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CONTENTS

An Exploratory Study on the Application of Innovative Talents Training Mode in Colleges and Universities

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Abstract: The cultivation of innovative talents is the core of a country and the national education, and the cultivation of innovative talents will become the direction of reform and development of higher education in our country. Based on the innovative talents training mode, there are still some defects, the need for further deepen the education reform, to set up advanced education idea; Improve personnel training mode, to set up the curriculum system which is conducive to the cultivation of innovative ability; Establish innovative mechanisms, guarantee the smooth progress of the cultivation of innovative talents.
Keywords: Innovation; Talent training mode; Education reform

1. INTRODUCTION

Innovation is the soul of a nation's progress and an inexhaustible motive force for the prosperity of a country. Colleges and universities as an important place for knowledge dissemination and knowledge innovation, and shoulder important responsibilities cultivating innovative talents. May 13, 2015 issued a file-<<State Council Opinions on Deepening the Reform of Higher Education in Innovation and Entrepreneurship>>(Guo Ban Fa [2015] No. 36), the document pointed out that development of innovative entrepreneurship education reform is the implementation of the national strategy and innovation-driven an important measure to promote economic quality and efficiency upgrades.[1] Ability and political integrity to cultivate high-quality talent is the key to innovative college personnel training, in addition to teach students scientific and cultural knowledge and excellent professional skills, but also to actively cultivate students' creative ability, creative thinking in the first place, nurture students to think the courage to explore, dare to face the difficulties and challenges willpower and determination, which requires in-depth exploration of new ideas and measures, innovative training model university.

2. THE STATUS OF INNOVATIVE TALENTS TRAINING MODE IN COLLEGES AND UNIVERSITIES

China's higher education is deeply influenced by the traditional idea and the thought of inertia, it is still in the educational idea to impart theoretical knowledge, ignoring the cultivation of innovative practical ability. In personnel training management system and lack of innovation, thousands of schools shall, do not attach importance to the research of innovative talent management, do not know how innovative personnel training and management rules, even with blindness and blindly. Do not attach importance to the cultivation of innovation ability, lack of practice links, students did not really go out of the campus, to social enterprises and scientific research institutions to carry out practice and innovation opportunity not to better temper innovation ability.

3. THE ISSUE OF CREATIVE TALENT MODE

In recent years, domestic colleges and universities attaches great importance to innovation and entrepreneurship education for students, and actively explore appropriate innovative personnel training methods, have achieved some success, to get some experience, but actually did not achieve the desired effect, also did not find very suitable training mode. Through the investigation and comprehensive analysis, the main reasons are as follows.

(1) The idea is not thorough, the understanding is not comprehensive

1) Under the influence of the traditional education, the educational idea of the university is still in order to cultivate the knowledge type talented person as the basic goal. In the actual teaching, the focus of the teaching of knowledge, while ignoring the other aspects of the training of students, especially the students' innovative ability and innovative thinking. This kind of teaching idea is very disadvantageous to the cultivation of innovative talents, which is the basic goal of teaching knowledge.

2) The University of innovation and high education is the same, that only a high degree of talent is an innovative talent. Just stick to the traditional personnel training measures, such as the number of published papers and the level of rigid indicators to define the concept of innovative talents. [2] Many colleges and universities have set the number and level of papers published in the doctoral and master's degree, which is an important measure to cultivate innovative talents and improve the quality of graduate education. However, this innovative talent

training requirements, and ultimately lead to the research students in order to complete the requirements of the paper, only the quantity and quality, to publish the number and speed as the focus, can not concentrate on academic research. This lack of a profound and comprehensive understanding of innovative talents, it is easy to go to the cultivation of innovative talents.

(2) The training system is not perfect, the training program is not scientific

1) Culture system is not perfect

Currently, colleges and universities training system is not perfect, the professional division and unreasonable, is not conducive to integration and cross-interdisciplinary, interdisciplinary and emerging disciplines to develop enough attention. Teaching methods lack of innovation, still using the traditional "indoctrination" approach to classroom-centered, attention and emphasize theoretical knowledge course, from the actual needs of the community, and so suppress the students 'sense of innovation, and hinder the play of students' innovative potential.

2) The construction of practice platform is still not perfect

Many colleges and universities remains unchanged focus on theory and practice of light of the situation in the past, students practice platform construction is still not perfect. They did not really go out of the campus, few conditions and opportunities to enterprises in practice, practice, found the problem, ask questions, analyze and solve problems of ability are not established. Of course, there is no innovation to speak of.

(3) The management system is unreasonable

1) Students' evaluation system is not innovative

In the overall evaluation of students is still mainly to the scores and assessment methods is still based on the examinations, the evaluation system of students lack of innovation factors, also ignored the students in the innovative practice of the participating in the process of performance.

2) Practical Platform system is not perfect

[3] External practice platform system construction often involves building the practice base of the purpose and practical conditions and practice base construction and management, and for off campus students to practice the training objectives, curriculum system, practice teaching content lack of concern and a detailed description.

4. RESEARCH ON THE CURRENT TRAINING MODE OF INNOVATIVE TALENTS IN COLLEGES AND UNIVERSITIES

(1) Establishment of Innovative Education Concepts and Deepen Creative Talents

In the process of reform of higher education personnel training, requiring colleges and universities to update concepts of education, and establishment the idea of innovative education for the purpose of cultivating innovative talents.[4] By holding various types of education, teaching work conference, so that teachers and students are fully aware of the value and importance of innovation and innovative talents. The education of colleges and universities should take the student as the center, the cultivation of innovative consciousness and innovative ability as the focus of teaching work, adhere to combining the theoretical basis and engineering practice of personnel training idea, training to adapt to the economic development and social needs of the basic knowledge of thick, strong professional and technical, comprehensive ability, has the international field of vision and the sustainable development of innovative talents.

(2) Reforms in Education, perfect curriculum system

The implementation of personalized education, set up the course system is conducive to the cultivation of innovative spirit, is the need to cultivate innovative talents.[5] Colleges and universities in the setting of the curriculum to widening and thickening basic theory course, and give consideration to deal with the relationship between the public basic courses and specialized courses, which is consistent with the structure of the innovative talents of knowledge requirements, but also in line with the development of cross-cutting discipline and penetration trend. Also in the curriculum system, also want to carries on the reform according to the goal of training innovative talents、supplement、adjust and update the existing public basic courses, outstanding public basic course in the cultivation of innovative talents, develop with characteristics of innovation talent training scheme.

(3) Sound management system, set up a platform for innovation

[3] The smooth development of innovative talents training work requires a reasonable system for security, which requires the main body of education in universities by actual management work to play a role, by improving the teaching management system、student evaluation system、teacher incentive system and resource integration system etc., in the actual management, make full use of these systems, let the service on the cultivation of innovative talents. In addition, introduction of innovative practice platform plays a key role in the improvement of students' innovation ability, innovation platform to build need to government, universities and enterprises of various forces to work together, in culture and prosperity of students innovation organization construction, start innovation network platform to do a good job.

5. CONCLUSIONS

The development of social economy and the progress of the country need to innovate, to speed up the cultivation of innovative talents in our country is a very urgent and key strategic task to promote the national modernization. Although there are still some misunderstandings and obstacles in the cultivation of innovative talents, innovative talents training has become the direction of future reform and

development in our country. The university innovation talent training mode to explore the application of and research, create good innovation personnel training mechanism and conditions, follow the education and the cultivation of talents in law, in practice and continues to improve, will be able to develop to adapt to the needs of China's social and economic development of new and innovative talents.

6. ACKNOWLEDGMENT

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Study on the Responsibility Subject of Landless Peasants' Vocational Education

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Abstract: in this study, through the integrated use of the literature research method and survey research method, this paper puts forward the vocational education compensation as compensation for landless farmers innovation and supplement program, demonstrates that vocational education compensation on the survival of landless peasants, development and social life of the rationality and applicability, clarify characterization of landless peasants vocational education compensation, clears the responsibility subject of the landless peasants vocational education compensation, implementation and tries to build the idea of landless peasants vocational education compensation.
Keywords: new urbanization; landless peasants; vocational education; educational compensation subject.

1. INTRODUCTION

The new urbanization is an important measure of China's economic development and social reform, is the strategic choice of China's modernization process, "structural adjustment, promote the development of an important means of people's livelihood" to achieve strategic objectives.[1] As the construction of new urbanization and social reform benefit damage group, landless peasants in land expropriation and land conversion function in the background of far away from the village face many obstacles and difficulties of development and implementation, is also facing conflicts and from different civilizations and values, encounter rejection and discrimination against mental torture, make it into a personality crisis.[2] Survival and development difficulties of landless peasants leading to personality the crisis is not only caused by the social reform and adjust the pattern of interests, lack of resource allocation on the number of groups of farmers and the development of history, but also the quality is not high and the effect is not good.[3] Compensation for landless farmers becomes the special compensation for landless peasants compensation. It can be said, the landless farmers in the urbanization and modernization process is in the weak capacity, the system vulnerable and weak capitals and other difficulties. As a new type of vulnerable groups, the landless farmer's vocational education is not only compensation on landless farmers for the current adverse situation of a kind of moral compensation, but also on the "fairness and justice" value orientation and the spirit of carrying forward and "people's livelihood" target practice.[4] Based on Specific characteristics of urbanization in the process of vocational education, government, enterprises and schools, and non-governmental organizations in our country vocational education are the main responsibility main body.

2. GOVEERNMENT: THE DOMINENT EDUCATION COMPENSATION OF LANDLESS PEASANTS

In the process of urbanization, compensation for landless farmers of vocational education is an important supplement and support for other forms of compensation, through which landless peasants can enhance their capital, can be adapt to the urban operation mechanism, and into the production and life of the city and the implementation of modern personality of the important choice and support. Realistic background and historical background, landless peasants vocational education and the nature of the government's basic function decide that government should be in a dominant position in the landless peasants vocational education compensation project, give full play to the function and value of the helm.[5]

From the analysis of the compensation theory, the government should be responsible for the cost of the reform and development to give compensation and support. Marx's price theory illustrates the general laws of social development, which demonstrates that any development has cost, development of cost free is the development of ideal model. In the new town of social reform and resources re allocation of the interests of all parties in the process of construction, land resources become the focus of urban and rural construction, urbanization will inevitably lead to the emergence of the landless peasants interests injury groups.[6] Landless peasants sufferring material dilemma and spiritual conflict is national price of new urbanization and the reform. As the construction of leading Party, government must shoulder the compensation of interests injury groups, practice the education fair responsibility, provide support and guidance to the life and development of landless peasants.[7]

3. ENTEPRISES AND SCHOOLS

In the new urbanization process, strengthening the occupation education compensation for landless farmers concerns not only beneficial to the people's

livelihood but also reflects the social fairness, justice and value orientation of education fairness and justice and demonstrates the superiority and equality of socialism. As an important social organization and social operation mechanism and implementation of education, occupation education and training in enterprises and schools is not only based on the provisions of the state policy, economic benefit, but also social and moral goals. In the process of compensation, enterprises and schools as an important part of the implementation of important education, through a variety of ways and means, play a huge role. Occupation colleges or related the training institutions have a natural advantage in Landless farmer occupation education compensation, is an important field of landless peasants occupation education and training in the implementation of post.

4. NON-GOVERNMENT ORGANIZATIONS

Occupation education is the greatest tool to adjust the structure of education and promote social equality, occupation education compensation is an important way to promote the development of human capital, the development of a harmonious society.[8] The government occupation education compensation more embodies the country's "Virtue", non-governmental compensation is more embodied as a private "good". Non governmental organization is a fair education to protect the rights of vulnerable groups. With the conversion of political space in our country, the state power to the society gradually shift and return, the role of non-governmental organizations in the social development and national construction has become increasingly prominent, namely the state power from the economic, social and political fields orderly exit, and social, folk and intermediary non-governmental organizations undertake the functions organized by the government. Based on non-governmental organizations in solving social problems and meeting the social needs of its unique advantage and function, non-governmental organizations participate in landless peasants vocational education compensation highlighting the moral value of compensation for occupational education can get rid of the limited rationality of government in a certain extent, market failure and school disorder and other factors influence, to the greatest extent help farmers access to modern personality, to adapt to the modern way of life and work.

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Research on Content and Way of Compensation for the Vocational Education of Landless Peasants

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Abstract: In-depth analysis of the uniqueness of the new urbanization and modern status and characterization, from the purpose of landless peasants vocational education compensation and the actual situation, analysis of landless peasants vocational education compensation can be selected tissues from three dimensions - survival of content, career development content and the common social life content.
Keywords: landless peasants; Education compensation; Implementation method; dimension

1. INTRODUCTION

From the purpose and the actual situation of the compensation for the vocational education of the landless peasants, the compensation for the vocational education of the landless peasants content can be selected from the three dimensions of the organization - the survival of content, the content of career development and social common life. For the content of the common life of landless peasants in terms of vocational education, the survival of the content mainly refers to the education and training of Vocational and technical skills and knowledge of the landless peasants. [1]

The education and development of the professional mainly refers to ethics and morality of the farmer group, the content of social common life is mainly about the knowledge of the urban social operation and the relevant provisions of the education and information transmission. It is not only able to carry out the education and information transmission of the urban society to regulate the knowledge of urban social operation.[2] It is able to achieve the purpose of compensation for the vocational education of landless peasants, but also with Prescott said three kinds of people need" And thus promote China's "people's urbanization" and the process of national modernization.[3]

2. PROFESSIONAL KNOWLEDGE AND TECHNOLOGY

The new urbanization is an important strategic decision from traditional agricultural society to modern industrial society and knowledge society transition in our country, in order to break through the "mechanical solidarity" social individual "atomic" status, creating a "group between the organic solidarity of society in a clear division of labor, the network state of mutual assistance, through which everyone in the society comes into the social network expansion and improvement of the system. As the interests of social development and reform of the damaged group, the most fundamental need is to get in the city and industry the survival and development of the social life ability to adapt industrialization and urbanization way of life and way of thinking as a qualified member of the modern social network operating mechanism. In the process of urbanization, professional knowledge and technology is surviving ability of landless peasants. An important basis for their own professional is to adapt modern urban operation system, into the production and life of the city an important capital, which includes not only the professional knowledge and professional technology, but also knowledge and technology process contained in the technical specification.[4]

Apprenticeship is an important way of technical skills, also an important direction of the development of occupation education reform in our country. The important characteristics of apprenticeship is that students and teachers to participate are in a project, the students are paying close attention to the teacher from first to last in the project design on every aspect of the operation and implementation process, to master professional knowledge and technology in a certain industry, enhancing professional knowledge and technical consistency, to avoid fragmentation of knowledge and technology. At the same time, Apprenticeship gives full consideration to the individual work plan and arrangement, the arrangement of teaching contents is more flexible, enhancing the effectiveness of education. Occupation education content apprenticeship combines the professional knowledge and technical implementation way systematic and consistent rules, and the individual to master professional knowledge and technology, to ensure the quality of occupation education and training in China.[5] Most of the adult population groups of landless peasants, are required to take home Responsibility, so education should fully considers the vocational education and training time and supporting role to future career development, therefore, in professional knowledge and technical education in the process of landless peasants, according to their interest in the hobby and specialty in some of the formal approval of the management

institutions registered as an apprentice to forms of on-the-job learning and Practice their knowledge and skills through with master or teacher to learn and get along in the process.

3. PROFESSIONAL ETHICS AND MORALITY

With more detailed social division of labor, occupation type gradually enriched, the relationship between people is added a lot of new content, people must rely on others to provide necessities to survive, in modern society, people live in a mutual service society. This kind of social relation decides that people depend on each other, personal occupation behavior needs to adapt their occupation standard to adjust the constraints, so the occupation ethics and morality. As a marginal group is moving towards the city of society, they also need to get the city social division of labor required occupation ethics and moral aspects of education content, to adapt and make it better into the city society.

Lecture speech is an important way to make the peasants formed through celebrity occupation ethics and moral values. Celebrity lecture or speech is better than school teacher lectures and lecture is much bigger and has more obvious effect. As a point of view, the teacher is teaching and analysis of celebrities through a commonplace talk of an old scholar, vivid case is easy to make this view become golden laws and precious rules, and into their own behavior. On the one hand, it is because of China's traditional culture of "authority" and "high" worship and respect. Although the landless farmers have lived in the city environment, they thought mostly in traditional social culture idea. Discourse and behavior is more reasonable and effective, therefore, the celebrity lecture contents of the speech makes is easier for Landless Farmers Group recognition. On the other hand, it is due to the celebrity itself to enhance the professional ethics and moral cultivation of landless farmers is extremely effective.

4. CIVIL CODE OF CONDUCT

As urbanization continues to expand the scale of China's urbanization rate, the public behavior has become an important basis for people's life and production, it is also an important criterion for people to adapt to city rules and integration. Specification refers to the prescribed or accepted standards, is an important guide for people to act, and also an important index to evaluate thing. From the angle of sociology, specification is any type of social norms to maintain social order and promote social integration tools, through education and social public opinion of the various forms of power, so that people gradually formed a kind of beliefs and habits, to guide and constrain people's behavior. As an important tool to promote social individual and social organizations together cooperation, an important prerequisite for code entry into force is that people can truly grasp and apply these tools to avoid "anomie" behavior.

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Discussion on Laboratory Construction of Internet of Things Engineering

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Abstract: Based on the analysis of Internet of Things Engineering Laboratory of existing equipment, combined course architecture, demonstrate the feasibility and necessity of Things Engineering Lab, and gives the IOT Engineering Lab program, including embedded experiment, laboratory sensor networks, RFID laboratory.

Keyword: Laboratory Construction;Internet of Things; scheme

1. LABORATORY UNDERTAKEN MAJOR TASKS

The laboratory can complete things related curriculum proof of principle, experimental curriculum wireless sensor networks, embedded systems and application development, android software development and other aspects of practical training, curriculum design, graduation design tasks. In the experimental teaching to meet the daily while providing equipment support for my faculty research undertaken to stimulate the enthusiasm of the teachers engaged in scientific research.

The laboratory building also actively carry out exchanges and training services in place for the development of local economic construction and make a useful contribution. But can also build on networking laboratory equipment, related to construction engineering, mechanical engineering, electrical engineering closely to jointly carry out research projects of experimental teaching and interdisciplinary aspects of the use of the Internet of Things experiment, promote the development of local networking industry to speed up the upgrading of local industrialization and serve the local economy in order to create considerable economic benefits.

2. THE NEED FOR LABORATORY CONSTRUCTION FEASIBILITY

Things technology to the physical world network, information technology, the traditional separation of the physical world and interconnected information space and integration, represent the future development trend of the network. More simply, things is implanted in the body to make a variety of micro-sensor chip intelligent, and then by means of a wireless network, people and objects "dialogue" between the object and the object "communication."

Following the computer, the Internet, things once again lead the wave of the information revolution. Currently, networking theory and technology has become a national focus of competition and high ground. In early August 2009, premier wen jiabao in wuxi inspection pointed out that "in the fierce international competition, to quickly set up the sensing information center of China or" experience China "center". With the national emphasis on networking industry, culture things related talent is becoming increasingly urgent, in July 2010, the Ministry of Education officially announced the establishment of 30 new universities of Things Engineering, Hebei Province, is the first to set up my school things one professional engineering colleges and universities, after more institutions use recruitment network engineering and other professional networking start direction. Things as a professional involved in computer science and technology, software engineering, communications engineering, electronic engineering, network engineering and other professional disciplines of cross-professional graduates can be engaged in software development, multi-field sensor manufacturing, network integration, integrated application development the work, which is directly related to the construction of supporting laboratory quality training.

3. BUILDING OBJECTIVES, EXPECTED BENEFITS IMPLEMENTATION

Aims:

Embedded RFID chamber and two chamber test / development platform, to meet the "Radio Frequency Identification Technology & Application", "embedded system development", "Architecture of Things", "Internet of Things Communication", "Engineering Design of Things "" wireless sensor networks "," mobile computing "and other experiments need things Engineering major courses, and can provide a more complete curriculum design environment, and support the students' innovation, entrepreneurship, science and technology competitions and other activities. At the same time, the laboratory is also available for teachers to carry out research projects related to research and development, improve the practical research, and enhance the declared national provincial scientific equipment needed conditions, improve discipline assessment level.

Expected Benefits

Things technology for the modern information processing technology, training system design from the thing in networking, systems analysis and technology development and research in engineering

and technical personnel. Students reasonable knowledge structure, with solid computer technology, information processing, modern sensors and wireless network technology, basic theory of things related to high-frequency and microwave technology, wired and wireless network communications theory, grasp the system of things sensing layer , transport layer and application layer design knowledge and skills, and have specialized in this field tracking new theories, new knowledge, new technology and strong ability of innovation and practical ability. While effectively improve the level of scientific research to promote the Faculty of things I respect.

Implementation Scheme

Things engineering is an interdisciplinary, involving a wide range of knowledge, thus requiring students to have a wide range of solid foundation of knowledge, related to computer science and technical expertise, network engineering, computer applications class professional universal basic courses, such courses were networking applications, development and research the basics of reserves. It is the common foundation of things different major application directions.

On the basis of courses, networking and education system will be divided into professional and technical things "sensor acquisition and control", "Information Communication", "Information Security Applications" three professional direction. This classification is based on data collected on the networking industry's level of understanding, of things as a huge industry, is not a simple field, its final application should be a complex chain net, the lower is associated with the physical world complicated way, the middle will be a variety of data access into the Internet and other communications networks, the free flow of data quickly, and in the end application level are experts in their fields, and user intelligence data using remote, wisdom. Based on this understanding "sensor acquisition and control", "Information Communication", "Information Security Applications" three professional direction is the students to develop plans for each classification level professionals.

After the "sensor acquisition and control" the main direction of students to learn and master the design and development of existing and possible future development of various sensing data collection and sensor data acquisition devices, sensors and control equipment, students can complete the course according to the practical application of environmental design, development, use and maintenance of different things nodes, numerical control equipment.

"Information Communication" main direction of students to learn and master the content of communications, network transmission, data access and data equipment and other aspects of the students after completing the course can be based on the actual application environment design, development, use and maintenance of various types of communication systems organizational signal sensing and control applications equipment.

"Information security applications," the main direction of students to learn and master networking technology upper application design in different applications, data security, system integration, data usage capabilities, students after completing the course can be designed according to the actual application and application examples, development , use, maintenance and comprehensive networking industry application systems.

Based on the above division of professional direction, the laboratory includes basic laboratory networking, networking applications project training/innovation experimental platform in two parts.

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Exploration of Specialty Construction New Energy Science and Engineering

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Abstract: Based on the analysis of new energy science and engineering development and talent cultivation scheme, it focuses on the teaching staff, teaching and scientific research situation of teachers, laboratory building, library, and practice base construction. And provide a theoretical basis for the construction of new energy science specialty hospital.
Keywords: New Energy; Professional Building; Exploration

1. SPECIALTY CONSTRUCTION AND PERSONNEL TRAINING PROGRAMS

The Ministry of Education in accordance with the principles of the new Energy Science and Engineering undergraduate teaching program regulations, combined with school characteristics of our hospital, traditional strengths, as well as many research results of other universities and businesses to develop a new energy science and engineering training programs in our school. The program focuses on broadening the professional caliber, emphasis on students' knowledge, ability, quality and integrated to improve, setting theory compulsory courses 34, a total of 2224 hours, including public courses 17 meter 1216 hours, discipline basic course 11 meter 728 hours, professional orientation class 6 door count 280 hours; internship (cognition practice, production practice, graduation practice, graduation design) practice teaching of 31 weeks, including graduation 14 weeks. Each teaching will be reasonable, courses out of 100%, 100% out of the experiment, to ensure that the students' knowledge, ability and quality improvement; New Energy Science and Engineering Laboratory under the principle of wind power laboratory, PLC control system laboratory, laboratory microcontroller, digital circuit laboratory, circuit analysis laboratory, analog electronics laboratory, the laboratory meet the basic requirements of the new energy Science and Engineering undergraduate courses experimental Teaching. 2013 according to the Uniform Requirements for School Office of Academic Affairs, revised the new energy science and engineering training program, developed a curriculum, not only to highlight innovation and practical ability, but also highlights the new Applied Energy Science and Engineering Personnel Training Features so that professional development and talent cultivation plan more scientific and reasonable.

2. THE TEACHERS TEAM CONSTRUCTION

Teachers are the leading teaching activities is the key to ensuring the implementation of teaching activities. To meet the curriculum reform teaching contents and teaching methods, and constantly improve the quality of teaching and actively cultivate backbone of the business, and constantly improve the level of teaching staff. Professional basic courses and specialized courses by the teaching and research as experienced teachers, young teachers through old teacher mentoring, business level has been greatly improved, thereby cultivate a high-quality, knowledgeable, professional support, structural optimization Teachers.

New Energy Science and Engineering existing 17 professional teachers, including 4 professors, 5 associate professors, 6 lecturers, 2 assistants, including reading Dr. 1, a master's degree 13 people; teachers' age structure is 45 years of age 6 people, 6 people 35-45 years old, 35 years of age 5; 17 teachers graduated from key universities, have made the ultimate degree in the school, school wide margin, high-level titles, has a master's degree in professional teacher ratio reached 62%. In short, the formation of a professional teaching echelon with higher levels of education and professional title structure. At the same time, professional teachers and improve their practical ability, teachers overall structure is reasonable, good development trend, to meet the professional development and personnel training needs.

In recent years, the professional teachers to raise the level of scientific research and teaching, teachers and total commitment to the completion of the provincial city hall and other types of research projects 13; get all kinds of research awards four levels; published 66 papers wherein the core journals or three retrieval papers 47; 8 edited and published materials. To achieve a significant increase in scientific research projects and scientific research, the profession of teaching has played a very good boost and improve.

3. TEACHING CONDITIONS AND USE

(1) Laboratory Construction: Laboratory is an important base for students, students from here acceptable scientific experiments training, training theory with practice style of study and realistic scientific attitude. The quality of teaching, the students' practical ability, creativity, analytical skills and problem solving skills depends largely on the quality of teaching experiments. The needs of the

professional practice of teaching, a new Energy Science and Engineering Laboratory, using an area of 450 square meters, under the principle of wind power laboratory, PLC control systems laboratory, laboratory microcontroller, digital circuit laboratory, circuit analysis experiment chamber, analog electronics laboratory, the laboratory can meet the new energy Science and Engineering Teaching practices requirements. In the experimental teaching to meet the daily while providing equipment support to carry out my faculty research work, teachers engaged in scientific research to stimulate enthusiasm.

(2) library materials: books students acquire the professional knowledge of important information channel, attaches great importance to the construction of new school library professional books and materials, and constantly increase investment in the professional books and materials of construction. Library area of 37,000 square meters, average building area in the forefront nationwide fame. The total amount of foreign language books available in the library of 1,013,600, of which 729,200 paper books, e-books 284 400, 2094 kinds of domestic and foreign journals. Electronic document storage capacity 64T, available online 31 Chinese and foreign instruments, periodicals, dissertations, conference papers and other types of databases, formed in printed, electronic type and network type Literature Information Resources organic combination of subject characteristics have my school Document information security system. Specialized library to purchase books for the New Energy Science and Engineering of nearly 1000, energy reached more than 11,000 books.

(3) Practice Base: emphasis on the construction of practice base, to maintain good contact with the Zhangjiakou region wind farms, the existing six stable off-campus teaching practice base, to provide students with good practice conditions. Teachers are encouraged to carry out social and technical services, enhance teachers 'new energy science and engineering practices; annually by the Department of teacher led, led the students to participate in engineering practice, the teaching and engineering practice, enhance students' knowledge of the theory cultivate students' engineering practice capability.

4. ACKNOWLEDGEMENTS

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Research on College English Teaching Model Based on Interactive Teaching

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Abstract: English is college and university in a basic course, students are an important part of cultural qualities. In this paper, college English teaching existing problems, Constructivism teaching theory, we proposed a way to create a good learning environment to stimulate students' thinking, teaching methods encourage students to form a positive attitude towards learning - interactive teaching, and described its application in college English teaching. Practice has proved that interactive teaching is to improve English teaching effect a good model.
Keywords: college English teaching; constructivism; interactive teaching

1. INTRODUCTION

Over the years, the University College of Education English as an integral part of a basic course, has been attached great importance to teachers and students, at present, many universities are using the English classroom "teacher talk, students listen to" one-way indoctrination teaching methods, classroom, teachers are often a monologue man on the podium, the students in the following passive acceptance of knowledge and teaching content the teacher passed, the low student participation, classroom atmosphere is relatively dull, so that kind of teaching mode seriously out of teaching and learning, reach the purpose of teaching. To change this situation, this article from the constructivist theory, proposes an interactive teaching method.

2. THE MEANING OF THE INTERACTIVE TEACHING AND CONSTRUCTIVIST THEORY

(1). Interactive Teaching

Interactive teaching is a teacher and the student body as a dual teaching activities in the classroom, extracurricular activities, together with English teachers and other interactive exchanges between virtual space and conducted between life and life. In the exchange process, teachers guide students through interactive, give students a positive impact, and guide their active participation in classroom learning activities through continuous discovery and exploration to complete the learning process and complete rules for the use of English and knowledge of outer . In this mode of teaching, teachers teaching in the conversion from lead designers to assist student learning and teaching environment, while also changing the focus of teaching and learning happen, so teachers are no longer concerned about how to teach, but If it provides help and support to students, to stimulate students' initiative and enthusiasm.

Constructivist Teaching Theory

Constructivism as a reflection, questioning, criticism and balances objectivism and the rise of a philosophy, it is mapped to the field of teaching and created a teaching philosophy. The idea that knowledge is constructed in behavioral activity or experience, is gradually appearing, contextualized; learning is to construct knowledge, to explain the world and construct meaning, the experience and attention processes (learning concept); teaching should reflect multiple perspectives, is divergent, inductive, and learner-centered (teaching concept); teachers and collaborators who help promote; students to construct knowledge by using active explorers tools; teacher-student relationship is the democratic equality harmonious collaboration, interactive dialogue.

3. THE CONSTRUCTION AND IMPLEMENTATION OF THE TEACHING MODEL OF INTERACTIVE TEACHING METHODS

English classroom teaching practice by September 2011 to September 2014 for three years, and I explored a set of students for the school-based interactive teaching mode of constructivism, this model includes six phases: preparation and lesson material before preview, introduction of knowledge, group cooperation discussions to determine consensus, teachers explain, after-school practice and testing.

(1) Preparation and are expected to preview material

Before class, teachers need preparation, collecting language, audio-visual and other material related to the content of the talk, and make these creative multimedia courseware. For students, we need to read the text before class, familiar words, analyzing the structure of the article, find the text associated with English phrases, proverbs.

(2) Introducing knowledge

The beginning of each lesson, I will talk about the connection with the lesson content, to make the introduction of a knowledge, can be introduced by way of the introduction of video clips, question-introduced, discussion introduced suspense formula introduced comparative introduced, etc., the introduction of effective knowledge can stimulate students' interest in learning, to reach a multiplier effect.

(3) Group cooperation discussed

With the introduction of prior knowledge and teachers are expected to preview lesson on what students have learned the lesson of a certain understanding, and group discussion, let students ask the question, answering and summary. In order to make the discussion does not deviate from the topic, I will randomly inspect and participate in group discussions, give full play to the leading role of teachers,

(4) determining consensus

After the group discussions, conducted among students speaking on behalf of the team, or group interaction, to discuss the results, and finally, teachers and students to summarize, reach the same conclusion.

(5) teacher instruction

Through the discussion, the students have a deeper understanding of the text, in the second, based on the author to explain the following text will explain the overall framework including the text, the difficulty of the text, the text of tacit knowledge. Among them, the overall framework for the analysis of texts help students grasp the context of the structure of the whole article, help to improve students' writing skills; difficulties for the text, the author first explains the relevant grammar, translation of the text, and then by the actual questions and answers related to life to enable students to make sentences, translation, repeated exercises to deepen the impression; texts often have some hidden knowledge is easy to overlook the student, as a teacher, you should dig deeper and be refined, summarized, and accurate knowledge to these students .

(6) After-School practice and testing

To test whether the intended purpose of teaching, I will ask the students after school lesson learned with the present practical application, such as the debate held in English, writing, English horn, etc., at the same time, we will have to request the students in English class and teacher exchanges, in order to detect students' mastery of what they learn.

Depending on the contents of each cell, so the specific teaching methods will be different, I will combine the content and characteristics of each unit to the specific arrangements for teaching and interactive way, this way, each class will have different interactive mode, but also give students freshness to stimulate student interest and improve learning initiative.

4. THE ROLE OF INTERACTIVE TEACHING IN COLLEGE ENGLISH TEACHING

(1) The right to guide the direction of English Learning

For many students how to learn English'm blind, I do not know to learn from that, no direction, the use of interactive teaching method that can guide and inspire students, such as teachers before class and ask a few questions related to the content of new courses, so that students resolve, or allow students to prepare for some new topics related statements or ppt, this way, the students continue to think in the teacher's inspiration, to learn English levels will continue to increase.

(2) help to mobilize the initiative of students learning English

Interactive teaching model has changed the traditional passive learning English Teaching situation, the classroom is no longer a teacher impart knowledge to students in one direction, the students become masters of the classroom, their dominant position in the classroom have been implemented and highlight the students' initiative and participation are fully mobilized and motivated to learn English listening, speaking, reading, writing and translating aspects get plenty of exercise, thereby enhancing the comprehensive ability in English.

(3) To give the students a good learning environment, urging students to learn

Under interactive teaching mode, students become the subject of the classroom, their only access to large amounts of data under English lessons, with questions posed by the teacher to read, think, organize language, the only way they can in the classroom and others well analyze problems, discuss issues, good to play the main role in this interactive teaching students urged to play a role.

(4) help students in the spirit of unity and cooperation and communicative competence in English

Interactive classroom teaching, students are often exchange group discussions, followed by inter-group exchange between students in solidarity, mutual encouragement, and love the atmosphere, to discuss problems, learning English, can develop unity, cooperation spirit, at the same time, English communication ability will be improved in such cooperation and interaction.

(5) conducive to spur and supervise teachers in teaching

Under interactive teaching mode, students to become masters of the classroom, the teacher became a student learning English guide, who only carefully prepared before class, planning classroom activities, serious preparation, good courseware, in order to fully mobilize the initiative of students learning English in order to achieve the desired teaching objectives. In this process, teachers will supervise their own continuous learning to improve their English teaching level.

5 INTERACTIVE TEACHING TEACHERS SHOULD PAY ATTENTION TO THE PROBLEM

Interactive teaching model to promote student and teacher interaction, students learn the subject, teachers to enhance students' awareness through the body to participate as teaching students the actual language proficiency play a leading role in teaching. In practice, the teacher is no longer a unilateral impart knowledge to students, should pay attention to

the role of the conversion, consider a mutually promote exchanges between teachers and students to have the motivation to learn. Therefore, teachers should pay attention to the following points:

(1) To establish a harmonious relationship between teachers and students to create a good interactive teaching space.

Should realize what it is about the content of teacher preparation

(2) design and planning, to determine the focus of teaching, difficulties and needs of the students interact with each other and content issues, prepare some simulation scenarios, students take the initiative to develop the habit of thinking.

(3) Teachers should pay attention to their own teaching style and body language, holding humorous style, you can maintain a relaxed state when the class, the students, good students and emotional exchange and communication, but can also mobilize the enthusiasm of student learning and initiative.

(4) Interactive teaching mode for teachers with higher requirements, teachers must not only have skilled professional skills, quick thinking, but also strain the ability of students raised various issues, so as to better manage the classroom.

(5) Interactive teaching requires teachers in their daily lives to observe, more thinking, more creative and collected books related to the content, the only way to live in the resources applied to English teaching, so that teaching more interesting life, guaranteed teaching is always in a virtuous cycle, to achieve the desired teaching objectives.

6. CONCLUSION

Forming language habits is a process of two-way interaction, therefore, English teaching, interactive teaching is to improve an effective way of students 'English Quality, but also consistent with constructivist theory, I believe that interactive teaching can improve students' motivation to learn , students participate in interactive teaching activities to teachers to improve English proficiency.

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Exploition of Metrics of Social Media Marketing Effectiveness by use of Delphi Method and Attempt on the Way to Qualify Social Media Marketing Effectiveness

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Abstract**:** the purpose of this research is to work out a set of reasonable and practical metrics to measure social media marketing effectiveness. Five metrics are decided by review historical literature. Delphi method is the main method used to identify the key indicators of each metric. This is meaningful as marketing media are revolute into a Web 2.0 era. Old monetary metrics are no longer enough to evaluate what marketing activities done on business goals. Managers all over the world concern on a way to measure social media marketing and in turn optimize their marketing decisions. The author find a concept model that can account for this problem in some degree.

Keywords**:** Social media marketing effectiveness, Delphi method, concept model, Facebook

1. INTRODUCTION

With the development of internet, the concepts of Internet marketing and social media marketing tend to be popular. The core of social media is users. Users constitute the platform, fill the contents and diffuse information. They are audiences as well as creator of social media [6]. This is what we call “We Media”. Famous social media are Twitter, Facebook, Wikipedia, Youtube, WeChat and so on.

80% of US social network users prefer to connect to brands through Facebook [32]. According to a survey done by Nielsen Company[23] over 25000 online consumers from 50 countries, 90% consumers trust recommendation from acquaintances and 70% trust opinions posted by real consumers [23]. Social media build a platform for such interaction between customers and customers, enterprises and customers. Also, social media provides the profile of users to help companies develop huge business value. These benefits attract many enterprises’ attention. Social media connects the enterprises, service providers and users together. Social media examiner has surveyed over 3700 marketers and 96% of them said that they participate in social media marketing [31].

When conduct marketing on social media, it is inevitable to face the performance measurement issues. Although many marketers consider social media marketing is important for their companies, 88% of marketers consider that the measurement of return on investment for social media marketing operations is top of mind for marketers for the last 5 years [31]. Notwithstanding, there is no unified standard to quantify the relationship and interaction now.

2. LITERATURE REVIEW

A. Importance of marketing performance measures

Low efficiency is believed as a primary problem of marketing because it is a widespread phenomenon that most marketing effectiveness indicators are not raising with costs as managers’ expectation [30]. Most of the managers strive to maximize profits opportunities by creating most value in the lowest costs. As the amount of tools can be used to conduct marketing become more and more, managers are eager to know which one can bring the best cost performance. Managers call for a new and comprehensive marketing performance evaluation model which can better show what they have made for the company.

Moreover, a large amount of executives criticize that current marketing indicators underestimate their contribution to their companies [20]. One of a reason is that the benefit of some marketing activities needs weeks or months to be explicit. For example, many companies keep a friendly relationship with potential customers. We may not know how long it will take to turn potential customers into monetary income. The effectiveness and the time period are both uncertain. The sales, in fact, are indirectly influenced by marketing activities. A synthetic evaluation model can justify managers’ efforts and inspire employees in further process.

Finally, a growing need for ROI of marketing comes from shareholders, whereas the quality of marketing usually is poorly stated in a companies’ financial statement [12],[21]. Three reasons explain this. The major cause of this problem is that many qualitative metrics, such as customer equity, are difficult to be quantified. Such metrics usually are evaluated in social media marketing. In US from 2011 to 2014, cost on social media marketing kept increasing and

were higher than other interactive marketing tools [10].It seems that social media marketing is inevitable to keep pace with the times and maintain success.

B. Social media marketing performance evaluation– metrics

Just have a marketing method is not enough, especially now there are plenty of options. Marketing performance assessment has long been a core problem to both scholars and managers [22]. Investors and managers are keen to find a way to evaluate the marketing effectiveness of each method to make an optimized decision [12],[21]. Research shows that 80% companies are using social media marketing [19]. However, most of them do not have a good way to evaluate the effectiveness of social media marketing. On the basis of a survey on Web Analytics Association, 35% survey respondents consider that social media evaluation may become the greatest challenge in 2011 and appropriate 65 percent companies are still working on establishing social media Key Performance Indicators (KPIs) in 2011[19].

Lots of efforts have been done by researchers to evaluate marketing productivity, regardless of the fact that it is very complicated to assess marketing effectiveness. The assessment methods on marketing effectiveness keep changing along with the evolution of marketing concept and marketing tools. The first thing to work out an assessment model is to find out the metrics and indicators. Marketing has changed from a single function activity to a synthetic activity; and the marketing media has changed from unidirectional communication to bidirectional communication, from material objects with regional restrictions to electronic internet without geographical limitation. Clark [7] concludes that marketing performance assessment metrics change from purely pecuniary to non-financial, from output to input, and from uni-dimension to poly-dimension. Marketing effectiveness is more than traditional ROI since lots of qualitative factors. When evaluate the effectiveness of social media marketing, marketers should release their mind from pure silver metrics but pay more attention to deeper information. Silver metrics are monetary indicators such as sales revenue [9], cash flow [26] and profit [11]. Although these metrics are still critical, metrics which indirectly influence monetary metrics should cause more attention, such as customer loyalty [15], customer satisfaction [3], Brand Equity [12] and so on.

There are some metrics which proposed by scholars and used by companies are quite prevalent in social media marketing measurement. To work out the metrics, one just has to start with an investigation on what can be got from social media marketing. Kim and Ko[17] testified that social media marketing can enhance customer equity. Customer equity is composed of 3 parts—value, brand, and relationship [18]. The value equity is related to characteristics of products. The products' price, quality and ease of use definitely are likely to affect customers' purchase intention. This is constant no matter which marketing tool is used. So this metrics seems not very closely related to social media marketing effectiveness evaluation. Brand equity is subjective value perceived by customers about the brand's value. With high brand equity, the brand is able to charge a higher price than unbranded products or poorly branded products [7]. Relationship equity represents customer viscosity. Since substitute goods all over the world can compete for the same customers, brand equity can be easily replaced. Building a strong relationship with customers at a great extent becomes a principle influence factor of customer loyalty.

Besides customer equity metric proposed above, brand awareness, brand engagement and word of mouth are added by Hoffman and Fodor [13].Brand engagement and word of mouth are two characteristics of social media framework and rules. The difference between traditional marketing media and social media is that, social media empower customers to interact with other customers and the brand, to create comments or speech freely, and to control their activities. Explain in more detail, they can register on webs, comment below blogs, review information, recommend articles to friends. Via such activities, social media users can build their own groups. If a series marketing activities are conducted appropriate, a brand-related group can be built. Brand awareness is a consequence of brand engagement and word of mouth.

Economic value added (EVA) is a technique to measure financial indicators [16], which has a long history and lots of advocates [29]. Managers and shareholders especially favor monetary data as economic returns are the ultimate goal of business. To evaluate this indicator, customer lifetime value (CLV) is proposed. Customer lifetime value is the economic value of a given customer. This value can be got from subtracting the revenue you earn from a customer and the cost to get that customer [14]. This data can be accessed by calculating existing operating database of companies. Conversion rate can tell managers how many potential customers do make actual transactions with companies. At last, the EVA of social media marketing can be predicted by multiplying customer Lifetime value, number of fans and conversion rate.

The metrics of social media is relatively easier to figure out. Yet, key performance indicators are hard to decide. Since the subjects of social media are human interaction, the main focus of new metrics should be customers rather than companies [13]. As a result, new metrics is called to evaluate the marketing effectiveness on social media. Although there are some metrics proposed in the history of social media marketing measurement, the indicators of each metrics still are unclear

3. RESEARCH METHOD

Delphi technology is used to decide the metrics to evaluate social media marketing effectiveness. Delphi method is multi-round investigation process with controlled feedback to a fixed group of experts in order to get general consistent conclusion. Group members deal with the same problem individually. The results of each round are collated and re-send to all members again for adjustment. Experts do not need to know each other in order to avoid bias. Experts engaged in Delphi are not the subjects of research, but equip the knowledge in relative disciplinary and topics. The objective of Delphi method is to provide an insight into a certain problem which has lower error-tolerant rate [4]. It is widely used to forecast problems, to develop concepts and frameworks [24]. It is suitable for selection appropriate metrics for assessing social media marketing performance for several reasons.

Delphi method is chosen because it is suitable when a problem face "a lack of a definitive method for conducting the research and a lack of statistical support for the conclusions drawn". Lots of researchers have worked on metrics to evaluate the performance of social research marketing. However, there are no unified criteria. Besides, social media provides too much data which can be utilized for measurement. Berkowitz [5] proposed 100 indicators to evaluate social media. This makes people confused about which of them are useful and how to use them. It is quite hard to prove which indicators are significant. The multi-round procedure greatly enhances the reliability of received conclusion. What's more, experts' suggestions are more reliable than normal surveys in this case. The assessment model development is a theoretical process which needs respondents have comprehensive understand about the situation and the theory basis. The respondents may be required to be knowledgeable in marketing, management, communication disciplines. Finally, all experts are anonymous. In addition, they do not have to meet physically. This largely increases the feasibility of international communication.

In this passage, the Delphi method is using to work out a list of metrics for social media marketing performance evaluation. In order to increase the respond rate, email is chosen as the main communication tool. As a result, experts can work on the questions when they have time. A list of existing studies on social media marketing performance metrics are provided as reference. Affinity diagram [27] is adopted to give a holistic view of the metrics, which are stem from literatures in the recent decade, used to measure social media marketing performance.

Then, all experts are required to list a metrics set with specific indicators. They can choose from the related material sent as background. Whereas, they are also required to think about what important things have been ignored and what unimportant things have been included. Despite the fact that no rigorous numerical limits are set, but narrow lists are better for practical use. Therefore, the recommend number of proposed indicators is lower than 20. They are required to give weight to each metric. They are asked to select from 1 to 9. The larger the number is, the more important the metric is. Kendall's coefficient of concordance (W) is used to assess the consensus of rating. When W is larger than 0.7, it is considered there is a high agreement among rankings; when W is between 0.5 and 0.7, moderate agreement is reached; when W is lower than 0.5, there is a low agreement among the results [28].

In terms of the size of the expert panel, Ellis [8] found that the size of panel ranges from 10 to 1685. Then, Powell [25] argues that the reliability of results has little relationship with the number of experts, but depends largely on the quality of experts. Small size panel is sufficient to provide stable and reliable results [1]. For practical operation, we decide to invite 10 experts into this research. Experts selection is a very vital step in Delphi methods as mentioned above that quality of experts is the key element which affects the reliability of results. The scope of the research discipline is decided to be marketing, management, sociology and communication study. All of the 10 experts are selected within University teachers. The experts are expected to have done research related to the topic of social media or new media after 2007 when the social media begin to become popular.

4. DATA ANALYSIS AND RESULTS

Delphi method is used to determine the metrics which can be used to evaluate the effectiveness of social media. A totally 53 emails are sent to teachers in universities to ask for cooperation. In total, 14 teachers respond and 4 of them refuse because they are not familiar with such topic. In order to prevent bias, the identity of each expert is anonymous. The profiles of experts are shown below. Seven of them come from Chinese University and 3 of them come from British University. Four of them are in sociology discipline; three of them are in communication study; two of them are research in marketing and one is from a management department. All experts have been sent a short introduction of social media and an affinity diagram of social media marketing metrics through email. The attachment is meant to give them a general idea of the background.

TABLE 1. Mean Of Weights Each Metrics In Third Round Delphi Method

Metrics	Mean of weight
Fans	8.5
Shares	8.4
Number of comments	7.5
Purchase intention or revenue	7.2
Views and visits	6.7
Number of posts	6.5
Customer lifetime value	6.5

Retention rate of old fans	5.8
Active fans	5.5
Likes	5.3
Increasing rate of fans	5
Activity on social network	4.7
Respond number on user comments	3.2
Ease of use	0.8

TABLE 2. KENDLL COEFFICIENT OF THIRD ROUND DELPHI DATA

N	10
Kendall's W[a]	.754
Chi-Square	98.074
df	13
Asymp. Sig.	.000

a.Kendall's Coefficient of Concordance

After three wheels, The final results of Delphi meeting is as table I. After calculation by SPSS, the Kendall Coefficient is 0.754 which is higher than 0.7, shown in table II. This shows there is a highly agreement among experts' judges. Table I is the descending order of the metrics.

5. Discussion

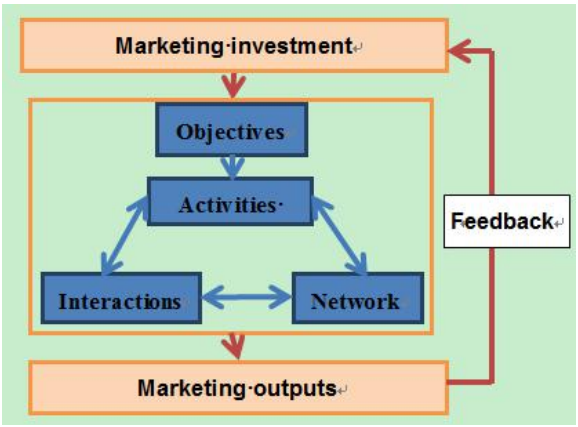

Figure 1 The way social media marketing works.

Fourteen indicators got by Delphi meeting are just numbers without meaning. Understand how social media marketing work can help us hold an overall view on social marketing evaluation metrics. The work mechanism of social media marketing is shown in figure 1. First of all, companies should figure out the goal of social media marketing. This determines the level of interactivities, amount of efforts invest in, and operation pattern. For example, some companies only use it as an information post platform; some companies want use social media marketing increase their sales; some companies plan to attract more potential consumers and increase brand awareness. However, the third one must take companies' goals into consideration if companies want to maximum the effectiveness of social media. Since interaction is the main difference between social media and traditional media. Other goals can also be done well on traditional media. The metrics get by Delphi metrics are just numbers with no meaning. This gap is filled by constructing a concept model as follows.

Fourteen metrics can be used solely to evaluate some perspective of a social media account. They also can be

combined to give an overall assessment on a social media account's marketing effectiveness. They are given meaning in figure 2. Brand equity represents the value of a brand in customers' minds. In this section, 3 indicators are involved. ①Number of likes. Only when people are highly appreciated the words or speech posted by a company, they "likes" it on social media. Such a kind of identity gives people a feeling of belonging. ②Response number on users' comments. The interaction is what social media featured that differ it from traditional marketing platform. The poor ability of companies in comments response can largely discounted the effectiveness of social media. Respond on social media is another form of before sale and after sale services. The quality and timeliness at a large extent can affects brand image in customers' minds.③Number shares. When information posted on social media causes emotional resonance of readers, they have a tendency to share it with their friends. People won't waste time on a thing they hated.

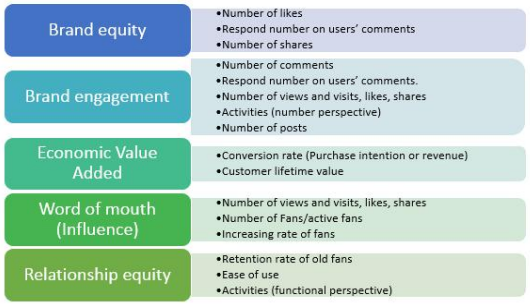

Figure 2 Metrics of Social Media Marketing

Brand engagement is an activity by which brands build a solid relationship with customers. On social media, customers and brands co-create marketing content. As a result, this section is expected to be measured from two aspects, customers and brands. ①Number of posts. Only when the company keeps itself in customers' eyes, they are more likely to be remembered by customers. In addition, when a company has lots of things to post, it shows that the company has attractive things and rich connotation to draw customers. ②Response number on users' comments. This is another thing brands can do to improve brand engagement of customers. ③Number of views and visits, likes, shares in some degree reflect the quality of information posted by brands. ④Number of comments. Usually when people pay particular attention to your posts, they comment under it. This indicator also shows that how many people are interested in this topic or brand. Such

engagement is extremely important. According to Costill [34], 46% online users depend on comments on social media to make a purchase. No matter the comments are positive or negative, they give brands a chance to realize what customers do want and to make an improvement. And through this, they indeed begin to help brands to build their frame. ⑤Activities (number). Campaigns are nodes which have intensive stimulation than normal communication. One of the interviewed experts says that a newly established Chinese makeup dealer, JiJing Co. Ltd, organizes a beauty contest on social media with prizes. During the contest period the company gains about 13 000 fans and sells more than 3000 sets of makeup. Also, because the contest groups a lot of beauties, lots of men remember this brand. It is reasonable to believe that they might buy makeup from this company for their girlfriends in the future.

Economic Value Added is a classic indicator of marketing effectiveness. Although the results of marketing may take weeks or months to be explicit, it can be appropriated predicted by multiplying conversion rate, number of fans and customer lifetime value. On the one hand, the average money earned from one customer can be calculated according to account of existing transaction. On the other hand, the conversion rate can be achieved by monitor some sole activities on social media. Then, the product of conversion rate and number of fans predicts the number of customers changed from fans. Finally, the economic value of all fans can be calculated by multiplying the product of conversion rate and the number of fans, and customer lifetime value.

Word-of-mouth section stands for the influence of a company. Three factors are involved in this section. ①Number of views and visits, likes, shares. These indicators all show people's attention on the brand. However, the importance degree is a little bit different. Arranging the descending order of importance is as follows: Shares, likes, views and visits. ②Number of Fans/active fans. This data directly shows how wide the social media account covers. ③Increasing rate of fans. The ability of new customer attraction can directly affect the expansion, sustainability and vitality of business.

Relationship equity is the last metrics concluded in this essay. ①Retention rate of old fans. This indicator largely shows the customer loyalty of existing users. Moreover, this is also helpful to foresee the word of mouth in customers. ②Ease of use. On the one hand, this refers to the ease use of app. For instance, how easy is it to share on Facebook or Twitter. On the other hand, it refers to the content of posts. How interesting does the content is? Does this message useful for various people? For example, tips for menstruation care have less share value than tips for a healthy diet. The ease of use can largely influence people's patient and willing in usage trend. ③Activities (functional). According to the function of activities, they can be divided into instrumental orientation and emotional orientation. According to this, the goal of such social media marketing activities can be concluded as follows: promote sales, and increase customer equity. Also because emotional orientation usually has unequally return compared to cost, the effectiveness of relationship developed by emotional posts is likely to be more valuable than instrumental posts. As a result, the weight of emotional posts is calculated as 2 while the weight of instrumental posts is calculated as 1.

ROI is chosen to be used to calculate the effectiveness of social media marketing. The original ROI formulate is

$$\text{ROI}=\frac{\text{net profit}}{\text{investment}} \quad (1)$$

[33]. Both of the net profit and investment are silver metrics. Here, those silver indicators will be replaced by indicators got above. The goal of social media account operation must be decided at the beginning [2]. Although social media marketing can bring an increase in all five perspectives proposed above, the main objective should be the primary evaluation point. As stated above, normally social media marketing result in five kinds of return whose effectiveness can be calculated respectively as follows.

Brand equity of social media marketing investment

$$=\frac{[L*5.3 + S*8.4 + R*3.2]\text{-investment(USD)}}{\text{investment(USD)}} \quad (2)$$

(L=Number of likes; S=Number of shares; R=Respond number on users comments)

Brand engagement of social media marketing investment=

$$\frac{(C*7.5 + R*3.2 + V*6.7 + L*5.3 + S*8.4 + AN*4.7 + P*6.5)\text{-investment(USD)}}{\text{investment(USD)}} \quad (3)$$

(C=Number of comments; R=Respond number on users comments; V=Views and visits; L=Number of likes; S=Number of shares; AN=number of activities; P=Number of posts)

Economic Value Added of social media marketing investment=Conversion rate*Customer lifetime value (4)

Word of mouth (Influence) of social media marketing investment=

$$\frac{(V*6.7 + L*5.3 + S*8.4 + F*8.5 + A*5.5 + IR*5)\text{-investment(USD)}}{\text{investment(USD)}} \quad (5)$$

(V=Views and visits; L=Number of likes; S=Number of shares; F=Number of fans; A=Number of Active fans; IR=Increasing rate of fans)

Relationship equity of social media marketing investment=

$$\frac{(RR*5.8 + U*0.8 + IA*1 + EA*2)\text{-investment(USD)}}{\text{investment(USD)}} \quad (6)$$

(RR=Retention rate of old fans; U=ease of use; IA=Instructual activities; EA=emotional activities)

Each perspective of different accounts can be compared solely to see is there any weakness of an account. The investment is the cost of operation on social media which need to be measured according to the specific price policy of platform. The overall return of social media marketing investment (ROSMMI) can be any sum of the above according to the goals of social marketing. For instance, if the primary goals of social media marketing of a company are to gain brand equity and economic value added, ROSMMI is equal to Brand engagement of social media marketing investment plus Economic Value Added of social media marketing investment.

This model can be used in 4 situations.① compare companies with the same social media marketing goals; ② compare one perspective of companies' social media marketing goals. ③measure two accounts can be in different industries to see whether an industry is suitable to conduct social media marketing; ④Compare two accounts of the same industry on different kind of social media to figure out which one can bring more return. The measure can be used both on predication or examination. If company A uses the data of its competitors to do the calculation, the result, in some degree, can be used to foresee the effectiveness of social media marketing of its own company. If company A use existing operational data of its own company, the results are more accordant with the real situation. Such result can be used by managers to see where can be improved by learning from competitors. Effectiveness of a company's social media marketing can be useful on marketing platform determination, comparison among competitors and strategy adjustment. If a company hasn't tried social media marketing, it can evaluate the social media marketing effectiveness of companies in the same industry. When it chooses to conduct social media marketing, comparing similar companies' social media accounts on different platform is possible to provide a reference. When the effectiveness isn't as good as expected, it can compare the metrics with their competitors to see where can be improved.

6. CONCLUSION

Delphi method is used to work out fourteen indicators of social media marketing and the weight of each indicator in this essay. These indicators assist to quantify qualitative metrics. They are reasonable reorganized and recombined according to different goals (metrics) of social media marketing. Semi-interviews to experts involved in Delphi meeting also tell us more in-depth information about why this indicator is necessary. These goals are brand equity, brand engagement, economic value added, word of mouth and relationship equity. A formulation of evaluate each metric of social media marketing can be calculated from that five aspects. The effectiveness of each metric can be calculated by multiplying indicators and their weights. And the overall return of social media marketing is the sum of related goals.

It is important to realize which goal the company wants to reach via social media marketing. Some companies are not aim to cover all five goals mentioned above. As a result, they can only sum what they needs. This model has practical sense rather than a concept model proposed by existing researchers. This gives researchers and executives a way to integrate data in different units and to quantify those qualitative metrics. The formulations proposed can be used in 4 situations. ①compare companies with same social media marketing goals; ②compare one perspective of companies' social media marketing goals. ③measure two accounts can be in different industries to see whether an industry is suitable to conduct social media marketing; ④Compare two accounts of the same industry on different kind of social media to figure out which one can bring more return.

The measure can be used both on predication or examination. If company A uses the data of its competitors to do the calculation, the result, in some degree, can be used to foresee the effectiveness of social media marketing of its own company. If company A use existing operational data of its own company, the results are more accordant with the real situation. Such result can be used by managers to see where can be improved by learning from competitors.

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On the Application of SPOC in the Teaching of Computer Course

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Abstract: This paper introduces the background and development of MOOC, and considering some deficiencies of MOOC in the university teaching , this paper discusses the improvement of MOOC by using SPOC and the practice of SPOC in the teaching of computer courses.
Keywords: MOOC; SPOC; teaching of computer course

1. BACKGROUND

The professors of computer science, Fox Armando and Patterson David from the University of California, Berkeley launched the world's first software engineering MOOC,which is loved by the students of computer science and computer enthusiasts . Then, the two world-famous computer scholars put forward the concept of SPOC (Small Private Online Course) for the first time. The concept is widely applied to the combination of MOOC and campus teaching, and achieved good results in the universities of the world. SPOC is a kind of combination of MOOC with traditional campus teaching as well as a blended teaching model for small-scale fixed groups. Through MOOC resources SPOC not only changes the unity of traditional teaching, but also add the popular classroom teaching to it. So, some researchers will define SPOC as MOOC+Classroom.

2. THE BIRTH AND DEVELOPMENT OF SPOC

(1) The appearance of MOOC brings tremendous changes to teaching methods

MOOC large-scale online open courses (Massive, Open Online MOOC) is a newly-developed online curriculum form based on the curriculum teaching theory,network and mobile intelligent technology .It has the following characteristics:

a) Tool resource diversification: MOOC integrates a variety of social networking tools and diverse forms of digital resources,forming diversified learning tools and rich curriculum resources. Due to the diversity,rapidity and large storage capacity of of the internet communication,the richness and practicability of resources in MOOC integration is much more than the traditional classroom teaching.

b) The convenience of the course : MOOC breaks through the limitation of the time and space of the traditional courses, and to learn learners from all over the world can learn courses of the famous universities at home relying on the Internet,which will relieve the inequality of educational resources to some degree, so that more people can share the high-qualified curriculum resources with top universities.

c) Wide range of learners: MOOC breaks through the number limitation of traditional courses to meet the needs of large-scale course learners. Compared with the traditional teaching, the cost of MOOC is not depended on the teaching process, but the preparation of the course.After the preparation is over,the large increase in the number of students will only increase the little cost to it, so MOOC class can accept students without limitation.

(2) Defects revealed in the development of MOOC

The emergence of MOOC has brought a great impact on the traditional teaching methods. The MOOC pure online learning mode provides a new way of teaching thought and a new stage for the teaching methods and the teaching ideas. However, with the rapid development of MOOC, some problems are gradually exposed in practice.

a) The lack of prerequisite and scale constraints result in the quality of students being out of control, so that the MOOC curriculum designers are faced with greater uncertainty in the design course to determine difficulty level of the course.

b) Academic integrity issues. As MOOC is fully a kind of online learning with the characteristics of submitting homework online,discussing online and testing online, we can not determine whether the subjects being tested in front of a computer is a student, a team, or even a smart machine.

c) The limitation of diversity in teaching methods. Because of the oneness of the MOOC teaching mode, it is often questioned because the teachers are deprived of their initiative, which weakens the diversity of teaching methods.

d) High dropout rate: MOOC courses have very high enrollment rate, but at the same time, it also has a high dropout rate, which requires learners to have a strong self-learning ability, and has enough stamina to finish the MOOC learning. Research shows that the average completion rate of MOOC courses is only 5%, thus such a high dropout rate has become a disadvantage of MOOC which can not be ignored.

(3) The improvement of SPOC to MOOC

SPOC adopts blended learning method, combining the MOOC and traditional classroom teaching,which

has both online learning (on-line) and face-to-face (off-line) learning . At the same time, it also sets prerequisites and the number limitation of learners to ensure teaching effect and quality. Especially in the examination, it can use the combination of online and offline examination form to check students' learning effect more realisticly and comprehensively

a) Lower cost inputs. Thanks to the limitation of the number and scope of learners, as well as the convenience of using existing school teaching resources, SPOC costs far less than MOOC.

b) Flexible teaching modes. SPOC redefined the role of teachers, which allows teachers to return to the campus, and to the small-scale online classrooms to become the true masters of the curriculum . Before class, the teacher is the creator and integrator of teaching resources; During class, the teacher is the hero of the class. After class, the teacher is the supervisor and mentor of the course learning.

c) Complete learning experience. Because MOOC is a blended teaching method online and offline without running out of the classroom completely,students are not learning in a class of a concept with no specific boundary ,but in a real class face to face with a teacher and students to complete the whole process of learning. SPOC can provide students with such a complete learning experience.

Table 1 similarities and differences between MOOC and SPOC were analyzed.

	MOOC	SPOC
openness	Totally opened	Only for special groups
size	Large	small
Teaching form	Totally self-study online	self-study online and face-to-face teaching
Finished class rate	about5%	more than90%
Examination method	Online tests、assignment、mutual evaluation	Online tests、assignment、mutual evaluation、quiz in class 、group discussion
Course competition	no	high(requirements and number limitation)

3.THE ADVANTAGES OF SPOC IN THE APPLICATION OF COMPUTER BASED TEACHING

Considering the characteristics of the basic teaching of college computer science , we believe that the SPOC can improve teaching efficiency and students' learning effect by concentrating high-qualified resources within the scope of the school , and by carrying out blended teaching to fixed learners purposefully.

(1) Significantly improve students' psychological attention. If we use SPOC model, the first step is to conduct a certain screening because students must meet certain prerequisites, and pass some necessary tests to enter the SPOC learning. After taking the SPOC learning. The"privacy" (private)of SPOC can give the students a sense of responsibility and make the students generate a sense of urgency of occupying the limited resources, so as to improve the degree of attention and learning motivation, which effectively guarantees the quality of learning.

(2) Using MOOC technology to support teachers' teaching activities. In order to enhance the experience of infiltrative learning, SPOC advocates the use of blended learning model using the MOOC materials to support face-to-face teaching to make full use of teachers' limited time and energy significantly. Fox Armando stressed that SPOC should use MOOC technology to support teachers to move their effort to activities with higher value, such as group discussion and face-to-face communication[1].

(3) A more accurate and comprehensive test method.Due to the characteristic of online teaching of MOOC, only testing online, submission of homework online, discussion online and other online ways can assess students' achievement. But these test methods are not accurate and fair enough,.There are two reasons.For one thing,it can not verify the authenticity of the students, which can only be guaranteed by their own integrity and self-discipline . For another thing, because the MOOC online tests, assignments,and online discussion are often repeated, and a lot of MOOC courses also allow students to participate in the tests for many times, actually MOOC tests provide only a "pass" and "fail" qualitative judgment, it is questionable whether it truly gives fair and specific scores. After all the students of a special class have finished their study online,we need to give a quantitative analysis of the specific results of each student, but this time MOOC test scores are less fair. And in SPOC, because there are full-time teachers teach the students face-to-face, this ensure that the students are real. At the same time, because the existence of classrooms, test methods are more diverse and more accurate.

4.THE PROCESS OF TEACHING

During the teaching planning,we take the need of Flipped Classroom teaching method into full consideration,thing over the teaching order carefully,set out proper teaching plan and replenish teaching sources trying to realize the teaching aim of "teaching students how to fish". Flipped classroom is an innovative teaching mode created by American Salman Khan. It reconstructs the classroom process, students study on their own through the teaching video made by teachers, and then do practice in class and use the knowledge they have learned to solve problems,.When the students encounter problems, teachers in the classroom give instruction. Flipped classroom delivers the initiative of the class to students. In this mode of teaching, students are able to focus more on the active study based learning projects in class, learn how to solve a variety of

practical problems, and the deepen their thinking.

In our teaching design, we use the six-step teaching method: The first step, the pretest. Before the teaching of a chapter , students should be pretested in order to understand the basis of the students, and then according to the results of the pretest teachers can determine the difficulty of their teaching. Second step, learn online .Teacher carefully record good micro lessons, and students use extra-curricular time to watch their own micro lessons to learn autonomously. The third step, put forward tasks in class. After students have completed their learning online, teachers will arrange little homework according to the contents of the micro lesson video and the syllabus content requirements of the chapter,.The purpose of homework is to stimulate students' reflection and discussion on the contents of the video teaching further. Fourth step, offline discussion and summary. In the classroom, the students are divided into groups, and each group will have a discussion about the contents of the video and the questions put forward by teacher and finally form a summary of views. The fifth step, extracurricular practices. According to the results of the students' discussion, teachers should make a judgment on the mastery of knowledge points, and further arrange exercises to strengthen the students' learning effect. The sixth step, the aftertest. The result of the aftertest will be used to evaluate the learning effect of SPOC in this section, as well as a part of the students' scores in the future.

5. CONCLUSION

With respect to MOOC, SPOC can better combine the subject characteristics and learning characteristics, and give teaching designs pointedly. With the features of being scientific and comprehensive in examination, SPOC has a unique advantage. Combined with the characteristics of "practice" of the university computer course teaching, the introduction of SPOC can effectively improve the teaching effect of the course. We believe that prior selection of a small number of students for the SPOC teaching has shown us the obvious advantage of SPOC, and it is a beneficial exploration on the reform of teaching methods, which will accumulate a lot of valuable experience for future generations.

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Analysis of the Influence of Core Strength on Traditional Wushu

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Abstract: Traditional Wushu is a treasure of Chinese traditional culture, which has been loved by people all over the world. In recent years, with the popularity of the Wushu movement, the level of Wushu technology has been tremendous development. With the introduction of the core strength training of Wushu, the development of Wushu technology has been boost a great deal. But because of the idea of the core strength training is introduced to our country later, combined with the shackles of traditional Wushu, the research on the core competence of Chinese Wushu is still in its initial stage, which affected the development of China's traditional Wushu technology. Seriously. This paper attempts to explain the role of the core strength of traditional Wushu, enhance the importance of the core strength training to the general practitioner, and then improve the level of traditional Chinese Wushu training.
Keywords: traditional Wushu core strength influence

1. INTRODUCTION

Traditional Chinese Wushu is combination of a series of offensive and defensive systems and defense action. It is based on the offensive and defensive retreat, dynamic changes of rigid Jixu, actual situation of contradiction of the organic combination and the formation of the complete set of technical movements in general. After years of development, China's traditional martial arts has now formed a "high, difficult, beautiful, new" and other characteristics of the sport. It requires the athletes in the fast, accurate, high intensity of the completion of technical action, but also in which the performance of its unique style of action. Generally speaking in martial arts, not only to emphasize the action completion, also emphasizes the coordination and stability of spirit and action performance specifications, and these movements are good athletes in need of special ability, also put forward higher requirements on the athletes' physical quality and so on. Traditional Chinese martial arts is a great sport, it requires athletes heart to feel the action force, to experience the charm. Therefore, in order to effectively improve the athlete's muscle control ability in daily training, should be of special strength training as the important content, also is the core the application of power and martial arts martial arts training, so as to improve the athletes for the degree of control of technical movements, and ultimately improve the level of technology.

2. THE MEANING OF "CORE STRENGTH"

The so-called core strength is gradually from the country to the country in recent years. Its meaning is to refer to all the muscles and ligaments attached to the core area of the human body. It is the main purpose to stabilize the body's center of gravity, control the body's balance, and transfer the body's movement. According to this definition, in the martial arts movement, the human body's "core area" mainly refers to the spinal lumbar segment, pelvis, hip joint three parts of the muscle group form the function of the whole. These muscles to stabilize the body in martial arts, transmission power function, in the process of movement is key to control the body stable and balanced, but also an important link of the whole force, plays a pivotal role in connecting the upper and lower limb coordination and integration effort.

3. DOMESTIC UNDERSTANDING OF THE CORE STRENGTH OF TRADITIONAL WUSHU

As the core strength is in recent years by the country to the domestic. So, the domestic understanding of the core forces started late. This is because the unique traditional martial arts project in China, has long been the world chasing, so both the technical movements of Wushu or related training in the world leading position, so the external knowledge system has been rejected. But in recent years, the core strength in other projects through the wide application of the core strength training achievements, the domestic martial arts practitioners have gradually realized the core strength training plays an important role in the application of martial arts, so have began to be core strength training into the martial arts. But due to a late start, the domestic understanding of core strength training of Wushu is not impressive enough; many coaches are still not clear definition of Wushu general strength training and core strength training of the difference, so the core strength training is not system, not scientific. In addition, due to the different conditions of the training team, a martial arts team fitness coach is served by coach. His martial arts coach no ground for blame, but the industry specializing in surgery,

in terms of fitness training, the coach is not necessarily a specialty. In addition, because the training task is heavy, the coaches are not carried out on the system. The long-term core strength of Wushu training plan. So the basic wushu team core strength training is still in the initial stage. However, no matter what causes the core strength of Wushu training lags behind, the most fundamental reason is the consciousness behind. If can truly understand the core strength for the weight of Wushu Movement In order to function, the core strength training will get rapid development.

4. THE INFLUENCE OF CORE STRENGTH ON TRADITIONAL MARTIAL ARTS

Martial arts complex, ups and downs, routes and methods are also different, especially martial arts content, different hands, eyes, body, external coordination step, the spirit of air power internal integration has different requirements. Through the study of the overall nature of Wushu, it is found that although the content of the martial arts are not the same, but as the core strength of the martial arts, the overall movement of the martial arts has a common role.

4.1Core strength affects the special forces of the traditional martial arts

Wushu is by technical movement many single connection, these actions include kicking, step, step, hand, jump technique, on roll action. Different technical movements are related to the special physical fitness as a support. The core strength of upper and lower limbs as the connection hub, is the core part of the power by the hand of the pace of transition, it is for Wushu movement exercise limb stability plays a crucial role, that is to say the core strength is the foundation to ensure the normal use of the special forces.

4.2Core strength affects the overall level of traditional martial arts exercises

Combining technical action in order to reflect the firmness and flexibility of traditional Wushu Exercise process, speed fluctuation effect, then show the traditional martial arts exercise effect. Level and core strength training level have a direct link. The level of exercise has a direct connection with the core strength. The core area of muscle strength improved, can not only improve the athletes in martial arts exercises for the process control of nerve tissue, muscle tissue, so that the body is in a relatively stable state, while the upper and lower extremity strength transmission more smoothly, all kinds of action force is more smooth and elegant, dynamic change more easily, as a whole on the coordination of outstanding martial arts beauty and rhythm.

4.3Core strength affects the difficulty of martial arts action

With the popularization and development of martial arts, the increasing number of practitioners of martial arts, movement difficulty has become a major indicator of the level of distinction between athletes. Therefore, at all levels of martial arts competitions, the difficulty has become the focus of competition among athletes content. The difficulty mainly depends on the athletes' physical quality, physical quality is the embodiment of the core power. The core competence of the athletes more smooth force, better in sports technique, so it has a great influence on the difficulty of core strength of Wushu movement.

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The Application of Core Strength Training in Competitive Wushu Routine

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Abstract: At present, our country has gradually began to pay attention to the core content of the movement of competitive martial arts routine research, Special quality training has entered into the high level athletes daily training. Research on the core strength training of competitive Wushu, the main objective is to maximize the strength of the development of Wushu, and then improve the competitive level of athletes. This study fully reflects the athletes in the core strength training on the use of means and methods.

Keywords: Competitive Wushu Core strength training application research

1. INTRODUCTION

Core strength training is a new idea and method in the course of sports training in recent years. It is the human body movement chain, the body feeling training, the nerve muscle system training theory foundation, carries on the deeper understanding to the strength training idea. The core strength training is the dynamic and static strength training under the condition of the body is not stable, its emphasis on the control of multiple muscles by nerve, and both the deep muscle group and small muscle group training in the core parts, making up for the lack of traditional strength training in the steady state of development.

2. THE CONCEPT OF CORE STRENGTH TRAINING OF COMPETITIVE WUSHU ROUTINE

Core strength training is mainly refers to the strength training of the core parts of the body trunk, which is divided into core strength, core stability, the core of the outbreak and the core endurance of four levels of training. The core strength training is gradually being concerned by the national sports personnel. In the academic field, this is a topic which is worth to people to spend a lot of time. The concept of core strength training in the eyes of researchers at home and abroad is not a big difference; there are two main types of core training areas: First, the core is the person's torso, spine, pelvis, and the surrounding muscles. The muscles including abdominal muscle, back muscle, abdominal muscle. Secondly, the following pelvic muscles above the ribs, including abdominal muscles, diaphragm and so on. Based on the above two core muscle division, division of the scope of the size of the main muscle are different.

3. THE ROLE AND SIGNIFICANCE OF CORE STRENGTH TRAINING METHODS

The emergence of core training methods can effectively prevent the damage caused by exercise. Athletes in the fast and has certain force action, can maintain the original position and strong core muscles are inseparable, to protect the stability of the key function of deep small muscle group, to prevent the acute injury. Such as: pelvic tilt, waist and abdomen, back pain, etc., these damage will have a direct impact on the training effect. In the process of exercise, the core strength of the body's center of gravity of the players to play a positive role, so that the foot landing when the fulcrum of the body and the center of gravity of the projection point in a reasonable position, so that the chance of injury to the lowest. On the one hand, it can enhance the ability of muscle contraction; on the other hand, can also reduce the load of the joint, so as to achieve the purpose of preventing damage. The core training method helps to improve the performance of the athletes. The hitherto unknown success of Beijing Olympic Games on Chinese athletes, in summing up the experience, almost all of the teams is invariably referred to the importance of core strength training. As can be imagined, in the future training, core strength training methods will not only widely used in the national team and the team, in the city, at the county level in all kinds of sports team training will also have an important role.

4. APPLICATION OF CORE STRENGTH TRAINING IN COMPETITIVE WUSHU ROUTINE

4.1. Competitive Wushu routine core strength training content

Core strength training is the training of the core muscle strength, stability and balance ability of the core muscles of the core area of the body. The main purpose of the core training is to stabilize; the core strength training is other sports ability, such as speed, agility, coordination and other quality training of the premise and foundation. Core strength training can be subdivided into four levels: core stability, core strength, core strength and core endurance training. Competitive sports in the core strength everywhere, but different sports for action form and different ways for the strength of the core area of demand is also different, this project is from the regional development core muscles athletes' core strength level as its starting point, to enhance the overall level of special strength athletes, martial arts. The level of

Competitive Wushu as the foothold is researched.

4.2. Core strength training method of Competitive Wushu routine

The use of the core strength training method of Wushu routine exercise is based on the traditional theory of special strength training. In the use of the method to take into account the specific action of martial arts routines, methods, the force point and the relevance of the core area of the specific. The main methods are: manual, Swiss ball, sees, exercise light weight (or barbell) and the high bar, rings, rope core strength training and do various exercise in the arrangement as far as possible the use of hand or hand apparatus exercises. In the following example, the development of the core of the development of athletes is part of the practice methods.

4.2.1. Based on the core development of ABS explosive action. The method include solid ball crunches, Swiss ball hand or pad two bars or rings, hanging high leg, and the group number vary from person to person, if a heavy number can be reduced properly, each doing immediately after taken before the feet kick related action;

4.2.2. In order to develop the core strength of the back of the action exercises. The method include light Barbell Body flexion, pad head prone stretch back, Swiss Ball prone stretch back, and the group number vary from person to person, each group immediately after exercise to do;

4.2.3. To develop the core area of the left, the right side of the outbreak of the main force of the exercise. The method include the pad on the left, the right side of the body bent, feet against the Swiss ball wall left, right hand holding light or exercise equipment, light Barbell Body left-right lateral bending, and the group number vary from person to person, each group immediately after exercise to do;

4.2.4. The development of the core area of the core area of the main training exercises. The method include Swiss Ball barehanded or with light equipment left supine, right twist, light Barbell Body left and right twist, hanging high bar or rings do leg lift about 360 degrees vertical circle and other exercises, requirements and group number vary from person to person, do the relevant action immediately after each practice.

4.3. Competitive Wushu routine core strength training effect

Athletics martial arts repertoire core strength training effect is mainly manifested in three aspects: First, improve the ability to exercise work muscles of Wushu athletes completed the core regional cooperation process. Second, improve the athlete's nerve control related to the muscle tissue of the muscle tissue. Third, improve the stability of the athletes and the ability to control the body's center of gravity.

5. THE RELATED PROBLEMS THAT SHOULD BE PAID ATTENTION TO IN THE TRAINING OF CORE STRENGTH

The core strength training load is generally to overcome their own weight and light weight, the main reason is that: The core part is the weak link of the human body muscle strength, participate in the body muscle work is quite deep part of small muscle; muscle can not bear the weight of heavy load. Secondly, the important task of core strength training, is the main part of the overall force, the upper and lower limbs, and plays a pivotal role in connecting. The main way to accomplish this task is to improve the nerve muscle in time and space coordination control ability, ability training should emphasize coordinated, balanced and stable and unstable, balance and imbalance between the fast and precise conversion, no load and light load necessary training to complete this type of training task.

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The Countermeasure Research on Cause Which Affecting the Precision Shooting Result of the Pistol

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Abstract: Accuracy shooting is the basic subject of shooting skill, and it is also the important basis of police application shooting, so it is very important to all kinds of police education and training at all levels. However, although the accuracy of shooting has received widespread attention, there is still a part of police's shooting performance is not ideal. Investigating its reason, we found that the method of aiming is not the core which we have always considered, there is a deeper season .Through many years of teaching experience as well as query the relevant information at home and abroad，the author think the body posture and shooting psychology as the main cause of the impact of the accuracy of the shooting results and put forward solution on this basis.

Keywords: Precision shooting Countermeasure Research Pistol

1. INTRODUCTION

Weapons are the most advanced form of force for the police and are the most effective means to deterrent and uniform the crime .Therefore, no matter in the police colleges or all levels public security organs In-service Police Training process, Weapons using courses are a required course. Precision shooting is an important part of the teaching of weapons, which is the basis of all application shooting and also be the only way to improve the ability of law enforcement, so it is impassable stage for all the weapons use trainees .Over years, the public security organs at all levels have been the precision shooting training as the main content of the use of weapons training and precision shooting training is the main content of the public security organs to use the assessment of various weapons, so the precision shooting is think highly of by the public security organs at all levels of education and training departments. But through the author's many years of teaching and training experience: No matter how to improve the degree of attention, there are still quite a number of trainee's precision shooting performance can not reach the expected requirements. This not only affects the training of the ability of the use of weapons, but also causes great damage on the enthusiasm of the trainees and self-confidence. Many trainees voluntarily gave up their study of relevant content because of this. Therefore, the relevant factors affecting the accuracy of the shooting performance of scientific analysis and put forward reasonable, effective teaching and training methods is the current police training needs to be solved. This paper combined with the author's own teaching experience and the current international research results on the shooting accuracy, in-depth analysis and based on influence of precision shooting problems put forward some reasonable suggestions, hoping to promote grassroots police to improve the performance of precision shooting.

2. REASONS FOR AFFECTING THE PERFORMANCE OF ACCURACY SHOOTING

All along, the cause of the impact of the accuracy of the shooting performance, most attributed to the trainees will not be targeted. But through years of experience to find: Through a series of careful teaching, most of the trainees can effectively control the accuracy of the shooting method, but the results are still not satisfactory. So, the main reason is not aiming at the accuracy of shooting. Through this conclusion, the author concluded that the impact of precision shooting performance must have a deeper reason. Through consulting the data and the summary of its own experience found: In the process of precision shooting, the human body as a kind of support, through the connection between the hands and the gun, the feet and the ground connection to keep the gun in the shooting process is relatively stable, which is also defined as the "support theory". Therefore, in the process of shooting accuracy, especially the critical time for bullet firing, any damage factors support stability will have an impact on the accuracy of shooting performance. Specifically, the factors which can cause damage to support stability in the firing of the critical point mainly include the following several aspects:

2.1 Body posture reason

2.1.1Trunk posture

Through the survey found that a part of the trainees in the accuracy of shooting, the trunk maintained a relatively tight state, the specific performance is the back tension, the upper body upright; Or the legs are bent. Through the talk we know that: they all think this body posture is more conducive to the shooting process of the body stable. But by bio-mechanics, it is known that the muscles of the human body can cause fatigue and damage the stability of the muscles

when tighten for a long time. Muscle stability plays an important role in the stability of the "bracket".

2.1.2 Arm tension

In order to more effectively improve the sight distance of accuracy shooting , and transmit the back seat of the shot through the arm to the body, and then reduce the impact of the rear seat for the re targeting. Many of the trainees are willing to force their arms straight in the accuracy of the shooting. But when the arm is stretched out, the arm's part of the muscles in the state of tension, and the muscles are stretched will be a reflection of the contraction, which will destroy the stability of the arm, and thus undermine the stability of the upper end of the bracket.

2.1.3Grip strength

In order to effectively overcome the "back seat" phenomenon and increase the grip on the gun, a lot of the shooter in the accuracy of shooting is willing to use a larger force to hold the gun. But through experiments: The greater the strength of both hands holding the gun, Pulling the trigger finger on the trigger of firing force is greater, The faster the trigger moves and the speed is irregular.[1]The moving speed of the trigger irregular firing moment will lead to stability of muzzle pointing, thereby affecting the firing accuracy.

Upper limb is the combination position of people and the gun, but also is the position of a person to fight or is the main part of manual labor. Therefore, whether the upper limb strength is complete directly affect the effect of the use of weapons and even safety. If the upper limb strength is not enough, after a fight with the suspect, Lack of muscle strength of the upper limb will lead the gun instability, and even the gun was snatched away by others. in view of this situation, the police should be aware of the strengthening of upper limb strength exercise. If conditions permit, you can go to the gym for systematic training. If because the job is busy, no time to exercise, you can select push ups, dumbbell, and more common sports facilities in daily life, such as the horizontal bar, parallel bars, and other equipment upper body exercises.

2.2The psychological reason of firing

2.2.1Fear of fire

In the firing process, For fear sound of gun Or fear of the gun itself, Part of the shooter in the shooting, Especially in firing point will have a certain psychological fear. This sense of fear has the two aspects:

Firstly: closing eyes in fire. eyes closed in firing moment will lead to the destruction of human space, And then destroy the stability of the support which has just been established, affecting the accuracy of shooting. In addition, closing eyes also destroyed the sight and closed the gap has been the formation of civil relations, caused the aim deviation that affect the firing accuracy.

Secondly: Pull the trigger forcibly. Because of fear, a lot of trainees in the firing process, trying to trigger fierce to end the firing process quickly.[1]But when the trigger is pulled, the stability of the hand has been destroyed. The hand is the key part of the "support" and the gun is also the most important part of the stability of the content. The destruction of the stability of the hand is bound to cause a huge impact on accuracy, The trigger is a muzzle sinking, make impact low or directly from the target.

2.2.2psychological impatience in the critical state of firing

In the process of precision shooting, in order to ensure the stability of gun firing moment, For beginners or poor level, we require them to pull the trigger slowly until the shot. But in actual operation, many trainees have a common psychological, that is when the trigger begins to move, because moving slowly, the trigger to buckle from the beginning of the long shot, the shooter began to appear impatience.[2]The direct expression of impatience is "racing to a market" phenomenon, The trigger finger sudden force, make the gun in his complete the firing time. The result is: the trigger finger buckle sudden force destroyed the original gun and pointing stability, the impact of lower or lower right (right hand with strong fire as an example, the strong left for the lower left side).

3. COUNTERMEASURE RESEARCH

Aiming at the reasons for the impact of results on the accuracy of shooting, through daily teaching and training, the author summed up the following methods and achieved satisfactory results.

3.1. Application of "three adjusting method"

"three adjusting method" means “Adjust the body position” 、 “adjust the breath” and “adjust your attention ".

“Adjust the body position” Refers to the principle of vary from person to person, in the shooting process as far as possible to make the body to maintain a relatively scientific, comfortable body position. Such as the trunk, require natural straight legs, center of gravity slightly forward, similar to human natural standing posture .While the arm is required to maintain as much as possible with the same natural droop muscle; while holding the gun, you need to keep the nature to relax, to hold the gun as the foundation, comfortable as a guarantee. In short, the biggest goal is to adjust the position of the body is carried out according to the gun, aiming and shooting, as little as possible to change the original muscle state, and thus the body to maintain relatively stable.

“adjust the breath” Refers to the process of shooting, Especially when firing, hold your breath, avoiding the inhale and exhale to undermine the stability of upper limbs, and then destroy the "bracket" stability. But hold your breath also have time limit, generally not too long, otherwise it will influence the body's awareness.

"adjust your attention "Refers to the adjustment of attention. In the shooting process, especially the firing moment, the trainee's attention to the surrounding environment should be pull back to the targeting and the action trigger, avoid because of the disturbance of the environment to destroy the relationship of Pingzheng and trigger method.

3.2. Behavioral intervention and the application of psychological suggestion

For a timid and anxious psychological training in the shooting process, during firing, the teacher may through the psychological and behavioral intervention that helps trainees overcome the problem.

Firstly, students with timid psychology. At the time of shooting, teachers can help trainee to hold a gun or touch their shoulder or other methods, to tell each other in the process of shooting in the teachers always care for them, help them overcome fear. In addition, through contact with each other, teachers can also perceive students specific aspects of psychological fluctuations, which is more conducive to solve the problem.[2]

Secondly: for students with impatience. In shooting, the teacher first through the language to guide students to complete the shooting process step by step, For example, tell the students holding the gun, aiming, slowly pull the trigger, do not worry, slowly to help students overcome impatience with their language.

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Research on Employment Psychology Guidance for Female Postgraduates in Universities of Agriculture and Forestry----Based on the survey in Central South University of Forestry and Technology

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Abstract: This paper investigates current employment psychology situation of female postgraduates in universities of agriculture and forestry and discusses the psychological tendency of this vulnerable group of employment in the aspects of basic cognition, psychological expectation and psychological guidance of employment, analyses the psychological causes from the perspectives of macro-economy, industry, society and family, and puts forward methods of psychological guidance to build self-confidence, adjusts employment mentality and expectation, deals with psychological conflicts reasonably and improves psychological accomplishments on the basis of value intervention.

Keywords: universities of agriculture and forestry, female postgraduates, employment psychology, value guidance

With the rapid development of postgraduate education, the number of postgraduates in need of employment reached a new high in 2015. Although postgraduates are important human resources to power economic and social development and should be attached great importance by industries, there are notable conflicts between the highly-educated postgraduates and high quality employment. Due to the industry characteristics, graduates of agriculture and forestry face greater employment pressure, especially female postgraduates, although excellent in academic performances, becoming typical disadvantaged group in labor market considering the significant differences with their male competitors in terms of physiological characteristics and professional career periodicity[1,2].

Employment psychology of female postgraduates refers to their understanding about themselves, vocation and surrounding social environment and their inference and judgment on matters when choosing a job. Current situation of employment psychology poses direct influence on employment and job selection. Scholars at home and abroad pay much attention to employment psychology, but there are essential differences between the employment view in western countries and the traditional one in China. Western countries have established complete social security system and mature psychological health education and counseling system, so female undergraduates have few employment psychological problems. Scholars in China usually research on college students' employment psychology in the aspects of ideological and political education, psychology and sociology. Only a small part of theses and treatises analyze employment psychology of female college students in universities of science and engineering. And researches on employment psychology of female postgraduates in universities of agriculture and forestry are rarely found[3,4].

1. SURVEY ON CURRENT EMPLOYMENT PSYCHOLOGY SITUATION OF FEMALE POSTGRADUATES

(1) Data Acquisition

Data of this survey were acquired by questionnaires, which were divided into two parts: the first mainly included grade, major and age while the second focused on employment intention, job selection mentality, job hunting preparation and psychological guidance.

The total number of questionnaires was 500, among which 489 were collected and 474 were valid, that is, with a collecting rate of 97.8% and an effective rate of 94.8%. The respondents were female postgraduates in Grade 2012, 2013 and 2014 from Central South University of Forestry and Technology majoring in forestry, ecology, forest engineering, material forming and control engineering and thermal energy and power engineering.

(2) SURVEY RESULTS

a. Basic Cognition of Employment

Concerning basic cognition of and attitude to employment, 76% female postgraduates faced employment pressure, especially graduates from universities of agriculture and forestry. As for employment mentality, only 24% of them were confident of getting a satisfactory job. In the list of

psychological problems easily caused by employment pressure, anxiety, pessimism, self-abasement and escapism were on the top.

In addition, only 28% female postgraduates had clear understanding of career development and 63% had vague ideas and expectation; only 11% paid attention to employment information from Grade One and 16% wouldn't do that until graduation approaches; only 19% were optimistic about their major of agriculture and forestry and 61% were worried about it; only 8% were clear about professional qualities and 63% had inadequate knowledge about it.

This shows that thinking modes of female postgraduates in universities of agriculture and forestry are scattered and random. They lack plans for their career life and comprehensive consideration of employment. As a result, some female postgraduates focus their attention on short-term interests and material value while ignoring long-term development and spiritual value. Deviation of employment cognition would lead to an inaccurate self-positioning and a wrong understanding of personal and social needs. Besides, factors, including a weak sense of professional consciousness and professional qualities, emphasis on region, industry, remuneration and other personal material interests, narrow the road of employment and make it harder.

b. Employment Psychological Expectation

The survey mainly included: paramountly considered factors when choosing a job, ideal working regions and units, and the minimum acceptable monthly salary. According to the survey, most of them had the mentality of being stable, value the stability of job and income more than the match between majors and positions, narrowing the range of job selection and reducing employment opportunities.

As for choice of ideal working regions, "coastal open cities" ranked first with a proportion of 45%, followed by "Changsha" (36%), location of the university, and "mainland provincial capitals" (21%). Only 2.5% students chose western regions and grassroots areas, where talents are in urgent need. This shows their ill-prepared psychology of the tough employment environment in their industry. For ideal working units, the top three were state-owned enterprises (63%), public institutions (27%) and state organs (21%), which is far away from related professional characteristics of agriculture and forestry. Only when it comes to income of the first job, female postgraduates were more rational. Their salary expectation was similar to that in the job market.

c. Cognition of Psychological Guidance

As for psychological guidance, the main concerns were the methods, types, time and effects of it. The survey found that when female postgraduates had psychological problems in the course of employment, 58% of them chose traditional ways, such as consulting their teachers, parents and friends; only 5% of the students chose to seek help from the professional psychological organizations (such as the university psychological center). The most effective method had not been recognized by students. Among various kinds of employment counseling, the proportion of understanding and tests for interests was the highest, but still only accounting for 36%. For the effects of psychological guidance, 47% of respondents chose "uncertain", 38 % "No" and only 15% "Yes". Obviously, education for female postgraduates still focuses on the level of ideological education and policy education, lacking targeted attention to those in universities of agriculture and forestry. Consequently, psychological problems in the course of employment can't be studied and solved in a deeper level.

2. Analysis of Psychological Causes

Causes of phenomena mentioned above are multi-faceted, both macroscopic and microscopic.

1. Macroeconomic factors

At present, China's economy has entered a "new normal". Economic transformation and upgrading have a profound impact on the domestic employment situation of college students[5,6]. In such a large economic environment, many companies and enterprises are more or less facing various difficulties. Most employments of students majoring in agriculture and forestry are concentrated in agricultural and forestry production enterprises. Under the impact of the slowing demand, many of them tighten expenses and lower the costs. Some companies massively choose junior college and undergraduate students, which indirectly make postgraduates level down their employment objectives. In order to tide over the production low ebb, the demand for high-level R & D personnel in agricultural and forestry enterprises is also declining sharply. All these can be reflected in the harsh reality that postgraduate employment was inferior to that of undergraduates in the past three years.

2. INDUSTRIAL FACTORS

In recent years, although the voice of "developing green economy" and "building resource-economical and environment-friendly society" is pretty loud, the development of agriculture and forestry industry is still far from satisfying. The trend of China's economic power being concentrated in some big cities and the eastern economically developed coastal areas hasn't been changed but is strengthening in some extent[7,8]. In big cities and eastern economically developed coastal areas, employees enjoy relatively high wages, broad space for development and relatively sound social security system, which are pretty attractive to female postgraduates who attach great importance to stability when selecting a workplace. Such a difference is very notable for female postgraduates in universities of agriculture and forestry. In this survey, it is suggested that 45% students were intended to find jobs in

coastal open cities, 21.25% chose provincial capitals and municipalities directly under the central government and only 2.5% students were willing to work in western regions and grassroots areas where talents of agriculture and forestry are in urgent need. These choices are greatly different with the considerable labor demand in central and western regions which the agriculture and forestry industries are highly concentrated.

In addition, the fact that the urban-rural dual household registration system makes the flow of human resources unidirectional impels more female postgraduates willing to find jobs in big cities[9,10]. Beijing, Shanghai, and Guangdong are still priorities for students. But for restrictions of the household system, such tendency would be intensified definitely. However, labors and material capitals in small and medium-sized cities and western regions are insufficient, making it more difficult to attract female postgraduates majoring in agriculture and forestry to work in first-and-second-tier cities in central and eastern regions.

Factors such as parents' values, their expectations, and family economic conditions have an influence on employment and job selection psychology of female postgraduates[11]. The deviation of values reflected in employment is that girls are expected to seek a relatively easy and stable job. According to the survey data, female postgraduates took enterprises and public institutions and developed cities as their top priorities. 41.25% girls considered stability of work and income first when choosing a job. As for intention of working unit, “state-owned enterprises” ranked the first with a proportion of 63%. And the last factor to examine was whether they could exert their professional advantages. It has to be recognized that it is a waste of the long-term scientific research training and accumulation, as well as a peril to the development of agriculture and forestry industry.

3. PSYCHOLOGICAL GUIDANCE BASED ON VALUE INTERVENTION

To solve problems mentioned above, we can carry out psychological guidance to female postgraduates in universities of agriculture and forestry on the basis of the value of intervention.

(1) Theoretical Basis

In the field of psychological counseling, under the influence of the client-centered theory, there is always an idea of "value neutrality", that is, psychological counseling should not interfere with the values of clients. However, in the process of practical psychological counseling, there is no way to avoid value intervention[12,13], especially for female postgraduates. The reason is that, under the influence of traditional culture, students are implanted the mentality of obedience to authority, respect, and trust[14,15]. It is suggested that most college students seeking for psychological counseling hope to receive direct guidance from authority. Of course, it doesn't mean that the psychological consultant should be encouraged and supported to give students direct guidance as an authority. But in the course of psychological counseling, relativity requirements of the characteristic culture of female postgraduates majoring in agriculture and forestry should not be ignored. Therefore, it is a vital method in employment psychological guidance to use theories and technologies in psychology and management as well as the scientific and rational value intervention[16].

(2) Methods of Psychological Guidance

a. Build Confidence

Self-confidence is a confidence and courage to face life courageously, a positive evaluation of oneself and one of the premises of a successful career. Since the industry of agriculture and forestry is not valued enough by the society, its female postgraduates often lack confidence, which requires those students to build confidence and bear great courage to welcome challenges, participate in employment competition and trust themselves that they have the ability to seek a job successfully. Self-confidence derives from strength and requires capital and foundation, i.e., solid agricultural and forestry professional skills. Only when processing the strong backup force of being competent and well-trained, can students establish real confidence. Therefore, it requires them to have an excellent performance in professional learning and improve comprehensive quality in an all-round way. For girls having anaclisis to be employed as soon as possible, they should be taught methods of making judgments and decisions, be trained the ability to make a choice according to the specific analysis of a specific circumstance.

After helping female postgraduates be self-confident, we need to encourage them to plunge in competition. They have to adapt to the in-depth reform of employment system, strengthen the sense of employment competition and take part in it without hesitation. Female postgraduates should start from reality, depend on their own ability, properly treat both difficulties and opportunities and then make the most reasonable judgment and most proper choices. Besides, in order to make employment relatively easy, it is vital for them to promptly adjust their aims according to their own characteristics, strive for every job hunting chance, make clear the requirements of the companies and conduct full preparation accordingly. On the whole, female postgraduates should be confident of their knowledge and competence which they have obtained in postgraduate education, trust their ability and give full play to their strong points.

b. Adjust Employment Mentality

No matter how the external environment changes, female postgraduates in universities of agriculture and forestry are the real and direct bearers of pressure from myriad industries and families. The solutions to

their ideological problems rely on the development of their own psychological struggle in the final analysis. In job hunting, female postgraduates should have psychological adjustments consciously and initiatively. When they have difficulty in striking a mental balance or face an impending or existing mental disorder or problem, they ought to turn to psychological adjustment methods in accordance with their own mental condition, for example, moderate self-unbosoming, self-conversion, self-meditation and rational mood. By these methods, they will be able to strike mental balance, reestablish a balanced psychology and eventually complete job hunting and vocation selection with a sound mentality. Thus, keeping a right mentality is particularly crucial in job hunting and vocation selection. Female postgraduates must tackle the conflicts between their majors and future jobs, between ideal and reality in a proper way and recognize themselves in an objective attitude, so that they can embrace a rational job selection, successful employment and sound growth.

c. Adjust Employment Expectation

The essential property of mankind is sociality, which means social beings are human beings in reality. Many graduates excessively yearn for economically developed regions, especially central cities in coastal areas and their lowest expectations are provincial capitals. Facing the current situation that colleges extend enrollment in successive years and the number of graduates rockets up, graduates in universities of agriculture and forestry should be clear that the existing relationship between supply and demand of talents is imbalanced. Posts in big cities, state organs and public institutions are quite limited. For instance, in civil service examination nowadays, thousands of applicants compete for a single post. Job selection expectations of female postgraduates remain high and show a trend of rising with each passing year, which cause the sharp contrast between subjective wishes and real demand. However, talents are in urgent need in small and medium enterprises of agriculture and forestry, remote mountainous areas and rural regions. Confronting with the imbalanced distribution of posts, female postgraduates can't set their employment expectations too high.

When approaching graduation, female postgraduates in universities of agriculture and forestry should analyze their professional qualities, comprehensive abilities, the employment environment of their industries and other conditions rationally, and then determine suitable employment expectation according to their practical situation. On the one hand, they should change the mentality of "striving for the big companies and despising the small ones" and design career life according to their personal characteristics and social and economic demand for development. On the other hand, they must change the mentality of "being eager to work at eastern regions rather than western regions". Since economy in eastern coastal regions is relatively developed, favorable treatment and relatively broad developing space in enterprises, especially those of agriculture and forestry, attract a crowd of graduates, resulting in the oversupply of graduates. On the contrary, western regions and many remote areas are in the course of large-scale development; numerous posts there are left vacant, causing short supply of graduates. Therefore, it is feasible to encourage female postgraduates in universities of agriculture and forestry to work in western regions and rural grassroots, correct their job selection mentality and set up entrepreneurship consciousness.

d. Tackle Mental Conflicts Rationally

In psychology, conflict is understood as mutual repulsion and incompatibility of two targets. When people confront two incompatible targets, they may experience mental conflicts. In female postgraduates are seeking jobs, the conflict between ideal and reality is the commonest problem. In current employment situation, there is fierce vocational competition in the realistic society.

Before they go to work, female postgraduates seldom experience social hardness, so they tend to have idealized opinions. When seeking jobs hopefully, they usually meet various conflicts, such as "yearning for more favorable jobs" and "intending to cake and eat it". Facing conflicts, many females with weak mental ability are at a loss, becoming distressed and even suffer psychological problems and mental disorder. The key to these problems is how to make rational choices when confronting conflicts, adjust employment expectation timely and abandon irrational and idealized factors to get an optimal mindset.

e. Enhance Mental Accomplishments

To be successfully employed, graduates should enhance mental accomplishments in all aspects. When confronting setbacks in job hunting, they must keep calm and poised, analyze the causes of failure objectively and comprehensively, and find the real causes timely. Facing employment marketization, fierce employment competition and unfavorable demand situation, it is inevitable to experience failures temporarily and it is impossible to seek a job successfully every time. Female postgraduates in universities of agriculture and forestry must be well-prepared for the possible setbacks and difficulties in job hunting. There are many reasons for failures of job hunting. It may result from the differences between personal vocational value and enterprise culture, the wrong direction when choosing a working unit due to incorrect vocational positioning, or other accidental factors. That is to say, failures in job hunting should not be attributed to one's incompetence completely. To be successful in the next round of job hunting, one must analyze the reasons for failures, adjust job hunting strategies, learn to comfort oneself and improve employment

mental ability

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The Rise of the Net Born Generation and the Development of Online Comics in China

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Abstract: The Net Born Generation refers specifically to the group that grow up with the Internet, and the Internet has profoundly changed their aesthetic values and word outlook. With the Net Born Generation has gradually become the core of China's online animation creation and consumer groups, China's online animation have had a fundamental change in the content, style and creative ways. By starting from the origin of the Net Born Generation and typical characteristics, with specific cartoonist, director and works as an example, combined with the characteristics of network technology development, this article gives an analysis on the profound impact that the rise of the Net Born Generation have on online animation development.

Keywords: Net Born Generation; Shan Ke; Online animation; Original heat

1. THE RISE OF THE NET BORN GENERATION AND THEIR TYPICAL FEATURES

1.1 The derivation of the Net Born Generation

The Popular Computer Week published a four case comics The Net Born Generation in June 2006, and this was the first time that the words Net Born Generation be recognized as a Proper noun. In this comics, the Net Born Generation refer to those who was born or grow up with the development of the Internet, their lives, work and entertainment are all depended on the Internet. From 2002 to 2016, fourteen years passed, the Internet has been developed quickly and permeated in all industry, and the group of Net Born Generation is expanding greatly. Nowadays, some of the Net Born Generation has became the core group of produce and consumption in many industry, including the visual arts. Since the Internet has changed the Net Born Generation as aesthetic standard, sense of worth, and conception of world, it made the express way and aesthetic style of the current visual arts works naturally. During all of the visual arts industry, online comics is the one that connected with the InterNet Born Generation most closely. This article is going to study the influence that the rise of the InterNet Born Generation on the Online comics.

1.2 The typical features of the Net Born Generation

Influenced by design concept and technical characteristics, internet has a huge amount of information, a large number of users, extensive participation, instant interaction, freedom and equality and other typical characteristics. As their were birth of or growth of the internet, the Net Born Generation groups carry with the typical characteristics of the internet in their creation of ideas and aesthetic needs. As the producer, the Net Born Generation group absorbed the essence of predecessors, the folklores, myths, works of literature and art in the classic plot at all times and in all countries appear in their works frequently and optionally. Accordingly, their works show the height of the mixed style mosaic, and its narrative and expressive are also very assertively. As the audience, the Net Born Generation group pays more attention to the expression of individual feelings through the visual arts works, instant exchange of views and feelings can make them much more excited than enjoy the works of art itself. Compared with the humanistic content, they seem to prefer the entertainment effect of art works, humorous and even nonsensical funny works can stimulate their desire much better.

2. THE NET BORN GENERATION ONLINE COMICS CREATION GROUP

2.1 Web1.0 Times——"Shanke" and their flash animation works

Flash animation is the earliest animation style that appeared on the internet in China. The Macromedia company introduced a production of interactive multimedia works of software—— Flash in the year 1998. The original intention of this software design is to provide a set of solutions for multimedia web browsing under the condition of low bandwidth. However, when Flash's ease of use and freedom of the network combined together, it makes flash spread quickly, and gradually penetrated and affected the advertising, television and movies and other traditional media, and formed a new culture. The first batch of Chinese Net Born Generation—a group of people born in the late 70s and early 80s, their job is to sit in front of the computer and use their familiar technology to change or create a virtual internet world. They have ideas, and they naturally use their own knowledge of technology to express their own ideas. So they mixed the society that they have observed with their emotions in their Flash animation works, which is China's first online comics——Flash animation, and this group also received a special call "Shanke".

The "Shanke" come from all kinds of occupations, such as students, office workes, and professional work from home and so on. Almost all flash empires' growth are started from interest, the freedom and ease of use of Flash makes them achieve results in a short time of studing. With their own minds and hands to experience the creation of pleasure, the "Shanke"intoxicated with the realization of the value of self satisfaction. Lao jiang is the first "Shanke"in China, he found out Flash when he helped a friend to make an Italian website, and then started to make Flash animation. Lao jiang graduated from the China Central Academy of Fine Arts, and the four years of professional training in photography has made his Flash animation works have a high level of professionalism. His works are known in painting, arranging and the scene joining. His masterpiece "rock on the new long march" re manifested Cui jian's old song ten years ago, expressed in a generation of confusion in the pursuit of the ideal, bring people back to the old age. His another short Flash animation work "the robber's paradise" only used black, white and red three color, and it looks rough ,rude and boorish. This Flash animation work expressed Lao Jiang's thinking of media and violence. Gao Dayong is another famous "Shanke" in China, and he got another nickname on the internet "a warriors tragedy", which is known by much more people. He created the world's most lively community "Flash Empire", he was the first to introduce the word "Shanke" to the internet, he set up the first domestic "Shanke"organization, the earliest established falsh work list, and the most important thing is that he did it all out of interest.

The starting point for the "Flash Empire" making flash animations is to entertain themselves, which makes Flash animation got a distinctive civilian Carnival grassroots at beginning. The influence of the largest and most representative Flash animation work is "Northeast people are living Lei Feng" which was a rifacimento of the singer Xue Cun's song of the same name. "Shanke" used the Flash software to match the song with the computer animated MTV nine months after the song was published, and make it popular in the online and real life speed increased, and even became a hot topic of society. Each restaurant in China, as long as shouting "Cui Hua, the sauerkraut", they can lead to a burst of laughter. This flash animation works vulgar, irony, in the name of the people and the aesthetic style of the network is the typical embodiment of the grass roots of the network culture and the common people. In the absence of a lofty not disclosed no criticism when it is the art of living that cannot be described, and maybe this is the most close way to get to people's heat itch. Soon, combined with the popular entertainment and internet culture of cheap enthusiasm, Flash animation quickly spread. Flash animation works that with a unique network banter and even nonsensical self deprecating spirit such as "Northeast people are living Lei Feng" and "University student study room" spread like winds. However, extreme prosperity forebodes the beginning of decline. In the years after 2003, Flash animation and web sites all over the internet, online animation and even became cheap, vulgar, synonymous with mediocrity. Those who experienced the idealistic "ShanKe" have to return to the real predicament.

2.2 Web2.0 Times—— Network animation "original heat"

With the rapid development of vedio sites and SNS, network animation once again usher in new opportunities for development. In the video site, more and more original animation authors can publish their works, no matter what technology, flash, 3D, the traditional two—dimensional lattice, as long as it cool enough, it may become famous overnight.

Many authors create many classic works in a idealistic attitude and retreat practice creation way. Li Zhiyog's "Kung FU rabbit" series, through the wonderful acting, combined the real desktop and exaggeration skillfully. "Kung FU rabbit" also influenced "little fat girl" , which is also a famous online animation work. In another online animation work " Lee adventures", Li Yang used a surreal deference in theory, packaged personal love, electronic games, violence, politics, entertainment and nostalgia together. Yang Yu's "Hit, hit a big watermelon" put the grand war scenes into the imagination of metaphor through a card game which is a metaphor of war carnival. "Water head" is the A7 team's work, its sophisticated technology control and design makes you realize that a large number of outstanding college graduation creation began landing.

An important reason for the "original animation network hot continuous" is from the strong support of the Website u17, BILIBILI, the Tencent, has spookiness animation channel network platform for the network to provide funds and original animation broadcast platform. As the own son of Tencent, the Tencent animation channel give strong financial, IP screening hatch, IP digital operators support to the online animation as a IP control center. Animation production team such as Draw dream can rely on the professional ability of the Tencent animation channel to turn the IP into animation works as soon as possible. The website BILIBI, which masterd a large number of quadratic element users, become not only the main content of the user to accept the channel, but also the the culture of the wind vane of the quadratic element culture. These three types of companies have different development priorities, and has been made a cycle from the content user to production. This combination is more perfect to solve the problem of original IP scarce in China's quadratic element industry. From the long-term development perspective, the introduction of more original comics,

animation works, is conductive to the development of the quadratic element industry.

The video sites accelerated "the original heat of online animation by provide funding and support platform, and a large number of online animation producer emerged, such as Tong yao, Han Wu, Lu Henngyu and Li Shujie and so on. Tong yao is a new occupation cartoonist in China, his online animation works "Red Ranger" and "Ace censor" was published on the Tencent animation platform in series, and the "Ace censor" got more than 100 million click rate on the internet. Han Wu is the cartoonist of the u17 original cartoon dream factory, and his representative work is "One Hundred Thousand Bad Jokes". Lu Henngyu and Li Shujie was the relatively relatively successful online animation director at present, they rearranged numbers of original cartoon network into online animation by cooperate with the network animation platform such as u17 original cartoon dream factory, Tencent original animation cartoon channel, and their masterpiece are "One Hundred Thousand Bad Jokes", "Zombie brother" and "Street to suppress the soul" and so on.

Unlike the Web1.0 era that the "ShanKe" came from all kinds of occupations, the online animation author who emerged in the Network animation "original heat" at Web2.0 era are more professional background, most of them have animation or art design and other related professional education background. They are full of passion and ambitious for the animation industry. They are turn to more professional production team, cooperation with the network platform , business group and the general audience more actively. They are leading online animation towards a more professional way. The big movie "One Hundred Thousand Bad Jokes" is a successful case. Although the animation triggered a network of popular and huge hits on the internet, the big movie did not attract much attention and business interests when it first released. With the increasing degree of social concern, from the beginning of the fourth episode, there are big businesses such as mobile phone has gradually started business cooperation with it after heat rising, many businesses hope that the cooperation can come in a throng. The producer of the "One Hundred Thousand Bad Jokes" created a variety of commercial cooperation methods to meet the needs of the business according to the requirements of the business. In addition to the sponsors of the most traditional title sponsorship and acknowledgements, the producer of the "One Hundred Thousand Bad Jokes" also carried out three more representative and innovative cooperation model, and they are advertising innovation, celebrities and public to raise funds from other type cooperation voice. On December 31, 2014 premiere began, the film cumulative total of 110 million in the case of very low cost, no star participate in, that made this film became the third movie box office billions of RMB of domestic animation brand after the "pleasant goat and grey wof" and the "Boonie Bears". Insiders evaluation it is the first non billions of RMB at the box office yong Chinese animated film, with the industry to create value.

3. THE INFLUENCE OF "NET BORN GENERATION" ON THE NETWORK OF ANIMATION INDUSTRY

For Chinese animation is concerned, the "Net Born Generation" refers to the author and the audience that was emerged from the Internet. The Internet has developed in China for twenty years, and now the popular games on the Internet, network literature, micro film and other elements have entered the film and Television Arts Industry. Active people on the Internet began to participate in the production of films. The main Internet platform such as Badu, Alibaba, Tecent,U17, BLIBILI start to run movie by calling the user resources. More importantly, along with the Internet grew up to become the main audience of the Visual arts, it has brought more new possibilities for the Visual arts including the animation industry.

In general terms, the "Net Born Generation" has brought a new temperament and connotation in the following three aspects.

First of all, narrative turn nonlinear and non suture narrative series or narrative assorted cold dishes. Although this kind of narrative strategy and classical art gradually, but it is this kind of nonlinear narrative, let the text become more open and free. Or, more precisely, the user's participation is higher. These works on the Internet to get more interactive than traditional works, and through interaction and accumulation of word of mouth, in turn, contributed to the film's box office output and network influence.

Secondly, the "Net Born Generation" was born with the roots of common people which make it easier to work with the audience to reach an agreement. These works are more grassroots, more civilians in the sense of worth, and they always telling the story of common people's love experience, and their plight of life. The "Net Born Generation" are always stay quite separate from the community, the elite, the culture of alienation, and that makes them easy to get ordinary youth audience. Their works in the artistic style of more natural and more down to earth, face the reality of embarrassment, but not many wonders of the kick up a cloud of dust, to design the narrative complexity and audio-visual language, sometimes even too straightforward, and they are more likely to let the audience get the soft sex resonance because of the life of the proximity, the life of the lines, the reality of the scene.

Last but not least, network animation entertainment are highly improved. The core of China's Internet users for 10 to 24 years old, they also become the current China's main film audiences. The younger audiences have two characteristics, this group is in

the key stage of socialization, depressed by more regulation of all aspects of society, often in the youth rebellious period, entertainment catharsis needs more evident than the average adult， Network animation works tend to maximize the need to satisfy their anger and entertainment. In the process of socialization, due to outside pressure, more teenagers often have a strong sense of loneliness, and the adult world of alienation, in particular, so there have a clear identity and partner requirements, which is also the reason that why young people are more easily become fans. Through an idol for mediation, with the aid of narration of the fragmentation of full interaction in the network, Online animation works can help the youth group to gain psychological identity, to escape loneliness, and to seek resonance.

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Campus Recreational Sports Development Countermeasures

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Abstract: Investigation results are as follows: the motivation of college students in leisure sports is clear; college students have much time in leisure, but less time in leisure sports participation; the number of boys is more than that of girls in leisure sports participation, and the difference of chosen sports is large; meanwhile, it is found that college students' sports consumption awareness is enhancing. The main influencing factors of launching leisure sports are the lack of facilities, the lack of professional guidance, leisure sports consciousness, sports skills and methods.

Keywords: college leisure sports, development countermeasures, physical exercise, current situation

1. INTRODUCTION

Nowadays, people have more and more abundant free time and pay more attention to their own health and daily life entertainment. Physical exercise precisely satisfies people's needs, and leisure sports are an important part of sports. The development of leisure sports can also promote the development of the sports industry, and will be more and more important. Participating in leisure sports in spare time, college students can reduce the pressure, relax the body and mind [1-3].

The first precedent marks that the domestic sports industry has paid attention to the combination of leisure and sport, and pointed out the new direction for the future development. In addition, some scholars are studying the feasibility of school launching leisure sports, and have made some progress. At the same time, we also note that there are some problems in school launching leisure sports. Xiaodong Li thought that currently professors of physical education in schools in our country overemphasize the movement skill, students' interest in sports is frustrated, and the focus of school physical education is on physical education class, sports team training and extracurricular activities, so the sports funds in colleges and universities into the field of leisure sports are limited, and the venues and facilities supported for leisure sports are seriously lacked, which are hindering the development of college leisure sports [4-6].

The concept of leisure sports originated in the United States, Japan and other economically developed countries. In China, Guangyuan Yu first proposed the concept of leisure sports, and he pointed out that leisure is closely related to the "play" and the "play" should comply with its own characteristics, and be cultural and noble, so leisure sports should embody the characteristics of the "play". For the concept of leisure sports, some understandings have reached a consensus, but differences also exist. In a broad sense, the concept of leisure sports can be interpreted as all kinds of entertaining and leisure sports activities after working and studying. The narrow sense, it emphasizes the people's psychological experience that through happily and actively participate in some physical activities to achieve self and satisfy personal expectations.

Pay attention to the external manifestation of sports, teaching way still emphasizes teaching motor skills as the center.

The students do not establish the awareness of physical exercise, and have not a correct understanding of the value of leisure sports.

The consumption of college leisure sports and the construction of service system are not perfect, lack of the guidance for proper leisure sports consumption of students.

2. RESEARCH METHODS

Research on the existing problems in the development of China's college leisure sports.

2.1 The object of study

The main research objects are the full-time college students in the North China University of science and technology, Tangshan Normal University and Tangshan College.

2.2 The research method

Literature data method:

Through the hand retrieval and computer retrieval and other means to look up relevant research data, provide abundant information for the successful completion of the project

Questionnaire survey:

Through a questionnaire survey to investigate the implementation situation of leisure sports for the above three colleges' students, and through the way of questionnaire distribution and recovery. The questionnaire issued a total of 200 copies (the boys and girls have 100 copies respectively), 190 questionnaires were effectively recovered, recovery rate is 95%, and effective rate is 95%. The survey objective is achieved.

Interview:

Have a face-to-face talk with the students, in order to obtain more detailed information. Take various methods to interview teachers, in order to understand

the impact of school education on leisure sports.

3. THE ANALYSIS OF RESEARCH RESULTS

3.1 College students' spare time arrangement

For college students, after finishing major and elective courses during the first two years in college, leisure time will be increased. Through the questionnaire survey way, have a sampling survey for all the students of three colleges, the results are shown as follows (see Table 2): there are differences in the spare time arrangement of students in different departments and different grades; at weekends, the boys of choosing to play online games account for 31%, while girls account for 20%. There are quite a few boys and girls to earn living expenses part-time, and only 17% of boys and 15% of girls choose to participate in leisure sports activities. These data suggest that college students' spare time arrangement is varied, but the time of participating in leisure sports activities with respect to surf the internet and work is relatively less.

3.2 The analysis on the situation of male and female students participating in the leisure sports

Through the survey, we find that the frequency of girls participating in leisure sports is obviously less than that of boys, and 38% of girls choose not to participate in sports activities in every week (see Table 3), it indicates that the enthusiasm of girls participating in leisure sports is lower than that of boys. The main reason for this phenomenon is that the physical quality of boys is better than girls and boys prefer to express themselves, the pursuit and love of sports is also stronger. This causes that the number of boys who participate in sports activities is more than girls, and the degree of participation is higher. The difference between boys and girls is large. The sports ranked in the top three which boys often take part in are as follows in turn: football (75.8%), basketball (67.4%), jogging (58.9%); those of girls are as follows in turn: badminton (67.4%), jogging (56.8%), table tennis (49.5%). It can be found that the boys who exhibit strong, brave, confident and united choose strong confrontation contact sport projects in many times, mainly in sports and fitness project. In order to meet the purpose of body building, many girls choose the jogging, net sports and some fashion sports such as aerobics and so on.

3.3 Analysis on the choice of sports venues

Due to the influence of interest, environment, economy and other factors, the free school venues are chosen by 65.8% of people, while the charging school venues are chosen by 13.1% of people, 12.1% of people choose the school open space, 5.3% of people choose the sites outside the school, and 3.7% of people choose the dormitories. Most boys and girls are inclined to exercise on campus free sports venues.

3.4 Analysis on sports consumption

The sports consumptions of boys in each semester are generally higher than those of girls, among these, the number of boys in 300 yuan to 400 yuan is up to 46.3%, followed by 200 to 300 yuan (24.4%), 400 to 500 yuan (10.6%), 100 to 200 yuan (7.4%), more than 500 yuan (7.4%), less than 100 yuan (4.2%); the number of girls in 200 to 300 yuan is up to 49.5%, followed by 100 to 200 yuan (21.2%), 300 to 400 yuan (14.9%), 400 to 500 yuan (9.1%), less than 100 yuan (3.2%), more than 500 yuan (2.1%). On the whole, people’s consumption level focus on 200 to 300 yuan (37%) and 300 to 400 yuan (30.6%), it illustrates that college students' awareness of sports consumption is being enhanced.

4. INFLUENCING FACTORS OF COLLEGE STUDENTS TO PARTICIPATE IN LEISURE SPORTS

The number of college students increases gradually, but the increase of sports resources is relatively less, which results in crowded sports activities venues, makes many students tired and interest on physical exercise decreases gradually. Sports teaching possess the practicableness, site equipment is the foundation, and enough sports equipment and infrastructure is an important guarantee for the quality of physical education teaching.

Now the social pressure is bigger and bigger, students’ learning time and courses become more and more, they have not enough free time to participate in leisure sports. The course arrangements and leisure time of students in different majors and different grades are different; usually courses of freshman are more.

Sports instructors play an important role in leisure sports, and lack of professional guidance reduces the enthusiasm of students participating in leisure sports. In the process of movement, the error skilled movement will cause sports injury, hurt the body, and the effect of fitness and entertainment cannot be achieved.

In terms of college students, whether have comprehensive exercise knowledge and good skill level will directly affect the students’ motivation and interest of participating in leisure sports.

5. CONCLUSIONS

Sports preferences of college students have been biased towards leisure, and show great enthusiasm in some fashion items, whether boys or girls invest more time, effort and spend on the leisure sports, on the whole, the degree of participation in university leisure sports has improved, but the overall level of consumption is relatively low.

Leisure sports as lifelong sports play an increasingly important role. Though students have a certain understanding for leisure sports, the number of participants is relatively small, especially girls. The main motivation is fitness and entertainment.

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Theorising the New Literacy Studies one step further: A Literacy Events Network Analysis of a Chinese Migrant Adolescent's Online News Reading Practices

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Abstract: The field of New Literacy Studies (NLS) has developed over the last thirty years since the 1980s. Characterizing the shift from observable literacy events to the cultural and conceptual level of literacy practices is a major task for literacy theorists and practitioners. The large quantity and variety of discursively scattered literacy events cause analytical difficulties for researchers trying to make theoretical generalizations. This article therefore proposes to expand the NLS by using a new concept - the "literacy events network" as an intermediary bridge between literacy events and literacy practices. To elucidate this concept, we apply it to the case study of a Chinese migrant adolescent's literacy practices in online news reading which moves between China and Britain. This case study demonstrates how the trajectory of a literacy practice can be traced through the connected components of single literacy events and literacy events networks.

Key words: New Literacy Studies; literacy practices; discourse; identities

1. INTRODUCTION

The New Literacy Studies (NLS) is the theoretical framework to study text-mediated sociocultural practices. Instead of simply considering literacy as a set of skills of reading and writing that resides in people's head and exists independently from sociocultural contexts, the NLS believes that literacy is ideological, implicated in power relations and representative of various kinds of cultural forms [1-4]. As opposed to believing that literacy is only possessed by elites, the NLS argues that literacy is sets of social practices that lie in every single person's daily life [2-3].

Within the NLS framework, literacy events and literacy practices are two core analytical concepts that help understand literacy at theoretical and methodological levels. "Literacy event", derived from the idea of "speech event", refers to particular instances where literacy has a role. Literacy events do not happen once but are regular repeated activities. [5-6] Literacy practices, compared to literacy events, are a broader concept, "pitched at a higher level of abstraction and referring to conceptualizations related to the use of reading and writing". [4] Literacy practices are "the general cultural ways of utilizing literacy which people draw upon in a literacy event". [3] For literacy researchers, one of the major tasks is "to characterize the shift from observing literacy events to the conceptual level of literacy practices". [7] This shift is significant since a systematic framework is needed which can demonstrate a "normative version of what literacies can and might be" and can "bridge not just home and school, but the local and global, and the micro and macro political-economic domains" [8-10].

This article, building on the literacy studies mentioned above, proposes a new concept – literacy events network –to extend the NLS framework. This concept acts as a bridge between the specific literacy event, and the more abstract concept of practice, by helping researchers document the interconnections of literacy events, identify the meanings of these connections and then eventually generalize from these to literacy practices. With the introduction of this new concept, we hope that at the practical analytical level this new concept will help literacy researchers to construct literacy practices from literacy events more easily. At the theoretical level, it will further clarify the elements of literacy practices.

2. A TEXTUALLY-MEIDATED SOCIOCULTURA WORLD

The contemporary human world, as the site of literacy research, is not held together solely by spoken language, but also by written language. As Barton (2001:100) points out:

Writing is not just speech written down. It is a different form of language, a distinct form of meaning-making…The fact that people live and act in a textually mediated world is the issue, which makes the frameworks provided by Literacy Studies so essential for the more general study of language.

This textually-mediated sociocultural world is the realm of realities that has three interconnected levels – social formations social interactions and individual actors – within which literacy has a role.

3. COMPONENTS OF LITERACY EVENTS

Literacy events, as the basic units of constructing literacy practices, are concrete realities. They are

discursively scattered and various across different social interactions and events and yet are patterned. In the process of conceptualising literacy, Hamilton (2000) made a first attempt to discuss how "literacy events" and "literacy practices" may be systematically applied in literacy empirical and analytical studies, considering four parallel sets of visible and invisible elements that constitute a literacy event. [14] The visible elements include "participants, settings, artefacts and activities". In parallel, invisible elements include "hidden participants, domains, non-material resources, and structured routines and pathways". We use Hamilton's (2000) distinctions and more recent literacy research results, to offer a systematic clarification of the visible and invisible elements which can pave the way to further understanding of the concepts of a literacy events network and a literacy practice.[14]

Hamilton (2000:28) combines "text" with these accessories including modes, multimedia, and multiple languages together and defines them as "literacy artefacts"; while other accessories, such as a pen, a slate, a mouse are called "literacy peripherals". [14] Literacy artefacts convey strong social meanings, and are an important part of truth construction. The core of a literacy artefact is "text". In the framework of NLS, a literacy artefact is an important unit for identifying a particular literacy event.

Participants and Hidden participants Hamilton (2000:28) used "participants" and "hidden participants" to define the human agents involved in a particular literacy event. [14] Visible participants are the people who can be seen to be interacting with the written texts. In the following sample, Ming and his parents are the visible participants; while social institutions, such as website providers, are indirectly involved and are considered "hidden participants." Other literacy researchers have taken up this distinction and use two terms --- "literacy sponsors" and "literacy mediators" to further explain "hidden participants".

Brandt (2001) adopted literacy sponsors to refer to "any agents, local or distant, concrete or abstract, who enable, support, teach, and model, as well as recruit, regulate, suppress, or withhold literacy --- and gain advantage by it in some way." [18] Sponsors are important bodies that deliver discourses, shape people's identities and connect the "local" with the "global".

Literacy events and Structured routines and pathways Literacy events can sometimes be single incidents but frequently they occur in repeated patterns and routines within everyday life. Documenting these patterns and routines is essential for understanding the significance of the events themselves.

Structured routines and pathways are of great importance in facilitating and regulating actions. They are governed by rules of appropriacy and eligibility such as who does/doesn't, can/can't engage in particular activities. So, in the example we discuss in this paper, an adolescent boy's online news reading activities are connected to and by his interests in political news after migrating from China to England. His interests and practices did not come out of blue. Rather, his family background and ways that his parents educated him in his childhood formed the initial routines and pathways that led him to be a news reader and political news lover.

4. COMPONENTS OF LITERACY PRACTICES: DISCOURSES AND IDENTITIES

Clarifying the components of literacy events makes it easier to identify and construct the more abstract level of literacies --- literacy practices. Methodologically, visible elements of literacy events help researchers to collect concrete and detailed literacy events from people's daily life. Analytically, invisible elements leave space to conceptually construct and generalise literacy practices – the general cultural ways of utilizing literacy which people draw upon in a literacy event. Under the theory of literacy as social practice, it is inevitable to touch upon the concepts of "identities", "Discourses" (with abig D), and discourses (with a small d). [27]

Human beings, as participants of literacy events, have identities, which are representative of their social positioning and agency, and these can be correlated with the concept of "discourse".

The positionality perspective of identities reflects on the power of Discourses (with big D) to impact on identity formations. Discourses, as Gee (1999) defines them are "ways of being in the world, or forms of life which integrate words, acts, values, beliefs, attitudes, as well as gestures, glances, body positions, and clothes." [27] Gee's definition brings out the social identities that are related to individuals' ways of behaving and performing. Identities are influenced and constructed by Discourses. [27] The positionality perspective of human beings' identities demonstrates the second and the third realm of realities – through the interactions with other social members, institutions, and organisations, how individual actors' attitudes, beliefs and behaviours are constructed.

The agency aspect of identities indicates the potential that individuals have to shape and construct Discourses. Gee (1999) adopts "discourse" (with a small "d") – meaning "language-in-use or stretches of language (like conversations or stories) – to make a link with the agency level of identities. [27] Participants' discourses are embedded in their daily routine literacy events and vividly demonstrate what they want, how they perform, and who they are. Identities are presented by discourses. The agency perspective of human beings' identities shows the first realm of realities, which refers to individual actors' reflections about themselves and their reactions towards the world around them. In this

sense, discourses and identities can also be the invisible elements of literacy events which are attached to literacy participants.

As Barton and Hamilton (2012) note, dominant literacy practices are always supported by dominant Discourses delivered from formal institutions, such as education, law, religion and the workplace. [3] Dominant literacy practices are backed by the authority of privileged systems. In contrast, vernacular literacy practices are delivered by Discourses from informal settings, such as home. Therefore, Discourses and identities are also important parts of "literacy practices", but are not the whole picture. Existing identities and Discourses are interwoven within the multiple cross-cultural encounters that occur in contemporary societies. Such encounters create discursive spaces for the emergence of new identities and Discourses. In consistence with this idea, Merchant (2005) uses anchored identity to refer to "positions profoundly influenced by a long history of socio-cultural practices (such as gender or religion)" and adopts "transient identity" to refer to "positions … more easily made, remade and unmade (such as fandom)".

In sum, literacy practices are different from Discourses and identities. Literacy practices are the final, generalized, cultural patterns within which Discourses, identities, and literacies are linked together.

5. CASE STUDY OF A LITERACY EVENTS NETWORK ANALYSIS: MING'S ONLINE NEWS READING PRACTICES

The data in this example is a case study of a Chinese migrant adolescent, Ming, who was born in China, received some education in China and later moved to Britain. Ming's mother tongue was Chinese. When the data collection started in 2006, Ming was 17 years old, a Year 12 high school student in Lancaster. Ming migrated to Britain with his mother at the age of 15 after he finished his junior high school in China. Ming's mother was a PhD student in Lancaster. As the Chair of labour union, Ming's father was working at a university in China while Ming and his mother were studying in Britain. Both Ming's parents obtained B.A. degrees in China in China. All sample data were collected in 2006.

In order to collect in-depth data, Ming was visited every month. Qualitative research instruments were adopted including participant observation, semi-structured interviews, unstructured interviews, photography and video images. Participant observations at Ming's school and home opened up the door for the investigation to his life. Photos and video images were kept as a significant record of literacy artefacts in Ming's daily life. By semi-structured and unstructured interviews, parents' and Ming's views on his daily literacy activities were investigated. With the above methods, literacy events were collected, which had a great influence on Ming's identity formations in the past and that moment.

In Table 1, literacy events related to Ming's news reading practices are listed. It includes seven literacy events. Literacy Event No. 4 – online news reading – is of the most importance in that it helps connect all literacy events together. All the literacy artefacts in Literacy Events No. 4 covered a wide range of websites and webpages that Ming browsed in Britain.

Table 1 Overall summary of Ming's literacy events on News Reading

Literacy Events in the Dataset	Visible Elements of Literacy Events				
	Settings	Literacy Artefacts	Participants	Language Choices	Literacy Activities
No1: Parents' books buying for Ming	Home and bookshops in China	Classic Chinese ancient books in various versions	Ming's parents; Ming	Chinese	Ming read them himself
No2: Borrowing books from university library	Home and university library in China	Chinese historical and cultural stories	Ming's mother Ming	Chinese	Zhou read it for Ming
No3: Home book reservation	Home in China	Political books, and autobiographies reserved by Ming's father,	Ming, Ming's father, and Ming's grandparents	Chinese	Ming selected political books from his father's bookshelf
No4: Online news reading	Home in Britain	News webpages, videos on Youtube Websites	Ming	Chinese/ English	Reading News associated with China, North and South Korea and so on
No5: Learning politics t	School in China	politics	Ming, political	Chinese	Learning a political rule on "reform,

primary school in China			teachers, classmates etc.		democratic, and development"
No6: Book reading	Home in China	The book --- Empty Taiwan	Ming	Chinese	Reading "Empty Taiwan" in China
No7: Song's listening	Home, Internet	Songs	Ming, British Friends	Chinese, English	Listening to kinds of songs

In Britain, Ming didn't lose his interest in China and in the whole world. On the contrary, more information was available to him in Britain, such as politically sensitive websites that were blocked in China, including most websites from Taiwan. From Feb 2006 to Nov 2006, Ming regularly visited the following websites associated mainly with news that were maintained by different countries in multilingual languages:

All the above websites were sponsored by companies based in China, Taiwan, Hongkong, Britain and America. These literacy artefacts not only mediated Ming's information seeking activities across multiple domains but also distributed various kinds of Discourses about the Chinese government and events happening not only in China but globally. These discourses were sometimes compatible, at other times inconsistent or even in conflict. Ming used both the English and Chinese languages to browse these websites. By comparing voices and Discourses circulated by different websites, Ming reconstructed his perceptions about China and hence reformed his Chinese identities, which, as we will see in the following section, were completely different from the one he had before he arrived in Britain.

5.1 LEN1 – SOCIAL NETWORK AND NETWORK OF IDENTITIES: FAMILY MEMBERS AS LITERACY MEDIATORS

As soon as Ming entered primary school in China, his parents started to buy him the children's version of the four major ancient Chinese classic books. They also bought the Children's Encyclopaedia to improve Ming's knowledge; mysteries to develop his imagination and fairy tales such as Arabian Nights. They subscribed to children's magazines, such as Little Copernicus, a popular children science magazine in the 1990s. Among all of these books, both Ming and Ming's parents believed that historical books were Ming's favourite books.

The above data indicates that Ming's family members are significant literacy mediators helping Ming access political and historical Discourses and develop his identities as an historical and political book reader. By reading Chinese books, Ming was introduced to various political Discourses about Chinese histories and famous figures across the long history of China. Some historical figures demonstrate positive images of Chinese people such as Zheng Banqiao and Wang Xizhi; while some figures are controversial, such as Chiang Kai-shek. Various kinds of knowledge from different literacy artefacts gradually form Ming's perceptions about China and Chinese people.

5.2 LEN2: NETWORK OF DISCOURSES AND IDENTITIES, ANCIENT OR CURRENT

In addition, for Ming, understanding current political issues required contrasting the "ancient" with the "current", comparing China with other countries, and questioning what he learnt at school through reading after his formal classes. On the visit in Nov 2006, Ming stated his own views on a controversial historical figure --- Chiang Kai-shek after he had been reading the Autobiography of Chiang Kai-shek in China, as follows:

Data in this events network analysis shows that even in current China, Discourses referring to the CCP and Chiang Kai-shek are not consistent. Ming enjoys the process of building up his own perceptions about China from these inconsistent Discourses. In this process, he deliberately separates the concept of China from China's current leading party. Reading Chiang Kai-shek's autobiography further led Ming to question what he had learnt and been told at school. The above process demonstrates that even in China, Ming's ethnic identity as Chinese intersects with his identity as an historical and political book lover. His Chinese identity develops through his constant analysing, contrasting and criticizing of historical and political events and historical figures.

5.3 LEN3: NETWORK OF IDENTITIES, NATIONAL OR GLOBAL

Politically sensitive issues associated with current China were always Ming's main concern. In Britain, while Ming looked at news about China, he didn't constrain his views to China only, but also considered the political and economic developments of other countries. The following extract is Ming's comments on the Six-Four Incident in 1989 after he watched a video clip in YouTube:

Ming further discussed the potential rules behind the Six-Four Incident in China and the vote system in Taiwan to illustrate a theory that he learnt in his politics class in his primary school --- "reform is the power of development; stability ensures development; development should fit for productivity." The information about the vote system in Taiwan was from a book called "Empty Taiwan", which Ming read during his school holiday in 2006. According to Ming, "this book sharply pointed out that in order to have the support of big financial groups, the Democratic Progressive Party (DPP) sold treasury bonds at a low price and then bought the treasury bonds back at a high price, after DPP was elected by

the public." By using these two examples which happened in Mainland China and Taiwan, Ming further concluded, "If there were no economic developments ahead of democracy, democracy still is a kind of populist politics."

6. DISCUSSION AND CONCLUSION: MING'S LITERACY PRACTICES ON ONLINE NEWS READING

This article has offered a practical example of the process of constructing Ming's literacy practices of online news reading. Strong connections are demonstrated to exist between literacies, Discourses and identities in the textually-mediated worlds that Ming inhabits.

Firstly, three types of interconnected Discourses are distributed through multilingual literacy artefacts and sponsored by companies and organizations across China, Taiwan, Britain and America. These Discourses include political Discourse, socio-economic Discourse, and Discourses of leisure and lifestyle. Among them, political Discourse plays an essential role in Ming's online news reading practices. Before Ming's migration, Ming accessed political Discourses such as theories of how to analyses a country's political relationships through Chinese historical classics including the "Romance of the Three Kingdoms" and the "Five-Thousand-Year Chinese History". These books built a foundation for Ming's understanding of Chinese politics and helped construct his identity as an historical and political book lover. Ming's parents, as literacy mediators, their literacy values and family socio-economic background significantly guided Ming to access political Discourses and further strengthened Ming's interests in political and historical books. After Ming migrated between China and Britain, Ming's interests in histories and politics were further maintained by books such as Chiang Kai-shek's autobiography and digital videos such as the Six-Four incident. These books provided Ming with more political knowledge about China and new ways of relating China to other countries. Even though Ming maintained his interest in reading histories and politics after migration, the political Discourses he now received were not consistent and were even in conflict. Inconsistency and conflicts of Discourses provided a space for Ming to compare, contrast, and analyse China's relationship with Taiwan America, Japan, Europe, North Korea, South Korea and Japan, to position China in a global context, and eventually to reconstruct his understanding about China through in-depth analyses of political theories about democracy, reform and development.

The above analytical process and research results demonstrate the potential of constructing literacy practices through literacy events networks. Although the concept of literacy events network in this example is applied to a case study, we believe it could be used more widely to integrate discursively scattered literacy events, connect them, and make sense of them. The complex cultural patterns through which literacies, Discourses and identities are embedded in contemporary textually-mediated worlds can be analyzed and investigated together and hence literacy practices can be productively analyzed.

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Intelligent Realization and Design of Virtual Teaching for Electrical Professional Course

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Abstract: Aiming at the problems in the teaching of electrical engineering in a university, this paper proposes the teaching mode combined with the virtual teaching and simulation experiment system for curriculum teaching reform and experimental teaching reform, to cultivate students' engineering practice ability and innovative ability, so as to realize the integration of theory and practice in the learning process. The experiment result shows the proposed method can improve the performance of overall system substantially.

Keywords: Intelligent realization; Virtual teaching; Electrical professional course; Simulation experiment system

1. INTRODUCTION

With the rapid development of the modern computer network technology, especially the appearance of the Web 2.0 technology which focused on personalized interaction, it has been combined with modern education. In this situation, many online systems which provided education service have greatly improved the modern education's quality and efficiency [1]. And what's more they have strengthened communication between teachers and students. The second general network technology is the combination of virtual technology and modern network, which focuses on the virtual feelings when people communicate with each other under the network environment [2]. Therefore, it makes great significance for to develop a virtual teaching platform by using modern web tools. The virtual teaching system is based on Web which uses Visual Studio.net 2005 as the development platform, C# as the major development language, Microsoft SQLServer2000as the database and uses the most popular MVC three-stage architecture. It indicates some features of advancement on the integrity of technology and process [3-4]. The virtual courses teaching platform based on B/S structure, it is a campus online studying platform. It provides students a nice online studying platform by supplying online videos, online course wares [5], online intercommunication [6], online experimentations and all kinds of teaching resources and so on [7]. The online experiment (online compiler)module was that the compiler used the server-side interface of the experimental simple Web browser-based compiler to run the program functions, compiled the running results back to show on the browser without installing the compiler program by the users. Whiteboard functionality of the system not only can facilitate student exchange, they can also increase the interest in the teaching process, to achieve the effect of improving teaching effectiveness. The system uses virtual reality technology to build virtual classrooms and virtual laboratories, in the form of expression has been greatly improved relative to traditional online teaching system, a virtual teaching system to give the user a more realistic visual experience. The main content is as follows: Firstly, it studied ASP.NET and ADO.NET which were the key NET Framework components for construct virtual teaching system; meanwhile it studied the browse of online courseware and electronic whiteboard principle, and mainly study on the use of the AJAX framework Anthem.net. Secondly, It studied the overall functional structure of the virtual teaching system and analyzed the system user and the user's workflow; it researched the feasibility of online examination system based on Web form the technical and economic aspects [8].

2. MODEL AND ALGORITHM

3D virtual reality technology is also called lingjinghutong technology, it is a new comprehensive information technology which combines with digital image processing, computer graphics, multimedia technology, sensor technology and other information technology branch, which greatly promotes the development of computer technology. Virtual reality based on the idea of designer. The user can be immersed into the data space. So in a certain period of time, the user can be isolated with the reality environment, and the users can be put into the can real-time interactive virtual environment, and manage the data.

The virtual environment and landscape environment mainly includes two parts model environment and real-time roaming environment. And the model environment includes visual modeling and audio modeling. The real-time roaming and the collision detection are realized in real-time roaming environment, which is shown in Figure 1.

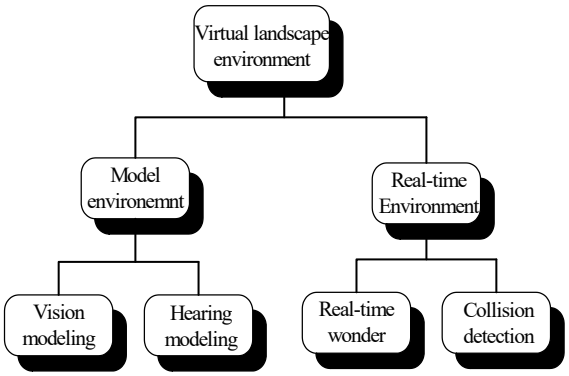

Figure 1 The structure of virtual landscape environment

The design process for virtual technology of auxiliary landscape is mainly divided into three steps. As shown in Figure 2, firstly it is the design of the floor landscape plan. The planar layout of the landscape is mainly accomplished by adopting the CAD software and other relevant software design. Then, based on drawing a good plan, through collecting relevant data, the construction of the virtual scene can be achieved. In the virtual scene model, a variety of small models are included, such as building model and road model, model of water level, etc. When building the virtual model, it is needed to collect enough related images, and then the images are made into the picture texture mapping in order to increase the real effect of virtual scene. In order to render the virtual scene, in the process of the scene construction, it is needed to not only meet the effect request, but control the amount of data model. When the landscape model is too big, it is necessary to optimize the virtual model. Finally, the virtual system integration is realized based on the platform. After years of development, the realization of the virtual reality technology is to derive a variety of different methods, such as JAVA3D, CUTE3D, VRML, VRMAP, VRP, etc. The VRP and VRMAP are very good virtual reality software, which are widely used in digital city, remote sensing mapping, geology, petroleum chemical industry, etc.

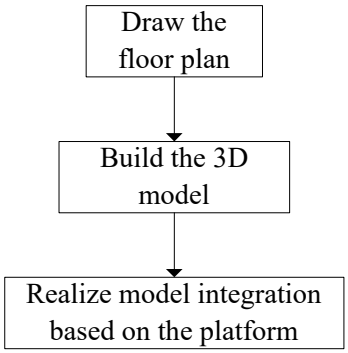

Figure 2 The design process of the virtual reality technology

The basic equation of the algorithm is shown in the following equation (1):

$$L(\nabla,\omega)f(x,\omega)=0$$
$$L(\nabla,\omega)=T(\nabla)+\omega^2\rho \mathsf{J} \quad (1)$$

In which,

$$T(\nabla)=\begin{Vmatrix} T_{ik}(\nabla) & t_i(\nabla) \\ t_k^T(\nabla) & -\tau(\nabla) \end{Vmatrix},\ \mathsf{J}=\begin{Vmatrix} \delta_{ik} & 0 \\ 0 & 0 \end{Vmatrix},$$
$$f(x,\omega)=\begin{Vmatrix} u_k(x,\omega) \\ \varphi(x,\omega) \end{Vmatrix} \quad (2)$$

Consider delay, the L can be expressed as:

$$L^0=\begin{Vmatrix} C^0_{ijkl} & e^0_{kij} \\ e^{0T}_{ikl} & -\eta^0_{ik} \end{Vmatrix} \quad (3)$$

And local fractional integral of $f(x)$ defined by Eq.4.

$$ {}_aI_b^{(\alpha)}f(t)=\frac{1}{\Gamma(1+\alpha)}\int_a^b f(t)(dt)^{\alpha}$$
$$=\frac{1}{\Gamma(1+\alpha)}\lim_{\Delta t\to 0}\sum_{j=0}^{j=N-1} f(t_j)(\Delta t_j)^{\alpha} \quad (4)$$

Its local fractional Hilbert transform, denoted by $f_x^{H,\alpha}(x)$ is defined by

$$H_{\alpha}\{f(t)\}=\hat{f}_H^{\alpha}(x)$$
$$=\frac{1}{\Gamma(1+\alpha)}\oint_R \frac{f(t)}{(t-x)^{\alpha}}(dt)^{\alpha} \quad (5)$$

3. EXPERIMENT RESULT AND RESULT

This research mainly talks about how to achieve the teaching goals by making teaching predication. The key point is to find the related courses which may affect the major courses study. This paper takes the electrical professional course Network Database Application as example.

Mining data base is set up in the process of gradually perfection. Once the mining results functions well, changes of data will be needed to get a better result, and this process makes it necessary to repeatedly process data preparation and mining. The mined data will be stored in the same data base in this paper. Figure 3 shows the establishment of data mining base.

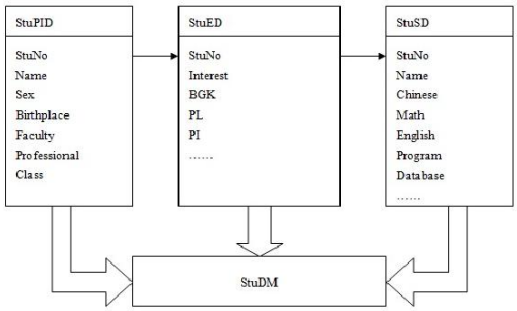

Figure 3 The design process of the virtual reality technology

In order to solve the problem t in the teaching of electrical engineering in a university, this paper proposes the teaching mode combined with the virtual teaching and simulation experiment system for

curriculum teaching reform and experimental teaching reform. Data used in this research are from different recourses, such as teaching affair's department and students affairs' office, which unavoidably include some unnecessary information. Consequently, careful selection of the data information is important. Information such as name, age, student number and some unusual data will be deleted. The experiment result shows the proposed method can improve the performance of overall system substantially.

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A Comparison of Three Exercise Interventions on their Effectiveness in Improving Students' Physical Health and Regular Exercise

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Abstract: Nowadays, improving teenagers' physical health has become one of the most urgent tasks for physical education in China, while helping students to develop a habit of regular exercise is conducive to achieving this end. This study was designed to examine the effects of three exercise interventions in the manner of tailored-print, exercise-intensive and self-management on students with serious health problems. After interventions, students reported significant improvements in body mass index on lung volumes, BMI, 1000 m/800m, standing long jump, sit-up and involvement in regular exercise, with the self-management intervention bringing about the most substantial benefits for the students.

Key words: exercise intervention; physical health; regular exercise; self-management intervention

1. INTRODUCTION

School is a major place for improving teenagers' physical health and cultivating their healthy habits. Seeking a scientific and proper way to achieve the above goal has become an urgent task for physical education in Chinese schools. Since a habit of regular exercise plays a critical role in improving physical health and cultivating healthy life habits, helping students to develop an exercise habit is worth our great attention. Studies show that effective exercise interventions are instrumental in fostering teenagers' habits of regular exercise and promoting their physical health[1]. In accordance with the difference in the extent of exercise training, exercise interventions can be categorized to three types: exercise-intensive, tailored-print and self-management. Tailored-print intervention provides training classes via internet-based means such as e-mails, requiring no face-to-face interactions and allowing students to set and meet their goals of exercise by themselves. Self-management intervention employs the course of SPARK, in which half of the time is designed for physical activities, thus substantially raising the amount of exercise in schools. Exercise-intensive intervention aims to engage students in a specific physical training program for 45mins. In order to compare the effects of three exercise interventions on students in terms of improving their physical health and regular exercise, this study practiced the above-mentioned three ways of exercise interventions on students with serious health problems. The following is the study result.

2. EXPERIMENTAL

2.1 STUDY AREA

Serious health problems refer to those health problems which have posed severe impacts on people's physique, exercise ability, physiology or psychological state, such as high blood pressure, obesity, malnutrition, poor physical fitness (strength, velocity, vital capacity). Students are considered to have serious health problems if their BMI (kg/㎡) indicates obesity or malnutrition, or they have lower-than-standard scores in tests like body mass index on lung volumes, long distance running (1000m for boys/ 800 meters for girls), standing long jump and sit-up(for girls) or grip strength (for boys), or they have relatively high blood pressure (SBP＞140mmHg, DBP＞90mmHg). This study randomized 120 students with serious health problems from a school and grouped them into four groups: Group A, Group B, Group C and the Control group. In each group, there were 30 students with no considerable difference in physical fitness ($P>0.05$).

2.2 METHOD

2.1 INTERVENTION METHODS

Tailored-print intervention was performed in Group A. Self-management intervention was performed in Group B. Exercise-intensive intervention was performed in Group C. No intervention was performed in the control group.

2.1.1 TAILORED-PRINT INTERVENTION

In this category, physical educators performed exercise interventions on students via e-mails, covering intervention in students' understanding of their physical status, instructions on their exercise, making plan, setting goals, helping them overcome difficulties, precluding injuries, fostering involvement in regular exercise, building up social support, experiencing changes brought by exercise, re-shaping self image, experiencing effects produced by regular exercise, enhancing self-efficacy, intensifying the effects generated by exercise.

2.1.2 SELF-MANAGEMENT INTERVENTION

In the first week, physical educators introduced self-management, allowing students to understand its regular pattern and arousing their interest in physical activities. In the second week, educators imparted

exercise-related knowledge and organized students to discuss the benefits of exercise before summarizing its good impacts. In the third week, physical educators set goals and formulated plans for students. In the fourth week, students carried out the plans. In the fifth week, students teamed together to encourage each other to meet their goals. From the sixth week to the eighth week, educators provided an enabling environment for students to perform regular exercise, rewarded those who reached their goals and gave instructions about how to prevent injuries while exercising. From the ninth to the eleventh week, students conducted self reflection, sharing experiences and self motivation. From the twelfth to the fifteenth week, students balanced their diet and exercise, reported changes of their figure and body, performed aerobic exercise and anaerobic exercise and intensified their willingness to exercise after class.

2.1.3 EXERCISE-INTENSIVE INTERVENTION

Physical educators formulated and implemented specific physical training programs for students in accordance with their physical fitness. Training programs like step aerobics and shuttle runs were alternated every three weeks.

2.2 OBSERVATION INDICATORS

Physical educators observed and compared four groups of students' physical health and involvement in regular exercise after interventions. (1)In line with *National Student Physical Health Standard,* the following indicators were monitored: BMI, body mass index on lung volumes, 1000 m/800m, standing long jump and sit-up (for girls) or grip strength (for boys). (2)Students' involvement in regular exercise was evaluated. Moderate-intensity exercise for at least 30 minutes at least three days a week, or high-intensity exercise for at least 30 minutes at least three days a week were counted as regular exercise.

2.3 MEASUREMENT

This study employed the software of SPSS19.0 to analyze the measurement data which was represented in a form of $\bar{x} \pm s$. The Kruskal-Wallis analysis of variance was used to compare different groups of data. (The variance is statistically meaningful when $P<0.05$.)

3. RESULTS

Details of the Comparison of four groups of students' physical health and involvement in regular exercise before and after interventions are presented in table 1. Students in Group A, Group B and Group C reported considerable improvements in BMI (obesity) after intervention ($P<0.05$). Students in Group B and C have reported considerable improvement in body mass index on lung volumes, standing long jump, 1000 m/800m and sit-ups after intervention ($P<0.05$), and students in Group B showed the most significant improvements ($P<0.01$). Students in Group A did not show noticeable improvements in BMI(malnutrition), body mass index on lung volumes, 1000 m/800m, grip strength, sit-ups, standing long jump and involvement in regular exercise after intervention ($P>0.05$).

Table 1 Comparison of four groups of students' physical health and involvement in regular exercise before and after interventions

Indicators	Time	Group A	Group B	Group C	Control group
BMI (malnutrition)	before	12.90±1.50	12.78±1.47	12.69±1.55	12.93±1.37
	after	13.05±2.21	16.47±4.41**	14.53±2.44*	12.96±2.14
BMI (obesity)	before	38.70±5.49	37.71±6.41	38.96±5.03	39.32±4.68
	after	32.14±7.52*	29.69±7.71**	34.57±8.02*	39.09±5.01
Body mass index on lung volumes	before	42.81±1.46	41.87±1.53	42.31±1.69	42.68±1.71
	after	44.85±2.56	50.27±2.65**	44.84±2.68*	42.65±1.82
Standing long jump	before	1.68±0.02	1.69±0.03	1.71±0.06	1.70±0.08
	after	1.74±0.47	1.92±0.52*	1.83±0.29*	1.72±0.12
1000m/800m	before	4.81±0.20	4.76±0.17	4.82±0.11	4.69±0.16
	after	4.72±0.14	4.29±0.11**	4.61±0.14*	4.68±0.19
Grip strength	before	46.32±1.76	47.29±1.55	46.20±1.81	46.26±1.79
	after	48.05±4.51	48.51±5.02	47.65±4.02	46.21±1.41
Sit-up	before	21.32±2.11	20.15±2.51	20.82±1.85	20.26±1.49
	after	22.76±4.16	26.84±6.13**	23.24±2.54*	20.16±1.52
Involvement in regular exercise	before	17.33±4.28	17.20±4.21	18.21±3.66	18.06±3.74
	after	18.57±5.04	23.58±1.84**	18.65±3.06	18.01±4.54

Note:*indicates $P<0.05$ compared with before intervention,** indicates $P<0.01$ compared with before

intervention.

4. DISCUSSION

The result reveals that students in Group A after tailored-print intervention reported significant improvements in obesity ($P<0.05$). The reason lies in that the majority of obese students felt different degree of self-humiliation because of their not good-looking body and lack of flexibility. Tailored-print interventions didn't require face-to-face interactions between students and educators, which protected students' self-respect while making them realize the harmful effects of obesity. With a relatively low level of self-efficacy, many students opted for going on a diet or medicines to reduce their weight[2]. However, students in Group A did not report noticeable improvements in BMI (malnutrition), body mass index on lung volumes, 1000 m/800m, grip strength, sit-ups, standing long jump and involvement in regular exercise after intervention ($P>0.05$). This result is contrary to some reports of related topics in China. One possible explanation for this is that the development of self-efficacy is influenced by many factors, such as mastery experience, vicarious experience, verbal persuasion, psychology arousal and physiological factors. Since no face-to-face interactions between students and educators were required during tailored-print interventions, this intervention was not helpful for students to obtain exercise skills and thus might damage the formation of self-efficacy. In addition, the effectiveness of physical education is largely dependent on the involvement of students. The sufficient amount of audio and visual information provided through tailored-print interventions was just vicarious experience or verbal persuasion, and with individual differences taken into account, the effectiveness of physical education was thus greatly reduced[3].

The result also indicates that students in Group B reported significant improvements in BMI(malnutrition and obesity), body mass index on lung volumes, standing long jump, 1000 m/800m, sit-ups and involvement in regular exercise after intervention ($P<0.05$). The SPARK course is targeted at students with serious health problems, employing innovative and engaging method of interactive teaching, which is more popular among students. Self management interventions allow educators to monitor students' exercise directly and understand the relations between students' physical activities and self-efficacy[4]. For instance, strategies of categorization and diverting allow students to spend more time in doing moderate-intensity and high-intensity physical activities. Besides, in self-management interventions, physical educators are instructors who provide guidance while students are organizers and leaders in those activities. This method can improve students involvement in physical activities, allowing students to play a major role in these activities themselves, actively engage in physical exercise and pay more attention to the details and standards of those movements. But Students in Group B did not show significant improvements in grip strength after intervention ($P>0.05$), possibly as a result of the relatively short period of the intervention, relatively low degree of intensity of exercise and relatively small amount of specifically guided training.

It is also obvious in the result of this study that students in Group C showed considerable improvements in BMI(malnutrition and obesity), body mass index on lung volumes, standing long jump, 1000 m/800m and sit-up after intervention ($P<0.05$), but did not report significant improvements in involvement in regular exercise after intervention ($P>0.05$). This demonstrates that exercise-intensive intervention is conducive to improving students' physical health, but is not effective in helping students to cultivate a habit of regular exercise.

5. CONCLUSIONS

Three exercise interventions in the manner of tailored-print, self-management and exercise-intensive practiced on students with serious health problems are helpful for improving students' physical health, with self management generating the most considerable improvements, and are conducive to fostering students' involvement in regular exercise. Therefore, it is highly recommended to popularize these strategies in physical education.

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Influence of Residence Community Opening on Surrounding Road Traffic

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Abstract: Since the promotion of block system in China, residents' opening and the surrounding road traffic problems are getting more and more attention.In this paper, road traffic influencing factors such as road congestion coefficient, residents area factors such as road network area and residential area road width, are considered in this study and a vehicle traffic model based on the road capacity is established.The model is applied to a study of four different types of residential areas in Luoyang city and the result shows that the road area, road congestion coefficient and other factors have a certain impact on the road traffic capacity.The feasibility of the model is proved, which provides reference for urban planning and management department.
Keywords: Residential area opening; vehicle traffic model; peripheral road traffic capacity

1. INTRODUCTION

With the development of China's urbanization, the urban transportation problems have become increasingly prominent, and the promotion of the block system has become a hot social issue.In 2016, the Chinese college students' mathematical modeling competition put forward the problem of the impact of the residential area on the surrounding road traffic, and asked to establish a mathematical model of the vehicle traffic, to study the impact of community opening on the surrounding road traffic and compare the effects of different types of residential area on the road traffic, and provide suggestions for urban planning and traffic management department.In order to solve the above problems, this paper through collecting the data and the model and analysis the current situation and the surrounding area of open road conditions, to study the area open type and the degree of openness on the surrounding road capacity influence.

2. EXPERIMENTAL

2.1 STUDY AREA

In order to quantitatively compare the influence of residents' opening and before and after the road traffic, it is necessary to select the residential area structure and the surrounding road structure, traffic flow and other factors, such as differences in the residential area.Luoyang city[1]land layout roughly Luohe as the axis of symmetry, and adapt to the land use pattern of city group development process, Luoyang City initially formed within the grid group with connecting line between the road network layout.Selected A, B,, C, D, four different types of residential areas in Luoyang City, four residential area plan diagram Figure 1, A residents surrounding road traffic conditions see Table 1.

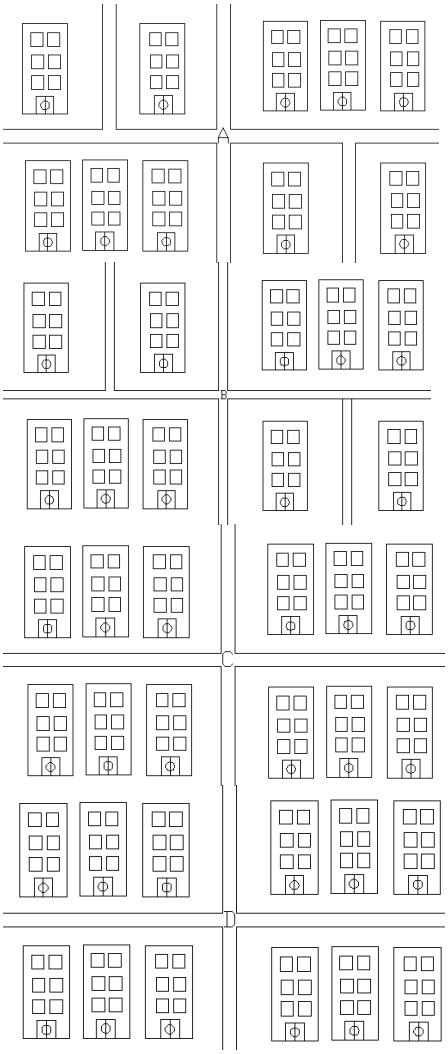

Figure 1 Schematic diagram of the residential area

2.2 METHOD

1) Basic traffic capacity

Basic capacity [2] means that the road and traffic in the ideal situation, each lane or each road in the unit time can pass the maximum traffic volume.As the ideal conditions of the road, lane width should be no less than Chinese highway as the standard, vertical gentle slope, and have broad vision, good alignment and road conditions. As the ideal traffic conditions,

traffic composition standard single car, on a lane at the same speed, continuous running maintain the minimum interval, and adapt to the speed of the front of the vehicle, and no interference in any direction. Based on the ideal road and traffic conditions of this traffic model, the maximum amount of traffic through, namely the basic capacity.

Table 1 A residential area surrounding road traffic conditions

Road name	Vehicle Flow	Congestion Coefficient	Average Speed	Road proportion	Road Area
Xinhua Dong	1054	0.9	28.32	75%	800m^2
	1053	0.9	30.87		
	2107	0.9	32.02		
Baofeng West Road	1304	0.8	31.57		
	2669	0.9	34.74		
	5027	0.8	27.35		
Bridge Road	1094	0.5	28.14		
	616	0.3	31.06		
	1710	0.4	33.99		
Yongfeng Street	700	0.5	32.10		
	896	0.6	30.13		
	1596	0.6	29.95		

Basic traffic capacity:

$$C_b = \frac{3600n}{t_o} = \frac{3600n}{l_o/(v/3.6)} = \frac{1000nv}{l_o}(\text{car}/h) \quad (1)$$

In the formula: v —Driving speed(km/h); t_0 —Average headway(s), n-The number of lanes.

2) Congestion coefficient

Congestion coefficient [3] is the ratio of the actual traffic volume and the basic traffic through the road in the actual road and traffic conditions. Calculation of actual capacity is the basic capacity as the basis, taking into account the actual terrain, road and traffic conditions affect the speed of the vehicle, determine the congestion coefficient and obtain the actual road traffic under certain conditions traffic conditions.

$$\lambda = \frac{C_a}{C_b} \quad (2)$$

3) Residential area

Due to the current residential area road design of the original intention is not to consider the surrounding road vehicles open access, the roads are one-way street and narrow in width, therefore, the proportion of residential area road width of the main road [4] has a certain impact on the surrounding road vehicles.

$$\sigma = \frac{d_n}{d_r} \quad (3)$$

d_n :Road width in residential area, d_r :Main road width.

$$C_n = \frac{1000v_n}{t_0}(1+\sigma) + kS_L \quad (4)$$

S_L :Road network area， C_n :Residential capacity.

When the residential area open, when the surrounding road congestion or slow speed, the vehicle from the different entrances into the residential area of probability[5]: $\xi_1, \xi_2, \xi_3 \cdots \xi_n$, n is the number of residential area entrance, ξ_i associated with the surrounding road congestion coefficient.

$$\xi_i = \rho_i \lambda, i = 1,2,\ldots,n \quad (5)$$

The capacity of the entrance of the residential area is:

$$C_I = \sum_{i=1}^{n} \xi_i C_a \quad (6)$$

When the surrounding roads into the residential vehicle too much, the residents in the occurrence of congestion or road speed is slow, the residents in the vehicle by different entrance into the surrounding roads, because people do not understand the driving condition of the road, from each intersection probability should be equal to remit [6].

$$\gamma = \frac{1}{n} \quad (7)$$

Residential area open, export capacity is：

$$C_o = \sum^{n} \gamma C_n \quad (8)$$

4) Vehicle traffic model

By analyzing the traffic capacity of the residential area and the surrounding area, the vehicle traffic model with the goal of road traffic capacity is obtained:

$$C_A = \frac{1000v}{t_0} + 1000\sum_{i=1}^{n}\frac{\rho\lambda v}{t_0} - \frac{1}{n}\sum^{n}((1+\sigma)\frac{1000v_n}{t_0} + kS_L) \quad (9)$$

Influence degree δ :

$$\delta = \frac{c_A - c_a}{c_a} \times 100\% \quad (10)$$

δ :Impact of residential area on the road traffic， the index is high quality index， That is, the greater the δ , the greater the impact.

3. RESULTS AND DISCUSSION

Through the quantitative analysis of the 4 model residential area, with A, B group as control group, analysis of the impact of residential area road and the main road to the residential area before and after the opening ratio; in C, D group as the control group. The effect of road congestion coefficient of residential area before and after the open; in A, D group as the control group. Analysis of the impact of residential area on the road before and after the residential area open. The results are as follows:

Table 3 quantitative analysis results of traffic in residential areas

	σ	λ	S_L	δ
A	Control Group			19.8%
B				12.3%
C		Control Group		13.8%
D				18.6%
A			Control Group	21.3%
D				15.8%

From the above analysis, it is concluded that the urban road network density, road congestion coefficient and the proportion of residential area road accounted for the surrounding road vehicles have a significant impact on the operating capacity.By A, B control group results can be seen, the proportion of residential area road width of the main road capacity has a greater impact, reaching 19.8%, can improve the level of road capacity.By C, D control group, the results can be seen that the road congestion coefficient has a greater impact on the road capacity, the impact of 18.6%, the greater the congestion coefficient, the lower the level of road traffic capacity. By A, D control group results can be seen, the road traffic capacity of the road network area has a significant impact on the road traffic capacity, and reached 21.3% of the impact, and the greater the road network area, the higher the level of road traffic capacity.

4. CONCLUSIONS

Through the analysis of the capacity of the residential area to open to the surrounding roads, the traffic model and effect evaluation system of road vehicles are established.In four residential areas in Luoyang city as the research object the application model, according to the analysis and thinking of the results, found that residential area road network area, road congestion factor coefficient on the residential area after the opening of the traffic level has great influence.It is proved that the model has high application value, and it can provide some references for the urban planning and management department to open the closed residential area gradually.

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Influence of Community Opening on the Peripheral Road

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Abstract: In order to study the impact of open community on the surrounding road traffic, intersection saturation, average travel speed, and travel delay were selected as three research indicators. The improved Markov chain forecasting method is used to predict the number of traffic vehicles after the opening of the community. Then a comparative evaluation mode based on the analytical method was built and was analyzed to examples of the connection of four "community - roads". The software was used to simulate the average travel time and delay. It is found that the conventional cell can improve a greater degree on the surrounding road service level than the special one. And compared to the secondary road, the cell connected to the main road can improve a greater degree on the surrounding road service level. Among them, the cell whose connection model is "normal district + main road" can improve the level of the surrounding traffic services most greatly.
Keywords: Markov chain; simulation; analytical; Comparative evaluation model

1. INTRODUCTION

In recent years, China's rapid economic development and the rapid increase in the number of vehicles led to increasing road traffic problems. Aiming at the unbalanced utilization of road resources, the State Council promulgated the provisions on the promotion of block system, in principle, residential area is no longer closed, and the completion of the residential district and the compound will need gradually opening. The community has different evaluations on the open effect of the community and the predecessors have built the coordination index of the district and the traffic development, sum up the characteristics of the closed community and its impact on traffic and so on [1-3]. Based on the existing results, we study the impact of community opening on surrounding road traffic to provide quantitative basis for better implementation of relevant regulations.

2. EVALUATION INDEX OF TRAFFIC IMPACT DEGREE IN RESIDENTIAL

For urban roads, road saturation is a measure of road service capacity generally [4]. The average travel speed can directly reflect the condition of the road, and the delay index can also be used to evaluate the road driving condition. The total delay time of the obstructed vehicles is an important index reflecting the traffic flow efficiency [2]. Therefore, this paper selects these indicators to describe the impact of residential opening on the surrounding roads.

2.1 Intersection Saturation λ_1

Intersection saturation measure the service capacity of the intersection, the calculation method of the saturation in the study area of each intersection weighted average processing. That is, the capacity of each intersection and the intersection of all traffic capacity ratio:

$$\lambda_1 = \sum_{i=1}^{n} \frac{v_i}{\lambda_i} \times \frac{\lambda_i}{\sum_{i=1}^{n} \lambda_i} \tag{1}$$

Among them: v_i the peak traffic volume of each intersection within the traffic impact area; λ_i is the traffic within the scope of the intersection of various traffic capacity; n is the number of intersections within the traffic influence range.

2.2 Average travel speed λ_2

Method of determining the average travel speed generally is field observation. In a fixed-length section of the observation of vehicle travel time to infer the travel speed. The formula for the final average vehicle speed is given below:

$$s = \frac{nL}{\sum_{i=1}^{n} t_i} = \frac{L}{\frac{1}{n}\sum_{i=1}^{n} t_i} = \frac{L}{t_0} \tag{2}$$

Among them: S stands for the average travel speed (d_2); L stands for the length of the road section; t_i stands for the travel time of the i -th sample vehicle crossing the road section; n is the number of vehicles observed; $t_0 = \frac{1}{n}\sum_{i=1}^{n} t_i$ is the average travel time on the road section.

2.3 Driving delay time λ_3

Driving delay refers to the average delay time of each vehicle when the vehicle passes through the road

section. The occurrence of a controlled delay in the straight direction with the intersection of the plane, The formula is $d = d_1(PF) + d_2 + d_3$. Among them, d_2 is the control delay (s / vehicles); d_1 is a unified delay (s / vehicles); PF is the traffic arrival adjustment factor; d_2 is incremental delays(s / vehicles).

3.CONSTRUCTION OF COMPARATIVE JUDGMENT MODEL BASED ON *TOPSIS* ANALYSIS

We taking into account the surrounding area before and after the open road conditions, a comparative evaluation model based on the $TOPSIS$ analysis method was established to study the influence of the open area on the surrounding roads. The traffic flow of the traffic lane before the opening of the community is taken as the breakthrough point to determine the probability transfer matrix. Then the modified Markov chain prediction method is used to determine the traffic volume after the opening of the community.

3.1 Determine the normalized decision matrix

Firstly, the decision matrix is established by using the original data of traffic condition index before and after the opening of the community. That is $X = \begin{bmatrix} x_{11} & x_{12} & x_{13} \\ x_{21} & x_{22} & x_{23} \end{bmatrix}$, and the data are normalized. Among them, x_{ij} is the j th index of the i -cell; $i = 1,2$,1 means before the cell is opened, 2 means that after the cell is opened, $j = 1,2,3$.

3.2 Determine the positive ideal solution z^+ and the negative ideal solution z^-

According to the road service level grading standard table as in Table 1, we can get the optimal solution and the worst solution of each index. So the optimal vector is $z^+ = [60,0,0]$ (Urban road speed is generally within 60 km/h) Worst vector is $z^- = [0,1,60]$

Table 1 Service level grading standards

Service level	Speed (km/h)	saturation	Delay time(s)
A	≥ 48	< 0.4	≤ 5
B	40-48	0.4-0.6	5-15
C	32-40	0.6-0.75	15-25
D	24-32	0.75-0.9	25-40
E	≤ 32	0.9-1	40-60

3.3 The distance between the index value of the evaluation unit and the optimal value and the worst value is calculated.

$$D^{\pm} = \sqrt{\sum_{j=1}^{3}(z_{ij} - z_j^{\pm})^2} \quad (i = 1,2 \ j = 1,2,3) \qquad (3)$$

3.4 The relative closeness of the index value of the evaluation unit to the optimal value is calculated.

$$C_i = \frac{D^-}{D_i^+ + D_i^-} \quad (i = 1,2) \qquad (4)$$

3.5 Markov Chain Prediction of Road Traffic Volume

When the district is not open, if the surrounding road vehicles want to go through the area, they need to pass from the periphery of the district. The schematic diagram is as follows:

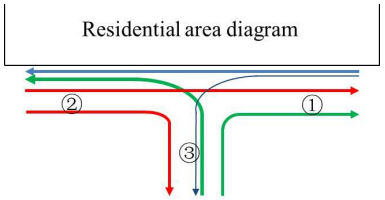

Figure 1 Closed cell traffic around the schematic diagram

When the vehicle to pass, assuming that the probability of passing through the intersection of each vehicle is the same, to monitor the intersection of a cell at the peak hour traffic per hour as the initial traffic volume. The following steps are used to predict the road traffic volume after the district is opened:

We assume that $\{\xi_n, n = 1,2,\cdots\}$ is a Markov chain, its state space $E = \{1,2,\cdots\}$, Then for any positive integer m , n ,there is $p_{ij}(m+n) = \sum_{k \in E} p_{ij}(n) p_{kj}(m)$. Among them, $i, j \in E$.

We assume that P is the first-order Markov chain transfer matrix(The row vector of P is the probability vector) $P^{(0)}$ is the initial distribution row vector. Then the probability distribution of step n is $P^{(n)} = P^{(0)} * P^n$. The initial probability distribution of the road selection after opening is $P^{(1)} = [\frac{1}{4}, \frac{1}{4}, \frac{1}{4}, \frac{1}{4}]$.

The one-step state transition matrix is:

$$P = \begin{bmatrix} 0 & \frac{a_1}{a_1+b_1+x} & \frac{b_1}{a_1+b_1+x} & \frac{x}{a_1+b_1+x} \\ \frac{a_2}{a_2+b_2+y} & 0 & \frac{b_2}{a_2+b_2+y} & \frac{y}{a_2+b_2+y} \\ \frac{a_3}{a_3+b_3+z} & \frac{b_3}{a_3+b_3+z} & 0 & \frac{z}{a_3+b_3+z} \\ \frac{1}{3} & \frac{1}{3} & \frac{1}{3} & 0 \end{bmatrix}$$

Among them: $a_i, b_i, x, y, z \ (i = 1,2,3)$ respectively, on behalf of the different road slogans turn left, straight and turn right turn traffic. Combined with the district is not open before the road traffic, we know that after the opening of the district traffic flow diversion mode as shown below:

The road saturation can be calculated from the traffic

volume obtained above and the road capacity $\gamma = \frac{V}{C}$ .Among them, V represents the maximum traffic volume, that is, the hourly traffic volume in the selected area during the peak period; C indicates the basic road capacity.

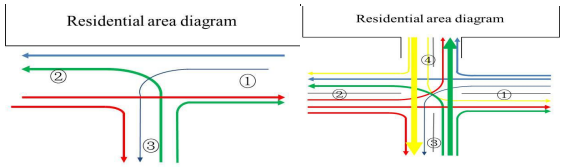

Figure 2 Road before and after the opening of the road traffic shunt diagram

Closed cell is open to improve the capacity of the city for the purpose. For the two types of residential areas before and after the open to the impact of traffic and traffic conditions around the situation, we need to be before the cell and the district after the opening of the surrounding traffic conditions were compared.

4. CASE STUDY –CELL OF DIFFERENT STRUCTURE TYPES AND PERIPHERAL ROAD MODEL

The different types of cells are classified as follows:

(1) According to the different internal road construction, we divide them into "conventional plot" and "special plot".

(2) According to the cell outside the road connecting the road is divided into "main road" and "secondary roads."

4.1 The prediction of the traffic volume after opening is given as an example of the connection mode of "Special - type Residential Area and Secondary Road"

In the special area, the road structure is complex, and the data are obtained by literature [3], Two-way traffic on the road ①~② before the area open is 4914 pcu/h , its two-way traffic capacity is 5600 pcu/h , Then its saturation is $\gamma = 0.878$. After the plot is opened, using the Markov chain, the initial distribution probability is $P^{(0)} = [\frac{1}{4} \quad \frac{1}{4} \quad \frac{1}{4} \quad \frac{1}{4}]$. For the internal structure of this cell, the state transition matrix is:

$$P = \begin{bmatrix} 0 & 0.62 & 0.228 & 0.152 \\ 0.73 & 0 & 0.17 & 0.1 \\ 0.39 & 0.145 & 0 & 0.465 \\ 1/3 & 1/3 & 1/3 & 0 \end{bmatrix} \quad (5)$$

Solve with *MATLAB* ,We know $P^{(n)} = [\ 0.33 \ \ 0.31 \ \ 0.19 \ \ 0.17]$, The two-way traffic volume on the road ① ~ ② after the cell opening is calculated. It is 4079 pcu/h .Its two-way traffic capacity is 5600 pcu/h , Then its saturation $\gamma = 0.728$. From the calculated data, it can be seen that the traffic volumes of the lanes 1 and 2 on the roads 1 to 2 before and after the cell opening are significantly reduced, and ④ part of the road traffic increased.

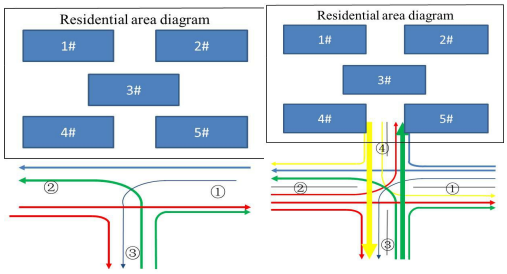

Figure 3 Schematic diagram of the "Special Area + Sub-trunk Road" before and after opening

4.2 Data Simulation

The data simulated by *VISSIM* software is compared with the data before cell opening, Since the main research object is the change of the traffic conditions in the road ① ~ ②, we take the average value of the lane 1 and lane 2 indicators and list the simulation of four types of district average travel speed and delay time list.

Table 2 The average travel speed and delay time for different connection modes

		The main road		Secondary roads	
Average travel speed		Before opening	After opening	Before opening	After opening
	Conventional	46	54	37	41
	special	43	47	36	38
Driving delay		The main road		Secondary roads	
		Before opening	After opening	Before opening	After opening
	Conventional	38.62	23.6	46.65	25.05
	special	39.06	34.53	48.98	36.53

4.3 The Influence of Different Cell Type Connection Modes on the Results

The above three kinds of index data obtained from the different types of residential districts and their connections are calculated and combined with the road service level standard, Calculate the respective optimal value C_i of proximity by using *TOPSIS* analysis.

Among them, a stands for "conventional cell + trunk" connection mode, b stands for "special type

cell + main road" connection mode, c stands for "conventional cell + secondary trunk" connection mode, d stands for "special type cell + secondary trunk" connection mode.

The C_i before and after the cell opening are calculated from Table 3.guwomenkezhi. We can see that the district after the opening of the road service levels were significantly improved, but the extent of the impact is different. By contrast ΔC_i and according to the road within the district structure is different, we found that the conventional cell can improve a greater degree on the surrounding road service level than the special cell. And compared with the secondary road, the cell is connected to the main road can improve a greater degree on the surrounding road service level. Among them, the cell whose connection mode is "normal district + main road" can improve the level of the best surrounding traffic services. Its optimal value is 0.727.

Table 3 Different types of cell structure and the vicinity of the road close to the optimal value

	D_i^-		D_i^+		C_i		ΔC_i
	Before	After	Before	After	Before	After	—
a	50.72	65.12	41.10	24.30	0.552	0.727	0.175
b	47.83	53.46	42.60	36.90	0.529	0.591	0.062
c	39.33	53.87	52.05	31.45	0.569	0.631	0.062
d	37.65	44.66	54.55	42.65	0.458	0.512	0.054

5. CONCLUSION

In the study of the impact of open community on the surrounding road traffic, the improved Markov chain forecasting method is used to determine the traffic volume after the opening of the community and a comparative evaluation model based on *TOPSIS* analysis is established. Finally, examples of four "cell-road" connection modes is analyzed. According to the calculation we find that the conventional cell can improve a greater degree on the surrounding road service level than the special one. And compared with the secondary road, the cell connected to the main road can improve a greater degree on the surrounding road service level. Among them, the cell whose connection mode is "normal district + main road" can improve the level of the surrounding traffic services in a greatest degree. Its optimal value is 0.727. It has certain reference value to the urban planning construction management.

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The Influence of Different Types of Community on the Urban Traffic Network

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Abstract: In this paper, from the open-up degree, position and scale of a residential community three angles, according to principal component analysis, four descriptive indexes of network vulnerability are extracted, a BA scale-free network model is established, and the network is simulated by controlling the reconnection probability of the urban network nodes and the number of nodes in the cell network, and analyzes the impact of different types of communities on the vulnerability of road networks.

Keywords: Principal component analysis; Network vulnerability; BA scale-free network

1. INTRODUCTION

After the State Council promulgated a new type of community open policy, the community open by the community's attention, community open to the impact of urban road network is open to the community to consider the main problem. Open community involving many aspects, from the perspective of the impact of the openness of different communities on the vulnerability of road networks, it is important to optimize the urban road network. Meng Cao [1], Xin Li [2] and so on to the network vulnerability evaluation index determination question has carried on the research, and they sorted out the main evaluation indexes of network vulnerability; Xiaofeng Ma [3], Xiangpeng Li[4], Yuhang Shang[5] sconducted an empirical study on open communities, moreover, he focused on the open area design issues; Darong Huang [4] studied the vulnerability and invulnerability of complex networks, and obtained the relationship between different intensity attack and network damage degree. The analysis of the vulnerability of urban road networks by scholars is less concerned with the study of open communities.

This paper studies the vulnerability of urban road network from three aspects: community location, scale and degree of openness. The simulation model of urban road network is constructed and the results are analyzed to provide reasonable suggestions for urban traffic planning.

2.URBAN ROAD NETWORK SIMULATION

2.1A DESCRIPTIVE INDEX OF URBAN NETWORK STRUCTURE

The Vulnerabilityof Urban Road Traffic Network [6] is the road network system in the case of external interference, the overall level of network services to reduce the degree, the vulnerability of the road network is mainly related to the structure of the network itself. A description of urban road traffic network structure, general to consider the following seven factors [7]**:**

Table 1 The Descriptive Index of Urban Road Network Structure

factor	Calculation	factor	Calculation
Network connectivity	The proportion of nodes with the number of edges connected to nodes in the network is less than or equal to 2	Network redundancy	The number of main roads per 10 km2
Network connectivity	The ratio of the number of edges to the number of nodes in the network	Line redundancy	The length of the longest edge in the network
Node reliability	The weighted sum of the reliability of all edges connected to each node, Take the minimum of all nodes	Mode redundancy	The number of types of optional traffic modes
Network reliability	The average of the reliability of all nodes		

SPSS software was used to extract the principal components, the results show, the first four indicators of variance cumulative contribution rate reached 85%，Therefore, this paper selects the four indicators of node connectivity, node reliability, network reliability and network redundancy as the description of the road network structure indicators.

Based on the four indexes of node connectivity, node

reliability, network reliability and network redundancy， The relationship between the location, scale and openness of the open community and the descriptive index is analyzed:

(1)THE LOCATION OF THE COMMUNITY

The structure of the same district in the city transportation network location is different, when the cell is open, the impact on the road traffic system is different, combined with the connectivity of a node, it can be considered that the reliability of the network nodes in the center of the urban traffic network is higher than that of the network nodes in the peripheral locations.

(2) THE SIZE OF THE COMMUNITY

The influence of the size of the open community on the urban traffic network is mainly reflected in the different structure of the internal network of the open community， the larger the size of the open community , the greater the number of nodes and the reliability of nodes.

(3) THE OPENNESS OF THE COMMUNITY

The higher the degree of openness of the community, the greater the probability of reconnection of the whole network after the cell is connected to the urban network, and the higher the convergence degree of the residential network and the road network, therefore, the degree of openness of the community is mainly concerned with the degree of connection between the cell network and the road network. That is, the number of nodes connected to the network, the closer the higher the degree.

2.2 URBAN ROAD NETWORK SIMULATION MODELING

Research indicates, urban road network is a network between regular network and random network, the network is mainly composed of urban road network, community road network and network connection in three parts. Therefore, this paper considers the BA-scale-free network to simulate the network, and based on the simulation results of the connectivity of the traffic network vulnerability analysis.

(1) SIMULATION OF URBAN TRAFFIC NETWORK

In this paper, a given network starts at 3 nodes and adds a new point at every interval, the new point is linked to the old point that already exists on the network, in order to make the simulation close to reality, we generate scale-free networks with 300 nodes and 850 edges.

(2) SIMULATION OF COMMUNITY NETWORK

Through literature [8]， we found that for the general community, community network nodes in the range of 20-40 more in line with the actual situation, Therefore, this paper selects the range of 20-40 to control the scale of different communities.

(3) CONNECTION OF THE NETWORK

By controlling the reconnection probability of the connection between the community network node and the city network node, the influence of the location of the cell and the degree of openness on the vulnerability of the road network is simulated. The probability values are 0.1, 0.3, 0.5, 0.7 and 1.0, respectively. By controlling the number of network nodes in different communities, the effect of different community areas on the vulnerability of road network was simulated, In the process of simulation, the probability of connecting the community network to the city network is 0.1, and the node values are 20, 25, 30, 35 and 40 respectively.

Using MATLAB to simulate the change of node reliability of the above-mentioned different types of community after connecting to the urban network, and the node reliability value corresponding to the access probability and the access number of different nodes is obtained, as shown in Fig. 1 and Fig. 2:

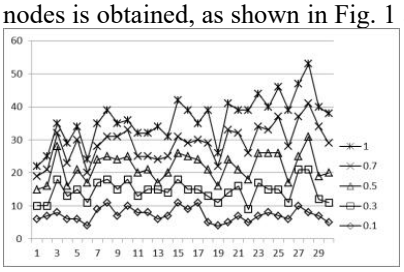

Figure 1 The node degree of access probability of different nodes

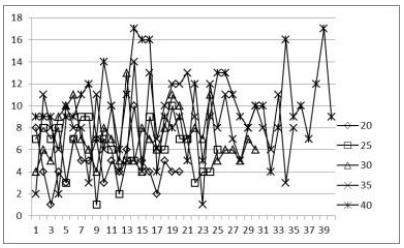

Figure 2 The node degree of the number of accesses of different nodes

3. ANALYSIS OF SIMULATION RESULTS OF ERBAN ROAD NETWORK

In order to further analyze the simulation results, the nodule degree under different probability values and the nodal degree value box plot under different number of nodes are plotted respectively, as shown in Fig. 3 and Fig.4:

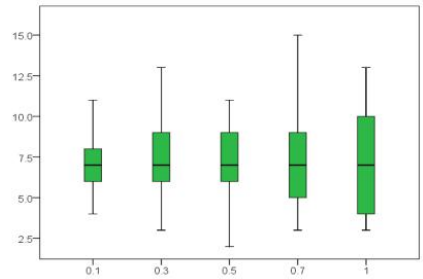

Figure 3 Influence of Different Node of Probability on Node Reliability

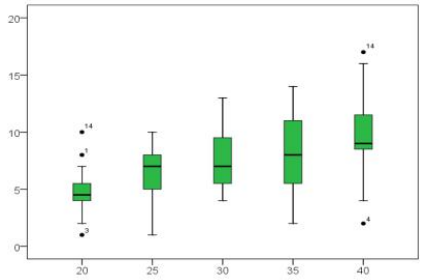

Figure 4 Influence of Different Number Access Nodes on Node Reliability

The distribution of the box-line diagram reflects the degree and uniformity of the degree of road network nodes, and the center position of the box-line diagram reflects the stability of the road network structure.

Analysis of Fig.3 shows, for different node access probability, the stability of the network topology remains the same, but the degree of dispersion and uniformity of the change, that is,

When the node access network after the network reconnection probability is large, that is, the access node starts with a larger node degree, for example, the probability of 1 box diagram, node degree of thedistribution of a wider space, the degree of the node degree becomes larger, and the heterogeneity of the road network structure increases, so the vulnerability of the network increases.

When the node access network after the network reconnection probability is small, for example, the probability of 0.1 box diagram, the dispersion and non-uniformity of the network are reduced, and the vulnerability of the road network is obviously different from that of the larger access probability.

When the node access probability between the maximum and minimum values, the influence of reconnection probability on road network shows randomness, and the effect on road network vulnerability is uncertain.

Analysis of Fig.3 shows, different community networks of different sizes, different effects after the access road network, that is, When the value is 20 and 40, the network node degree appears outliers, this shows that when the size of an open community is too large or too small, the degree of dispersion and nonuniformity of the network structure becomes higher after access to the road network, so the vulnerability of the network increases.

In summary, without prejudice to the rationality of the road network under the premise, the larger the open cell is, the lower the vulnerability of the access network; When the open community is in a relatively remote location of the road, the access is more conducive to the improvement of road traffic network, which is more conducive to the reduction of the road network vulnerability compared with the open area in the city center.

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Analysis on the Influence of Degree of Openness of Community on the Capacity of the Surrounding Road

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Abstract: The open community can achieve the optimization of road network structure, improve the capacity of road traffic, improve traffic conditions, has been widely concerned. In this paper, we use adaptive fuzzy neural network to study the influence of the degree of openness on the capacity of the surrounding road. In this paper, the parameters of the parameters are closely related to the values of the different communities, with the help of adaptive fuzzy neural inference system, the relationship between the surrounding road capacity increment and the selected indicators. The error analysis of the system, the mean square error is10-3; the results show that: there are positive effects of 4 different levels of open community capacity on the surrounding roads, road capacity enhancement degree was 250.02pcu/h, 349.95pcu/h, 215.40pcu/h, 375.01pcu/h.
Keywords: adaptive fuzzy neural; inference system; open community; road traffic capacity

1. INTRODUCTION

According to the relevant regulations issued by the State Council, the block system has been gradually extended. Reduce the number of closed residential communities, and gradually open up the closed residential community has become the main measure of the current [1]. In order to analyze the influence of the openness degree of the community on the capacity of the surrounding road, this paper uses adaptive fuzzy neural inference system to analyze the relationship between the influencing factors and the capacity of the surrounding road in different community types.

The change of the structure of the road network is directly related to the changes of the four factors, such as the distance between the roads, the per capita road density, the non-linear coefficient and the reachability coefficient, which are affected by the change of the network structure and simulation parameters. The area of the road network density, within the area of non-linear coefficient; part of the simulation parameters of the unit area with the population and population-related. Therefore, the six indicators must be related to road capacity around the district. In addition, the relationship between the surrounding road capacity structure as shown below:

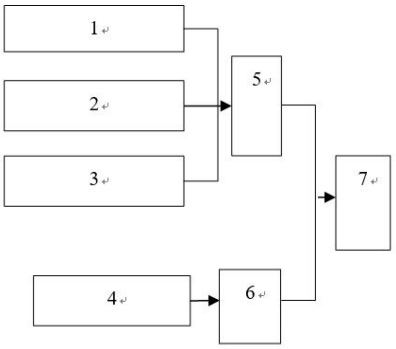

Fig 1 Structural analysis of influencing factors
1- The surrounding road network density
2- Density of road network in community
3- Non-linear coefficient of community
4- Community population per unit
5- Simulation of road network
6- Simulation parameter variation
7- Surrounding road traffic capacity change

In addition to the relevant indicators selected in the structure, and then select the first question evaluation index of the larger the number of community exports and the average road traffic around the road as a parameter indicator. Statistics of the 8 selected by the 6 indicators of the relevant data, as shown in the following table 1:

2. ANALYSIS OF THE CAPACITY OF PERIPHERAL ROAD TRAFFIC BASED ON THE THEORY OF ADAPTIVE FUZZY NEURAL INFERENCE SYSTEM

When the number of community is too large, the road traffic capacity of each community is calculated, the algorithm is complex, parameter settings, etc. Adaptive fuzzy neural inference system (ANFIS) can be used to analyze the relationship between different community types of road traffic capacity and the relationship between different factors [2].

In order to realize the adaptive fuzzy inference system model (ANFIS) learning process, the general will be transformed into an adaptive network, adaptive fuzzy neural inference system structure as shown below [3].

Tab.1 Statistical correlation indices of 8 communities and the change of the average actual traffic capacity of the surrounding roads

Type label of the house	Peripheral branch network density(km/km^2)	Average vehicle flow around the road(vch/h)	The population of residential unit area (person/km^2)	Density of road network in community(km/km^2)	Number of community exports	Non-linear coefficient of road in the community	The average actual capacity change of peripheral roads(vch/h)
A_1	5	1500	500	8	5	1.4	200
A_2	6	1800	600	7	5	1.4	300
B_1	4	2500	700	7	2	1.25	200
B_2	3	3000	900	8	2	1.25	500
C_1	2	800	400	9	3	1.12	50
C_2	5	4000	500	5	3	1.12	700
D_1	7	600	300	7	4	1.08	30
D2	6	3500	200	6	4	1.08	390

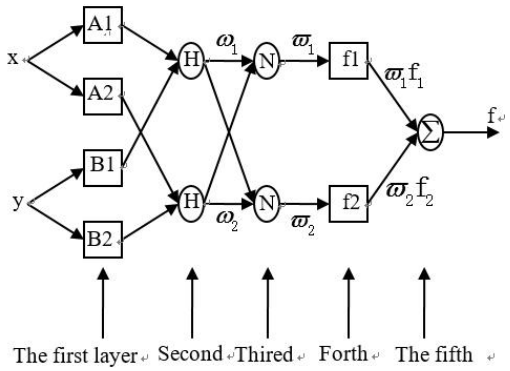

Fig 2 Structure of adaptive fuzzy neural inference system

The adaptive network shown in Figure 5 is a multi - layer feed forward network, in which the square nodes need to learn the parameters.

The first layer is the membership function layer of the input variable, and the fuzzy ratio of the input signal is in charge. The node i has the output function:

$O_i^1 = \mu_{A_i}(x)$ $i = 1, 2$ or

$$O_i^1 = \mu_{B_i}(y) \quad i = 1, 2 \qquad (1)$$

In the formula, x, y is the input of i; A_i, B_i is fuzzy set; O_i^1 is the Membership function value of A_i, B_i, express the degree x, y belonged to A_i, B_i。The shape of the membership function μ_{A_i} and μ_{B_i} is completely determined by some parameters, which are known as the front part parameters.。

The second layer is the rule of the strength of the release layer, this layer of the node is responsible for the input signal multiplication.

$$O_i^2 = \omega_i = \mu_{A_i}(x) \times \mu_{B_i}(y) \quad i = 1, 2 \qquad (2)$$

The output of each node represents the confidence of the rule.

The third layer is the strength of all the rules of normalization, the normalized reliability calculating section i of rule i nodes

$$O_i^3 = \overline{\omega_i} = \omega_i / (\omega_1 + \omega_2) \quad i = 1, 2 \qquad (3)$$

The output of the fourth layer calculation of fuzzy rules, each node in this layer is i for adaptive node, the i node is the output

$$O_i^4 = \overline{\omega_i} f_i = \overline{\omega_i}(p_i x + q_i y + r_i) \quad i = 1, 2 \qquad (4)$$

In the formula, $\overline{\omega_i}$ —The third layer output; $\{p_i, q_i, r\}$ is the parameter set of the node, which is called the back part parameter.。

The fifth layer is a fixed node, which calculates the total output of all input signals:

$$O_i^5 = \sum \overline{\omega_i} f_i = \sum \omega_i f_i / \sum \omega_i \quad i = 1, 2 \qquad (5)$$

The output of the adaptive fuzzy neural inference system can be expressed as a linear combination of the parameters after a given parameter:

$$O_i^5 = \overline{\omega_1} f_1 + \overline{\omega_2} f_2 \qquad (6)$$
$$O_i^5 = (\overline{\omega_1} x) p_1 + (\overline{\omega_1} y) q_1 + (\overline{\omega_1}) r_1 + (\overline{\omega_2} x) p_2 + (\overline{\omega_2} y) q_2 + (\overline{\omega_2}) r_2$$

Therefore, ANFIS can be used to study the hybrid algorithm of BP algorithm and the least square estimation method to adjust the front and rear parts of the system. Using the hybrid method can reduce the search space of ANFIS algorithm, which can improve the training speed of BP.

3. MODEL SOLUTION TO THE IMPACT OF DIFFERENT TYPES OF COMMUNITY OPENING ON THE CAPACITY OF THE SURROUNDING ROAD

In recent years, with the rapid development of urban mobility, optimizing the structure of the road network in the urban space layout, improving the capacity of the road traffic, improving the traffic situation, the government put forward the. But most of the research object is a single cell, the cell type is relatively single, and the calculation process of the algorithm is complex.

The 8 community related data as a training sample, put into the MATLAB solution derived from the system input of the first 1~6 variables of the membership function, as shown below:

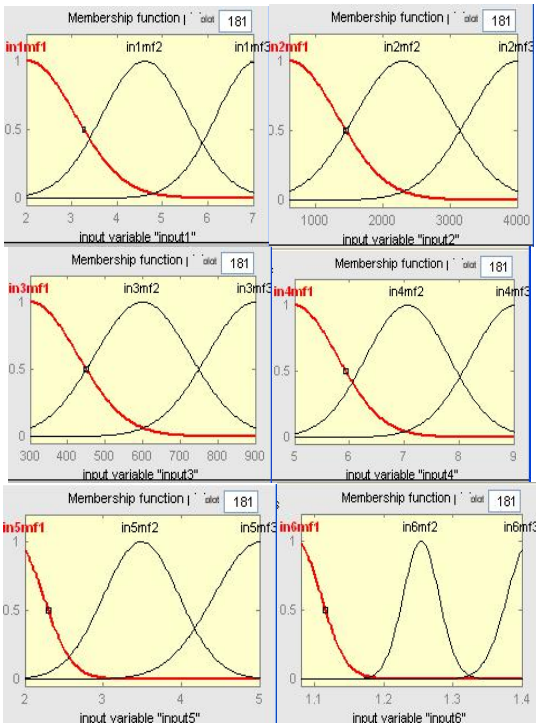

Fig 3 Input variable 1~6 membership function image

Then carries on the error analysis, in the training iteration number is 50 times, calculates the income mean square error is $MSE = 1.5 \times 10^{-3}$, then the system tends to be stable, the training effect is good.

The data as a training sample value simulation, the simulation results are compared with the actual situation, compared with the results shown below:

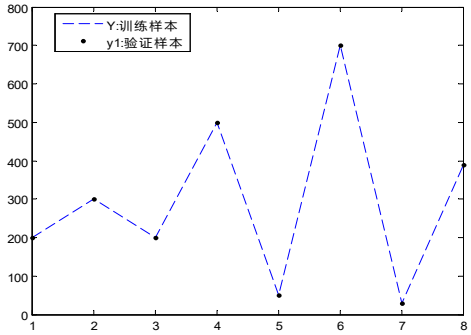

Fig 4 Comparison of training samples and evaluation results

According to the ANFIS system, it can be concluded that the change of the road traffic capacity of any community can be obtained. Four types of small open after the surrounding road capacity increase respectively, a class 250.02pcu/h b 349.95 pcu/h, c , d class for the 375.01pcu/h class for 215.40pcu/h So before and after the opening of the four types of areas to the extent of the effect from good to bad sort of $c > b > a > d$

4. CONCLUSIONS

The results show that before and after the opening of the area around the actual road capacity increase was negatively related to the surrounding road network density index, population area per unit area, the number of export Residential District roads, non linear coefficient. There was a significant positive correlation with the average vehicle flow rate and the density of the road network in the area. In addition, the adaptive neuro fuzzy inference system by BP algorithm and least square estimation method hybrid algorithm for learning, not only can reduce the search space scale BP algorithm, improve the training speed of ANFIS; and to establish the mapping of complex fuzzy rules based on the use of small samples. The mapping is established, can change one or several parameters. The simulation by using the fuzzy neural thrust system trained, then Pearson correlation analysis, linear contact parameters and Simulation in order to change the value, so as to achieve better results.

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Effect of Community Opening on Road Traffic

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Abstract: In order to study the influence of the opening of the residential district on the road traffic capacity, First, the correlation test was used to screen the 12 factors selected, determine the link travel time, the average delay time and other 5 indicators as the independent variable, road saturation as a dependent variable to establish regression equation. Comparing the accuracy of the results before and after the screening index, the specific data of 6 representative cells were analyzed to determine the coefficient of the multiple linear regression equation, and the regression equation was determined. At the same time, the matter element evaluation model was tested, get the area open to the road traffic capacity and the distance from the city center, the greater the impact on the capacity of the surrounding road traffic capacity. Through the above method, it is concluded that the influence of the opening on the road traffic capacity is good and the distance between the residential area and the city center has a great influence.

Keywords: multiple linear regression, Correlation test, Entropy weight method, Matter element analysis

1. INTRODUCTION

In recent years, the urban population has been increasing, and the problem of traffic congestion has become a common phenomenon. In this context, the development of the block system and other new urban construction planning is particularly important. Block system is the road of the open area, this approach will inevitably affect the capacity of the surrounding roads, the establishment of multiple linear regression model to get the relationship between the various factors, then can judge the pros and cons before and after the opening.

There are many forms of regression model, which can be divided into two kinds: linear regression model and nonlinear regression model. Ling Ru et al. (2011) establish a multivariate linear regression model to build the hospital health manpower and bed prediction model, the selection of indicators in the process of model selection is too much, and the results are not accurate [1]; Song Shuli et al. (2014) based on multiple linear regression analysis to study the transfer of rural surplus labor force, the process of the study did not use the test method to test the fitting results, and the reliability of the results was inaccurate [2]; Based on this idea, a multiple linear regression model was established to analyze the influence of the opening on the capacity of the surrounding roads.

2.MUITIPLE LINEAR REGRESSION MODEL THEORY

In real life, the development and change of a phenomenon often depends on the change of many factors, that is, there is a dependent relationship between a dependent variable and several independent variables. And sometimes it is difficult to distinguish between the primary and secondary factors, then the use of a meta regression analysis to predict is difficult to comprehensive analysis, so it need to use multiple linear regression analysis [4-8].

Multiple linear regression is a kind of mathematical statistics method, the dependent variable is y, the independent variable is x, the independent variable has p, their n group observations are

$(x_{1i}, x_{2i}, \cdots, x_{pi}, y_i)\ (i = 1,2, \cdots n)$

Its multiple linear regression expression is (1).

$$\begin{cases} y_1 = \beta_0 + \beta_1 x_{11} + \beta_2 x_{12} + \cdots + \beta_p x_{1p} \\ y_2 = \beta_0 + \beta_1 x_{21} + \beta_2 x_{22} + \cdots + \beta_p x_{2p} \\ \cdots\cdots \\ y_n = \beta_0 + \beta_n x_{n1} + \beta_n x_{n2} + \cdots + \beta_p x_{np} \end{cases} \quad (1)$$

In matrix form: $y = x\beta$,

Among them,

$$\beta = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \wedge \\ \beta_p \end{bmatrix} \quad y = \begin{bmatrix} y_1 \\ y_2 \\ \wedge \\ y_n \end{bmatrix}; \quad X = \begin{bmatrix} 1 & x_{11} & x_{12} & \wedge & x_{1p} \\ 1 & x_{21} & x_{22} & \wedge & x_{2p} \\ 1 & x_{31} & x_{32} & \wedge & x_{3p} \\ \wedge & \wedge & \wedge & \wedge & \wedge \\ 1 & x_{n1} & x_{n2} & \wedge & x_{np} \end{bmatrix} \quad (2)$$

β is the regression coefficient of multiple linear regression equation.

3.MULTIVARIATE LINEAR REGRESSION MODEL

3.1 Selection of independent variables

Road capacity and the living habits of the residents, the road network distribution, the surrounding environment and other factors related to the road. Choose the link travel time, the average delay time, peak road saturation, cross peak saturation, on traffic flow, the flow of people, small intersection vehicle density, road density, type, location, residential area

entrance number and the residential population and so on area of 12 indicators to evaluate the effect of open area on the surrounding road traffic.

Because of too many factors, the correlation analysis was used to screen the indicators.

The collected data into the formula (3).

$$r_{C_i} = \frac{\sum \left(C_{ij} - \bar{C}_i\right) \cdot \left(N_j - \bar{N}\right)}{\sqrt{\sum \left(C_{ij} - \bar{C}_i\right)^2 \cdot \sum \left(N_j - \bar{N}\right)^2}} \quad (3)$$

Form in: C_{ij}, N_j represents the original data, $\bar{C}_i, .\bar{N}$ represents the mean of each column data.

The correlation coefficient of each influence factor $C_i\left(i = 1,2,\cdots,12\right)$ and the degree of saturation can be obtained, and the correlation coefficient of each factor on the 99% confidence level can be obtained by calculating the correlation coefficient r_{ci} between the 1 and the tab.1 .

Table 1 correlation coefficient of each index

	r_{c1}	r_{c2}	r_{c3}	r_{c4}	r_{c5}	r_{c6}
correlation coefficient	0.969	0.966	0.161	0.145	0.884	0.096
	r_{c7}	r_{c8}	r_{c9}	r_{c10}	r_{c11}	r_{c12}
correlation coefficient	0.819	0.256	0.895	0.087	0.762	0.084

So we choose 6 indexes which are highly correlated to establish the multiple linear regression model.

3.2 Establishment of model

Set the variables Y for the peripheral road saturation, there is a linear relationship between the variables Y and variables $X_1, X_2, \cdots, X_P$ is a linear relationship .

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_P X_P + \varepsilon \quad (4)$$

among $\varepsilon \sim N\left(0,\sigma^2\right)$, $\beta_0, \beta_1, \cdots, \beta_P, \sigma^2$ are unknown parameter, Multiple linear regression model for $P > 2$.

Hypothesis $x_{i1}, x_{i2}, \cdots, x_{ip}, i = 1,2,\cdots,n$ is $\left(X_1, X_2, \cdots, X_P, Y\right)$ n independent observation of it, the equation can be expressed as $E\left(y\right) = \beta_0 + \beta_1 X_{i1} + \cdots + \beta_P X_{iP}, i = 1,2,\cdots,n$.

order

$$Y = \begin{Bmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{Bmatrix}, \beta = \begin{Bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_n \end{Bmatrix}, X = \begin{Bmatrix} 1 & x_{11} & \cdots & x_{1p} \\ 1 & x_{21} & \cdots & x_{2p} \\ \vdots & \vdots & \cdots & \vdots \\ 1 & x_{n1} & \cdots & x_{np} \end{Bmatrix}, \varepsilon = \begin{Bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \vdots \\ \varepsilon_n \end{Bmatrix},$$

The multivariate linear model can be expressed in the form of matrix.

$$y = X\beta + \varepsilon \quad (5)$$

3.3 Estimation of regression coefficient

β parameter estimation of the value of $\hat{\beta}$, is to find the least square function β to achieve the minimum $Q\left(\beta\right) = \left(Y - X\beta\right)^T \left(Y - X\beta\right)$ value.

The least squares estimator can be proved $\hat{\beta} = \left(X^T X\right)^{-1} X^T Y$.

2.4 Determination of regression coefficient

Randomly selected three has been open to the community and the three is not open to the community, the statistical indicators of the corresponding data.

Therefore, the regression equation is

$$Y = 0.826X_1 - 0.357X_2 + 2.002X_3 + 1.368X_4 + 1.072X_5 + 0.002$$

The results obtained from this equation are compared with the previous results, and the results are compared with the results shown in Fig.1.

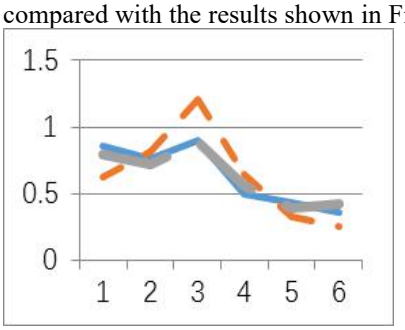

Figure 1 Comparison of the results before and after the correlation analysis

4. APPLICATION OF THE MODEL

Three different types of cells are selected, Residential A distance from the city center 1.2km, Community as the axis of the structure, a total of 9 buildings. Residential 6km is located in the city center B, community for the central structure, a total of 7 buildings. Residential 12km is located in the distance from the city center C, district for the intensive structure, a total of 5 buildings, before and after the three areas were collected, respectively, the corresponding index data.

Table 3 Comparison of saturation before and after the opening of each cell

	Before opening	after opening
Cell A	1.8311	0.9559
Cell B	2.0981	1.0549
Cell C	2.5178	1.2727

Before and after three different types of cell opening statistics corresponding to each index data into the regression equation, can be calculated Y values, see

Tab.3.

5. CONCLUSION

The higher the known saturation value, the lower the level of road service. From the above table shows that the three different types of residential open before the lower degree of saturation, Description of the road service level increased after the opening of the residential area. A, B, respectively, considering the area C can be seen from the city closer to open after the saturation value is small, and the saturation value before and after the opening of more changes, that area from the city closer, the better effect on the service level of the road after the opening.

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Study on the Influence of Community Opening on Road Traffic

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Abstract: People's opinions are mixed on the issue of community openness. In order to solve this problem, this paper selects four different open areas as contrasts, and uses the improved data envelopment model to calculate the efficiency of four residential districts by MATLAB software. Based on the analysis of the obtained efficiency value, after the opening of the surrounding area on the road capacity of the influence is less than the area before the opening of the district on the surrounding roads. It is concluded that the residential district close to the city center should be open, and the district farther from the city center should be open moderately.

Keywords: District open; Data envelopment method; Capacity

1. INTRODUCTION

In order to further strengthen the urban planning and construction, a document on the promotion of neighborhoods in the paper was issued by the State Council on February 21, 2016. In principle, our country does not continue to establish a closed residential area, and those that have been completed residential quarters and units of the compound will be gradually open. This policy has attracted a lot of attention and discussion.

The realization of an open district will not only cause security problems, but also leads to another hot issue: whether the district can achieve the optimization of the road network structure, road capacity, traffic conditions improvement, etc., if improved, how to improve the effectiveness of the problem. There are two main views on this issue: some people think that the open area is conducive to optimizing roads network structure, and can not only improve road capacity but also can achieve resource sharing, while others believe that the realization of the district will bring a series of open Security issues. What's more, once open the area, it is possible to increase the number of intersections and affecting road traffic. [1] Therefore, the impact of community opening on the surrounding roads will provide a quantitative basis for scientific countermeasures, which has become a hot topic for city planning and traffic manage departments to study.

2. REARCH ON THE INFLUENCE OF OPEN ENVELOPMENT BASED ON IMPROVED DATA ENVELOPMENT MODEL

2.1 THE IMPROVED DATA ENVELOPMENT METHOD

The data envelopment method is suitable for the multi-output-multi-input comprehensive evaluation problem, [2-3] and this method has a strong objectivity, and no weight assumption is needed to solve the problem. The data envelopment method has a good application in the problem of inconsistent input and output dimensions. Although the data envelopment method has a great advantage, but when the efficiency index of multiple data units are 1, it can't be sorted effectively. [4] In order to make up for the above-mentioned defects, the DMU method is introduced to order the decision unit. The basic idea is as follows:

An ideal DMU with minimum input and maximum output is introduced into all DMUs, and the weight of this ideal DMU is maximized and the effectiveness of the solution is determined. Because the ideal DMU is an optimal ideal state, it must be the most effective, and its evaluation efficiency index must be 1. Therefore, the optimal value of the weight is determined by making the ideal DMU effective. While the ideal DMU is valid relative to other DMUs, so the weight calculated in this sense is reasonable for all DMUs. Thus avoiding the traditional models emphasize the weight of each DMU calculated one-sided and no universal applicability characteristics.

Method:

1) It supposes that the minimum input vector for each DMU is $k\left(1 \le k \le m\right)$, for each input, the minimum

input vector for production activities is $X_{\min k}$:

$$X_{\min} = \left(X_{\min 1}, X_{\min 2}, ..., X_{\min m}\right) \quad (1)$$

The maximum output vector is:

$$Y_{\max} = \left(Y_{\max 1}, Y_{\max 2}, ..., Y_{\max s}\right) \quad (2)$$

2) $\left(X_{\min}, Y_{max}\right)$ is defined as the production activity corresponding to the ideal DMU, which is an ideal state because the selected input is the smallest and the output is the maximum. This is taken as a reference, and then a common Weights. Structural model

$$\max \frac{U^T Y_{MAX}}{V^T X_{MIN}}$$

$$st. \begin{cases} \dfrac{U^T Y_j}{V^T X_j} \le 1, \ j = (1,2,.....,n) \\ \dfrac{U^T Y_{MAX}}{V^T X_{MIN}} \le 1 \ U \ge 0, \ V \ge 0 \end{cases} \quad (3)$$

Table 1. The type of cell

Cell	Star rain Washington	Danfeng Park	Yanlord Tsui Chuk Yuen	Vanke Golden Mile Hong
Type	Center of the main road radiation	Secondary trunk center radiation	Main road network	Secondary trunk network

We select the number of residential lanes, the area of the district, the distance from the city center, the density of the road network and the number of intersections into and out of the district as input, traffic flow and the average speed as output. Though check the four areas before and after the opening of different indicators of specific data, [5] and then according to the improved data envelopment model to solve.

2.3 MODEL CHECKING

Since the four cities are located closer to the city, we selected four different structures from the center of the city to test the above model. And choose the Cao Fang new garden (The main road network) Longchi Garden (sub-trunk network) Tianrun City (main road center radial) and Yongmei Villa (secondary road center radiation) [6] as an example to study four districts.

By introducing the ideal DMU, a decision making unit with the smallest index of input and the largest index of output in each decision-making unit is introduced.

Making the input indicator is $x_{\min} = (3,70175,12.7,0.35,2)$, and the output index is $y_{\max} = (1932,37.8)$

2.4 A STUDY OF OPENNESS

Community opening may be appropriate to ease the traffic pressure, but if the excessive opening may bring other insecurity factors, so we make a study on the issue of residential openness through the traffic simulation software.

3. RESULTS AND DISCUSSION

The distance from the center of the district closer to the efficiency of the district as shown in Tab. 2:

Table 2 The distance from the city center near the opening of different communities on the surrounding road capacity of the efficiency value

Name of cell	Star rain Washington (before)	Danfeng Park (before)	Yanlord Tsui Chuk Yuen (before)	Vanke Golden Mile Hong (before)	Star rain Washington (after)	Danfeng Park (after)	Yanlord Tsui Chuk Yuen (after)	Vanke Golden Mile Hong (after)
θ	0.9984	0.9978	1.0000	0.9965	0.0832	0.1100	0.0600	0.1245

According to Table 2 we can see that the impact of different district on the surrounding roads open efficiency value (θ) is different, and the same area before and after opening the efficiency of the value also has a great difference. In the different structure of the district, the value of the efficiency before the opening of Jade Garden is the maximum To 1, which shows that for the district, residential opening on the surrounding roads have a great impact, the cell need to be open urgently. The value (θ) of other cells that open are also close to 1, Therefore, for such cells, to achieve openness is still necessary. In the selected four residential areas on the influence of the surrounding roads in the comparison, the influence of the after opening to the outside is lower than the influence before opening, so you can know, cells open to the outside world or the surrounding road capacity will have some benefits, so the opening to a certain extent, the policy is still meaningful.

The efficiency of the district farther from the city center is shown in Tab. 3:

Table 3 The distance from the city center near

Name	Cao Fang	Longchi	Tianrun City	Yongmei	Cao Fang	Longchi	Tianrun	Yongmei

of cell	new garden (before)	Garden (before)	(before)	Villa (before)	new garden (after)	Garden (after)	City (after)	Villa (after)
θ	1.0000	0. 2450	0.4328	0.6533	0.0040	0.1142	0.0745	0.1082

After sorting, we can see that the index of efficiency from large to small is: Cao Fang new garden (before), Tianrun City (before), Yongmei Villa (before), Longchi Garden (before), Longchi Garden (after), Yongmei Villa (after), Tianrun City (after), Cao Fang new garden(after).

According to the above results can be seen before and after the district has a certain impact on the road traffic impact, with the distance from the city center distance closer to the efficiency of the four cell comparison can be seen from the city center farther away before and after the opening of the impact value and not from the city center closer to the four community benefits of large value. Therefore, we can see, far from the city center does not necessarily have to achieve the opening to the outside world.

According to the traffic simulation method, traffic simulation is carried out for the regional network and the simulation results are output. The data obtained through VISSIM software need to be collated and sorted to get the relationship between the number of intersections after opening and the average delay time of road.

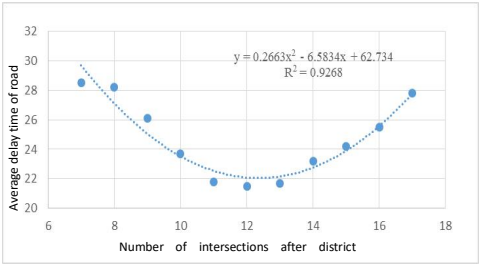

Figure 1 A graph of the relationship

As can be seen from the image, the average delay time of road opening with the increase in the number of road junctions showed an increase and then decrease the trend, so that the district is not the more open the better, the district must have a degree of openness.

4. CONCLUSIONS

In view of the problem of community opening to the outside world, this paper draws the following conclusions:

1) The main road near the city center to achieve the open area, away from the city center can be less open or not open.

2) In the realization of community open at the same time to take into account the relationship between privacy and public nature, can't be too open, to control a degree

3) Residential area should be more open, increase the convenience of residents, but at the same time also take into account the safety of residents.

4) To achieve the open area to consider pollution problems and noise problems [7].

5. ACKNOWLEDGMENT

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Open Community Management Impact on Traffic

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Abstract: With the promotion of the regional system, the problem of community opening has aroused people's wide attention and discussion. According to the open community impact on the surrounding road traffic, through the establishment of the corresponding model, carried out the following discussion: First, Determine the residential area open to the surrounding road traffic impact of the 6 indicators, as the evaluation factors, established the fuzzy comprehensive evaluation and analytic hierarchy process based on the traffic impact model. And the traffic impact degree is divided into four grades, based on the data of the evaluation indexes of the residents in Beijing city before and after opening to the outside world, the fuzzy comprehensive evaluation. Secondly, using traffic flow theory to determine the three parameters of flow, velocity and density, the capacity model of differential equation based on vehicle analysis is established, Through the analysis of the opening and the entrance of the road vehicle in the open area, the capacity of the community entrance and exit is calculated. Finally, the advantages and disadvantages of the model are analyzed.
Keywords: Fuzzy comprehensive evaluation, AHP, Traffic flow theory, Cellular automata

1. INTRODUCTION

Whether the open community can achieve the goal of optimizing the road network structure, improving the road capacity and improving the traffic condition is an important goal of urban planning and construction work. Based on the analytic hierarchy process (AHP), this paper establishes the weights of several indexes influencing the road capacity, establishes the traffic influence model by fuzzy comprehensive evaluation, and weighs the influence of the openness on the surrounding roads. Implementation of the open area, the most direct impact is the impact of foreign vehicles on the capacity of the district entrances and exits [1-5]. The introduction of the theory of traffic flow, the traffic flow as a continuous distribution of continuous flow, establishing the dynamic model of vehicles using differential equations, analyzed capacity for residential entrance, traffic impact on the surrounding road to study area after opening. The effect of district opening may be related to the structure of the district and the surrounding road structure, traffic flow and other factors. Through the quantitative calculation of the traffic capacity at the intersection of the district, and then compare the different types of residential open to road traffic impact.

2. TRAFFIC IMPACT DEGREE MODEL BASED ON FUZZY COMPREHENSIVE EVALUATION

2.1 analysis and establishment of factor set and evaluation set

(1) the determination of the set of evaluation factors

①Perimeter Road Network Density [1]; ②Link saturation;③Road network traffic load;④Road circulation;⑤Intersection saturation[2];⑥Intersection delay.

(2) the determination of evaluation set

Traffic impact degree is a measure of the impact of the opening of the residential area on the surrounding road traffic standards. By evaluation factors to determine the index of the evaluation factors, from the classification of in our country city main street and intersection service level, the degree of traffic impact strength is divided into four grades: Grade Ⅰ, Ⅱ, Ⅲ and Ⅳ grade. Ⅰ is defined as "no effect", which is open to the community surrounding traffic is very weak and negligible; Ⅱ is defined as "influence" acceptable, that is the degree of opening of the residential project, through the improvement of the project itself and the surrounding area traffic can be done; similarly, class Ⅲ, class Ⅳ were defined as "significant impact" and "deadly effect".

2.2 Analysis of traffic impact degree based on fuzzy comprehensive evaluation

In order to reflect the influence of area open to the surrounding road traffic, this section uses AHP method to determine the surrounding road network density, road saturation, intersection delay six influence measure of weight [3], and to evaluate the influence of the road of open area.

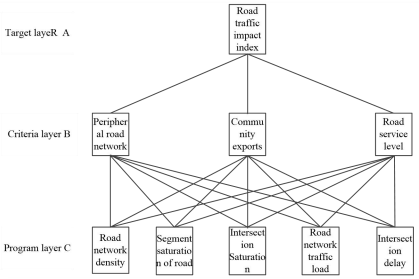

Figure 1 AHP structure chart

In the Beijing area of a statistical data obtained,

district before the opening evaluation results into 3 levels, namely district before the opening capacity has a significant impact on the surrounding area; after the opening evaluation results into 2 levels, namely after the opening of the surrounding district traffic impact acceptable.

3. VEHICLE CAPACITY MODEL BASED ON DIFFERENTIAL EQUATION

3.1 determination of physical parameters of traffic flow

In this section, we use the traffic flow theory [4] to establish the differential equation model of vehicle traffic capacity, and use the traffic volume and velocity to calculate the traffic volume and velocity of the traffic flow at different times. , The density of three physical quantities to describe the traffic situation.

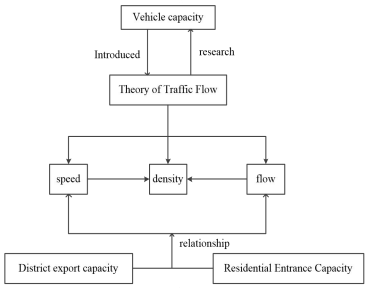

Figure 2 Vehicle Flow Model Study Flowchart

(1) Traffic volume (flow) Q:

$$Q=\frac{1}{n}\sum_{i=1}^{n}Q_i \tag{1}$$

In the formula, Q_i for each time period of traffic, n for the time period of the number of segments.

(2) Velocity characteristic v:

$$v=\frac{1}{\frac{1}{n}\sum_{i=1}^{n}\frac{1}{v_i}}=\frac{nL}{\sum_{i=1}^{n}t_i} \tag{2}$$

In the formula, L for the length of the road, L for the first time of the vehicle travel time, n for the number of times the length of the vehicle, v_i for the first vehicle speed, v the average speed of the road.

(3) Density characteristics k:

$$k=\frac{N}{L} \tag{3}$$

Type, k for the traffic density (car / km), N for the number of vehicles in the road (vehicles), L for the length of the road (km).

3.2 Traffic capacity model of residential community

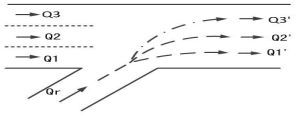

Figure 3 the plot of community export vehicle

Fig.3 as an example, the capacity change of district exports:

Residents of the district exit as a process of vehicle confluence, assuming that the total flow connection section of main road Q, from the cell to enter the export flow to Q_r, of which the first into the flow of rQ_r lane, second lane traffic into sQ_r, into third lane traffic was lQ_r. If the car is collected, two shares of the traffic intersection, with the capacity of Lane will not cut[5], 6 said to each lane capacity, in the premise of each lane flow saturation are equal, the relationship can be obtained as follows:

$$\begin{cases} Q_1+Q_2+Q_3=Q \\ Q_1+rQ_r=Q_2+sQ_r \\ Q_1+rQ_r=Q_3+lQ_r \\ l+s+r=1 \quad l,s,r\geq 0 \end{cases} \tag{4}$$

The capacity model for the entrance and exit of residential community is obtained:

$$C_{out(\text{in})}=\frac{3C\left(Q\pm Q_r\right)}{Q\pm\left(1+s+2l\right)Q_r} \tag{5}$$

4. CONCLUSIONS

A fuzzy comprehensive evaluation model based on analytic hierarchy process (AHP) is established by using multiple indicators to reflect the surrounding road traffic. The fuzzy evaluation object is processed by precise digital method. The model is simple and the result is clear. In the model, we can see that the pooling of export vehicles is a process of confluence, so the larger the number of lanes, the weaker the traffic capacity, and the stronger the traffic capacity. The collection of vehicles at the entrance of the community is a shunt Therefore, the smaller the number of lanes in each lane, the weaker the capacity, and vice versa.

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Analysis of Influence of Residential Area Opening on Road Traffic Based on Fuzzy Comprehensive Evaluation

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Abstract: Based on Analytic Hierarchy Process (AHP) and fuzzy comprehensive evaluation, a comprehensive evaluation index system of community openness is constructed. First of all, choose the road saturation, intersection saturation, the community entrance and exit connections and community access as the district open to the surrounding road traffic four evaluation index. Secondly, they are quantified to get their weight in the comprehensive evaluation index system, and the consistency test. At last, the fuzzy comprehensive evaluation method was used to evaluate the effect of residential opening on the surrounding roads. The results show that the influence of road traffic is the greatest after the opening of the intersection, and the saturation of the road is the second.

Key words: AHP, fuzzy comprehensive evaluation, index system, road capacity.

1. INTRODUCTION

People have been paying attention to urban traffic problems. With the acceleration of urbanization, urban traffic problems become more serious, which brings great trouble to people. There is an urgent need to alleviate traffic pressure, improve road capacity and improve traffic conditions through the opening of communities. In this paper, we construct the fuzzy comprehensive evaluation to evaluate the index which has been quantified and get the weight of these indicators and evaluate the effect of the district opening on the surrounding road traffic.

Evaluating the Influence of Residential Area Opening on Peripheral Road Traffic Based on Fuzzy Comprehensive Evaluation and Analytic Hierarchy Process [1-4].

1.1 The selection of evaluation indicators

The comprehensive evaluation index of community opening should be able to fully reflect the influence of residential area on the capacity of surrounding roads, and the residential district and traffic facilities' own performance indexes can not reflect the influence of district open induced traffic volume [5-7]. Therefore, Residential quarters and transport facilities performance indicators, residential area and the relationship between transport facilities directly to the performance of traffic demand and transport facilities capacity. To this end, the quantitative analysis of road saturation, intersection saturation, the way the community entrance and exit and the channel entrance and canalization of the four indicators.

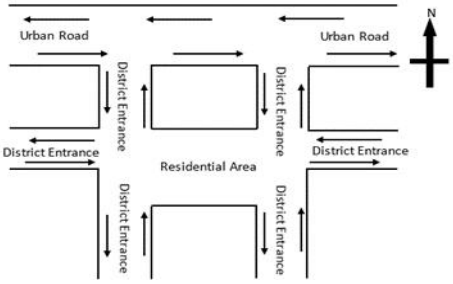

Figure 1 residents access to traffic map

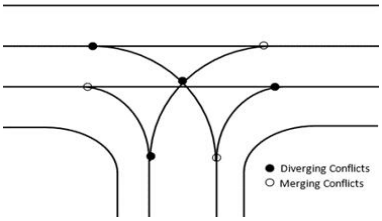

Figure 2 residential entrance conflict map

1.2 Analytic hierarchy process to determine the weight of indicators

In this paper, road saturation, intersections saturation, community connection and access and canalization are selected to evaluate the impact of open communities on the surrounding roads. The impact on the road capacity mainly in the surrounding road network, district junctions, and public service levels of these three aspects. Figure 1 hierarchical structure is established.

1.3 Construction of the judgment matrix

The judgment matrix is constructed as shown in Table 1, using the method of pairwise comparison.

a_i is the element of the judgment matrix A, which represents the importance of a_{ij} relative to a_j.

Table 1 AHP method in the definition of the scale

Figure 1. AHP structure chart

In the Beijing area of a statistical data obtained, district before the opening evaluation results into 3 levels, namely district before the opening capacity has a significant impact on the surrounding area; after the opening evaluation results into 2 levels, namely after the opening of the surrounding district traffic impact acceptable.

Table 1 AHP method in the definition of the scale

Scale	Meaning
1	Two elements compared to the same importance
3	The former is a little more important than the latter
5	Compared to the two elements, the former is significantly more important than the latter
7	Compared to the two elements, the former is more important than the latter
9	Compared with the two elements, the former is more important than the latter
2,4,6,8	And the intermediate value of the adjacent judgment
Reciprocal	The importance of the two adjacent elements compared to the latter is greater than the former

1.4 Weighing value of the determination and consistency test

$\lambda_i(i = 1,2,3,\cdots,n)$,the largest eigenvalue isλ_{max}, and for λ_{max}($i = 1,2,3,\cdots,n$),the eigenvalue of the solution matrix $|A - \lambda_i| = 0$ and I is the identity matrix. Of the normalized feature vector

Then $y_i = (i = 1,2,3,\cdots,n)$ is the weight of the target c_i. That is, the eigenvectors corresponding to the maximum eigenvalues of the judgment matrix represent the relative importance (weight) between the factors.

(1) Using the square root method to find the maximum eigenvalue of the judgment matrix and the approximate solution of the eigenvector

(a) Calculate the n-th root of the product of each row of the judgment matrix A:

(b) Normalize and normalize the vector:

$$W_i = \frac{\overline{W_i}}{\sum_{i=1}^{n} \overline{W_i}}$$

$W = (W_1, W_2, \cdots, W_n)^T$ is the characteristic problem of the corresponding maximum eigenvalue.

$W = (0.0550, 0.1178, 0.2634, 0.5638)^T$

(c) Find the largest eigenvalue according to the following equation

(2) Consistency check

In order to prevent the consistency deviation is too large and affect the evaluation results, we must test the consistency of the judgment matrix. The test method is as follows:

(a) Consistency indicator CI

Where, n is the latitude of the judgment matrix, λ_{max} is the maximum eigenvalue of the judgment matrix. $CI = 0.0970$

(b) Average random consistency index RI

The RI values of the single-level judgment matrices vary with the number of bits of the matrix.

Table 2 RI numerical list

Dimension	3	4	5	6	7	8	9	10
RI	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49

(c) Find the relative consistency index CR

$CR = 0.1$; the judgment matrix has good consistency according to $CR \leq 0.10$, the result is acceptable.

Therefore, the above analysis can get the weight of each indicator:

The weight of link saturation: $H_1 = 0.0550$

Intersection Saturation: $H_2 = 0.1178$

Residential access connections: $H_3 = 0.2634$

Entrance and exit of residential area:

$H_4 = 0.5638 CR = 0.1$

1.5 The Establishment of Fuzzy Comprehensive Evaluation Model

Fuzzy comprehensive evaluation method is a comprehensive evaluation method based on fuzzy mathematics. This comprehensive evaluation method transforms the qualitative evaluation into the quantitative evaluation according to the membership degree theory of fuzzy mathematics. That is to say, fuzzy mathematics is used to make an overall evaluation on the things or objects subject to many factors.

For the fuzzy comprehensive evaluation, the main analysis process shown in Figure 3:

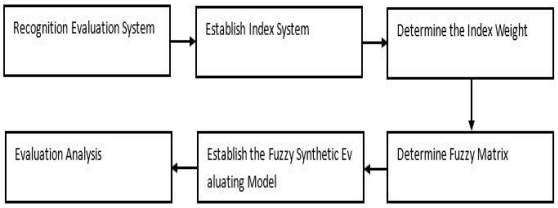

Figure 3 Fuzzy comprehensive evaluation flow chart

In fuzzy comprehensive evaluation model, after evaluating the factor set U, the comment set P and the weight H, the comprehensive evaluation of each index is calculated according to the fuzzy matrix.

(1) Determine the factor set U

According to the evaluation of the impact of community open to the surrounding road traffic, we collected data to establish the four indicators of its evaluation of the line, the four indicators are: road saturation, intersection saturation, cell access connections and the district all of these factors constitute the evaluation system set, that is, the set of factors, denoted as:

(2) To determine the set of reviews

Because the evaluation value of each index is different, there are some differences, often resulting in different grades. On the road around the impact of traffic, will be at different levels, there are good, good, medium, poor, poor and so on. The set consisting of various determinations is called a comment set, denoted by:

(3)To determine the weight of each factor

In general, each indicator factor in the factor concentration plays different roles in the comprehensive evaluation. The results of the comprehensive evaluation are not only related to each evaluation factor index, but also to a large extent dependent on various factors. Comprehensive evaluation of the role played, so you can determine the weight of a factor between the distribution is a fuzzy vector, denoted as:

Where h_i is the weight of i index factors

(4) to determine the fuzzy comprehensive judgment matrix

For the ith index factor, the membership degree of each comment is a fuzzy subset of P. The fuzzy comprehensive judgment matrix of $R_i = (r_{i1}, r_{i2}, \cdots, r_{in})$ is:

R is a fuzzy relation matrix from U to P;

(5) Comprehensive evaluation

From U to P there is a fuzzy relation $R = (r_{ij})_{n\times v}$, so that R can be used to obtain a fuzzy variable, and then get a comprehensive evaluation results $B = HR$

After the synthesis of the judge can be seen as a fuzzy vector on P, denoted as:

$B = (b_1, b_2, \cdots, b_v)$

1.6 Fuzzy comprehensive evaluation model

The collected indicators include road saturation, intersection saturation, community access and community access. The saturation degree of the road section is $A_1 = (0.75, 0.13, 0.24, 0.84)$, and the saturation degree of the intersection is $A_2 = (0.81, 0.21, 0.32, 0.89)$. See Annex 1 for detailed data.

Entrance and exit should be connected with the slip, and then connected to the high-speed sections of high speed, should not be directly connected with the city expressway or trunk road. In the evaluation of the calculation of indicators, select the following four types of connections, given the following assignment:

A. The inlet and the outlet are connected to the branch with a value of 1;

B. Directly connected to the city's secondary road with a value of 2;

C. Directly connected to the city main road with a value of 3;

D. Directly connected to the city, with a value of 4;

People, bicycles and cars are residential areas of the main traffic, in order to improve the level of traffic safety, try to avoid the entrance of the district of urban road interference, should be taken to import and export canalization can be divided into the following four levels:

A: Separation of motor vehicles and non - motor vehicles, the establishment of underground passageways, crosswalks and other facilities, the value of 1;

B: Not separation of motor vehicles and non-motor vehicles, the establishment of underground passageways, crosswalks and other facilities, the value of 2;

C: Separation of motor vehicles and non-motor vehicles, not to establish underground passageways, crosswalks and other facilities, the value of 3;

D: Do not separate motor vehicles and non-motor vehicles, not to establish underground passageways, crosswalks and other facilities, the value of 4;

1.7 Determination of comprehensive evaluation

Table 3 Indicator data table

Index / Area	Segment saturation	Intersection Saturation	The connection way of the district entrance	Community access channelization
East	0.75	0.81	2	2
Western	0.13	0.21	1	3
South	0.24	0.32	1	3
North	0.84	0.89	3	1

Note: East and West, respectively, on behalf of the district four locations of the district entrances

The saturation degree of the road section and the intersection saturation are between 0-1, the membership function is $\mu_{A1} = \mu_{A2} = x$;

The access function of cell entrance and entrance and the entrance and exit of community are:

$\mu_{A3} = \mu_{A4} = x/10$;

Table 4 Membership table

Index / Area	Segment saturation	Intersection Saturation	The connection way of the district entrance	Community access channelization
East	0.75	0.81	0.2	0.2
Western	0.13	0.21	0.1	0.3
South	0.24	0.32	0.1	0.3
North	0.84	0.89	0.3	0.1

And the fuzzy relation matrix is obtained

The weight of the four indicators is $H = (0.0550, 0.1178, 0.2634, 0.5638)$

The results obtained by MATLAB are as follows:

$B = HR = (0.5934, 0.6554, 0.2183, 0.1817)$

The comprehensive evaluation table is obtained

Table 5 Indicators Comprehensive evaluation table

Segment saturation	Intersection saturation	The connection way of the district entrance	Community access channelization
0.5934	0.6554	0.2183	0.1817

2. CONCLUSIONS

From the comprehensive evaluation table 5, it can be concluded that the saturation of the intersection has the greatest influence on the road traffic after opening, the proportion is 0.5934, the second is the road saturation, which is mainly affected by the actual traffic capacity and traffic flow, So as to conclude that community opening plays a role in relieving the actual traffic capacity. In real life, the residential area is far away from the main road, generally do not connect with the fast lane, do not establish underground passage, so the connection of the district entrance and the entrance of the community in the comprehensive evaluation of the weight of light weight. Therefore, the four indexes (road saturation, intersection saturation, community entrance and exit connection, and community entrance and exit canalization) can better reflect the impact of residential opening on the surrounding roads.

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FCI Method in The Application of the Open Community Capacity Evaluation

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Abstract: Synthetic evaluation of fuzzy composite index is widely used in many fields as a multi-index analysis and evaluation method. Based on the method, we can analysis the change of the road capacity after the policy. It can also appraise the policy in a better way and provide decision-makers with reference.

Keywords: Fuzzy Comprehensive Evaluation; Membership Function; Road saturation

1. INTRODUCTION

Based on the principle of fuzzy relation composition, fuzzy comprehensive evaluation method assesses the object with many standards. The basic idea is to calculate the weighted coefficient by analytic hierarchy process, and then formulate a corresponding membership function to obtain the result, then the two cumulative, summed up. You will get the comprehensive evaluation index of the economic benefit index at last, which provides quantitative decision basis for the problem.

2.EXPERIMENTAL

Open road between community has a certain influence on surrounding traffic, build relevant evaluation index system should be able to fully reflect the road open to the influence of the local road network running status.

2.1THE SELECTION OF EVALUATION INDEX

Community entrance is a must-pass site for vehicles when they drive out. The figure 1 shows that village travel traffic conflict with main road traffic of the original, is bound to increase the original vehicle traffic delays. Therefore, choose the average intersection delay as one of the evaluation index.

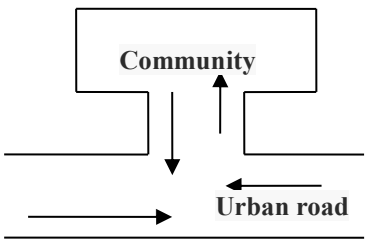

Figure 1 Village access road map

Inter district road open to the main road cannot cause congestion has a great relationship with the capacity of the community. Therefore, the article selects main road capacity and the capacity of the community as the evaluation index [1-3].

Road opening will inevitably lead to changes in the level of the surrounding road network. The factors that describe the service level of road network will be the speed of vehicles, travel time, road saturation and so on. Because it is very difficult to get accurate data in the process of driving speed and travel time, the road saturation degree is chosen as an index to evaluate the service level of the surrounding road network [4].

The road density can be drawn from the area of the area of the community, which can be used as a measure of the capacity of the community as an indicator.

Therefore, taking five factors to construct the fuzzy comprehensive evaluation system, such as: the main road traffic capacity, the average intersection delay, road saturation, the inside area capacity, the road density.

2.2 METHOD

The impact of community opening on road traffic capacity is a multi factor control evaluation target problem, which can be evaluated by the method of fuzzy comprehensive evaluation.

(1)Determine the evaluation factors and level set：

Participate in the opening of the road to the impact of the factors of a total of five, Constitute a set $U=\{u_1,u_2,u_3,u_4,u_5\}$, Residential open to the surrounding roads of different evaluation levels can be divided into {excellent, very good, good, general, poor}, The corresponding numerical values are $\{5,4,3,2,1\}$.

(2)Select Membership function and fuzzy relation matrix

The membership function of the Cauchy distribution function is chosen as the evaluation system of the index:

$$f(x)=\begin{cases}\dfrac{1}{1+7.0221(x-0.1167)^{-2}}, 1\le x\le 3\\ 0.8963\ln x-0.4425 \quad ,3\le x\le 5\end{cases} \tag{1}$$

By Matlab, the value of the unknown coefficient is obtained:

$a=7.0221, b=0.1167, c=0.8963, d=-0.4425$

The fuzzy relation matrix was established by the single factor evaluation：

$$R=\begin{pmatrix}1 & 0.8 & 0.6 & 0.3 & 0.1\\ 1 & 0.8 & 0.6 & 0.3 & 0.1\\ 0.6 & 1 & 0.6 & 0.3 & 0.1\\ 0.6 & 0.8 & 1 & 0.8 & 0.6\\ 0.3 & 0.6 & 0.8 & 1 & 0.8\end{pmatrix} \quad (2)$$

(3)To determine the weight of evaluation index: through the model of partial large Cauchy distribution function and fuzzy relationship matrix calculation of the various factors of the membership value and the normalized value of the following table 1:

Table 1 Normalized weight set

Indicators	The main road traffic capacity	The inside area capacity	The average intersection delay	Road saturation	The road density
Give value	excellent	excellent	Very good	good	general
Intensity values	5	5	4	3	2
Membership values	1	1	0.8000	0.5421	0.3358
The normalized weight set A	0.2719	0.2719	0.2175	0.1474	0.0913

From the table1, the weight assembly of evaluation:

$A=\{0.2179,0.2179,0.2175,0.1474,0.0913\}$

(4)calculate FCI, Comprehensive evaluation of road traffic capacity after opening of residential district:

$$FCI=B\cdot H^{T} \quad (3)$$

Among them, Multi index fuzzy comprehensive evaluation vector: $B=A\cdot R$, used to indicate the possibility of a variety of road traffic conditions. Road capacity standard class vector: $H=(h_1,h_2,h_3,h_4,h_5,h_6)$, to describe the level of capacity of different lanes.

3.RESULTS AND DISCUSSION

According to the six levels of road traffic capacity, we can obtain the fuzzy comprehensive index of the level, as follows Table 2:

Table 2 FCI Grade table

FCI	road capacity
0.8-1.0	Open
0.7-0.8	Fine
0.6-0.7	More unobstructed
0.5-0.6	Little blocked
0.4-0.5	Block
0.2-0.4	Serious blocked

4. CONCLUSIONS

By calculating the fuzzy comprehensive index FCI, it can reflect the relationship of the size of the road capacity after the opening of the communities in this area. higher FCI, better the road capacity, on the contrary, when FCI is low, the capacity is poor. This conclusion is so universal that it can be applied to different types of communities

5. ACKNOWLEDGMENT

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Modeling Analysis and Evaluation System of the Effect of Block System Reform on Capacity

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Abstract: With the continuous improvement of the level of urbanization, urban road capacity decline, the development of the block system, the gradual opening of the district has become particularly important. The multiple evaluation index system was selected by correlation test, to establish road saturation as the multiple linear regression equations for variables, and examine its significance, space-time saturation on this basis to reflect the dynamic situation of road capacity. Thus more intuitive to express the influence between the two. Using the entropy of each index weights to determine the influence of capacity in the law, construct the improved matter-element evaluation model, so as to obtain the classification standard of each index (excellent, good, poor three levels), and combined with the weighting comprehensive evaluation grade obtains the plot. Considering the above two models together, the results show that the openness of the community has a good influence on the road capacity and the distance between the residential area and the city center is one of the important control conditions.

Keywords: Correlation test; Dynamic regression; Entropy weight method; Matter-element analysis

1. INTRODUCTION

February 21, 2016, the State Council issued a "further strengthen the city planning and construction management of a number of opinions", put forward the idea of promoting neighborhoods, caused more extensive attention and discussion. One of the focus of discussion is: open area can achieve the purpose of improving road capacity.

In block system reform effect research, many scholars have done a lot of research. Xiaozhou Wang [1] (2014) using big data with PSPL research method, solve the problem block space reasonable planning, is of great significance to block the implementation of the system reform in our country; Yuhang Shang [2] (2015) combined with case analysis and field investigation, summarizes the residential block type in morphological structure and the basic characteristics of the spatial layout and open design points; Wei Liu [3-5] (2016) using mintzberg's three stages decision process model, from the perspective of policy decision-making process for the analysis of block system policy process, and gives the improvement of the decision-making path; Previous analyses the influence on block system reform, but to block system reform's influence on traffic capacity research is insufficient, although to a certain extent, can provide decision-making reference solution, but in practice, but not very accurate, exist deficiencies. Based on this, this paper carried out the following research: first, correlation analysis was used to select several indexes that had strong correlation with saturation, and the multiple linear regression equation of each index about saturation was established. second, by using the improved matter - element model of entropy weight method, a more accurate multi - angle evaluation system is established to evaluate the effect of community openness on traffic capacity.

2. THE ESTABLISHMENT OF THE MULTIPLE LINEAR REGRESSION MODEL

2.1 The Determination of Eevaluation Index

Selection of evaluation indexes should be able to reflect a village after opening the impact on the surrounding traffic capacity. The residential area size and performance of the road traffic conditions surrounding the itself can reflect the influence alone. Therefore, establish the subordinate relations between primary, secondary see below.

2.2 The Determination of the Regression Equation

Set the variable Y as the peripheral road saturation, there is a linear relationship between the variable Y and the variable $X_1, X_2, \cdots, X_P$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_P X_P + \varepsilon \quad (1)$$

Where $\varepsilon \sim N(0, \sigma^2)$ β_0, β_1, $\cdots$, β_P and σ^2 is unknown parameters, when $P > 2$ for the multivariate linear regression model.

Suppose $x_{i1}, x_{i2}, \cdots, x_{ip}, i = 1,2,\cdots,n$ is the $(X_1, X_2, \cdots, X_P, Y)$ independent observation of n, then the theoretical regression equation can be expressed as

$$E(y) = \beta_0 + \beta_1 x_{i1} + \cdots + \beta_P X_{iP}, i = 1,2,\cdots,n \quad (2)$$

Six randomly selected groups of data collected to obtain six sets of data. Then the multivariate linear model can be expressed as a matrix

$$y = X\beta + \varepsilon \tag{3}$$

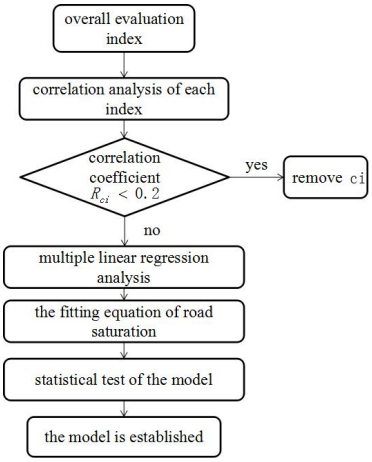

Figure 1 Flow chart of algorithm

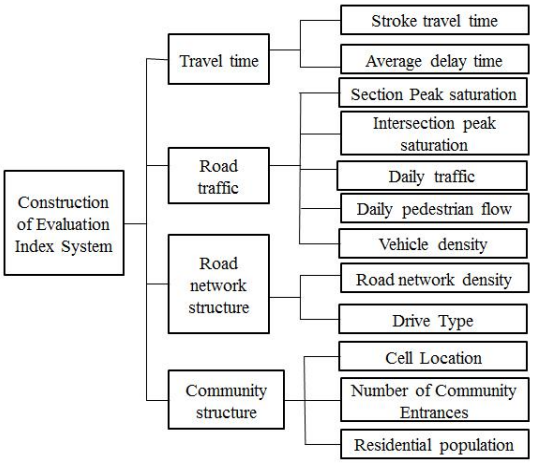

Figure 2 Schematic diagram of evaluation index system

2.3 The Determination of the Regression Coefficient

The city has been randomly selected three open area and three outside the open area，The data generation into the $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_P X_P + \varepsilon$, the regression equation is calculated for

$$Y = 0.826X_1 - 0.357X_2 + 2.002X_3 + 1.368X_4 + 1.072X_5 + 0.002 \tag{4}$$

2.4 The Significance Test of Regression Equation

$H_0 : \beta_0 = \beta_1 = \cdots = \beta_p = 0,$

$H_1 : \beta_0, \beta_1, \cdots, \beta_p$

Not all of 0，When H_0 was set up, statistic

$$F = \frac{SS_R / p}{SS_E / (n - p - 1)} \sim F(p, n - p - 1) \tag{5}$$

Among them

$$SS_R = \sum_{i=1}^{n} (\hat{y}_i - \bar{y})^2, SS_E = \sum_{i=1}^{n} (y_i - \hat{y}_i)^2 \tag{6}$$

$$\bar{y} = \frac{1}{n}\sum_{i=1}^{n} y_i, \hat{y}_i = \hat{\beta}_0 + \hat{\beta}_1 x_{i1} + \cdots + \hat{\beta}_p x_{ip} \tag{7}$$

Also called SS_R for the square of the regression, said SS_E residual sum of squares. For a given significance level α, the rejection field for the test is $F > F_\alpha(p, n - p - 1)$, and the square of the correlation coefficient is defined as $R^2 = \frac{SS^R}{SS^T}$, which is used to measure the degree of closeness between the independent variable and the dependent variable, where SS^T is the total dispersion of the square, $SS_T = \sum_{i=1}^{n} (y_i - \bar{y})^2$, and $SS_T = SS_E + SS_R$ is satisfied.

According to the calculation, the sig values of the five indexes are all less than the significance level of 0.05, then the coefficients are different, the linear relationship between the explanatory variables and explanatory variables is significant, which shows that the linear equation can be established.

3.THE ESTABLISHMENT OF THE ENTROPY MATTER-ELEMENT MODEL

3.1 Determine the Evaluation Matter-Element

In order $R = (Q, c, v)$ triple Q as described the basic unit of things, called the matter-element. A representative of things, c representative of Q feature, v representative on Q quantity of c. The measured data with the matter-element, said R called for evaluation of the matter-element, type P for stay in evaluation unit; $x_i (i = 1,2,\cdots,n)$ for P about c_i magnitude, that is, to the measured values of evaluation unit.[4]

3.2 The Matter-Element Model and Correlation Functions

Point x_i to $X_{ji} =< a_{ji}, b_{ji} >$ distance of:

$$\rho(x_i, X_{ji}) = |x_i - (a_{ji} + b_{ji})/2| - (b_{ji} - a_{ji})/2 \tag{8}$$

When x_i is the endpoint of interval $X_{ji} =< a_{ji}, b_{ji} >$, the correlation function is:

$$K_j(x_i) = \begin{cases} 0 & x_i \in X_{ji} \\ -1 & x_i \notin X_{ji} \end{cases} \tag{9}$$

When the correlation functions of $X_{ji} \neq a_{ji}$ and $X_{ji} \neq b_{ji}$ are as follows:

$$K_j(x_i) = \begin{cases} -\rho(x_i, X_{ji})/|X_{ji}| & x_i \in X_{ji} \\ \rho(x_i, X_{ji})/[\rho(x_i, X_{pi}) - \rho(x_i, X_{ji})] & x_i \notin X_{ji} \end{cases}$$

Among them, $|X_{ji}| = |a_{ji} - b_{ji}|$

3.3 Calculate the Comprehensive Correlation to Determine the Evaluation Level

The comprehensive correlation degree of the object

to be evaluated about grade j is:

$$K_j(P) = \sum_{i=1}^{m} \omega K_j(x_j) \quad (10)$$

And finally the reference to a number of technical standards and domestic and foreign residential roads, facilities and services, the average level of the evaluation level from high to low is divided into excellent, good and bad three levels to determine the evaluation index of the index system that classic domain R_{0j} , According to the maximum and minimum range of the classical domain, we can determine the domain element matrix R_ρ .

4. NUMERICAL SIMULATION

4.1 Regression Equation to Solve Road Capacity

Using the linear regression equation model obtained in this paper

$$Y = 0.826X_1 + 0.357X_2 + 2.002X_3 + 1.368X_4 + 1.072X_5 + 0.002 \quad (11)$$

Three different types of cell before and after the opening of the corresponding indicators of the data into the regression equation, can be obtained values, as shown in Tab.1. below.

Table 1. before and after the opening of the cell saturation comparison

	Before opening	After opening
Cell A	1.8311	0.9559
Cell B	2.0981	1.0549
Cell C	2.5178	1.2727

The higher the saturation value is, the lower the road service level is. Consider the district A, B, C can be seen from the urban areas closer to the smaller the value of saturation after opening, And the greater the change of saturation value before and after the opening, indicating that the closer the district from the urban area, the better the impact on the road service level after opening.

4.2 Evaluating Road Capacity with Evaluation System

Applying the comprehensive evaluation model established in this paper, the observation data of three different types of residential areas are brought into evaluation, and the distance of the district A, B and C from the city center is increased in turn. The following are the results of the evaluation.

Table 2. Before and after the opening of the district level comparison

	Before opening	After opening
Cell A	bad	Excellent
Cell B	good	Excellent
Cell C	good	good

As can be seen from the table, the district open to the surrounding road capacity of the overall impact is better but closer to the city center of the location of the impact of the more obvious.

5. CONCLUSION

Through the above two models of the results obtained from a comprehensive consideration available. The higher the district comprehensive evaluation grade, the lower the saturation value of the district road, indicating that the district open to the surrounding road capacity better. The smaller the distance from the city center, the more open areas to improve the road capacity of the more significant.

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Spatial Differences of County Economy in Guangdong Province of China: A Perspective of Spatial Statistical Analysis

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Abstract: Based on entropy weight, this study analyzed the horizontal spatial differences of county economy using the Technique for Order Preference by Similarity to Ideal Solution and the Exploratory Spatial Data Analysis. Taking the 88 counties (districts) of Guangdong Province as the research object and selecting out 18 economic indicators, this study conducted a spatial statistical econometric analysis of spatial correlation among the counties of Guangdong Province, and preliminarily explored the characteristics of the spatial differences. The results showed that the economic development differences among regions in Guangdong Province are significant. The economically relatively advanced regions are mostly situated in the Pearl River Delta while those weak ones are concentrated in mountainous regions; the spatial autocorrelation in the development of regional economy is remarkable and the economically developed counties tend to be concentrated spatially.
Keywords: County economy, Technique for order preference by similarity to ideal solution, Exploratory Spatial Data Analysis, Spatial statistical analysis.

1. INTRODUCTION

Regional economic disparities are prevalent in the economic development of various countries and regions, and therefore are the focus of attention for academia and government[1]. Since the introduction of reform and opening up, China's economy has achieved remarkable growth, but it's universally acknowledged that China's recent economic growth still involves distinct spatial patterns. Excessive economic development gap is suggested to severely constrain the overall economic development. As there is a growing trend in China's regional economic disparities, many scholars have conducted in-depth research on regional disparities from different perspectives. Firstly, the research scale has shifted from the macro (provincial or municipal) level to the county level[2-4]. In addition, initial practice has been conducted to evaluate the level of regional economic development using a single indicator (e.g. per capita GDP). This approach gradually gave way to an integrated evaluation method: comprehensively evaluating the regional economic development and differences based on an index system established with a series of relevant variables[5-6]. Moreover, a growing number of methods have been used in conventional economics research, such as mean difference, standard deviation, range, the Lorenz curve, Gini coefficient, coefficient of variation, the weighting coefficient of variation, the proportion of Kuznets, Theil, etc. Though these methods could characterize the degree of dispersion of data, several limitations still exist, one of which is that regions are assumed to be independent from one another without interaction. According to the first law of geography, adjacent regions in geographic space are more similar, in comparison to distant regions. Since all spatial data has the spatial dependence or spatial autocorrelation feature, what should be used in the study of regional economic ties are a series of spatial statistical methods, including the exploratory spatial data analysis based on geospatial information, which may reveal the spatial distribution features of provincial economic activities in China in a more vivid and deep-going manner and provides the space for various in-depth analyses. It has been more than thirty years since Jean Paelinck and Leo Klaassen published a small volume entitled Spatial Econometrics which arguably was the first comprehensive attempt at outlining the field of spatial econometrics and its distinct methodology[7]. This new emerging approach has increasingly been applied in a wide range of empirical investigations in many traditional fields of economics, including international economics [8], labor economics[9], public economics [10], and agricultural and environmental economics [11]. Many scholars have already taken into account the effects of spatial dimensions during the study of regional issues and made exploration efforts, achieving fruitful results.

Spatial statistical model allows people to know and solve the regional economic development issues from the point of view of space and visual direction. Based on the above considerations, this study focuses on the county economic development of Guangdong Province, which is one of the most developed provinces and also one of the most regional development unbalanced provinces in China. A comprehensive evaluation system is built by employing the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) of

multi-criteria decision analysis in system engineering to evaluate the county economic development level in Guangdong Province in 2012. Then, the exploratory spatial data analysis (ESDA) is used to analyze county economic development's spatial differences, characteristics and causes, thereby providing a reference for regional economic development strategy formulation.

2.MATERIALS AND METHODS

Firstly, this paper employs the improved TOPSIS method to give a comprehensive evaluation of regional economic development level of Guangdong's counties (districts) in 2012, which sets the standards for measuring the level of Guangdong's County Economic Development. The adopted weight is determined using the entropy evaluation method. Then, ESDA is utilized to explore the spatial distribution pattern of the level of economic development of counties (districts).

2.1 TOPSIS

TOPSIS is a commonly used multi-objective, multi-attribute decision-making method of the limited-scheme in system engineering program. TOPSIS normalizes the raw data to eliminate the effects of different dimensions and directly uses the original data as the sorting results. It has several advantages, such as having no special requirements for sample information, being flexible and easy to use, and showing intuitive results. It can quantitatively reflect the degree of pros and cons of different evaluation units, which can thus be applied in the evaluation of the level of regional economic development..

2.2 Exploratory Spatial Data Analysis (ESDA)

ESDA is an effective means of regional pattern analysis that analyzes the spatial links, clusters and other heterogeneities to measure the spatial autocorrelation of natural phenomena or socio-economic phenomena.

(1) Establish a spatial weight matrix

Spatial statistical analysis is based on spatial connection. In order to reveal the spatial connection between the phenomena, the mutual adjacency of spatial objects needs to be defined. Usually, a binary symmetric spatial weight matrix W is defined, to express the adjacent relationship between the spatial regions of the n positions, in the form below.

$$W = \begin{bmatrix} w_{11} & w_{12} & \cdots & w_{1n} \\ w_{21} & w_{22} & \cdots & w_{2n} \\ \vdots & \vdots & \cdots & \vdots \\ w_{n1} & w_{n2} & \cdots & w_{nn} \end{bmatrix} \quad (1)$$

Of which: w_{ij} is the adjacent relationship between position *i* and *j*, which can be measured according to the following standards:

$$w_{ij} = \begin{cases} 1 & \text{i and j are adjacent} \\ 0 & \text{others} \end{cases}$$

(2) Global spatial autocorrelation

Global Moran Index (Global Moran's I) is a global indicator used to measure the spatial autocorrelation.

If x_{ij} is the observed value of the location (region) *i*, then the variable's global Moran index I can be calculated using the following formula

$$I = \frac{n\sum_{i-1}^{n}\sum_{j\neq i}^{n} w_{ij}(x_i-\bar{x})(x_j-\bar{x})}{\sum_{i=1}^{n}\sum_{j\neq i}^{n} w_{ij}\sum_{i=1}^{n}(x_i-\bar{x})^2} = \frac{\sum_{i-1}^{n}\sum_{j\neq i}^{n} w_{ij}(x_i-\bar{x})(x_j-\bar{x})}{S^2\sum_{i=1}^{n}\sum_{j\neq i}^{n} w_{ij}} \quad (2)$$

Of which: I is the Moran index ; $S^2 = \frac{1}{n}\sum_i (x_i-\bar{x})^2$; $\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$.

Moran index I's value is usually from -1 to 1. Less than 0 indicates a negative correlation, 0 indicates no correlation, and greater than 0 indicates a positive correlation.

For Moran index, the standardized statistic Z can be used to test whether n regions have spatial autocorrelation. Z is calculated as

$$Z(I) = \frac{I - E(I)}{\sqrt{VAR(I)}} \quad (3)$$

The test statistics calculated according to the formula can start a significant test of the spatial autocorrelation. The mean and variance in the formula are the mean and standard deviation theoretically.

When the Z value is positive and significant, it indicates that there is a positive spatial autocorrelation, i.e. similar observations (high or low) tend to be in spatial agglomeration; when Z is negative and significant, it indicates there is a negative spatial autocorrelation, i.e. similar observations tend to be in dispersed distribution; when Z is zero, the observations are independent and randomly distributed.

(3) Local spatial autocorrelation

Moran index I's global assessment of spatial autocorrelation has the problem of neglecting potential instabilities in spatial process. If the further consideration of whether the high or low values of the observed values have local spatial concentration, which area of the unit contributes most to the global spatial autocorrelation, and the extent, to which the global assessment of spatial autocorrelation masks the unusual local conditions or the local small-scale instability is needed, the local spatial autocorrelation analysis must be carried out.

Local Moran's index I_i is defined as

$$I_i = \frac{(x_i-\bar{x})}{S^2}\sum_{j\neq i}^{n} w_{ij}(x_j-\bar{x}) \quad (4)$$

Where: $S^2 = \frac{1}{n}\sum_i (x_i - \bar{x})^2$; $\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$.

A positive value I_i indicates the spatial concentration of similar values (high or low) around the region unit, and a negative value I_i indicates that the spatial concentration of value of not significant.

Standardized statistics tested for the local Moran's index

$$Z(I_i) = \frac{I_i - E(I_i)}{\sqrt{VAR(I_i)}} \quad (5)$$

3.RESULTS

3.1 Construction of the Index System

Regional economic differences are the combined effect of the regional differences in economic size, growth rate, industrial structure, economic and other aspects, rather than any single factor. Based on relevant literature and reality of Guangdong Province, the present study selects 18 indicators from the five aspects of the economic scale, economic efficiency, economic growth, economic structure, and people's quality of life to establish a synthetic evaluation index system of the level of county economic development (Tab.1).

Table 1 Index System of Guangdong's County Economic Development Level

Target Layer	Criterion Layer	Index Layer
		Index Name
Comprehensive Level of Regional Economic Development	Economic Scale	Gross Regional Product (*X1*)
		Gross Product of Primary Industry (*X2*)
		Gross Product of Secondary Industry *(X3)*
		Gross Product of Tertiary Industry *(X4)*
		Gross Industrial Output (*X5*)
		Gross Agricultural Output *(X6)*
		Total Fixed Investments *(X7)*
		Total Retail Sales of Social Consumer Goods *(X8)*
		Budget Receipt of Local Public Finance *(X9)*
	Economic Benefits	Per capita GDP *(X10)*
	Economic Growth Rate	Growth Rate of Gross Regional Product (*X11*)
		Growth Rate of Per Capita GDP (*X12*)
		Increase of Total Retail Sales of Social Consumer Goods (*X13*)
	Economic Structure	Proportion of Primary Industry's Value Added to GDP (*X14*)
		Proportion of Secondary Industry's Value Added to GDP (*X15*)
		Proportion of Tertiary Industry's Value Added to GDP (*X16*)
	Life Quality	Saving Deposits of Urban and Rural Residents (*X17*)
		Year-end Average Wage of On-post Workers and Staff (*X18*)

3.2 Research Analysis

(1) Overall Spatial Differences Exploration

According to the original data matrix, the entropy method is used to determine the weight of the indicators. The TOPSIS is used to get the distance of Guangdong's counties (districts) economic development level from the optimal value and the worst value and its relative proximity with the optimal value, D_i^+ , D_i^- , and C_i . The C_i values obtained are taken as a global space autocorrelation statistics of comprehensive index of the level of county economic development, using normal 95% confidence interval (corresponding to p = 0.05), with the two-sided test threshold being 1.96; or 99% confidence interval (corresponding to p = 0.01), with the two-sided test threshold being 2.58. The Spatial Statistics Tools of ArcGIS10.1 (The ESRI, Inc, California, USA) is used to calculate Global Moran's I index, the results of which are that Global Moran's I index was 0.37, Z score is 6, p is 0.01. Confidence is much greater than the critical value of 99%, indicating that Z is positive and significant, there is a positive spatial autocorrelation, and similar observations tend to be spatially concentrated.

The global spatial autocorrelation analysis' results illustrate that the county economic development level in Guangdong Province for 2012 has a remarkable spatial concentration. Combining them with the above results, we could find that the Pearl River Delta counties have a relatively higher level of economic development while the mountain counties

have a relatively lower level of economic development, manifesting the trend of spatial concentration.

(2) Exploration of Local Spatial Differences

To further explore the local spatial association patterns and its surrounding units, C_i is still local spatial autocorrelation statistics of the comprehensive index of the county's economic development level. The ArcGIS software is used to calculate the Local Moran's I index and local spatial autocorrelation analysis results figure is made, wherein Fig.1 (a) is a schematic view of the classification of each study unit's 2012 Local Moran's I, and Fig.1 (b) is a schematic view of the spatial accumulation drawn according to the Z score of each study unit. As can be seen from Fig.1: (1) Guangzhou, Dongguan and Shenzhen have the highest Local Moran's I index, followed by Foshan and Zhongshan. Taking the C_i value into consideration, we observe that the level of economic development of these study units shows the trend of high-value gathering. (2) Local Moran's I indexes of Maoming, Zhanjiang, Shantou, Jieyang District, Hui County, Qingxin County, Qingyuan District, Xinxing County, Boluo, Conghua, Heshan, Gaoyao, Sihui, Zhaoqing are negative, indicating that the level of economic development of these research units is in negative spatial autocorrelation, or the agglomeration of not significant value. (3) Local Moran's I indexes of other research units are positive, indicating that the level of economic development in these counties (districts) also shows a trend of similar value concentrating. (4) In terms of spatial agglomeration type, research units belonging to the HH (high value surrounded by high values) include Guangzhou, Foshan, Dongguan, Zhongshan and Shenzhen, indicate a higher level of economic development of the Pearl River Delta. (5) Overall, the general level of economic development of counties of Guangdong Province manifests a significant spatial autocorrelation, not a spatial heterogeneity.

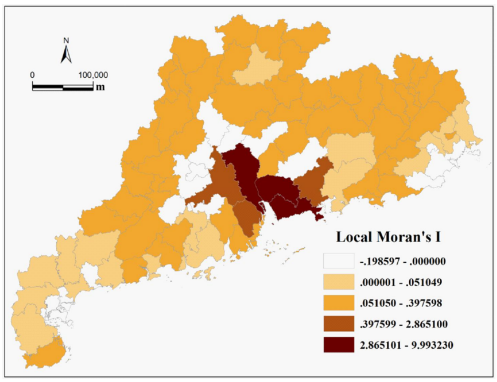

Figure 1(a). Local Moran's I map

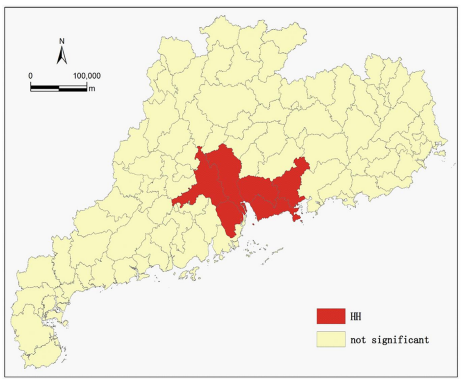

Figure 2(b). LISA aggregation map

Figure 1 Schematic Figure of Results of Local Spatial Autocorrelation Analysis

4. CONCLUSIONS

In this paper, in order to avoid the influence of subjective factors, the entropy value method is used to determine the evaluation index weight. Then the improved TOPSIS method is introduced to build the index system for the evaluation of the level of county economic development in Guangdong province. The evaluation results indicate that the county economic development of Guangdong Province is significant different and imbalance: the level of county economic development in the Pearl River Delta region is the highest, followed by the East Wing and West Wing, and mountain counties have the lowest level of development. In terms of the municipal districts, the highest ranked Shenzhen district and the lowest ranked Yunfu district have a difference as large as about 100 times, proving that the regional development is extremely unbalanced.

The ESDA is used to conduct an exploratory research on the spatial distribution pattern of economic development level of counties (districts) in Guangdong Province. From the perspective of overall spatial differences, the results of the global spatial autocorrelation analysis show that the county economic development level for 2012 in Guangdong Province have significant spatial clustering among similar values; from the point of view of local spatial differences, the level of comprehensive economic development of Guangdong's counties have significant spatial autocorrelation, manifested by that economically developed Pearl River Delta region tends to be concentrated spatially; in addition to a number of the county showing the spatial heterogeneity, other counties have the trend of similar values clustering.

Based on the results above, following questions should be further studied: How Pearl River Delta region plays the leading role in promoting the rapid economic development of the whole of Guangdong Province? What preferential policies should Guangdong give to its eastern and western wings and mountainous region in a targeted manner? How Guangdong makes using of local advantages to develop leading industries with discernible local features? And how to adjust industrial structure, develop competitive industries, provide the impetus for the sustainable development of the county economy?

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The Design and Application of the Portable Postmortem Interval Measurement Teaching Device

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Abstract: The method of the postmortem interval measurement based on temperature detection has been studied by the forensic researcher for years, this paper introduces a kind of portable postmortem interval measurement device, which can quickly and conveniently measure postmortem interval. This device is designed based on the embedded system, and it is small in size and convenient to carry, which make it used in public security colleges in the lab teaching and in criminal fields.
Keywords：postmortem interval，embedded system，portable，criminal technique

1. INTRODUCTION

To estimate the time of death of the human body(postmortem interval) is an important part of the murder case investigation, and in forensic laboratory it is often carried out. quickly and accurately calculating the postmortem interval(PMI) can supply important clues for the police in the investigation of cases, and the traditional measurement method is the use of the thermometer into the body rectum to get temperature , then use the measured temperature data to do calculation for the PMI. Since twenty-first Century, the rapid development of computer and communication technology is mainly reflected in the chip, the embedded controller is with the fast calculation speed, more volume of internal and external memory capacity, and the more convenient input and output display function[1]. And application software on human health is various, so is the application in teaching. This paper introduces a portable device for PMI detection based on embedded system, the device combines embedded technology with forensic PMI detection method, which is simple and rapid and improves the traditional laboratory teaching tool.

2. MEASUREMENT PROCESS AND SYSTEM STRUCTURE

The traditional temperature measurement process is divided into two key steps, that is, using a thermometer to measure the average temperature of the rectum for several times, and then calculating the time of death according to the average value. Due to the adoption of our embedded system to realize this process, we should consider the following points: (1) the appearance and the detection accuracy of detection front-end sensor selection; (2) the real-time data transmission and processing; (3) the function of the equipment should be configurable. According to the above analysis, the principle of equipment is shown in figure 1:

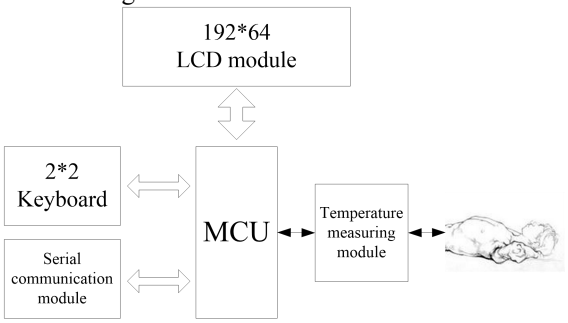

Figure 1 System structure

According to the system principle, what should first chosen is the appropriate sensor for temperature measurement module. We choose DS18B20 as the temperature sensor, the temperature measurement range is between 55℃ to 125℃[2], so the device meets the requirements of the development of indicators. It should be noted that, due to the needs of the measurement, the temperature measurement module should be made into a rope shape, and the sensor is placed in one end, the other end is connected to the controller. The controller is the core of the whole device, which is responsible for the driving of other functional modules, to accept the measurement data, the calculation of PMI. For this equipment, ranges of measurement data and calculation results of PMI are in 0-255, so the choice of 8 bit microcontroller as the control meets the requirements, cosidering the equipment portability and low power requirements, we choose ATmega48, the high-performance, low-power Atmel 8-bit AVR RISC-based microcontroller combines 4KB ISP Flash memory, 512-Byte SRAM, 256-Byte EEPROM, an 8-channel/10-bit A/D converter (TQFP and QFN/MLF), and debugWIRE for on-chip debugging. The device supports a throughput of 20 MIPS at 20MHz and operates between 2.7-5.5 volts. By executing powerful instructions in a single clock cycle, the device achieves throughputs approaching 1 MIPS per MHz, balancing power consumption and

processing speed[3]. The LCD module is used to display the measuring result, the matrix keyboard is used for setting the function of the device, and the serial communication module is used for transmitting the measurement data to the other equipment.

Because DS18B20 uses 1 Wire bus protocol, realize the bidirectional transmission of data in a data line, and ATmega48 is not integrated into the protocol, so it is necessary to use the software method, using bidirectional I/O ATmega48 port simulation protocol sequence single bus access to the completion of the DS18B20 chip.

3. THE ALGORITHM FOR PMI

The PMI research has lasted for a long time, many researchers from different countries has discussed relevant methods, and the public security departments in China also organized related activities on the judging method from many cases, here we use forensic methods as shown in formula[4][5] (1)

$$T = (37 - temp) / 0.83 \quad (1)$$

The formula is to calculate PMI of the spring and autumn season, in which T represents the PMI result, the temp represents the rectal temperature, which means that the summer will be multiplied by 1.4, in winter multiplied by 0.7.

4. CONCLUSIONS

Embedded system as one of the most cutting-edge technology is applied in the education industry which is adapted to the demand of China's educational information, which will be conducive to the realization of the leap forward development of China's education. In the process of teaching and learning in public security colleges, it is a basic teaching link to judge the death time of a corpse. The traditional laboratory teaching uses the temperature to measure temperature, and then completes the experiment by hand. This equipment can be used as a new way of automatic measurement, in the teaching process, the process, the equipment demonstration of the practice of vivid image, and to improve the students' interest in learning, enhance students' operation ability of information equipment.

This device is not limited to the time of death, the other relates to temperature can also, as in the process of arrest of the suspect, the temperature of the complicated environment, complex terrain detection, can determine the houses, caves and other places suspect hiding is hiding, escape from the time of reckoning. This has an important role for us to carry out the next step of the arrest. Such as Nanjing and Changsha police in large-scale raids into Zhou Kehua, will be able to some place whether or is hiding hiding was judged by means of temperature sensing system.

5. ACKNOWLEDGEMENTS

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Sin and Disgrace Based on Frog by MoYan and Disgrace by Coetzee

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Abstract: The novel Disgrace by Coetzee , where Loory, the protagonist was caught in a moral dilemma in the face of violence and power balance , showed us the human nature struggle and the survival status quo of a white race in South Africa after the abolition of apartheid .And Frog is Mo Yan's first confession in literary creation in a true sense .The two novels manifest psychology of people's sin from the surface and they have profound warnings. The two Nobel laureates make people enlighten and reflect by telling stories and have people make joint efforts to make a beneficial attempt for the nation and world peace and development . At the same time, the two novels also have a certain reference significance to the study of the literature and culture within the scope of the contemporary world.

Keywords: Sin;Disgrace; System;Moral Dilemma

If any nation wants to advance and develop, it must depend on the interaction of the longitudinal accumulation of civilization and horizontal extension of foreign civilizations to be powerful and prosperous. As the Nobel Prize laureates Mo Yan in 2012 and Coetzee in 2003, Frog and Disgrace reveal the social reality under the conflict of system and morality by describing the status quo respectively.

The breakthrough point of Mo Yan's Frog is the birth , which takes on a book of a complete Chinese family planning for readers to think about the sense of sin, repentance and redemption in a deeper way. The paper spread from the letter given by tadpoles toShanguyi,which discusses the perception of sin, the initiative and scream of repentance and redemption in detail. The social reality in the novel Frog is revealed by the fact that the aunt acts as an obstetrics and gynecology doctor and becomes an birth control executive doctor due to the one-child policy, and this paper mainly discusses her repentance and desire for the hearts of self-salvation through her aunt's behavior. Even if a lot of people have different opinions on the content presented by the South African writer Coetzee's Disgrace, his special personal experiences as the edge of the Afrikaner people are merged into the novel. The present studies generally focus on the history and reality of South Africa, humiliation of human nature and the price of the bottom line study and so on from the post-colonial perspective. In this paper, a different approach is used to analyze the deep concern of realistic human hidden behind the works from the perspective of the sin and Disgrace.

On the Nobel podium Mo Yan insists he is a storyteller for I have won the Nobel Prize for literature because of telling stories. Many wonderful stories happen after I win the prize, which make me believe that truth and justice exist. Stories told by Mo Yan are almost impossible not to concern "we" and the survival state of the reality. If Mo Yan's early works such as the moss garlic farmers in Songs of Heaven Garlic , the executioner in Sandalwood Penalty, and the butcher Forty-One Cannon focus on the people who are still in the range of minority, Frog has focused on the object including all people since PRC was founded and basic state policy, family planning ,which is concerned about all people's living. Frog shows the world the social reality of the contemporary China by telling the story fully and when the system and ethics conflict how the history ,present-day, individual and society are blended together.

Coetzee's Disgrace occurred in the era of post apartheid under the background of the collision of old and new systems in South Africa. The events as a starting point in which the hero Lu as a professor at university was fired for sexual scandal and had to live in the farm which belonged to his daughter, and his daughter were raped by a black man revealed that the colonialism had brought the people of South Africa the pain and the realistic trouble and also showed that the former colonists and once enslaved people made joint efforts for harmony of post-colonial society. Compared with Mo Yan, Coetzee's topics discussed, stories told involve conflict of the multi-polar world system more specifically. South Africa persecuted successively by colonialism and apartheid, in the southern hemisphere, the southern tip of the continent, people are experiencing the destruction of body and mind and are bearing suffering and pain because of the changes of the apartheid system and the old ethics. Behind pain it also implies deeper political significance. The two novels reflect social realities from the two policies which are enough to change history.

1. THE FAMILY PLANNING POLICY

Family planning policy having been fully implemented in our country since 1970s was stipulated as the basic state policy in 1982 and The Law of Family Planning Policy of PRC was issued in 2001.Up to this point China's tough family planning policy has started with force and the state willpower

the aunt is on behalf of will begin to implement the policy loyally and faithfully, causing a lot of human tragedies in this period of conflict. The author silhouettes Chinese society of northeast township in GaoMi. MoYan gives the answer through what the brace raft man, Flat Head : "the rich give birth to babies while they are fined; the poor give birth to stealthily; officials make their mistresses give birth to; cowardly civil servants without money daren't give birth to. " And Tadpole responded by asking Flat Head, "according to what you said, doesn't the state family planning policy only exist in name?" Flat Head answered: "no, the policy exists or how are fines conducted?" Such a classic summary is the reflection of today's society and MoYan 's real reflection of the state family planning policy. Actually the great contribution basing its consideration on mankind is to exist in name or is out of the intention the policy was made.

2. APARTHEID

Apartheid in South Africa was the one carried out between 1948 and 1994 in the Republic of South Africa. On the concrete practice, apartheid in South Africa prevent the non-white population (even living in South Africa white area) from getting the vote or influence, will limit their rights and interests to the distant homeland that may never be visited. Over 300 years of apartheid ended on February 3, 1997 when the South African permanent constitution came into force. The novel Disgrace was published in 1999 which was just two years when apartheid in South Africa was abolished. Although new South Africa was born with the end of the era of colonialism and the abolition of apartheid , all kinds of traumas and social realistic problems don't disappear with the permanent constitution going into effect. Instead, the whites and the blacks living in South Africa face identity changes civilization conflicts without exception. The social upheaval make the hero at a loss all day long , the test of human nature in social reality of the institutionalization and the moralization is more cruel.

Marx said: "It is not people's social consciousness that determines social existence. On the contrary, it is people's social existence determines people's social consciousness"[1].Ethics and systems have different forms in different stages of human society. If we take ethics and systems in the different social forms, that will help us to grasp track changes of ethics and systems in different societies from the perspective of historical changes.

The story OF Frog took place in GaoMi Shandong, a Confucian cultural heritage place. The traditional conception of procreation" There are three non-filial loves and no descendants are the number one " has infiltrated ShanDong for thousands of years. As the traditional ethics came under attack by the family planning policy which was carried out during the sensitive period of the cultural revolution wantonly, that made the policy have the nature of national movement and abuse of human rights in the process of concrete implementation and advance .The aunt as a rural maternity doctor committed an unforgivable sin of depriving a person's life inadvertently under the impact of the one-child policy. Nobody know her sub-consciousness and even she herself could not perceive. But history cannot be changed and the fact cannot be erased. "Numerous family planning practitioners themselves can't control their consciousness of committing crimes subjectively under the guise of legal implementing policies, but in fact they have violated the law objectively."[2]National sorrow becomes pale in front of the bloody facts. Those parents who have the unplanned births and exchange their descendants with their lives, and those who exchange an unstable social system with their descendants are a kind of behavior based on self-preservation mentality just in a turbulent society . Battered by cultural and realistic collapse, grassroots have to so. Novel is in such a political background. The people face tragic lives in the double predicament of system and morality. This kind of predicament let readers can't use simple morality to judge each character of the novel. It is hard for us to whether the aunt is good or bad , hateful or pitiful. Universal values make choice in a dilemma. The dilemma the pain people, nation, and state faced in this particular period were thoroughly exposed. Fe Xiao tong said, "social integrity is the conditions of personal healthy lives while the social integrity must depend on the stability of population, stable population depending on the metabolism of society, which cause the result of the race continuation."[3]Reproductive rights are the basic human rights, and it is against human nature to control birth in a forceful way of birth. But the rational way had to be selected at that time in China.

Coetzee, who was born in 1940, just experienced a prevalent period of apartheid in South Africa from his childhood to adulthood. Although the long colonial history was overturned, the apartheid was lifted, multiple colors ended in realizing the political equality in South Africa, political equality, history couldn't be changed by a legal paper. The continuous problem caused by innovation of a system can't be solved in an easy way. The white did not have the protection of apartheid, but the way of behavior decided by that of thinking didn't change so fast. Therefore the white scholars represented by Lu, the protagonist of the novel suddenly transformed from the principal position of the whole circle into outsiders, and couldn't find the way they could live with the black in harmony together. The history of South Africa is the one persecuted wantonly by British or Dutch colonial rule and the segregation. The national white lived in South Africa for a long time and had their own cultural system, "when apartheid ended in South Africa, which caused a

series of challenging problems, they were whose language, culture and stories would be authoritative, these problems including what a South African meant?"[4] In post-colonial period, the black began to become the master of the society, the white lost their power in absolute privilege, and the white values no longer existed as a mainstream values, but still retained the first sense of superiority in the ideology and culture. When their first sense of superiority lost the protection of social status and when they stayed in the black culture, they were very embarrassed. First of all, they lost their previous privileges in the black culture; secondly, they couldn't communicate with the black in their old way of thinking, because the advantage they had had exhausted. The formation of a system comes from the differences of thinking. It is because thinking is not harmonious that leads to the emergence and existence of a system as a mediator. Although apartheid was notorious, b it also existed. Coetzee also covered another long calamity, the highest rape rates in the world in the masterpieces Disgrace in addition to the low efficiency the maintenance of the national security machinery, that of judicial system, the victims needing to burden double pressure society and family and so on. That made the victim did not dare to fight for their rights and would not get a fair verdict. The long-term colonial rule and apartheid made the growth conditions of South Africa's youth worse , which can lead to heart-distortion and made the increasingly rampant crimes in the society. Moral change and collision of a system resulted in many dilemmas against morality. Two Nobel Prize winners in this paper explained respectively how to solve this dilemma in the form of salvation and redemption.

"whether it is the east sea or west sea, psychology is the same."[5] Although China and South Africa lies in the different parts of the earth, beyond the distance between the radius of the earth, they have their specific historical roots in particular period for they both belong to the third world, Mo Yan's Frog about the family planning policy and Coetzee's Disgrace about the colonial policy .Although the family planning policy in the novel Frog makes the obvious achievement, from the perspective of humanistic care, family planning policy is the disregard constraint the person's reproductive rights and the value of life and brings countless women of childbearing age and their families a mental and physical damage. The aunt as a gynecology and obstetrics doctor delivered thousands of children in her lifetime with the parents' praise and thanks killing thousands of lives of children whose parents violating family planning policy in hatred and disgust .The aunt as a gynecology and obstetrics doctor implemented the family planning policy resolutely. In a sense, she was only used as a tool to carry out the family planning policy and was involved in historical flood maelstrom. Countless families paid prices for unplanned birth. In fact, The aunt herself was the most direct victim and her heart was full of contradictions and pains which touched the depths of the soul. The aunt as a gynecology and obstetrics doctor and as an executor of the family planning policy worked meticulously : "she is too obedient, revolutionary, too loyal and too serious"[6]It is the aunt's tenacity that made her the attack object of family planning policy of the constraint. Although she paid a lot for her work, she still couldn't escape the sin of the world because the aunt was family planning practitioners. The healer of her heart was also difficult to recover due to those illegal accidents of pregnant women and its aborted fetuses and bore the sin baggage. Her late life lived in confession and redemption. The night when she announced retirement "like a prepubescent drum on nocturnal way , aunt said, frog's voices was like cry that night as if thousands of newborn babies were crying. Aunt said she would have loved listening to the infant crying, newborn babies cry was the world's most beautiful music because for a gynecology and obstetrics doctor. But the croaks that night, there was a kind of resentment and a kind of injustice, as if countless injured baby elves had brought an accusation against her."[7]She began to fear frogs that was the source of evil she owned in her lifetime. Her guilty sense of killing the babies of subconscious of was triggered and was caught in the abyss of evil. After that, she began repentance and redemption. She wanted to transform herself so she volunteered to marry the clay sculpture artist, Hao in the village hoping the lives she killed reappeared one by one through his hands of those to give them lives. In the end of Frog, Tadpoles in a letter addressed to the Chinese GuYi wrote: "I had thought, the writing could become a way of redemption, but after the script was completed, the sense of sin in the heart didn't diminish, but become more onerous. This is the same way as the aunt made mud dolls. Every child is unique and irreplaceable. Historical problems exist due to contradictions and take time to reflect on. The answers to these questions need to seek more harmonious way of life not only suitable for China's national conditions but also with humanistic care continuously. The aunt who had the intention of atonement delivered babies again. However, she became an accomplice to grab babies from their mothers. Tadpoles hoped that they could redeem their souls through their own pens, but could only record the pains and sufferings.

The hero of Lu and his daughter Lucie in Coetzee's Disgrace also began the exploration of sin and suffering after experiencing the historical crimes due to the historical roots. By contrast the atonement of Lu and his daughter may be easier, because different from the family planning policy, it is easier to discern right and wrong for colonial system.

In Coetzee's Disgrace Lu reluctantly came to his daughter's farm in the countryside to seek asylum in

order to escape the Disgrace from the school. Lucy was the victim of a failed marriage of Lu and his ex-wife . The parents' divorce made Lucy change his mind to get away from the white society and a person went to run a remote little farm in the countryside personally. Lucy as the offspring of former colonists was mercilessly thrown into the exiles by the reality in the post-apartheid era, when the spiritual prop of colonialism began to change . She longed to be quiet and independent, eager to blend in the land of Africa. However, "history is repeating itself while the repeat looks very gentle. Perhaps history also learns some lessons."[8] Just one day after Lu came to Lucy's farm, Lucy's home was attacked by three black persons. In the post-apartheid when culture and colonial policy disappeared, any language couldn't save Lu and Lucy. Lu worked as a professor of linguistics at university, "he can speak Italian and Spanish. But whether it is Italian or Spanish, neither can save them."[9]When western elegant languages encountered barbaric atrocities, they pale and helpless instantaneously. It was more bitter for Lu that Lucy refused to call the police and insisted that she gave birth to the fetuses caused by being raped, marrying perpetrator to be his concubine . Although Lucy felt disgraced for her choice, but she saw a new hope from her own Disgrace and pain, "It is very embarrassed. But perhaps this is the new starting point. Maybe I should learn to accept things from the starting point ,starting with nothing at all. No way, no weapons, no property, no power and no dignity."[10]The scars which was difficult to be erased were impressed in the people's body and mind in South Africa due to years of colonial policy and apartheid .The black as the direct victims of colonial rule accumulated the enduring memory of hatred in the long history of the oppression. That the black raped the offspring of white colonists is the vent of another racial hatred . Lucy,Lu's daughter became a victim of the colonial rule, and bore the burden of the sin and atonement for colonialism. Lucy's original identity of the independent women was completely lost. Her identity to be reestablished depended on the unborn child given by the black man and her. The unborn child had the black and white blood. Aggression and colony will be conquered and destroyed ultimately by the colonists. Lucy's giving birth to a child symbolizes the mixture between the white and the black, the colonial rulers and the colonized. It also proves that the evil of colonialism not only brought the colonists sufferings but also the colonialists themselves ones. "The final scene of Disgrace paused in the House of Dog Protection. Lu became a guard of dogs from a professor at university working in the House of Dog Protection ,which meant he accepted the punishment of history subconsciously because he was holding the psychology of atonement. Colonial policy and apartheid brought the people in South Africa, what sex, race and skin they were, caused great hardship. The means of the farm event resembled way that of western civilization spread in the colonial time, which showed that the former colonists tried to occupy the third world with political, economic and cultural strength from a deeper level to make them lose the right of voice gradually. After the retreat more than 400 years of colonial policy, the new people in South Africa ,whether they are black or white, were very confused and helpless, but at the same time they were working hard to find an ecological environment of equality, peace and friendly coexistence.

The heroine, aunt in the Frog, devoted herself carrying out the family planning policy, but after the retirement of her old age she lived in a world of self-denial and heart struggle, spending the rest of her lives with the iniquity caused her" historic work ".Lu and Lucy in the Disgrace"also bore the burden of evil,even if they themselves were not involved in colonial crimes. Their embarrassing conditions mainly came from the evil accumulation of the white colonists, making them a scapegoat of the colonial system. The events happening In the Frog and Disgrace both originated from history. Although the experiences were different, the result was similar. Although Frog and Disgrace had their own respective characteristics of writing, but they had a certain universality: every policy retreat needed to have a hard way to go; every practitioners were in confusion, in doubts and in reflection; they all tried to seek an effective solution to human peace and development.

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Investigation on the Teaching Skills of Normal Students in Local Normal University——A Case Study of Zhoukou Normal University

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Abstract: Teaching skills are the professional skills that normal university students must master, however, the current situation of teaching skills of whose is not optimistic. Some normal university students in Zhoukou Normal University are investigated by questionnaires in the paper, and it is found that they are able to recognize the importance of teaching skills, but the teaching skill level of whose is relatively low. And consequently, the corresponding suggestions are given in the paper, which are supposed to provide reference for the cultivation of teaching skills of the students of local higher normal universities.

Keywords: Teaching skills； Local higher normal universities；Normal university students

1. INTRODUCTION

Teaching skills is the basic vocational skills of the teachers, which the normal university students must master before they are teachers. The level of teaching skills not only determines the level of entry of normal university students, but also their future sustainable development in education, and further more, the quality of teachers engaging in basic education. However, nowadays, the development direction is targeted as a comprehensive institution in most of the local higher normal universities, which makes the education profession marginalized. How to strengthen the cultivation of teaching skills of the students in local higher normal universities is an urgent problem to be solved[1,2].

2. Investigation and analysis of teaching skills of normal university students

a. Survey object and method

This research is based on the questionnaire survey of graduates from majoring in physics, mathematics, chemistry and biology in Zhoukou Normal University. The questionnaire includes 14 questions, focusing on three parts, such as the attitude of normal university students to teaching profession and ability, self-evaluation of teaching skills and understanding of the cultivation of teaching skills of the students in local higher normal universities. A total of 120 questionnaires have been distributed, all of which have been collected and are valid.

b. Survey of teaching attitude and teaching skills

As the saying goes, "Attitude decides everything". Attitude plays a very important role in people's learning and life. The teaching attitude and the attitude to teaching skills of normal university students directly both determine their learning effects on teaching skills. The results are shown in Tables 1 and 2.

Table 1 After graduation, Are you willing to work as a teacher

Major	certainty	uncertainty	unwillingness
Physics	44.4%	40.7%	14.9%
Mathematics	37.5%	40.6%	21.9%
Chemistry	56.2%	34.4%	9.4%
Biology	51.7%	41.4%	6.9%
Overall data	47.5%	39.2%	13.3%

It can be seen from Table 1 that less than half of normal university students(47.5%) are willing to engage in the teaching profession after graduation, which makes them can not do their best in learning teaching skills, and have more blindness. Therefore, firstly, the goal should be clear in the training of teaching skills of the normal university students. Secondly, the desire for teaching should be strengthened. Only in this way, will a good leaning attitude and state be developed.

the vast majority of normal students (80%) believe that teaching skills are important to them. Teaching skills is an indispensable part of the training of normal students, which provides a basis for the cultivation of teaching skills.

c. An investigation of the mastery of teaching skills of normal university students

Aiming at the investigation of the mastery of teaching skills of normal university students, seven questions are designed. The results are shown in Tables 3 to 9.

, only a small part of the normal school students (16.7%) think that their teaching level is very good, and the vast majority of normal students think that their teaching level is generally or very poor, it shows

that there is a big problem in the training of normal students' teaching skills. In four majors, biological normal students think that their teaching skills are very good and the average value of the difference is relatively large, it is likely to be caused by the high expectations of their own teaching skills (Biology Normal students believe that teaching skills are very important to the normal students as high as 89.7%, is the highest of the four professional).

the vast majority of students (80%) think that their teaching skills need to be further improved, which is accordance with the only 16.7% students think their teaching skills is very good. It can be seen that the students to evaluate their teaching skills objectively, as a normal school student, they want to improve their teaching skills, and hope to get more training opportunities for improvement in this regard, it also put forward the requirements for the cultivation of teaching skills of normal students in the school.

only 20.8% of the normal students believe that their mastery of the basic theory of education and teaching more skilled, of which the physical majors to master the lowest proportion of skilled (only 3.7%), which requires schools, especially the physics major in education, psychology and curriculum and teaching theory course teaching, to strengthen the basic theory of education and teaching to master the basic level of student education and teaching has improved.

it can be seen that 20.8% of the normal students who can design teaching according to the teaching materials and students' conditions are reasonable. Nearly 80% of the normal students do not know or even can not design the teaching materials according to the teaching materials and students. It shows that teaching design skills of them are generally poor, students should strengthen the teaching design skills training. Among them, the proportion of normal students who can reasonably design the teaching materials according to the teaching materials and students is the highest (37%), which is closely related to the teaching techniques of "Classroom Teaching Skills" and "Theory and Practice of Speaking".

only 20% of the normal students believe that their teaching evaluation skills are well, 80% of normal students believe that their teaching evaluation skills are generally or poor, which requires the "Curriculum and Teaching" In teaching, we should strengthen the teaching and training of teaching evaluation skills, so as to improve the self - evaluation and evaluation ability of a normal school students.

only 9.2% of the normal students believe that their teaching and research skills are well, 90.8% of the normal students believe that their teaching and research skills in general or very poor, showing that the school teaching students in teaching and research skills is more prominent, the school is trained only to teach craftsmen, in order to make the final aster teacher education, we must strengthen the teaching and research skills training. It is possible to develop the teaching and research skills of the normal school students by the creation of "Education and Teaching Research" elective courses to assist the "curriculum and teaching theory" courses.

among the 10 basic skills in the classroom teaching skills, The relative lack of normal school students is the teaching language skills (54.2%), classroom teaching skills (46.7%) and classroom organization skills (41.7%). This also reflects, first, the school for the national enrollment, Mandarin level uneven; Second, the normal knowledge of teachers is not strong, the accuracy of knowledge to explain, it is difficult to guarantee that science; Third, teachers lack confidence in their teaching skills, So that the teaching organization be affected.

d. A Survey of the Importance of School Teachers' Teaching Skills Training

Aiming at the importance degree of the normal school students' teaching skill training, we designed five problems.

only 10.8% of the normal school student think that the school teaching the skills of teachers do not attach importance to education, including physics and chemistry, a lower proportion of normal students. This shows that from the student's point of view the school still pay more attention to the teaching of normal school skills training, which is the school teacher and the school in Henan Province Teachers Education Graduation Teaching Skills Competition has achieved excellent results are consistent. In the four professional, nearly two years of chemistry and physics professional teaching students, the results of the competition is relatively good.

52.5% of the students in the curriculum development of teaching skills training believe that the theory is too much, just on paper, only about 1/4 of the normal students think that the combination of theory and practice is reasonable. This requires schools to adjust the curriculum in the emphasis on the theory of education and teaching at the same time to give students more opportunities for teaching and learning practice to improve the actual teaching experience of students.

50.9% of the normal school students believe that the school's teaching facilities in the teaching of good hardware, but only 26.7% think that the hardware facilities in the teaching skills training play a significant role. It can be seen, the school's hardware facilities to meet the basic teaching students skills training, but in the management and teaching skills training for teachers need to be improved.

only 37.5% of the normal students believe that teaching practice to enhance the teaching skills have a great help, and most normal students that the role is not obvious. It can be seen that the teaching practice has not been able to reach the teaching goal of teaching students' sublimation. The time and mode of the teaching practice need to be further reformed so that the students can have more gains during the

teaching practice.

only 1/3 of the teachers think that the teacher's lectures and guidance of their teaching skills to enhance the role of great, two-thirds of normal students that the role of general or not. This shows that, first, as teachers in normal colleges and universities, teaching skills need to be improved. Second, teachers should change the traditional teaching methods, so that students are fully involved in teaching, and students become teachers assistant, and students take the initiative to learn theoretical knowledge, while improving their teaching skills.

e. Survey results

(1) The attitude of normal students

Most normal students believe that teaching skills are important, but the desire of normal students engaged in teaching profession is not strong enough, there are some students do not want to become a teacher. If the normal students can not have a clear understanding of their future career and learning objectives, students will not be able to improve their teaching skills.

(2) The Mastery of Teaching Skills for the Normal students

Normal teaching design skills, teaching evaluation skills to master the general situation, teaching and research skills are relatively poor. Classroom teaching skills to master the situation is generally better, but the teaching language skills, classroom teaching skills and classroom skills is more lacking.

(3) The current situation of the training of normal school teaching skills

The school attaches great importance to the cultivation of teaching skills of normal students, but it is not reasonable for the training of students' teaching skills, too many theoretical courses and insufficient practice links. The school's hardware facilities meet the basic requirements, but there are problems in the management and use, which failed to train normal school teaching skills play its due role. In addition, the teaching practice of teaching students to enhance the role of teachers is not obvious, the teacher's teaching and guidance on the training of teaching students the role of limited.

3. Suggestions on the training of normal students' teaching skills in Local Normal Colleges

a. Correct normal students' attitude towards teachers' occupation

The basic quality of teachers including teachers occupation emotion, but it can be found through the questionnaire survey, students love the degree of teacher occupation is not enough, from the desire is not strong, it will affect the students' teaching skills of interest and enthusiasm. Therefore, the school can set up some ideological education class lectures or elective courses, allowing students to education and teachers' occupation have a more profound understanding, so as to increase the teachers' occupation identity and sense of contentment, let normal students fully feel the important value and significance of teacher's career[3].

In addition, teachers' teaching process is an effective way to correct the attitude of students. Show the teachers in teaching the occupation accomplishment, rigorous attitude and teachers' personal charm in life can also increase the students' acceptance of teachers' occupation sense and a sense of respect, understanding and attitude errors before fundamentally change the normal form. The students correct attitude to take seriously the professional course, lay a solid foundation of discipline, and pay attention to their own teaching skills to enhance the ability of a qualified teacher should have professional knowledge and a solid foundation, but also have a solid education and teaching skills[4].

b. Reform of traditional classroom teaching methods

Teachers' teaching activities have not played a proper role in the improvement of teachers' teaching skills. On the one hand, it is the students' own problems. On the other hand, there are also some problems in teaching. As a teacher, the teaching level and professional quality of the students have a great guiding role in the cultivation of students' teaching skills. This requires teachers to have a high level of teaching skills, the college should also expand the strength of teachers, there is a good team of teachers to the students to carry out teaching skills guidance. In addition, the new curriculum reform has been around the primary and secondary education in the development and implementation. University classroom should also change the traditional teaching methods, the implementation of the new curriculum reform ideas and principles. Organization students to explore their own learning, and teachers to establish a good interactive relationship, the formation of a good learning atmosphere.

c. Optimizing the curriculum of Teacher Education

First of all, the school practice curriculum and the theoretical curriculum is not balanced, the practice course is somewhat lacking. This makes the student's ability to strain and solve practical problems of lack of ability. Therefore, the school can be appropriate to increase the curriculum practical courses, to give students more practice opportunities. For example, increase the opportunity to educate students, organize students to participate in the summer education practice, so that students apply the theoretical knowledge learned in the classroom to teaching practice.

Secondly, in the curriculum, should put the theory of education hours increase, especially the advanced education and teaching philosophy, in addition to offering education and psychology courses, educational theory can be extended to the education of primary and middle school students' psychology, learning psychology, instructional design, learning theory, basic education curriculum standards, and comprehensively improve the level of theory normal students, give play to the role of theory in the

scientific guidance of skills [5].The theoretical teaching and practical courses combine to form a whole, to achieve the effect of complement each other.

Finally, as a service teacher, students should have a certain educational research skills[6]. According to the present situation of students' teaching skills research level is not high, the school can add elective course of <Education and teaching research>, let the students in each semester or every month to write some learning comprehension and summarize innovation. This is their future implementation of the new curriculum reform in the teaching process, is of great help to improve their teaching ability.

d. Give full play to the role of school hardware facilities

The various skills are mainly through the students' learning and long-term practice training, students' classroom teaching skills should be diversified, it should be through different ways, in the form of a comprehensive. Nowadays, the form of microteaching training is used as the hardware facilities of the school, but its effective utilization rate is very low. Because the classroom for each student practice time is too short, effective training time for each skill is not enough. So, the school classroom can be open by appointment. If students want to use their spare time training of teaching skills, they can make an appointment in advance, so that the students will have more opportunities for microteaching training, which can increase the confidence of students on the podium.

In addition to the individual training of Microteaching teaching skills, but also pay attention to the comprehensive teaching skills training. we can arrange for students to complete classroom teaching practice, emphasize the self-evaluation of students to master teaching skills, and help students in teaching skills, continuous improvement and development, and to improve the students' comprehensive teaching skills, to form a more perfect system to consolidate the teaching skills[7]. For microteaching training can encourage students in extracurricular organization teaching competition and micro class competition, the competition form can also be varied, such as every Monday practice, dormitory comparison against girls and boys. The teacher can also provide students with the demonstration class, mark more students learn advanced teaching experience.

e. The time and mode of the reform of educational practice

Education practice is an important part of the teaching content for teacher education, and it is also an important means to improve the teaching skills of the normal students. Because the education practice time is short, the time section arrangement is not reasonable, the practice base management is not in place and so on, all of which influence the practice effect. Suggesting that the school should be the education internship period from seventh to sixth semester ahead of time, to avoid conflict with the review of the postgraduate entrance examination. Hence students could be able to devote more energy to improve their education and teaching ability during the internship.

In the current education practice mode, a large part of the students choose to spread the internship, and many students can also choose their own internship schools and teachers. But this practice will make the students lack management and guidance of the school teachers, because it cannot guarantee the quality of education practice interns lack consciousness. So in practice, the school should let students participate in teaching practice of teachers training and practice, and let the students really get experience in practice. The school may establish cooperative relations with the surrounding schools, make a lot of communication and bring the integrated development of teachers education teaching ability training and the surrounding schools, which can effectively improve the teaching level of teachers education, to achieve "teaching practice of normal school students, replacement teacher training" teaching and training mode of win-win. Practice base should strengthen the management of interns, teachers should encourage students to class, so dare to let go, more guidance, so that students could bold practice.

4. CONCLUSIONS

This paper investigated four professional normal college graduates in Zhoukou Normal University, including physics, mathematics, chemistry, biology, through the questionnaire survey form and found that the desire to teach of students is not strong enough, teaching skill level is not high, so There are still some problems in the cultivation of teaching skills of normal school students. In order to solve these problems, We put forward some suggestions in the following aspects, including correcting students' teaching attitude, reforming traditional classroom teaching methods, optimizing the curriculum of teachers' education, giving full play to the function of school hardware facilities and reforming education practice mode. So as to help teachers and students to do well Pre - service preparation.

5. ACKNOWLEDGMENTS

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The Analysis and Countermeasures about the Influence of Carbon Tariffs on China's Export Trade

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Abstract: “The Clean Energy Act” passed by the United States in 2009 makes a clear plan that from 2020 , it will formally Charge the developing countries which belong to“ Kyoto Protocol” contracting states ,including China with carbon tariffs in Energy-intensive products. China , as America's largest source ofimports, such tariffs set has big influence on China's export industry. based on the external theory and Partial equilibrium theory, this paper proves the impact America has on the carbon tariffs of China exports, and puts forward feasible measures for China's export industry to cope with carbon tariffs.

Keywords: Carbon tariffs; China's exports; Carbon tariffs estimates; Analysis of the impact on carbon tariffs on China's export trade ;Analysis of the influence

1. INTRODUCTION

After United Nations issued “ united nation climate change convention” in 1992,the originally noble concept" environmental protection "was packaged by governments or organizations into a variety of political and economic tools and applied to various fields for interests. Especially in the” clean energy act”, issued by the United States in 2009 , which makes a clear plan to start Charge the developing countries which belong to“ Kyoto Protocol” contracting states ,including China with carbon tariffs in Energy-intensive products. China , as America's largest source of imports, such tariffs set has big influence on China's export industry.

Carrying out the analysis of the impact that American impose carbon tariffs on Chinese exports, not only can find measures to weaken its bad effect on China's export industry ,guarantee the health of China's economy and strengthen China's status as a world trading power, but also provide a new method to solve the internal conflict between environmental protection and economic development.

China's export trade

1.1 China's exports to the US

Since 2007,China has been America’s biggest importer for the first industrial products ,China's exports to the United States increased from $287.773 billion in 2007to $440.434 billion in 2013, up to nearly 35%.Although financial crisis in 2008 caused certain negative effects on China's exports to the US, China's exports quickly rose from $296.402 billion in 2009 to $364.944 billion in 2010 . Not only increased $68.542 billion han in 2009, but increased $43.501 billion than in 2007.From 2010 to 2010, China's total exports to America increased to $440.434 billion, up to 17%,as shown in figure 1

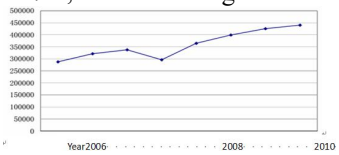

Figure 1 China exports to the United States in 2006-2012

1.2 Product Types

From 2006 to 2006, the goods America imports from China are divided into 10 categories, these products are mechanical and electrical products, pastic rubber products, furniture,toysproducts, Miscellaneous Products, chemical products, leather goods and bags, textiles and raw materials, transportation equipment, base metals and products, optical, watches and clocks and medical equipment and shoes, umbrella and other light industrial products.

2. THE THEORETICAL BASIS THAT AMERICA IMPOSES CARBON TARIFFS ON CHINA

2.1 The External Effect Principle.

From the perspective of the United States, the cause of imposing carbon tariff on China originates from the external effect principle. External effect points to the influences an economic activity causes to the non-party, the third party. when there is an external effect existing in an economic activity, economic activity entities will not bear all the costs or take possession of all benefits.

Due to China's backward technique in energy saving and emission reduction, it results in high carbon emission, which is much higher than the carbon emission America require when producing the same goods, so the products China exports to the United States will cause negative external effects in America market. To compensate for the negative external effect , The United States impose carbon tariffs on Chinese exports, which can be seen through partial equilibrium theory

2.2 The influence carbon tariffs has on partial equilibrium.

(1)Partial equilibrium before America’s imposing carbon tariffs on China.

Suppose there are only two countries, China is the exporter ,the United States is the importer, China only produces a single product and exports only this kind of product to the United States, the United States also only imports this kind of product from China, and there is only this kind of product in the world. As shown in figure 3. Before the world free trade, the supply curve of importing countries is SU , the demand curve is DU.A is the cross point, its corresponding pricep1is the equilibrium output before free trade. The supply curve of exporting countries is SC, the demand curve is DC.B is the cross point, its corresponding pricep1 is the equilibrium price before free trade, its equilibrium outputq1 is the equilibrium output before free trade. After free trading, the declining price is equal as shown in figure 2p2,,America's exportq3-q2 is equal to china's export q2,-q3,.

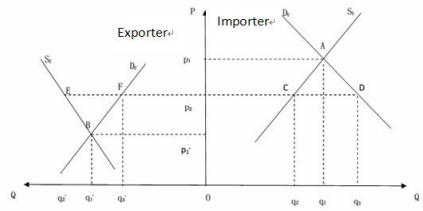

Figure 2 The partial equilibrium before the United States imposes carbon tariffs on China

(2)The partial equilibrium after the United States imposes carbon tariffs on China

The same as the figure 2,before the United States imposes carbon tariffs on China,p2 is the equilibrium price, America's exportq3-q2 is equal to china's export q2,-q3. Suppose that the United States imposes only carbon tariffs on China, then the price of this product in America will increase, that is p3,in figure 3, at the same time, china's export demand will decrease, the price of this product in China will decrease, that is p3 in, figure 3. As shown in figure 2 and figure 3, carbon tariffs on China has negative effect on the output of China's export commodity as well as its price.

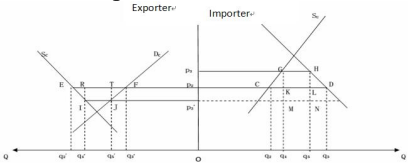

Figure3 The partial equilibrium after the United States imposes carbon tariffs on China

3. CHINA'S RESPONSE TO THE CARBON TARIFF IMPOSED BY AMERICA

3.1 China imposes carbon tariffs on other countries

The most important industrial commodity mechanical Chinese exports to the United States is the electrical goods. China imports fewer such goods from the third world countries ,and the raw materials of this commodity is provided by China, the surplus production is rather serious, including transport. If the producers of these goods do nothing about America, then its sales will be hit in the international market. Therefore, China's carbon tariff measures will be a powerful measure to fight against the negative impact American carbon tariff has on China.

3.2China imposes carbon tax on domestic enterprises

A domestic carbon tax can effectively cope with foreign countries which impose carbon tariff on China's export commodities. As mentioned in the last section , products such as optical, watches and clocks and medical equipment and shoes, umbrella and other light industrial products can be imposed in domestic enterprises so as to avoid a second carbon tariffs charged by foreign countries.

3.3 To establish a perfect carbon trading market

Combined with the domestic carbon tax measures, establishing a perfect carbon trading market can effectively cut the losses caused by carbon tariffs imposed by foreign countries. Because of China's domestic carbon tax collection, the enterprise's carbon emissions have fallen, at the same time, these enterprises can turn over the remaining emissions to enterprises which need more emissions through carbon trading market, which is one of the causes of the formation of carbon trading market.

4. CONCLUSIONS

By analyzing China's export and countries which China exports to, this paper chooses U.S as a research to analyze the impact of carbon tariffs on China's foreign trade. The author firstly uses two basic theories, the external effect principle and partial equilibrium effect to show the harmful effects of carbon tariffs on China's export trade. At the same time, according to China's Ministry of Commerce, China's exports data from third world countries shows that if China pays the carbon tariffs , at the same time imposes carbon tariffs on other countries, such a way is helpful to some certain industries, but for those whose raw materials are invested by domestic industry, it is not enough to take this approach, to completely solve this problem ,the Chinese govern ment should also impose carbon tariffs on Chinese enterprises at the same time establish and improve the carbon trading market.

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