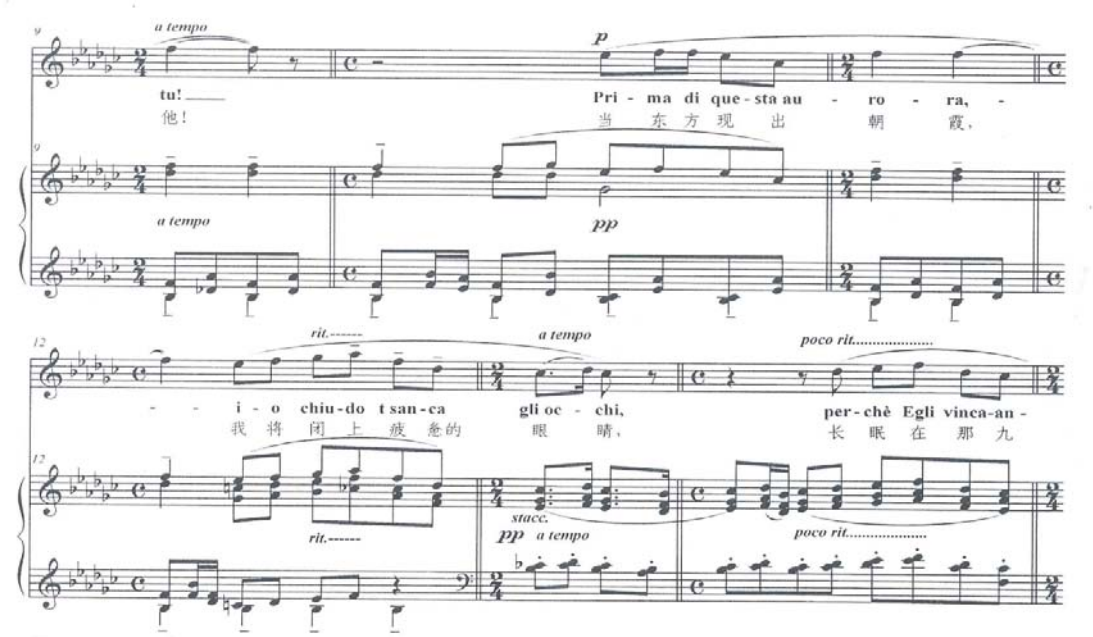


Figure 2 The analysis of the music of aria in "Although you of frosty(2)

Third (21 - 27 bar) is evolved on the basis of the second paragraph is the climax of the whole song. Music is more intense than the first two sections. Only part of the lyrics are completely repeat the previous paragraph. This part of the whole range to improve and maintain the sound increased. Whole sections 24, 25 concerts, all need to focus on mute integrity, maintaining the unity of the phrase. Especially in singing "Per non ve - der - lo piu", also need to pay attention to three fermata appear continuously at this time. Can grow to the strength of the processing, the song sad emotions pushed to its climax after the end of the song.

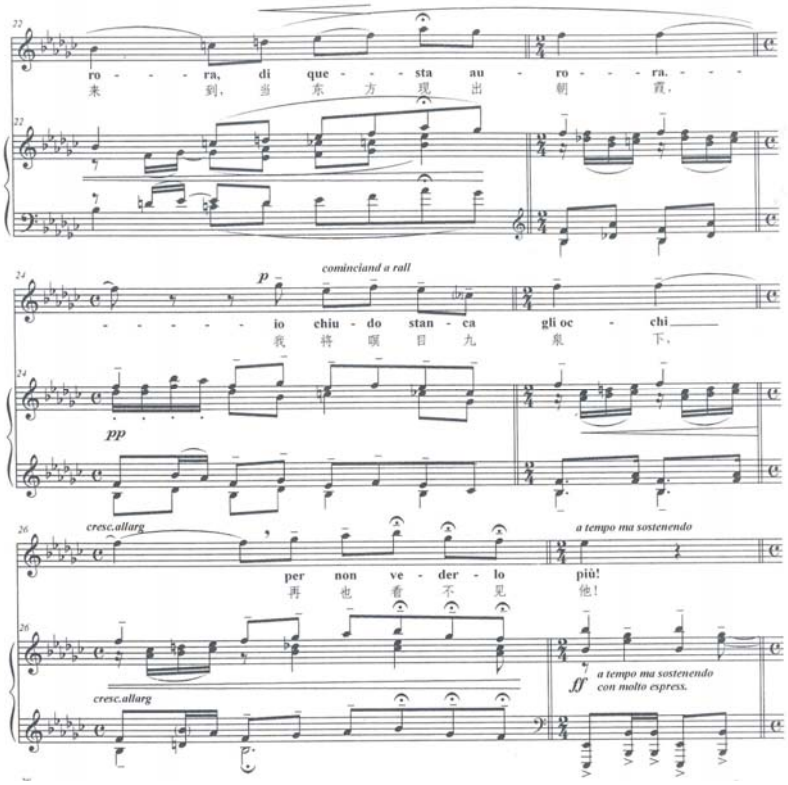


Figure 3 The analysis of the music of aria in "Although you of frosty(3)

In the example above hold tone using more than the other extended Otoya use more, and also appeared in the case of conversion signature. Meanwhile crescendo and fortissimo marks on the sheet, legato, stronger and weaker token, reflects the role and character psychology Liuer exhibited by classical Chinese female heart features.

3. SINGING PROCESSING OF ARIA IN "ALTHOUGH YOU OF FROSTY"

Liuer sang the tune "Although you frosty" having a strong dramatic effect.Meanwhile it is the last song of Liuer and show a strong character features.Thus this aria has also become the whole act opera song climax part of the design.As a matter of fact, this is a song with a tragic character.With respect to the opera Turandot Princess dramatic, highlighting the Liuer sound lyrical, since by the full expression of kindness and love is the child slipped sound effects.

The aria music of refined short, only two pages, but the sopranos want good singing this song full of connotation of hard work, also is not easy.Although this aria from beginning to end all remain serious, nervous, dignified atmosphere, but there are still obvious change of mood.

3.1 The Application Of Breathing In Singing Aria

Liuer in the play all the arias, only the song "While you of frosty" is the best embodies the character and mental activity Liuer dramatic aria.In this aria, not only need to focus on the speed of change, do not sing too fast, to try to slow, but also different rhythm elongated phrases. It also need to focus on wiring and other tips in various places in Music score appears. Deep breathing support, the breath should be placed evenly, according to the length of each one to regulate the use of a uniform flavor.

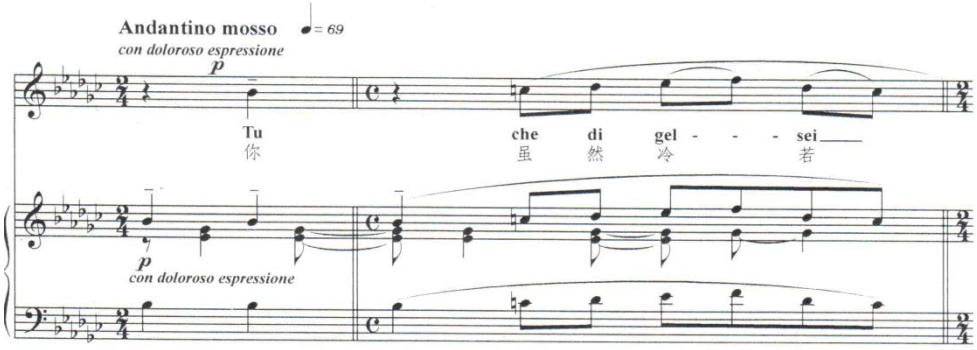


Figure 4 The application of breathing in singing aria(1)

The first sentence of this song appears in the sound area soprano part, and they are labeled P efforts on Music score, but did not do much to render complex prelude to song.Only the background chords concise guide slightly, after singing a shot into the main theme immediately.In addition, since in the sound area, it is easy to resonate shortage. Lead to too much oral voice , so that the voice of the existence of the existence of the pure and beautiful effect.Finally, the concert also need to pay attention to the aria spectrum surface requirements, and can place the second creation.Generally the creation of the work, will clearly put forward and clearly inform the composer of the requirements of the singer.In the aria, the established to slur phrasing, and between many of the phrase is divided into eight rests outside.There are a lot of weak ventilation opening or can sing, sing the use of resonance passages should always pay attention to pay attention to the score of all tags.These are secondary creation place to play.This aria is mainly applied to slow breathing and steal air ventilation method.You must pay attention to the overall speed of the song when you breathe.In figure 1.5, the speed is relatively stable, we can use relatively a few slow breathing techniques.

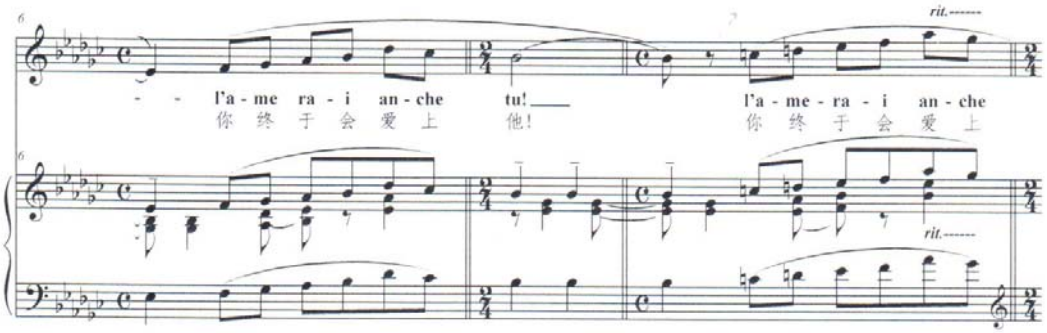


Figure 5 The application of breathing in singing aria(2)

Music section 22 (figure 1.6), more emphasis on phrases within the notes of liquidity when singing music and emphasize the inner tension.Thus, singing about them, it requires fast and deep inhale, then di sound and sing full voice flow.The key is to back up to the progressive scale ba2, the diaphragm against the force to maintain a strong and uniform discharge to breath ro-ra.

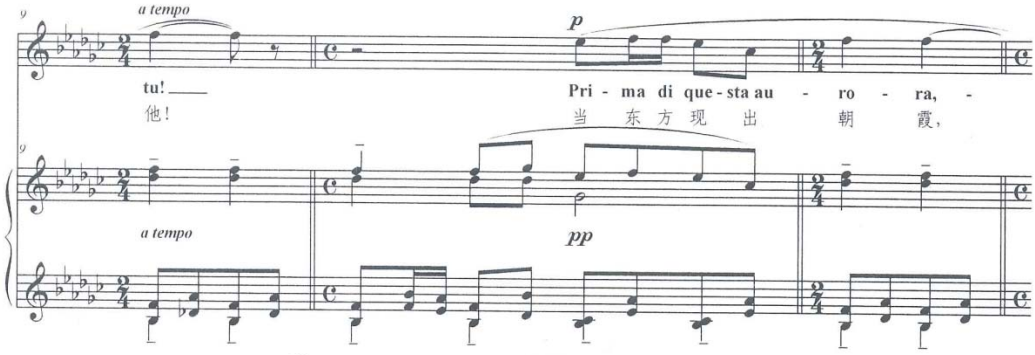


Figure 6 The application of breathing in singing aria (3)

Songs into the climax stage (figure 1.7), Each tone on sound not only to keep the mark as well as three extended sound marked Markings, and accompanied by a significant crescendo.This requires the singer to pay special attention in the concert atmosphere sink, so that the sound effects can be strong and full of powerful landed the highest point of the whole song bb2, and acts express a Liuer committing suicide last sad role piu last word be strong and dignified.At this point in the opera, Liuer will draw his sword to commit suicide, so before singing piu breath to stabilize, ventilating, do you want to inhale deeply, but it can not suck too deep, to avoid the emergence of the diaphragm muscle lack or loss of tension, causing the head cavity, pharynx closed, resulting in no such resonance phenomenon.Emotions are essential before entering the high tide.This requires that we must strengthen the ventilation technology, calm ready to breathe in.The sound should to maintain a uniform height throughout the climax.

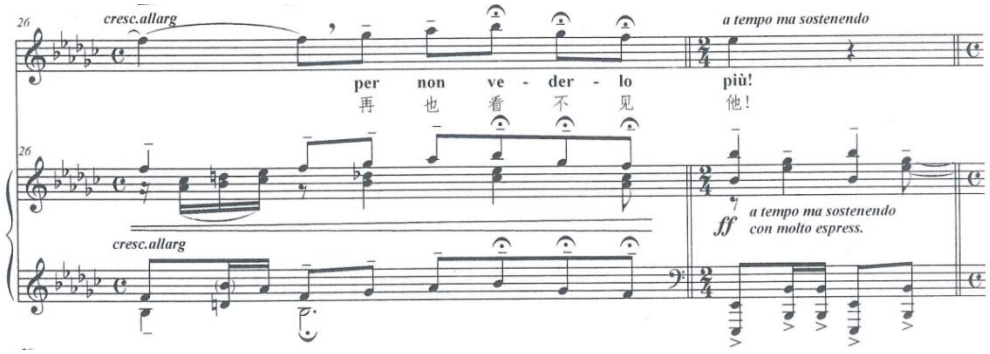


Figure 7 The application of breathing in singing aria(4)

3.2 The Importance Of Language In Singing

In the singing, the singer's language is extremely important.It allows the audience to understand the content of the songs to be expressed, so that works perfect interpretation and show to the audience.Here I will to Liuer's aria "Although you frosty" among several pronounce simple analysis.

LLyrics "it" in the "ch" is pronounced [k], "cinta" in "c" vowel "i" in combination with, "ci" pronounce [t*f*i], a lot of people will be made into a "gas" approximate tone, lips pursed in pronunciation reach.Many people often lyrics consonant "v" made into a semi-vowel [w].The correct pronounce should be noted that when the upper teeth clean lower lip in pronounce, so that you can send the sound correctly.

This aria has promoted "Liuer" role.In terms of performance, the singer also needs to reflect the emotional and spiritual aspects of the emotional value of the play.Praise and compliments be based on the "Liuer" the role of loyalty and strength of the earth's most beautiful love character.So the whole aria feelings and efforts should strengthen.Note that the harmonization treble strong tone head cavity, the location and atmosphere on the use of sound.And resolutely put an end to appear in the singing loudly.All statements must be controlled in a deep breath.To remain at a high position on said sing, let the music smoothly to the funeral plot.Moreover, we should grasp the inherent rhythm of work, familiar characters,inner thoughts and feelings, so that people can be perfectly reproduced.

4. CONCLUSION

Liuer composer in the creation of this aria, "Although you of frosty".Liuer composer in the creation of this aria before died the "Although you of frosty" not yet finished.His students according to the written by the script and the whole music style, make the magical color can perfect show.

First, this aria's reflects the Chinese women chastity view and sacrifice themselves for love, a model for the sake of Chinese moral characteristics of love.So the singer in the concert, need to be very good shape the image characteristics of the characters of liuer's.This requires performers in addition to have a good singing skill.The content of the song, the background of the song and the processing of the song should be analyzed rationally.Because each singer is a specific, independent personal circumstances, so for that song concert should be ongoing creation.

Second, the authenticity featured of the aria is also reflected in the final end of the story, showing the characteristics of the traditional logical thinking European dramatic reversal.When specific emotion, mood and content contained in this piece are expressed in their unique sound Liuer, the second creation also is particularly critical.Only by observing and analyzing it, can we get the understanding of the characteristics of Chinese and foreign cultural authenticity.This must be digested and translated into concrete characters and character, in order to reflect the authenticity of the characteristics of Chinese and foreign cultures.

Third, the authenticity of the aesthetic, a kind of aesthetic features can reflect the authenticity of the aria.The unique emotional characteristics and unique aesthetic style which is the singer must focus on the object.Therefore, before the actors sing the song.The singer needs to combine his whole aesthetic feeling with the good character of the hero in the musical work, the good and sincere heart to carry on the organic combination, thus causes the resonance.

REFERENCES

[1]Shufang Zhang,Italian language and songs Appreciation,Sichuan music publishing house,2000.

[2]Ziming Zhou,Theory of singing art of emotional experience,Journal of Xinghai Conservatory of Music,2002,(2):65-66.

[3]Paul Landormy,Histoire de la musique,People's music publishing house,1989.

[4]Meibai Zhao,ART OF SINGING,Shanghai Music Publishing House,1998.

[5]Feng Zhou,Xiaoqiang Zhu,Xiaoyan Zhou,OPERA ARIAS,Shanghai Music Publishing House,1989.

[6]Liang Xue,The method of singing,china federation of literary and art circles publishing corp,1999.

[7]Fei Zhang,The control of breath and the regulation of breath,People's Music,1951.(2):27-29.

The Researching of the Training Way of Compressresistance Shooting for the Police in the Passive Condition

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Abstract: the weapon is the most advanced form of aw enforcement by the police.Police use the weapon in the process of law enforcement is generally divided into two contents which are active shooting and passive shooting.For the police, the passive shooting is more dangers.Therefore, police using passive fire under the condition of passive are often subjected to higher psychological and it also needs the police having higher physical and psychological resilience to shoot effectively under the condition of huge pressure .This put forward the training methods to the compress resistance shooting for the police based on characteristics of passive shooting and hope to provide help for improving the ability to use weapon in the process of law enforcement .
Keywords: passive compressresistance shooting training researching

1. INTRODUCTION

Weaponsis is the most advanced form of law enforcement for the police and it is the biggest deter to the criminal. So it has an irreplaceable role in the process of law enforcement of the police. However, in order to prevent exceed proper limit, the law has set limits for the use of weapons[1]. The limitation of law combined with the complexity of the case, resulting in a variety of concerns about the current police use of weapons. Then the comprehensive effects of various concerns, the use of weapons become cautious. So in most cases, police use of weapons for law enforcement is implemented in the field to identify, and discern the situation results is that most law enforcement is after the criminal began assaulting a police officer , which led to the weapons used by most is implemented in extremely dynamic conditions. This kind of passive will bring great psychological and physiological pressure to the law enforcement police, and in this kind of pressure, the shooting is the compression of the police. At present, the domestic research on shooting is more, many of which have been related to the content of compression. But the current research mainly focuses on the compress strength training under the condition of active fire, but the compressstrength training under the condition of passive or forced condition is rarely mentioned. However, it is different pressure between passive conditions and active conditions in using weapon. Apparently passive conditions suffered by the pressure greater and its compress strength shooting difficulty is bigger and bigger.

2. THE CHARACTERISTICS OF THE COMPRESSION RESISTANCE SHOOTING IN THE FORCED CONDITION

2.1 Passivity

Compressive resistanceshot under forced is refers to the police in law enforcement by the suspects in the attacks, in compelling circumstances of shooting. Police in front of the fire, first of all to first identify the situation, and then to decide whether to shoot, so in shooting with respect to suspect, and both thinking and action are later than the suspect, so at this time of the shooting is shooting with a passive condition[2].

2.2 Dangerous

Shooting in forced conditions are in an emergency situation, the police can't stop the effect of the implementationof thecrime without weapons,so in implementation of shooting at the same time, the police observation itself, the surrounding people can living in dangerous, if forced to shoot wasimplemented not proper, not only can not stop crimeeffectively, can make themselves and the surrounding masses in greater danger.

2.3 Highpsychological Load

Forced shooting is under the conditions of the situation which is very urgent, and the people's police themselves or the people's lives and property security will cause huge losses in the case of the implementation[1]. If the effective implementation will be able to save themselves or the people; if implemented properly, it can not effectively stop the crime, but also themselves or the people will suffer a huge loss. Therefore, in this urgent moment, law enforcement officers after all office under the extremely nervous state of mind, patients suffering from the loss of thought will help produce, and further influence the technical and tactical ability of volatile, thus affecting the effectiveness of law enforcement.

3. THE TRAINING METHOD OF RESISTANCE SHOOTING UNDER THE FORCED CONDITIONS

3.1psychology Training

The good psychological quality is the guarantee of the implementation of the forced condition, so the psychological training is also one of the main contents of the compressive resistance shooting training[2].In the psychological training, mainly

through a realistic simulation of the law enforcement environment, such as in training students ears broadcast a police whistle sound, law enforcement field of women and children in the noisy cry and cry, combining teaching with officer fierce verbal command, to the trained students create a proximity to feel the reality of the law enforcement, to increase psychological load to students, so as to realize the continuous improve the anti-interference ability of students training, establish a stable law enforcement sentiment, and create a good psychological.

3.2 Safety Awareness Training

A good sense of security is a prerequisite for the ability to play a technical .So before the technical and tactical training, first of all, we should first to teach students "Situation assessment" and "Plus one idea", "High level force control" and "tactical retreat" safety concept and safety principles, its purpose is enable trainees to establish a sense of security in the mind and will the safety consciousness to realize the law enforcement activities, the root causes of obstacle free law enforcement risk occurrence.

3.3 Physical Training

Physical fitness is the guarantee of all technical and tactical , and the "forced shooting" technical and tactical must also be supported by physical ability[1].But the physical training for “forced shooting" is different from other sport training, it has its unique physical characteristics, such characteristics of source from the people's police law enforcement characteristics. Generally speaking, the implementation of "forced shooting" are in very urgent cases, that is not adopted with the shooting will not be able to curb crime, therefore in the implementation of "forced shot hit", "enemy" double side of my body is abundant, have the ability to in sudden changes in behavior.In other words, if the enemy my both sides after a long time, the chase and fight exhaustion, physical decline seriously, do not have all of a sudden, rapid change line capacity also precludes the not used fire there is no law to curb the crimes.In addition, the current stage of transport developed, long time, the exhaustion of the arrest action is less, so the forced shooting on the physical requirements are mainly concentrated in the anaerobic exercise. In view of this situation, we can to anaerobic exercise and "forced shot hit the drills together, in, was forced to shoot hit before short from sprint run or are prone to support the non oxygen training learning content, then under the uninterrupted" forced to shooting "practicing, from to provided high body, ensure that the purpose of the technical and tactical play.

3.4 Instinctive Shooting Training

Practice has proved that all established in the human instinct based on the movement of the most easy to form a stable dynamic. When forced to shoot, the human body human instinct which can be applied to shoot is index finger .The index finger instinct is when the human body is looking at a target, the index finger can accurately point to the target. When the police law enforcement process in a passive condition under, often do not have time for gun aiming and shooting, so its accuracy is low, which is caused by one of the major causes of forced under compressive shot of dangerous heart and great psychological pressure[1].And through the index finger to practice, can make the police through the index finger of the guidelines for effective shooting, the shooting method for forced condition of shooting with great help. When the index finger pointing to practice, the shooting action can be decomposed exercises. When do the decomposition of practice, practice the first isquick draw wing practice ;Second pulls a gun on the index finger pointing to the practice, through the practice constantly improve index and combination of gun and the accuracy of the index finger can accurately lead the gun pointing to shooting site.The third is quickly pulled the trigger practice. Through this exercise improve stability of the trigger button, avoid tension due to trigger excessive lead firing sinking.On the basis of the decomposition of the exercise, the trainee gradually carry out a complete action exercises, so that the instinctive point shooting to form a stable dynamic stereotypes.

REFERENCES

[1]Lixiang,Gengzhwei,"Five in one" teaching mode of applied shooting[J],Police combat training research,2008(04):78-79

[2]Tanrukun,Talk about the apply Shooting Training based on the actual combat[J], Journal of Hubei University of Police,2013(10):181-183

The Role of Artistic Practice of Vocal Music

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Abstract: The development of music has a long history, since the advent of music, the music is getting the endless pursuit and exploration. With the quick update and continued prosperity of modern society, the art of singing increasingly attracts the attention of the public. Over the years, our country vocal music singing level rapidly increased, and had a good development in our country. Vocal music education also tends to internationalization, and carries on the integration and innovation with the foreign vocal music culture. In recent years, our country vocal music talents in the field of emerge in endlessly, such as song zuying,Dai Yuqiang, and others, which get good grades in the international competition, the songs of our country to a broader stage of the art.In today's multi-cultural development society, pop music also gradually entered people's vision and developed so quickly that it has a place in the field of music. The process of singing could fully demonstrate the charm and attractiveness of vocal music. And different kinds of art practice process could make the singers' ability and skills get exercise, and find the singer's potential in a certain extent, which will promote and improve the ability level of singing and stage performance. From the point of view of artistic practice, this paper mainly discusses that a series of effects caused by the process of artistic practice in vocal music to clarify the effect of the cast.

Keywords: Artistic Practice, Vocal, Performance, Significance

1. INTRODUCTION

The main point of artistic practice is the process that singers show of their own vocals and singing ability on stage, which requires the singers not only have a full understanding of the background, connotation and the writing intention of the works, and but also show the style perfectly, meanwhile combining the performer's own singing characteristic and personal artistic style to achieve the perfect unity with the song. Attraction of vocal music is that singer on stage performance. Artistic practice is an indispensable part of vocal learning, it abandons the traditional vocal music teaching mode, changing from the traditional model of "You taught me to sing", that the singers dully learn from classroom to practice singing on stage. Enhancing the singing level in practice enables them objectively assess their works todicover problems and solve them. Digging the artistic potential in singing will further promote the singer's stage performance capabilities and professional competence,which enables them get fully practices. Singers' achievement in vocal will need a wide range of artistic practices to achieve, while a great variety of artistic practices will lead to a qualitative leap in singers' artistic level and their understanding of art.

1.1 Significance of Artistic Practice

Artistic practice is a process that singers integrate the theory and practice, and develops a broader platform for extending the content of classroom teaching. Artistic practice is an important form of learning vocal music, which greatly different from other teaching methods. Through this kind of art learning, singers can greatly enhance their music quality and their own musical quality, and also one of the key initiatives to improve application level. Such artistic practices can enable singing staffs associate academic with reality, meanwhile cast a critical effect in the process of fostering all-round quality music talents and create a new-level. Through such artistic practices, it can help students improve their professional level and overall quality, thus further improve their ability of stage performances and singing.

For students who just started learning vocal music, they can select some simple and authoritative Chinese and foreign opera to perform and exercise. To perform simultaneously while practicing sounding, and by the promoting of performances, then through " sound" driven by " feeling "and "sound" pass "feeling", thus it will helps a lot to find the feeling in singing! It will also arouse interest in students for further learning, enhance their comprehend ability, and they will inject their emotions in it. Thus autonomous experience is produced in the promotion of arts practices. Vocal Program During the performance, awareness of their own in the face of all the conditions are visible in the crowd in the arena.So most singers are a little nervous, if the atmosphere is not in the stage of mind, even can not be a good performance. Under such situation, it's not readily available of the excellent experience of the art application activities, and vocal performances will not be able to explore the artistic ground-breaking. To form an excellent experience in the art application process, it should be appreciated that the promoting effect achieved by the performance. First, at this time the performers should summarize his heart condition to start finishing in a shorttime, to perform wholeheartedly into the level of selfless, thus will gradually eliminate tension. Then, performers should put into their own feelings so as to obtain a natural self-feelings. While performing, performers should

actually not only maintain the "self" also to achieve a "selfless" realm. " self " refers to start from themselves in the process of performance to find a unique image of the role; While "selfless"refers to performers should express people's joy and sadness through true feelings when they get involved in a certain scene. This would require singers qualify excellent self-understanding in artistic activities and should learn to make use of perform to develop their own feelings in artistic practice activities.

2. THE IMPORTANCE OF SETTING UP THE PRACTICE OF ART

2.1 Improve Professional Skill Level

The art practice in the field of vocal music has a positive goal, which is to cultivate the students' creative ability and improve their application level.Its activities are a variety of platforms in the podium, stage or society. It can effectively put the students in the classroom study knowledge fusion with application in social behavior. So that students in the theory books for all-round, in-depth understanding of the full range and can be verified in actual classroom performance and quality.

Through practice, it can make the students aware of the defects of classroom teaching and learning, and then integrate the theoretical framework. This can strengthen the capacity of the stage show, strengthen the students on the basis of artistic accomplishment, mobilization of students learning autonomy. In the application of art, it should be regarded as an important goal for the professional level of improvement. It should regularly carry out basic music skills competition. Each class should contain a variety of topics in concerts, vocal music competition at the weekend. Creating a strong musical learning environment, students mobilize a comprehensive initiative to strengthen professional skills. Strong professional skills should be encouraged to start their own classmates singing or playing music individual performances, who can actively involve in the high grade performance and various categories of professional competition. On the other hand, the school invited professional arts organizations, performing arts expert performances, organized all kinds of theoretical presentations or performances. It can inspire the students show passion, improve their aesthetic ability, exercise the students' teaching ability of organization and activities.

2.2 Promote The Socialization Process Of Students’

In order to forge the artistic practice ability of students and professional skills, and check the teacher's teaching and research results. A large number of schools will be as a unit of month, for the students to carry out professional reporting performances. Through the reality of the stage show, so that students fully understand the stage performances of the arts.Find the problems faced in the teaching process, and gradually optimize the teaching of every detail.And then enhance the quality of teaching,create teaching methods.To participate in the practice, the students will help to promote the pace of socialization.Art practice can be integrated into the community as soon as possible, enrich their social experience and life experience, for their all-round development will also have a certain positive effect.Participate in artistic performance, can greatly enhance the ability of all aspects of the students.This includes mental capacity, interpersonal and organizational level of regulation, level of resourcefulness.

As its that employment policy, create art practice teaching system with groundbreaking.Schools should take the initiative and recruit units and interact together to prepare and implement programs to cultivate.To have a very strong level of art practice as its purpose to cultivate, thus strengthening the competitiveness of the students employment;To enhance the reform of teaching methods and contents of art practice, to ensure the necessary teacher strength, activities, hardware, and other support, to guide the teacher to strengthen the guidance and research of the practice of art;Create a sound scientific and rational art practice evaluation system.

2.3 To Practice For The Window, Bridge The Communication Gap

With the help of the classmates art practice, set up a communication link between campus and society.Let education get rid of relatively closed way and education into the broad social platform, help to promote further integration teaching, practice and research process.The art group is the most popular way in the practice of college music theory.It has a substantial content, including a variety of ways, with chorus, dance, folk music and classical music, playing guitar and other teams.Art group is the practice base of music theory course, and it can hold all kinds of performance activities on campus.Create a "basic exercises to strengthen the creation, integrated simulation, performance practice," the system, thus enhancing the students the ability to create applications.With the aid of the art troupe and other internship bases, it has created a practical system with strong operability, which can cultivate and improve the students' ability to create and apply the art practice.

2.4 To Improve The Professional Curriculum

The practice behavior of art is a very important step to develop the music talent of compound category. Music students in the market is facing the competitiveness of the background, show the lack of practical ability to perform, and this is the biggest obstacle to the music professional students looking for work. Therefore, only to abandon the old way of teaching, strengthen artistic practice step, which is an element of widening employment opportunities, and can mobilize the initiative and participation of ideas. Campus music lessons Faced with limitations. In order for students to acquire theoretical knowledge,

professional music teaching in various universities in the field of vocal music, often invite authoritative musicians or professors to teach in the school of experience, face to face guidance. Music is an extremely advantageous behavior art of practices, can expand students music sight, improve students' love of music, students of professional competence and the ability to work the second creation.

Through art practice, enabling insight into schools and other curriculum, teaching and regulatory level and does not meet the social needs of the Department. And actively carry out revolutionary teaching, that social reality closely fusion process, and strive to achieve a breakthrough in the field of higher education. Actively carry out the teaching revolution, is the social reality closely fusion process, strive for a breakthrough in the field of higher education.

3. THE IMPORTANCE OF ART PRACTICE IN VOCAL MUSIC

3.1 Vocal Music Is Very Practical

Vocal music is a kind of art which has a strong practical quality, maintaining the power of touching people. This is the recreation after the original creation of vocal works in accordance with the lyrics, or the composition of lyrics in accordance with the scores, which not only follows the original, but also reprocesses in a certain limited category. Performance should allow the performers' body figure, eyes and feelings present its contents properly, so that it can reach the requirements of the coherence of the aesthetic forms of figure, emotion and rhythm through the agreement of the content and form of art. In the course of the concert, performers should have regular features and their own unique characteristics. The performers should first express their intentions, followed by the song, and the recreation of the music, giving the song vitality and infecting the audience. The performers shall call in their hearts a visual context, which is created by the situation defined in the song, and the performers should present the whole content of the songs, making the scenes in the songs transformed into each performer's state of mind. Every song has a unique scene, which thus includes their own time, roles, places, scenery and other phenomena. Concert personnel shall accurately comprehend, understand and take advantage of such features.

Since the concept of quality education was applied in our education system, aesthetic education (or the Aesthetic Appreciation Education)has always been a relatively popular topic. The whole society has realized the crucial significance of popular nurturing of art in school to enhance students' aesthetic qualities. While for some non-art students, the article points out, it should be a breakthrough aesthetic education from professional manner .The current aesthetic teaching is still maintained in a simple version of the professional undergraduate arts college teaching methods, in other words, in the former nurturing of elite art education, students got relatively dull aesthetic theory and basic principles in the curriculum, some students also regarded himself to be outsiders of the elite, fail to participate in the course of investigation into the aesthetics. Those teaching modes above can not be regarded as unimportant, since the knowledge of aesthetics in a common sense level, as well as theory and aesthetics of art history, can assist the students in a productive way. However, in this article, the point is that there should be a breakthrough in the aesthetic education for some of the non-art students. This means that, there should exist some transforming activities to aid such a professional and boring teaching activities, which is, some kind of artistic practice. In this article, the artistic practice refer to the part of the students will study the aesthetics of their respective use to get into the life, thereby enhancing its aesthetic appeal and strength. , not professional art study in art college and carrying out of pioneering practice Therefore, in this course, students should not only act, but also should actively think about how to find the peripheral valuable aesthetic ideas from reality.

3.2 Performances In Arts Practice

First, the show is a combination of vocal content analysis and vocal techniques. During the performance of a work process, concerts personnel should not only have better sound skills, but also have a strong understanding of musical ability and imagination, carefully analyzing the meaning of works. Only by achieving these aspects, we can fully present a work. Secondly, the concert performances is the transformation of the personnel inner heart feeling, internal cultural literacy conducted. Therefore, any skilled personnel concert should have a comprehensive ability. Before having mature skills and strong performing abilities, he should have excellent psychological and cultural literacy. A good concert vocal performance requires its performer to have both strong singing skills and excellent inner qualities, as their psychological qualities will directly affect the performance's success. Since for the concert personnel, the show is a kind of psychological quality, and that requires concert staff to provide an entirely new meaning on a certain understanding of the original vocals. Moreover, the cultural quality of concert personnel will affect the work's insight and degree of understanding. Therefore, in addition to focusing on vocal skills, enriching their cultural quality and promotion is also very important.

Performance is an indispensable element of vocal arts in practice. A precise and right performance can effectively promote emotional expression and vocal art image-building, strengthening artistic expression and influence. Performance is able to promote the realization of the artistic imagination. Artistic imagination is a necessary heart function in the process of artistic creation, and has been associated

with the inner course, effected , and integrated with thinking or mood and image. When performing vocal music, performing arts can contribute to the realization of the imagination. Consideration for the internal images in vocal works should be presented by means of performances. Performance can guide imagination, on the other hand, imagination can promote the show, both of which are mutually supplementary and productive. Performers present their shows by means of artistic imagination skills, in accordance with the imagined material among the works, and with the integration of their life experience. As living in the imagined conditions, in such a state, performers can experience real emotions by means of their past performers, and then fully demonstrate their works, and promote the emotion as well as sound to achieve the desired effect. A good song not only requires great skill, it is more crucial that the author tries to show the connotation of performance. Only by focusing on the emotional presentation of the show and the proper performance of songs, can the public get to feel art. For performers, the organic integration of "voice" and "emotion" is crucial, and performing will promote the sound and emotional to be acted out at the same time. Imagine refers to people's brain for processing things and create a new image of the process. The content of imagination comes from the objective nature, which is an objective form of the human brain's response to reality. And it is the reaction of the human brain in the form of an objective reality. Imagination is a human creative potential, and it has an extraordinary effect on the vocal art. Imagination is an important part of the vocal art practice, or even can be said to be the power and source of artistic and creative behavior. Vocal music imagination is the indispensable practice of the methods and means in the vocal artistic practice, and it has great research value. Vocal music imagination is an indispensable method and means in the practice of vocal music, which has great research value. So we should give full play to the imagination, and strive to new perspectives, new trends, for the development of vocal art and improve the development of new research direction and development path.

3.3Artistic realizations in vocal music

Through the above, the performer's performance authenticity can be tested: authenticity refers to the in taking of the original insight when performing. It shows the level of understanding feelings and analysis of performers, showing a certain art conservation. Concerts personnel should analyze and understand the word, song author's intention, creative way, music features, and be familiar with the historical background; understand undulating tone, mood changes, meaning the segment division, the speed of the rhythm, melody level, mood emotions ; climax distribution lyrics fusion integrated sophisticated concept, which are also the performers inquiry targets. Emphasis on innovation: this is based on reality in order to realize the personalized mode. Personalized show is supposed to entail a unique knowledge of the work, but also to grasp the level of self-singing, and build large ones; and the excavation and analysis of works, the comprehension of basic essence and connotation ,the control of musical architecture, terminology and structure mode, words, musical notes, meaning relevancy; the analysis of background knowledge, different utilities for the society. Show the perfect characteristics: there is a unique point in the heart and temperament of the performer, and there are a variety of opinions for life. Moreover, for understanding the arts, the performers also will exhibit their personality. Selecting for their own performance skills, seeking their self-road performance, the performers can maintain individuality of art, and then show integrity.

3.4 Artistic Practice Is The Age Requirement

"The great work of art is the ultra-era, but the performance of these works but with the changing times and changing it with the spirit of the times imprint." This passage is pianist Andor Fuerduosi said. The reappearance of the historical and present times is an important requirement of the art of vocal music. As a product of a specific historical period, vocal music has a strong historical mark and musical style. Such as works by Bach, Handel period, with a more delicate internal structure and multi-line combination of voices; Mozart period is more emphasis on the internal structure of continuity, logic; Schubert, Schuhmann period is more freedom to reflect the creative style, the more emotional factors added to the performance of the work.With the passage of time, vocal music in the form of performance, skills and other aspects of the great changes have also occurred.In the analysis stage of vocal music, performance skills of the times, we must respect history.Inject new life into the works of history, exploit its true beauty from the works.In the original spirit of the times to be enriched with the second creation, to achieve Art vocal performances age requirements, in order to give full play to create personalized vocal performers and artistic skills.

4. CONCLUSION

The fusion of vocal music and social art practice is not only the need of vocal music science, but also the inevitable development trend of the vocal music in twenty-first century. Focusing on the development of vocal music practice ability on the stage, students find their shortcomings and problems through the practice. Problems to solve in the vocal music teaching is to let students to get the most out of their own characteristics in the course of learning and ability, which is the perfect combination of theory and practice. The influence of imagination in singing to promote the combination of sound and emotion will promote the good sense of self in artistic practice, and its purpose is to make the singers realize the

importance of art practice in vocal music singing.

REFERENCES

[1]XiaoyanZhou, Zhou Xiaoyan vocal foundation,Higher education press,1990.
[2]Edith Erickson,Art history and education,Sichuan People Publishing,1998.
[3]Wolff egan, Art criticism and education,Sichuan People Publishing,1998.
[4]FanrenZeng, Aesthetic and art education in the exchange of Chinese and Western dialogue, Shandong university press,2003.
[5]Hongjian Wang,Perspective,Culture and arts publishing house,2000.
[6]Let Eph • Lyotard,Postmodernism,1rded,,Social sciences academic press,1999.
[7]Dongyan Yuan, Series.the vocal music singing style,Journal of Xinghai Conservatory of Music,2001,(3):41-43.
[8]Jihong Fan, The understanding of the theory of vocal music and performance, Journal of Liaoning Educational Institue,2002,19(7):93-95.

Discussion on Film Animation Scene Design

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Abstract: animation scene design refers to style design of all objects except roles. Animation scene is key creation environment to shape roles and film style. Rational animation scene design can highlight the central role and embody the context of story. Animation scene design plays a crucial role in rendering film atmosphere, shaping character personality and promoting plot development. This paper analyzes and expounds designers' requirement of for scene design ability and specific design methods on the basis of functions of scene design.
Keywords: scene design, film animation, discussion

1. FUNCTIONS OF FILM ANIMATION SCENE DESIGN

Film animation is a kind of audio-visual art. Scene design offers time and space background for animation roles. Hence, it is an important content in film animation creation [1]. Scene design can not just effectively explain the background of story, and shape picture space, but also enhance visual effect of film animation through the color, shadow and scenery composition, render the environment and intensify film theme. Thus, audiences can gain visual feeling. Meanwhile, scene design can guide audiences' emotion effectively [2].

Animation scene design occupies an important position in film animation creation. The scene is space environment which shows features of unit scene of animation plot and also an important constituent part of general space environment [3]. Artistic style of an animation is reflected by scene design to a large extent. Hence, scene design plays a crucial role in displaying the story plot, completing dramatic conflict and depicting character personality.

1.1 Scene Can Create Emotional Atmosphere (Emotional Tone) Of Films And Render Environment

Each film has its unique picture tone, i.e. the emotional tone of the whole film, director's thoughts, emotions and artistic pursuit. Creation intention is reflected from picture tone. Scene design is a significant approach to express film theme and emotion [4]. Animation scene embodies entire style of an animation, renders the environment and creates atmosphere. The scene is all space except roles, so it has most visual impact in terms of expression.

Scene design can create atmosphere (arouse audiences' emotional resonance and reach the function of empathy) through scenery allocation, color effect, picture composition structure and shadow change in the environment. For example, there is sharp contrast between highlight and shadow in the scene design of Makoto Shinkai's Five Centimeters Per Second [5]. Besides, large quantities of visional shadow effects show aesthetic, fantastic, tranquil and cozy emotional atmosphere and interpret happy first love and faint feeling vividly and finely. In the film, gorgeous scene change makes narrative rhythm become slow and makes the audiences enter caught in reverie with the scene pictures. The director interoperates visional love of young people, confusion and stabbing pain of growing incisively and vividly through infectious scene design.

1.2 Scene Contributes To Shaping Character Personality

The scene creates activity space for film roles and sets up a stage for characters in the story plot. Thus, it has a significant function in shaping character personality. The director implies character personality and emotion through scene shaping and makes the role image more vivid. In Japanese animation Tekkonkinkreet, most colors are warm-toned, and surging expression effect is expressed. The film can enter the state of roles and crazy or violent atmosphere with the hot colors of scenes. Meanwhile, contrastive cool tone is interspersed in the film to show inner change of characters and the appearance of dark side. But, when the film enters the dream of another role, the scene color becomes bright and light to show pure emotional world of the role. The film shows two roles - white and black with entirely different personality and norms of action, and they represent two sides of city sole. Black represents the evil, and solves problems with attack and force. White is a pure juvenile fond of dreaming and imagining. The dream of white full of warn tone to highlight his innocence and pureness. When black appears, the colors form strong contrast. Unruliness and aggressivity of the role are conveyed through strong colors. In the dream of white, the scene transits to imagined space with entirely different style from single line. Through time and space change of scenes, the personality features of white are expressed properly. Besides, the difficulty in stating the personality of white is well solved.

1.3 Scene Contributes To Story Plot Development

The film theme needs to gradually develop through plot point setting. Scene design offers era, region, time, season, social environment and living environment for plot point design, and the implying function of scene design facilitates plot development and brings passionate confession for the theme. Pixar's animation Brave is taken for example. Under the general background of Scotland, the story plot develops until the climax as character scenes change. From magnificent palace to humble dwelling of the

witch, a series of wood-carved dolls with mysterious color remind the audiences the film enters the magic world. A large number of fantastic scene visual signs enter the view of audiences and guide them to enter the process in which the protagonist beaks the witchcraft. The visual signs skillfully introduce the film to the climax and effectively create good atmosphere for plot development.

2. ABILITY REQUIREMENTS FOR FILM ANIMATION SCENE DESIGN

2.1 Space Design Ability

Scene refers to activity environment of animation characters. It is also the space environment through which the unit scene features of plot develop. Space manifestation in animation scenes aims to give audiences real visual perception. To create space feeling, scene designers need to proficiently master the ability to design close shot, medium shot and long shot and allocate scenery so as to make picture contents rich and space feeling strong. In addition, the reasons for space vision disparity should be known. The reason for “near solid far empty" is that dust, moisture and smog in air etc. influence the line of sight. The scenery afar is fuzzy and the color is dim, while the scenery nearby is bright. Scene designers need to unify complex space environment through effective expression means and embody the depth of space. Moreover, scene designers should own the ability to accept or reject scene design, and remind formation and cultivation of subjective consciousness of scene design in creating space feeling, instead of copying. Secondly, they should well apply camera language. Different visual perception can be generated through changes of different shot angles to guide audiences in the specific space and effectively motivate their space imagination ability. Animation scenes are created by drawn rather than being chosen. Thus, the function of depth of field is often neglected in the design. Rational arrangement of foreground, medium shot and background is the most convenient method to form rich and natural scenes. Different from stage setting designers, animation designers should have camera awareness. Except consciously arranging foreground and making medium shot and background have rich scenes and picture competition, animation designers should consciously introduce special visual effect brought by the shots in the scene design.

3. PICTURE COMPOSITION ABILITY OF SCENE

The picture sense of animation art is stronger than film works, so picture composition occupies an important position in animation scene expression. Scene designers should not just have the ability to manifest the sense of picture balance and newness, but also own overall modeling awareness and accurately express the content theme of pictures [6]. Meanwhile, it is required pay attention to the influence of role generatrix on picture competition as well as change and unification of picture competition among various scenes.

Japanese famous animation director - Miyazaki Hayao is particular about animation scene composition. He pays special attention to picture balance and fullness. From his works, we can find fresh picture composition and impressive pictures. To create rich sense of pictures, the ability to combine picture composition and generatrix is required. For instance, to express the scene of role walking, the good effect will be achieved in the scene design through combining different picture composition. The first shot is composited with oblique lines; the second shot adopts lower visual horizon; the third shot applies deep picture composition. The whole picture generates abundant sense of rhythm. Designers should fully balance picture composition in scene composition. The elements in a film such as prop, setting, shadow and role color can serve as picture composition tools and means.

4. DESIGN ABILITY OF SCENE TONE AND HUE

Since people cognize the color earlier than the image, the color decides people’s initial impression on picture composition. If scene designers apply colors at will and neglect visual influence of colors, the final effect of scene design is ineffectual. For scene designers, understanding four types of attributes of colors (saturation, hue and lightness) is the precondition of color matching. They should not only focus on theoretical learning, but also lay emphasis on experience accumulation and individual feeling of colors. At the same time, they should know symbolic meanings of colors and emotional color psychology. Different colors have diverse symbolic meanings and give people different psychological hint and emotional conveyance. For these abstract concepts, scene designers need to own keen color observation ability and emotional color analysis ability. For instance, cyan with low lightness brings gloomy and cold feeling; dark green brings deep and serene feeling; bright magenta brings sweet feeling. To convey magnificent feeling, purple series with high purity are required. In scene design, if color setting of a role is similar to the color of some elements in the background, the role will be blended in the background environment, because animation scene composition is dynamic image. Thus, color application becomes more complex in scene design. Role and background setting as well as the match among role, other characters and props must be considered, except picture composition form of a static picture. Successful scene color design will makes the works attractive and effectively convey animation information.

5. SCENE DETAIL DRAWING ABILITY

Animation scene is created. How to make the scene convincing, avoid stiffness and be close to nature tests the ability of a scene designer. Scene designers should be able to observe and record life and bring more details for the scene through the observed

results. The most effective method to add details for the scene is field investigation.

In one word, animation scene has such functions as rendering atmosphere, promoting plot development, and highlighting character personality. It is a very important creation part of animation film. Animation scene design also embodies artistic style of artists. The director's emotion expression brings passionate confession for the film theme.

REFERENCES

[1]W. Chen, On functions and effects of film animation scene. Science & Technology Information, 2015, 13(23): 241-242.

[2]J. Xing, F. Yang, Study on animation scene teaching based on Chinese ink painting art. Big Stage, 2013 (1): 184-185

[3]Y. Li, On achievement of multidimensional information space in film animation scene. Science & Technology Information, 2013 (17): 27-28.

[4]F. Guo, W. Li, Atmosphere creating in film animation scene design. Time Education, 2015, (22): 68-68.

[5]B.Z. Bao, Makoto Shinkai – subverter of Japanese traditional animation films – case study of Five Centimeters Per Second. Business Conditions, 2015, (18): 366-367

[6]Z. Q. Liang, Trial on scene design course reform of animation specialty of application-oriented universities. Popular Literature and Art: Academic Edition, 2013, (10): 211-211.