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# On Importance of the Teaching Quality Management of Clinicians as Part-time Teachers in Medical Schools

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**Abstract:** Medical schools shoulder the responsibility of cultivating medical talents. Any medical specialty in a medical college is based on the combination of theory and practice. In the traditional teaching classes of medical schools, ordinary teachers lack practical experience, so many medical schools employ clinicians as part-time teachers. However, clinicians are mainly good at curing the sickness and saving the patients. It is difficult to avoid some inadequacies in teaching experience and skills. Therefore, it is particularly important to explore the quality management of clinicians as part time teachers in medical schools. Thus, the purpose of this paper is to discuss the importance of the teaching quality management of clinicians as part-time teachers in medical schools.

**Key words:** clinician; part-time teachers in medical schools; teaching quality management; importance

Medical education has always been a long way to go, and has cultivated a large number of high-tech medical talents for various medical institutions in the society. All kinds of medical students in medical schools should pay attention to the practice ability in addition to their solid foundation knowledge and high moral quality. Clinicians in the hospital have a wealth of practical experience. It is not uncommon for clinicians to serve as part-time teachers in medical schools. However, due to the lack of teaching techniques and attitudes toward teaching, there are many shortcomings in clinical medicine. The discussion of teaching quality management of clinicians as part-time teachers in medical schools is of great value. The importance of the teaching quality management of clinicians as part-time teachers in medical schools in this paper is discussed from four aspects, namely the role transformation of clinicians as part-time teachers in medical schools, the teaching ability and skills, the responsibility and attitude, the integrity and continuity. The content is presented as follows.

## 1. THE CONVERSION OF TEACHING ROLE

Teachers in many medical schools may come from the backbone clinicians of better hospitals. Their main work is to cure the sickness and save the patients. They know the rules and regulations of the

hospital well, but they are not very familiar with the educational rules and educational purposes in medical schools. The role of clinician in direct conversion to part-time teachers will inevitably lead to problems such as lack of teaching quality and effectiveness. Therefore, the Department of Educational Administration in medical schools should carry out some training related to the teaching ideas, teaching aims and skills for clinicians before their going on duty, which can be completed through the lectures on the theory of education, the exchange of students' reports, the academic report meeting of the exchange of educational experience, and the audit classes. It will enable them to speed up their familiarity with the educational ideas and rules of the college, make them clear the responsibilities of the teachers in medical schools, strengthen the sense of responsibility and honor of the teachers, and establish the correct teaching ideas. Besides, it will also enable them to learn to make full use of modern teaching resources to impart their own medical knowledge and accumulated practical clinical experience to students to stimulate students' learning motivation and curiosity, and to further tap students' potential and cultivate students' practical ability.

## 2. TEACHING ABILITY AND SKILLS

As we all know, in the eyes of many people, clinicians are doctors like Hua Tuo, who has profound medical skills to return to earth. They are admired by worshipping and saving lives. Clinicians have superb rescue skills, wisdom, skilled operation skills, rich clinical experience in the hospital operation room. The operation room is a place for doctors to be confident and proud, but the clinicians' rich clinical experience and skill may not be able to teach the books well. The responsibility of teachers is to teach and educate people. Having ideas, fluency, the ability to express language, the ability to mobilize the classroom, the organizational ability of the classroom, the guidance of the mind, the guidance of life are demands for teachers. Teachers are required to be fully familiar with the teaching textbooks and to generalize, sum up and sum up the knowledge. When imparting knowledge, clinicians should learn to present the simple, unintelligible, key knowledge in the textbook, which is easy for students to learn,

memorize and understand through language, blackboard, and PPT. And these abilities are not born to be formed. These abilities are obtained from the training of the teaching ability and skills of the clinicians by the Department of Educational Administration and constantly modify the teaching of clinicians so as to avoid the confusion and incomprehension of the students' knowledge.

### 3. TEACHING RESPONSIBILITY AND ATTITUDE

With the advancement of medical standards and the increasing demands of doctors for new medical reforms, the pressure on doctors themselves is relatively large. Clinicians often serve as the attending physicians in the emergency room. When they encounter patients who need first aid, they must apply to the school for suspension and adjustment, so that they cannot prepare lessons in time. The clinicians have many daily tasks which are very heavy so that they are unable to do what one wants very much to do. They can't fully devote themselves to teaching when they teach. There are also many part-time teachers who focus on the work in the hospital. They hold the idea that whether doing well or not is not a particularly important attitude as a part-time teacher which in turn affects the quality of teaching. Therefore, it is especially important for the Department of Educational Administration to strengthen the sense of responsibility for teachers and to establish a correct teaching attitude.

### 4. TEACHING INTEGRITY AND COHERENCE

Because of the lack of orientation in clinical medicine teaching, there are many contents and wide range of teaching. It is possible that this class will have your internal medicine and the next class will be surgical, and the knowledge will be scattered. And every big chapter may have several different clinicians to teach, and the different clinicians have their own personal teaching characteristics and teaching methods. Students can not adapt to different teaching methods of different teachers in a short time, so that the effect of teaching and the progress of students' learning are affected. It also leads to teaching integrity and coherence. When students find difficult points in class, they can not find part-time teachers to answer them in time. It is critical for the Department of Educational Administration to standardize their teaching management to make their teaching aim to pursue continuity and integrity instead of being confused.

### CONCLUSION

As a part-time teacher in medical colleges and universities, clinicians enhancing their sense of responsibility and strengthening their job training is a guarantee of good teaching quality. There are still many problems in the process of working as part-time

teachers in part-time medical schools. It is related to the imperfect learning system and other factors, such as the unfamiliarity with the teaching idea, the lack of understanding of the content of the teachers, the lack of correct and clear teaching responsibility and attitude, the lack of teaching ability and the changeable teaching content. However, in medical schools, clinicians' rich clinical experience and profound knowledge have an important influence on the life learning of medical students and the widening of their eyes. As the frequency of the clinicians employed by the medical schools as a part-time teacher in the college is getting higher and higher, the medical schools are also pursuing the higher teaching quality and level of the teaching of part-time teachers. There are also many studies on the importance of teaching quality management of clinicians as part-time teachers in medical schools, which fully illustrates that the teaching quality management can not be underestimated by the part-time teachers of clinicians. To strengthen the work guidance, management and training of the part-time teachers of clinicians, is responsible for medical students. And it aims also to improve the working level and quality of the part-time teachers of clinicians.

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# Analysis of Australian English Lexis with Language Contact Theory

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**Abstract:** Australian English is increasingly recognized as an independent language or a variety due to its unique pronunciation, rich vocabulary and innovative lexical creations. It is worthwhile to what changes have happened to Australian English vocabulary, why these changes happened, and what are the origins of Australian English lexis. In order to understand those languages and varieties' effects on vocabulary in an organized way, the study is going to use language contact theory and exemplify lexis of Australian English in the light of transplanting, borrowing.

**Keywords:** Australian English; Lexis; Transplanting; Borrowing

## 1. INTRODUCTION

Although has been developed for only two-hundred years, Australian English is increasingly recognized as an independent language or a variety due to its unique pronunciation, rich vocabulary and innovative lexical creations. Undoubtedly, its origin is closely connected with the language spoken by her colonizer — Britain, but British English has to undergone changes with the purpose of accommodating itself to totally new natural and sociocultural environment when it was brought to a distant continent. Those linguistic changes virtually account for the peculiarity of Australian English, also arouse a discussion concerning its origin. Some people claimed that Australian English is an outcome that occurs after two languages bumped together (British English and Aboriginal language); others thought it is a diversified language that embraces numerous changes, and these innovations are fully embodied by its lexis. This explains why Australia has its own dictionary instead of using British English or American English that has been compiled for a long time. In order to explore questions as to lexis, such as what changes have happened to Australian English vocabulary, why these changes happened, and what are the origins of Australian English lexis, a case study on the lexis of Australian English with language contact theory will be conducted.

## 2. LANGUAGE CONTACT THEORY

According to the term, language contact refers to the interaction between two or more languages or varieties. In most cases, it occurs because of social or geographical proximity. For Thomason (2011), language contact can be defined in a very simple way: the use of more than one language in the one place at the same time, and this contact may leave effects on

at least one language involved. Since one language may explicitly or implicitly impacts the other one, it is not easy to determine the extent to which the language was influenced; many researchers have made efforts to study the outcomes of language contact. Thomason and Kaufman (1988) introduced that there are three different kinds of results after interlanguage interactions, which encompassing contact-induced language change, extreme language mixture and language death. As for contact-induced change, transplanting, borrowing are most possible linguistic forms that one language influences the other. In the case of Australian English, British English, Aboriginal languages, and immigrant languages all leave marks on it, especially on its vocabulary. In order to understand those languages and varieties' effects on vocabulary in an organized way, the study is going to exemplify lexis of Australian English in the light of transplanting, borrowing.

## 3. ANALYSIS OF AUSTRALIAN ENGLISH LEXIS

### 3.1 Transplanting

With the first fleet arriving in the continent, prisoners from Great Britain turned over a new page of Australian English history. Due to geographical disparity, those prisoners struggled for absorbing Australia native languages while attempted to use their original language to describe this new but fascinating country. Vocabulary used by them went through changes as its language carrier, the environment, was extremely different. These following lexical changes are most likely to reflect the characteristics of this "transplanted native English".

Firstly, some original words are abandoned and replaced. Australia is a country rich in natural resources, plant and animal variety. New comers found their existing vocabulary was far from enough to describe everything around, so they had to give up many original words and used new words. For example, some words like "meadow", "woods", "dale", "stream" and "thicket" were replaced by some new words such as "creek", "bushwhacker", "swag", "damper", etc.

Secondly, the meanings of original words are expanded. During the period of adapting to new surroundings, prisoners always attempted to reinvest words with new meaning or expand meaning of original words. For example, "oak", "broom" and "cedar" are words that not only are their original

meanings retained in Australian English, but also can be used to refer to local species of tree and grove in general. A good case for the expansion of meaning is the word “bush”, “bush” only refers to shrub in British English, while its original meaning is extended in Australian English, which can refer to forest and virgin land. Apart from this, “wattle” is another example. Its original meaning is similar to “lath” that is used to build fence or roof in the countryside of Britain. In Australia, “wattle” now refers to a kind of acacia with golden flowers, and Australia is named as “The Land of Wattle” because the beautiful golden flower was chosen as the national flower. In addition, “tucker” originally only refers to accessories that women used in 17th and 18th centuries, but its meaning is expanded to include food; “barber” in British English refers to the person who works in the hair salon as a hairdresser while in Australian English, it can be used as a verb to describe an act that is slipping away secretly from the house.

What is more, new comers in Australia tended to directly and indirectly transplant plant words of British English to name some local plants that largely resemble those in Europe. For instance, since eucalypt and ash tree are very much alike, they mistakenly assumed these two plants were the same and directly transplanted “ash tree” to name eucalypt. But as mentioned before, Australia was a country where animal and plant resources are abundant, which makes it difficult for comers to directly transplant original words or to create enough new words to describe these creatures that they have never seen before in a short time. Hence, indirect transplantation was a sensible and effective choice for them. In order to name unfamiliar things and differentiated them from creatures in Europe, new Australian inhabitants added words like “native”, “bush” as prefix to original ones, such as “native bee”, “native bluebell”, etc.

The above changes may reflect that transplanting lexis of British English partly accounts for the origin of Australian English vocabulary. However, Australian English is a diversified language (variety) that has incorporated many components in different ways other than transplanting. Borrowing is another form showing other languages and varieties’ influences on lexis of Australian English.

### 3.2 Borrowing

Lexical borrowing refers to the introduction of some words into one language from another or other languages or varieties by language contact. Since a language is closely attached to its culture, the early Australian found their vocabulary was insufficient for describing what they saw when they were exposed to an unfamiliar environment and culture. Fortunately, the early comers borrowed many words from aboriginal languages. Later, the arrival of immigrants from Asian countries like China also had a great

impact on Australian English lexis.

When early settlers lived in Australia, it was both necessary and convenient for them to directly borrow some words that came from aboriginal languages to depict valleys, mountains, local creatures as well as other geographical features with local characteristics. To be specific, aboriginal languages mainly affected vocabulary of Australian English in three aspects. At first, a great number of geographic names in Australia originate in aboriginal languages, which accounts for one third of the total with the number of 4800. Some examples are as follows. “Elanora” means a camp located on the coast in aboriginal languages; “Adelong” refers to a place where a river goes through it.

Apart from aboriginal languages’ influence on name of places, its effect on animal and plant names was also marked. Due to the abundance of words used in their spoken language, indigenous people’s languages have provided existing language materials for foreign colonizers. For those creatures they have never seen in their motherland, early inhabitants could borrow words directly to fill in the language gaps. Words such as “barramudi”, “currawong”, “platypus”, “Kangaroo”, “joey”, “koala”, “bralga”, “barramundi” and “mado” were words borrowed from aboriginal languages for the purpose of naming local animals and fish. Among loanwords mentioned above, “Kangaroo” is the representative one with an interesting story behind its origin. In 1770, Captain James Cook and Joseph Banks collected many Aboriginal words from the local Guugu Yimidhirr people (a indigenous tribe in Australia), they noticed that a large black or grey animal they have not seen before was named by natives as “Kangaroo or Kanguru”. But it is evident now there were approximately 300,000 Aborigines in Australia when the First Fleet arrived in 1788, they were divided into roughly 600 tribal groups, therefore, there were at least 600 dialects and different words naming the same animal (Moore, 2004). Cook and Banks mistakenly thought that kangaroo is the general term for all kinds of kangaroos and is used by all Australian locals, leading to “kangaroo” is the only word referring to kangaroo in British English dictionary.

Immigrant language was also crucial source of borrowing words. Although immigrants had more chances in seeking many opportunities for personal and family advancements in Australia for its abundant natural and cultural resources, they had to struggle against hostile environments and bear discrimination concurrently. With arduous work, they succeeded in preserving their language as well as culture in order to show ground solidarity and leave marks on mainstream language. These marks could be greatly reflected by many loanwords. For example, a large number of words in Australian English borrowed from Cantonese after the immigration



Chinese Australians. "wok" refers to the iron pan usually used by the Chinese; "dim-sim" refers to the fried dessert and it is a homophone of "snack" in Cantonese; "pakapu" refers to the raffle ticket used by the Chinese who came from Guang dong province in 19th century.

After the First World War, other immigrant languages including German, Italian and French deeply influenced diet vocabulary of Australian English. "Delicatessen" originated in German, and delicatessens in Australia have become so popular that many ham and beef shops were replaced by it. What's more, lexis of foods derived from Italian and French are really in large number, such as "salami", "espresso", "lasagne", "spaghetti bol", "smallgoods", "broccoli" and "zucchini". "Croissant" and "petit four" refer to two kinds of tasty refreshments and these two words also derived from French.

In general, aboriginal languages, immigrant languages are major sources of borrowed lexis in Australian English. The extent to which source plays a more prominent role in influencing Australian English vocabulary is largely dependent on periods of time.

#### 4. CONCLUSION AND DISCUSSION

The study exemplified Australian English lexis with language contact theory. From the examples given before, we may conclude that transplantation from

British English, borrowing from aboriginal languages, immigrant languages; American English as well as self-coinage are features of Australian English lexis. These features do reflect the influence of language and culture contact. Meanwhile, based on the study of vocabulary, we may find Australian English is a diversified language with distinctive local characteristics rather than just a transplanted or borrowed language. Future research can be done to explore this peculiar language from syntactical, semantic and phonological perspectives, by doing these, the distinctiveness of language is unveiled.

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# Application of CSE in English Teaching and Learning in Sino-foreign Cooperation Programs

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**Abstract:** The China's Standards of English (CSE) provides a unified standard for language assessment. The essay expounds the main content and core concept of CSE. Based on the practice, it analyzes the important role of CSE in Sino-foreign cooperation programs from the promotion of teaching, learning and assessment.

**Key words:** English teaching and learning; CSE; Assessment

At present, there are multiple language proficiency scales in the world, the most famous of which is the Common European Framework of Reference for Languages, "CEFR"). "CEFR" provides a common foundation for language syllabus, course guides, exams, textbooks, etc. throughout Europe. The language proficiency scale can not only provide a unified standard for language assessment, but also provide a reference for language learning and teaching.

In 2014, the State Council issued the "Implementation Opinions on Deepening the Reform of the Examination Recruitment System" (Guo Fa (2014) No. 35) and proposed to strengthen the construction of a foreign language proficiency assessment system. For the first time, a clear requirement was put forward on the comprehensive reform of foreign language examinations from the national level. The Examination Department of the Ministry of Education takes the lead in this work, bringing together experts from home and abroad and conducting a large number of empirical investigations. It has developed and completed the China's Standards of English (CSE) for more than three years. The English learner's first English language proficiency assessment standard are formally

implemented on June 1, 2018. However, the application of CSE in Sino-foreign cooperative education is very rare. The purpose of this paper is to explore how CSE can promote English education in China's undergraduate-level from teaching, learning, and assessment.

## 1. INTRODUCTION OF CSE

### 1.1 The content of CSE

CSE is the first English language assessment standard for English learners in China. It is based on pedagogy, psychology, linguistics, and other related discipline theories. It draws on foreign standards of language competence, based on the actual situation of English learners in China, dividing learners' English ability from low to high into 3 stages, 9 levels. Among them, the first two levels roughly correspond to the elementary school level, the 3rd level correspond to junior high schools, the 4th level correspond to high schools, the 5th and 6th levels correspond to universities, the 7th level correspond to English majors, and the 8th and 9th levels correspond to foreign language talents (see the figure below). Each level has different requirements in listening, speaking, reading and writing, translation, and strategies. The scale has a total of 86 capacity tables, including a list of language ability, 8 main points of skills, 8 self-assessments, and 69 specific skills. The compendium includes a summary list of language proficiency, as well as a summary of skills in terms of listening comprehension, reading comprehension, verbal communication, written communication, organizational competence, pragmatic competence, interpreting and translation skills.

Level 1 & 2	Elementary schools
Level 3	Junior high schools
Level 4	High schools
Level 5 & 6	Universities
Level 7	English majors
Level 8 & 9	Top foreign language talents

Figure: the division of English learners' ability

### 1.2 Main features of CSE

CSE provides "one size" for all kinds of English assessments. Wang Shouren, professor of Nanjing University and director of the Foreign Language Teaching committee of the Ministry of Education's

College of Foreign Languages, stated that formulating the China English Proficiency Scale will provide a scientific capability indicator system and an accurate capability scale for all kinds of foreign language exams, making exam design more

comprehensive. The system makes the test results comparable and provides a basis for the mutual recognition of different learning outcomes, promotes the coordinated development of English teaching, learning, and assessment. Meanwhile, CSE turns the focus of English assessment from "test" to "competence". For a long time, English education in China has been conducted around various types of examinations. A large number of repeated memory and title tactics have led to a series of phenomena such as "high scores and low competence". CSE is ability-oriented and emphasizes on the practical use of language. A "can-do" description is used to focus on the role of language in communication and guide language learners to apply what they have learned.

### 1.3 Mutual recognition of CSE and foreign examination systems

After the scale is established as an English assessment standard, the Ministry of Education Examination Center begin to develop an English proficiency test, which will lay the foundation for reducing the number of repeated examinations and improving the systemicity of the examination. At present, they mainly consider the strategy of cultivating high-quality talents and developing examinations for the higher education stage with more social needs. In 2016, the development team has completed the development of the examination syllabus for two key breakthrough levels (Grade 5 and 6).

Most of the undergraduate programs in China's Sino-foreign cooperative education are taught in English as a second language. The language requirements of foreign partner universities are basically based on TOEFL and IELTS. The completion of the scale not only provides a guiding basis for the construction of teaching materials, curriculum, and teaching reform, but also provides the possibility for the recognition of the English language of the cooperative students in the future. The corresponding relationship is revealed between the scale and the major foreign examination evaluation system. The evaluation of the validity of the examination syllabus developed according to the scale will provide the possibility to identify the English level of the cooperative education.

#### 1. ENGLISH TEACHING IN SINO-FOREIGN COOPERATION PROGRAMS

When Xi Jinping presided over the 19th meeting of the Central Committee for Comprehensively Deepening the Reform, he reviewed and approved the "Several Opinions on Doing a Good Job in the Opening up of Education in the New Era". This is the first comprehensive guide to the opening up of China's education since the founding of New China. The programmatic policy of development emphasizes that education opening to the outside world is an important part of China's reform and opening up. In the past 40 years of reform and opening up, with the

deepening of higher education reform, the international cooperation and exchange of education has developed rapidly, and the opening up of education has initially formed an all-round, multi-level and wide-area structure. With the development of China's talent internationalization and education internationalization, the State Council promulgated the "Regulations of the People's Republic of China on Chinese-Foreign Cooperation in Running Schools" in 2003. As an important form of international cooperation and exchange in education, Sino-foreign cooperative education has played a positive role in promoting the reform of China's school-running system, broadening the channels for training talents, and promoting the opening up of education.

The goal of Sino-foreign cooperative education is to cultivate applied talents with international vision and intercultural communication skills. Students must meet the IELTS or TOEFL score requirements during the training period to be eligible to apply for cooperative study abroad. The improvement of English proficiency is a basic requirement for achieving this goal. However, as far as the English teaching in the current cooperation in running schools is concerned, there is a lack of scientificity in the English curriculum. There are no rules for teaching. The students' English foundation is weak and uneven. The motivation and confidence in learning English is insufficient. The learning style is old and single. The way of integration with international standards is not high. Therefore, establishing an international evaluation system and constructing a multimodal English education, learning and evaluation will become a booster for Chinese-foreign cooperative English teaching.

#### 2. APPLICATION OF CSE IN SCALES IN SINO-FOREIGN COOPERATION PROGRAMS

##### 2.1 Teaching

The description of the scale is based on language activities and is for practical use, so our teaching content should also be reflected in specific language activities. In terms of English proficiency requirements, the English language courses for co-education not only have the test objectives of the College English Test, but pressure of the IELTS (or TOEFL) exams. The latter directly determines whether the student can go to the foreign university for further study. For the curriculum setting, the completion of the scale has made the curriculum and the selection of teaching materials have a unified ruler, and there will be no more multiple settings and scattered teaching materials. For the teaching method, the teaching reform is carried out around the teaching goal, and the scale establishes the English level of 5 & 6, which students in the university stage need to achieve.

##### 2.2 Learning

The development of Chinese English learners in

many sub-skills such as listening, speaking, reading and writing is unbalanced. For a long time, there has been a dysentery with more focus on reading and writing than listening and speaking, and the ability of college students to speak and listen is relatively weak (Cai Jigang, 2011). Learners at different levels have different goals and abilities. Students of the undergraduate Sino-foreign cooperative education program must not only have strong language skills such as listening, speaking, reading, writing and translating, but also need to cultivate cultural awareness and speculative thinking, otherwise they will not be able to adapt to foreign life and professional learning activities. The development of the scale is based on a learner-centered learning philosophy that encourages learners to plan their own learning pathways, take responsibility for learning, and change passive learning into active learning. In particular, it is essential to encourage cooperative learning and speculative thinking among learners and to stimulate the inner motivation of learners to learn. For English learners, the scale provides learners with a self-evaluation standard. .

### 2.3 Assessment

The process assessment focuses on the student's learning process, and the process is regarded as the key point, which will also include a comprehensive evaluation of students' learning ability, emotions, attitudes and strategies. The scale can help the teacher to judge or diagnose the level of the student at the level, and then formulate the corresponding teaching content according to the student's goal and adopt the appropriate teaching method. The construction of the scale, the development of the examination syllabus according to the scale, and on this basis, the design of the effective examination module, actively promote the examination content and form reform, improve the examination quality standards, and create the possibility of different English exam docking and mutual recognition among countries, thereby increasing the international recognition of the scale. For the Sino-foreign cooperative education at the undergraduate level, in view of the fact that the foreign general evaluation system is quite different from the domestic college English test. If the validity of the scale can be recognized internationally, it will promote the reform of English teaching in cooperation, which is conducive to the connotation

construction and sustainable development of cooperative education.

### 3. ONCLUDING REMARKS

Minister Chen Baosheng of the Ministry of Education stated in his work report at the 2017 National Education Work Conference that it is necessary to build the opening up of education in the new era around quality improvement and efficiency, and work hard to build high-level demonstration of Sino-foreign cooperative education institutions and projects. We will give full play to the radiation effect of Sino-foreign cooperation in running schools and deepen the role of promoting education and teaching reform in China. In order to achieve this goal, cooperative schools and projects must make good use of the results of teaching reforms and update teaching concepts in a timely manner. And use the English ability level of the teaching reform results to promote English teaching, learning and evaluation, the development of undergraduate level Sino-foreign cooperation in running schools, to make contributions to building a higher education power.

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# Exploration of the Ways to Implement the Professional Development of Novice Teachers in Local Universities under Diversified Background

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**Abstract:** Under the background of social diversification, the professional development of novice teachers in local universities has greatly affected the overall level of local higher education and the quality of personnel training. This paper mainly expounds the connotation of novice teacher professional development, analyzes the current situation of novice teacher professional development in local universities under the background of diversification, and puts forward the corresponding path to realize the novice teacher professional development.

**Keywords:** diversified background; local universities; novice teachers; path

## 1. The novice teacher professional development concept

It is becoming increasingly difficult to ignore the novice teacher professional development, not only in theory, but in practice. However, in many cases, grasping and using this concept is still widespread, vague and lenient. The primary focus of novice teachers' professional development lies in the professional development of teachers, which is a process of deepening sustainable development. It is a process of continuous improvement and updating of teachers' professional structure and professional skills. The professional development of novice teachers is to explore continuous learning and thinking, through teachers to accept new knowledge and ideas, expanding professional content, improve professional standards, so as to achieve the professional maturity of the field. It includes all aspects of a novice teacher's career and professionalism that enhances its professionalism and effectiveness. Novice teacher professional development is to find a career problem and solve the problem, it is novice teacher self-development and self-promotion process.

We can grasp the connotation of novice teachers' career development from the following three angles. First, the professional development of novice teachers is not passive, but a conscious process. Novice teachers need to develop their career development concepts and develop lifelong learning

habits through proactive initiatives, so as to achieve sustainable career development. Second, the professional development of novice teachers is not only a linear accumulation of knowledge and skills, but also the overall development of individual teachers. It is the development process of novice teachers' professional knowledge, professional level, professional quality and professional emotion. Finally, the novice teacher's professional development is the process of long-term sustainable development. Throughout his career, teachers through continuous learning to ensure that all aspects of professional knowledge, professional standards, professional qualities, professional feelings can be constantly updated.

## 2. The Present Situation of the Professional Development of New Teachers in Local universities under the Background of Diversification

Rather than highly skilled technicians, teachers should be independent and critical educators. The novice teacher professional development is not only an objective and material form, but a subjective and implicit expression of the teacher. Therefore, teachers' self-development and reform and innovation awareness are the foundation and inner motivation for teachers' professional and sustainable development. However, the professional development of novice teachers in universities in many localities lacks a deep understanding and understanding of the goals, without a strong sense of professional development and professional development planning, thus greatly reducing the desire and motivation of subjective initiative and lifelong learning, often in a passive blind Teaching and research status. This is an important internal factor that affects the career development of novice teachers in local universities and an important reason for limiting the overall level of higher education.

### 2.1 Absence of professional development environment for novice teachers in Local Universities

Most novice teachers have to undertake teaching tasks and seldom have the opportunity to experience the exchange and study with peer teachers. As a result, in a situation of loneliness, confusion and anxiety

Under, leading to job burnout. This greatly affected their enthusiasm for their career development and investment, but also affected the further development of school power. Most novice teachers in local universities not only face heavy pressure of work, but also face the optimization of professional development environment. Local novice teachers have limited opportunities for career development and room for improvement. Some local universities lack of attention to the good atmosphere and organizational culture of novice teachers' professional development, no contribution to the professional development system of novice teachers, a harmonious environment for career development and hindered the professional development of novice teachers.

2.2 Lack of diversity, systematicness and consistency of novice teacher training system in local universities  
All the studies reviewed so far, however, suffer from the fact that the system of teacher training in universities in China has played an important role in the development of college education and the career development of teachers. However, with the rapid expansion of local universities, the original teacher training system can not meet the needs of novice teachers in professional development. First, the form of training is relatively simple and lacks diversity. With education and educational psychology training as the main content, there is no interdisciplinary course, which is not commensurate with the professional development of novice teachers and ignores individual differences. The theoretical teaching can not keep up with the times, teaching skills, teaching methods and teaching practices Little guidance and training. Second, the training is limited to pre-service education and training, but it is not integrated with vocational education. It neglects the professional development of novice teachers, provides follow-up support, lacks continuity and systematicness.

2.3 The lack of scientific and broad teacher evaluation system

The basic purpose of college teacher assessment is to help teachers find their own shortcomings and lay the foundation for their own career development so as to improve the overall quality of higher education. However, in most local universities, the assessment result of teachers has become an important basis for year-end assessment, job evaluation and promotion with great limitations. On the other hand, due to the easy quantification of scientific research and the high operational efficiency of evaluation, the assessment and evaluation system of universities in many places focuses on scientific research achievements, which are important evaluation indicators. This has directly led to the heavy task of teaching and research for most novice teachers, which often leads to weaknesses in assessments. As a result, they struggle to cope with the assessment while ignoring the

development of their own knowledge and skills.

3. Exploring the path of the professional development of new teachers in local universities under the background of diversity

3.1 Establish an independent sense of professional development and lifelong learning concept

Teacher professional development is an autonomous process and continuous innovation process. If novice teachers in local universities lack the awareness of independent professional development, it will be difficult to maximize the potential of individual occupations, which will hamper their professional development. Therefore, the passive development concept, novice teachers in local universities must really grasp the profound connotation of professional development, give full play to their own initiative, and systematically and scientifically establish the concept of independent development, which is the fundamental premise and condition for professional development. One of the mission for teachers is to develop advanced knowledge in this area, educate students, while teachers also meet the diverse needs of teaching objects, training innovative talents. This requires that most novice teachers in local universities establish the concept of lifelong learning and the habit of lifelong learning. By constantly learning to ensure the updating of knowledge and knowledge structure and realizing their professional development, the successful completion of the teaching mission is to promote the teaching of local novice college teachers. Effective ways of development and internal motivation.

3.2 Optimize the novice teachers professional development of the ecological environment

The professional development of novice teachers in local universities is a long process of development, not just the issue of personal development but an important issue related to the quality and standard of universities and the overall higher education in China. Therefore, by a large extent, Only the system can achieve and regulate. For local governments, it is necessary to make clear the professional development awareness of novice teachers and speed up the novice teachers 'construction of the system of modern novice teachers' career development from a macro perspective and ensure them fundamentally. At the micro level, local universities should pay more attention to the professional development of open cooperation teachers, create a platform for novice teachers 'career development and teachers' interactive cooperation, create a harmonious and relaxed environment, guide the professional development for them, and strive to solve their long-term Existing problems and difficulties, enhance professional identity and enthusiasm, improve career development.

3.3 To establish a flexible and diverse novice teacher professional development mechanism

Local universities for novice teachers professional

development, should establish and improve the Multi mechanism for them in the development stage and the specific content of clear development goals provide a strong guarantee to establish a novice teacher training in different mechanisms. Local universities should, based on the individual characteristics and actual needs of novice teachers, highlight the humanistic care environment and meet the different needs of individualized training mechanisms, so as to help novice teachers form teaching styles that are in line with their own characteristics. At the same time, we should extend the training period, keep pace with the times, enrich the contents and forms of training, set up flexible training courses and strengthen school training such as teaching conditions, teaching skills and teaching methods according to the weaknesses in school development and the characteristics of students and novice teachers. And other aspects of training, so as to enhance the adaptability of their work to promote their professional development. Teacher professional development is a dynamic process that covers different levels of the organization and will be influenced by content, processes and the environment. The ultimate goal of teacher career development is to ensure and improve the quality and level of teaching. Therefore, teacher occupation development assessment should be included, teachers' motivation and organizational support should be enhanced, and new knowledge and

skills should be applied to promote students' learning. Local universities should combine their own actual conditions, people-oriented, scientific teacher evaluation system developed, taking full account of the actual situation of teachers, rather than one-sided emphasis on research evaluation criteria. We should give full consideration to the problem of novice teachers in the process of dynamic development and quantitative criteria for time so they recognize their shortcomings in a dynamic, comprehensive and objective evaluation, to strengthen and improve practice and development.

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# Thoughts on how to strengthen the construction of young teachers in Higher Vocational Colleges

—Taking Jiangsu vocational College of Medicine as an example

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**Abstract:** in the new development period of Higher Vocational Education from extension to connotation promotion, improving the quality of talent training is the lifeline of the survival and development of higher vocational colleges, and the construction of teachers is the main grip. Young teachers are the main force of teaching staff in vocational colleges, and mechanism innovation is the key to the construction of this team. Taking the construction of young teachers in Jiangsu Medical Vocational College as an example, this paper explores the system and mechanism innovation of the construction of young teachers. From the interior of higher vocational colleges, the establishment of the growth planning mechanism, the stage training plan mechanism, the achievement need incentive mechanism, the adjustment and exit mechanism are the important content of the innovation of the construction mechanism of the young teachers in the high vocational college. From the macro policy point of view, the government and the management departments should overcome the bottleneck of the system, adjust and innovate the system in the connection of the school running system, the industry admittance system, the standard of professional title evaluation and the flow of the part-time teachers in the school and enterprise, so as to provide the policy and system guarantee for the higher vocational college to improve the quality of the school. Create a good macro environment.

**Keywords:** higher vocational colleges, young teachers' team building, institutional mechanism innovation, practice and reflection

In the national and Jiangsu provincial long-term reform and development program outline, the construction of university teachers put forward clear goals and requirements. In the process of the development of Higher Vocational education, higher vocational colleges have generally attached importance to the construction of teachers, and have achieved practical results. However, higher vocational colleges generally experienced a rapid expansion of the scale of the stage, a large number of recruiting young teachers is a common practice in the former stage of Higher Vocational colleges. Young teachers have become the main force of the school, so seize the construction of young teachers, also seize the fundamental quality of school. However, from a macroscopic point of view, the construction of young

teachers still has the problem of system disorder; from a microscopic point of view, the school's own mechanism innovation is still an important issue. Taking Jiangsu Medical Vocational College as an example, starting from practice, we should innovate the mechanism from the following four aspects in the construction of young teachers.

1, establish the planning mechanism of young teachers' growth. In terms of the composition of young teachers, vocational colleges can be divided into three types: professional teachers, professional basic teachers and public teachers. The three types of teachers are divided into three teachers' groups, which are arranged in a ladder like distribution: the bottom is the teacher group of the teachers of the culture class, and the middle level is composed of professional basic class teachers, which are composed of different professional groups in different groups of teachers, and the top is a number of professional teachers. Corresponding different professional (professional orientation) teacher group matrix. From the vertical aspect, a number of courses are composed of professional courses, professional basic courses and public course teachers. Teachers of public courses serve various majors, teachers of professional basic courses serve corresponding professional groups, and teachers of professional courses serve their own majors. Based on the different roles of different types of teachers in the professional construction and teaching process, the mechanism of teachers' team building should also be different. In accordance with the classification of different types of teachers, higher vocational colleges should establish a planning mechanism for the growth of young teachers, make clear the direction of the development of different teachers, and train them in a planned way in order to reduce the blindness of the training. For example, professional teachers should select excellent talents to train them as professional leaders, and plan and train early. Jiangsu Medical Vocational College has established such a growth mechanism, selecting promising teachers to send to domestic and foreign universities for professional training. Through years of training, young teachers' efforts have been directed, and their growth accords with the law of development.

2, establish the training plan mechanism of young



teachers. The training of young teachers should be carried out in stages and according to plan, which is proved to be effective by practice. In the training of young teachers in Jiangsu vocational College of Medicine, it is classified as "role transformation", "excellent young teacher" and "young backbone teacher" in three different stages. Different training plans are carried out in each stage, and the results are remarkable in practice. The first stage is the role transformation phase. The training plan implemented at this stage mainly completes the transformation of roles from university graduates to teachers. Let them understand and master the basic qualities and skills of being teachers, and gradually complete the role transformation from students to teachers through lectures, lessons, lectures, lectures, and experimental teaching. This stage is usually about a year or so. The second stage is to implement the training plan for young teachers. Through 3 years of training, they have become excellent young teachers. This stage allows young teachers to set their own goals and tasks, master the skills of theoretical teaching, experiment and teaching in this major, and have certain ability of teaching and research to make it an excellent young teacher. The third stage is to train young backbone teachers. After 3 years of training, they become the backbone of teaching and scientific research, and the outstanding elements of them continue to be cultivated and become the target of professional leaders, until they become qualified professional leaders. The first and second stages are popularized to every young teacher. The school provides financial support and implements the tutorial system, with professors and associate professors as tutors.

3, the establishment of young teachers' achievement needs incentive mechanism. The theory of achievement need is a famous theory put forward by David McClelland, the most famous modern psychologist in the United States. McClelland put forward three famous theories of human needs through his in-depth study of human needs and motivations. Achievement needs are one of the most famous theories. McClelland believes that people with high achievements have a strong sense of ambition, enterprising, and certain risks; they desire to do

things more perfectly, improve their work efficiency, gain greater success, and pursue the joy of overcoming difficulties, solving problems, working hard in the process of winning success, and after success. Personal sense of achievement. McClelland's theory provides an important inspiration for the establishment of incentive mechanism in the training of young teachers in higher vocational colleges. According to the theory of psychology, the trait type of man and man is different, and McClelland divides it into three types: the need of achievement, the need of power and the need of affinity. In the training of young teachers, according to the characteristics of different types of human characteristics, starting from the theory of achievement needs, we should establish the incentive mechanism of young teachers' achievement needs. In the implementation of different stages of the training program, the young teachers who have achieved significant achievements in time give spiritual and material incentives to develop a detailed incentive system and organize implementation, promote the young teachers to be positive and ensure the actual effect of the training program. Jiangsu Medical Vocational College is trying to set up such an incentive mechanism to match the above-mentioned growth mechanism and training plan mechanism, hoping to achieve practical results.

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# Meteorological characteristics of SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub> pollutant concentrations in Beijing

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**Abstract:** In this study, the average values of SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub> concentrations from 2008 to 2010 in Beijing were selected, and their monthly variation characteristics and trends were analyzed. The results show that the pollution is more serious during the heating period, and the PM<sub>10</sub> environmental air pollution is heavier. The correlation between the concentration changes of three pollutants and conventional meteorological elements are analyzed.

**Key words:** SO<sub>2</sub>; NO<sub>2</sub>; PM<sub>10</sub>; Monthly variation feature

## 1. INTRODUCTION

In recent years, with the development of production and the increase of population density, the urban air pollution is becoming more and more serious. As one of the major cities in China with rapid development of national economy and increasing industrial production scale, Beijing has a resident population of 21.705 million. The air quality is closely related to the living health of residents. Therefore, the research on the concentration of pollutants in the atmosphere has theoretical and practical significance.

SO<sub>2</sub> in the atmosphere will be oxidized into sulfuric acid mist or sulfate aerosol, which is the precursor of environmental acidification. SO<sub>2</sub> has synergistic effect with soot in the atmosphere. When the concentration of SO<sub>2</sub> in the atmosphere is 0.21 PPM, and the concentration of dust is greater than 0.3 mg L<sup>-1</sup>, the incidence of respiratory diseases will increase, and the condition of patients with chronic diseases will rapidly deteriorate [1-3]. NO<sub>2</sub> is the main precondition of photochemical reaction, which can not only cause acid rain, but also is one of the main factors affecting atmospheric visibility. It is harmful to acidification of surface water and eutrophication of soil. Nowadays, the pollution of inhalable particulate has become the most main factors of air pollution in various regions. According to the data released by the Ministry of Environmental Protection of People's Republic of China, from 2008 to 2012, the number of days in which the primary pollutant (PM<sub>10</sub>) in Beijing was the primary pollutant accounted for over 95% of non-grade I days, and PM<sub>10</sub> has been the main air pollutant in Beijing [4-5]. The variation of concentration of these three main pollutants are not only related to human influence factors, but also related to natural factors.

In this study, the daily average temperature and wind

function and other meteorological elements were analyzed to find the influence of various meteorological factors on the pollutant concentration. The average of 24-hour observation data of various stations in Beijing is taken as the overall situation of pollutant concentration, ignoring its spatial distribution and migration patterns.

## 2. DATA PROCESSING

The 24h average of pollutant concentration in Beijing from 2008 to 2010 was selected as the daily pollutant concentration value for the study, and selects the first half of the month from 1 to 15 days, and the second half of the month from 16 to the end of the month. The meteorological elements such as air temperature and relative humidity in the hourly observation data of Beijing ground meteorological station provided by China Meteorological Data Network to analyzed the correlation with the concentration of pollutants.

## 3. RESULT AND ANALYSIS

### 3.1 Temporal variation characteristics of pollutant concentration

According to the Environmental Quality Air Standard, the 24-hour average primary concentration limit of SO<sub>2</sub> in the atmosphere is limited to 50 μm m<sup>-3</sup> and the secondary concentration limit is 100 μm m<sup>-3</sup>. As shown in Figure 1, the SO<sub>2</sub> concentration in the atmosphere exceeded the first-level concentration limit standard from November to March, but did not exceed the second-level concentration limit standard. The atmospheric concentration of SO<sub>2</sub> were within the standard safety range. In 2008, the concentration of SO<sub>2</sub> in the atmosphere exceeded the first-level concentration standard for a long time, and the concentration value was large. It is obvious that the concentration of SO<sub>2</sub> in the atmosphere has a tendency of reducing to long-term safety in general level. The 24-hour average primary concentration limit for NO<sub>2</sub> in the atmosphere is 80 μm m<sup>-3</sup>. The concentration of NO<sub>2</sub> in the atmosphere is always within the range of the first-level concentration limit. The concentration of NO<sub>2</sub> was relatively high from November to March in each year. The 24-hour average first-level concentration limit for PM<sub>10</sub> in the atmosphere is 50 μg m<sup>-3</sup> and the second-level concentration limit is 150 μg m<sup>-3</sup>. As shown in, the concentration of PM<sub>10</sub> in the atmosphere always exceeds the first-level concentration limit and even exceeds the second-level in some special months.

Within the three years, the concentration of PM<sub>10</sub> in the atmosphere is always at a higher concentration

level, and the maximum occurred in winter.

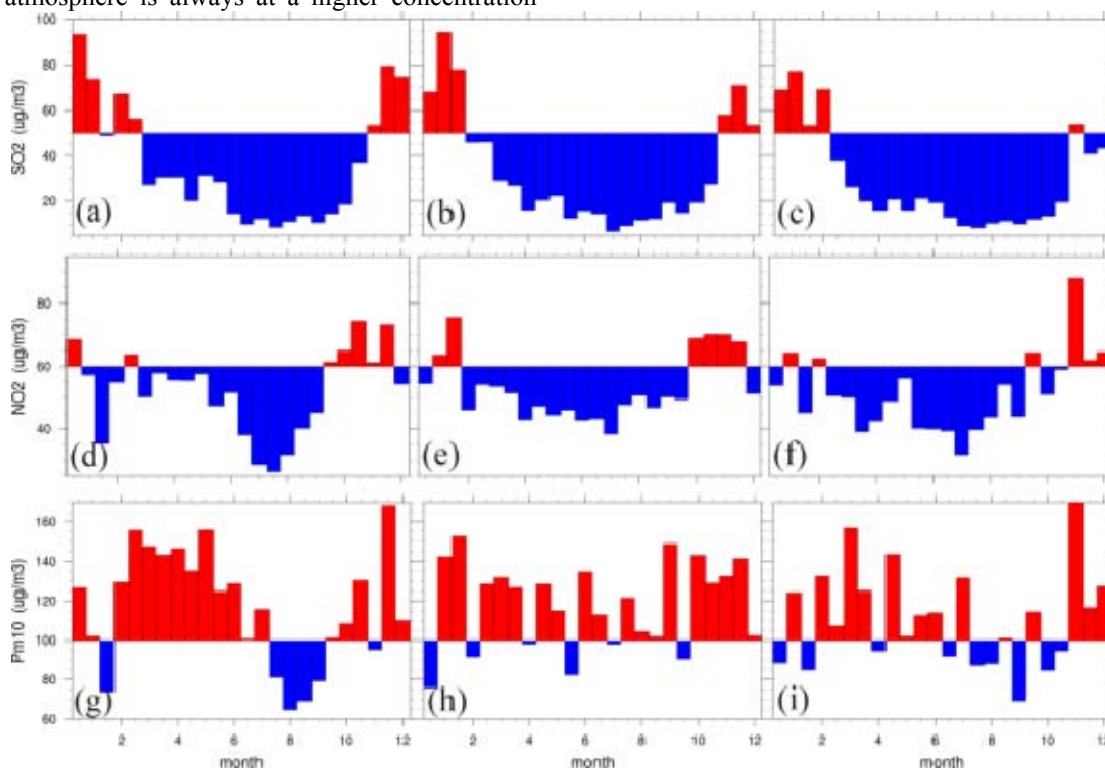


Figure 1. Monthly changes in pollution concentrations of (a)-(c) SO<sub>2</sub>, (d)-(f) NO<sub>2</sub> and (g)-(i) PM<sub>10</sub>, in Beijing from 2008 to 2010. The left for 2008, the middle for 2009 and the right for 2010.

3.2 Correlation between pollutant concentration and meteorological elements

According to the table 1, for the SO<sub>2</sub>, the relative humidity and wind speed have a good correlation with its concentration but poor correlation with the temperature. From November to January, the relative humidity, wind speed and temperature had a greater impact on the concentration of pollutants in the atmosphere, but a smaller impact from February to October. Pollutant concentration is positively correlated with air temperature and relative humidity, and negatively correlated with air pressure and wind speed. This would be that, for most of the time, the concentration of SO<sub>2</sub> decreases with increasing humidity and increases with increasing wind speed. For NO<sub>2</sub> in atmosphere, relative humidity and wind speed have a good correlation with its concentration and a poor correlation with the temperature. And between November to February of the following year,

these meteorological elements had a greater impact on the concentration of pollutants in the atmosphere, and a small impact from march to October. Pollutant concentration is positively correlated with air temperature and relative humidity, but negatively correlated with air pressure and wind speed.

For PM<sub>10</sub> in atmosphere, relative humidity and wind speed have a good correlation with their concentration and a poor correlation with the temperature. From November to January of the following year, the meteorological elements had a great impact on the concentration of pollutants in the atmosphere, and a small impact from February to October. Pollutant concentration is positively correlated with air temperature and relative humidity, but negatively correlated with air pressure and wind speed. Compared with SO<sub>2</sub> and NO<sub>2</sub>, the wind speed is less correlated with them, but the concentration still decreases with the increasing of wind speed.

Table 1. The correlation coefficient of pollutant (SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub>) and meteorological elements (temperature, pressure, relative humidity and wind speed) in Beijing in period of 2008 to 2010.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	0.219	0.199	0.063	0.474	0.305	0.152	0.184	-0.014	0.144	0.073	-0.116	0.291
SO <sub>2</sub> Pressure (hPa)	-0.370	-0.304	-0.308	-0.337	-0.380	-0.251	0.116	0.178	-0.064	-0.205	-0.291	-0.418
Relative humidity (%)	0.657	0.386	0.253	0.248	0.160	-0.026	-0.197	0.013	0.151	0.433	0.406	0.634
Wind speed	-0.632	-0.493	-0.471	-0.303	-0.219	-0.029	0.236	0.091	-0.088	-0.347	-0.502	-0.674

		(m s <sup>-1</sup> )											
NO <sub>2</sub>	Temperature (°C)	0.257	0.437	0.241	0.502	0.088	0.027	-0.056	-0.023	0.145	0.257	0.232	0.532
	Pressure (hPa)	-0.355	-0.593	-0.432	-0.284	0.016	-0.137	-0.151	0.048	-0.062	-0.300	-0.578	-0.693
	Relative humidity (%)	0.680	0.575	0.423	0.373	0.211	0.110	-0.004	0.081	0.277	0.662	0.677	0.691
	Wind speed (m s <sup>-1</sup> )	-0.699	-0.511	-0.624	-0.553	-0.401	-0.258	-0.209	-0.194	-0.378	0.629	-0.657	-0.723
PM <sub>10</sub>	Temperature (°C)	0.268	0.469	0.335	0.432	0.270	0.215	0.329	0.293	0.218	0.234	0.235	0.495
	Pressure (hPa)	-0.477	-0.530	-0.419	-0.480	-0.461	-0.082	-0.094	-0.049	-0.146	-0.401	-0.630	-0.661
	Relative humidity (%)	0.646	0.307	0.194	0.290	-0.185	0.195	0.161	0.310	0.292	0.608	0.612	0.670
	Wind speed (m s <sup>-1</sup> )	-0.404	-0.176	-0.252	-0.262	-0.183	-0.130	-0.033	-0.127	-0.186	-0.524	-0.430	-0.428

#### 4. CONCLUSION AND DISCUSSION

The main air pollution in Beijing area is PM<sub>10</sub> and the pollution is lasting for a long time. Beijing is located in the northern region, in winter, coal-fired heating or electric heating will be adopted, when the pollution source increases, the concentration of pollutants in the atmosphere will increase significantly. Pollutant concentration is low in the summer, on the one hand it may be easy to pollutant diffusion because of the long time of sunshine with strong radiation, the intense convection in the vertical direction, and the short formation time of the inversion layer. And the precipitation in the Beijing is relatively abundant in summer, precipitation can be part of the pollutants settlement to the ground, thereby reducing pollutant concentrations in the atmosphere.

The variation of atmospheric concentrations of three pollutants studied in this paper is closely related to meteorological elements. The concentration of SO<sub>2</sub> decreases with the increase of relative humidity. The reason may be that when the relative humidity is high, the occurrence rate of wet precipitates is relatively high, which is easy to dissolve and adsorb SO<sub>2</sub>, resulting in the deposition of SO<sub>2</sub> in the atmosphere. The concentration decreases as the wind speed increases, possibly because the large wind speed is easy to dilute the deposition of SO<sub>2</sub> in the atmosphere. The concentration of NO<sub>2</sub> decreases with the increase of relative humidity because it is easy to dissolve and form acids, thus reducing the concentration of NO<sub>2</sub> in the atmosphere. It is also easy to dilute NO<sub>2</sub> in the atmosphere when the wind speed increases. PM<sub>10</sub> concentration decreases with the increase of humidity, mainly because water vapor in the atmosphere can combine with particulate matter so as to settle the ground and reduce the concentration of particulate matter in the atmosphere. And SO<sub>2</sub> and NO<sub>2</sub>

concentration change with wind speed significantly in the spring, the concentration of PM<sub>10</sub> smaller along with the change of wind speed, the reason is probably that the sandstorm is the main reason for the increase in PM<sub>10</sub> concentration in the spring, and its dust mainly comes from outside the region, under the condition of large wind speed may be accelerated the growth of PM<sub>10</sub> concentration, but, in general, the larger the wind speed is easy to promote the particulate matter in the atmosphere with dilute diffusion, reduce its concentration.

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# Research on the Information Teaching Mode of Undergraduate Accounting Education of Chinese Universities In the “Internet +” Age

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**Abstract.** In the "Internet +" age, the development of information technology has had a huge impact on the accounting industry, which puts higher demands on the professional competence of accounting practitioners. Based on the current situation of university accounting professional information teaching mode, this paper points out the teaching reform and innovation strategy of university accounting major in the age of "Internet +", in order to further promote the development of accounting teaching theory in colleges and universities in China.

**Keywords:** Internet +, Undergraduate accounting education, Flipped classroom.

## 1. TRODUCTION

With the development of information technology, the Internet is gradually changing and influencing the development of the industry with its convenient and efficient characteristics. The emergence of the "Internet +" age has brought about a new stage of deep integration of modern information technology and social development. The wide application of modern information technology in the industry has triggered changes in the accounting work environment and methods, which requires accountants to have a higher overall quality level. Therefore, universities use "Internet +" to carry out teaching activities, accelerate the reform of university accounting majors, and cultivate professional and compound senior accounting professionals in the "Internet +" age to meet the needs of society.

## 2.e STATUS QUO OF ACCOUNTING INFORMATION TEACHING MODE IN CHINA

### 2.1 Insufficient accounting informationization curriculum

Accounting majors can't adapt to the needs of informationization. Although more and more university educators have realized the impact of "Internet +" on accounting education, the degree of attention is still insufficient. Mainly reflected in the incomplete accounting accounting information curriculum, only through the simple establishment of the network platform and the opening of online courses, did not integrate the concept of accounting education with the "Internet +" thinking, and did not use mobile Internet technology to promote accounting teaching reform. At the same time, the content of the course is too old, the content of the

textbook and the content of the course cannot be updated and supplemented in time. Many new ideas such as emerging financial instruments cannot be imparted to students in time, and some backward professional content still exists in the course. These factors have led to that the ability of students trained in schools is seriously lagging behind social development and cannot meet social needs.

### 2.2 Accounting teacher role transition is slow

In the "Internet +" age, the traditional teaching mode can no longer meet the needs of students. Some teachers rely on blackboard and PPT courseware for financial concept interpretation and case analysis, resulting in students losing interest in classroom learning. The accounting education in the age of "Internet +" puts forward new requirements for teachers. Teachers should not only be proficient in accounting theory and practical knowledge, but also be proficient in software operations, computer science, information management, network science, etc. . However, for some teachers, especially middle-aged and older teachers, the use of information-based teaching software is a challenge. They are not skilled in using software, and the teacher-centered teaching model is deeply rooted, which makes them more difficult to adapt emerging teaching software quickly. In addition, the ever-changing business model innovation in the mobile Internet age has had a profound impact on financial accounting. The entity organization of the traditional accounting theory hypothesis has emerged as a form of economic organization such as virtual enterprise and network company in the age of "Internet +", which has changed the original accounting basic theory. This requires the accounting teachers to actively guide the teaching process. In the era of "Internet +", accounting teachers are transformed from knowledge transferers in the physical classroom to guides and service providers for student learning. The transformation of roles requires teachers to have a broader vision and ability.

### 2.3 Accounting information practice base lags behind in information construction

The "Internet +" age has increasingly demanded the practical skills of accounting students. However, colleges and universities are generally restricted by environmental and financial factors, and it is difficult to establish a university accounting training base.

Most qualified colleges and universities can only build accounting simulation laboratories, and the actual business environment between such laboratories and enterprises is quite different. It is impossible to set the experimental project content according to the actual needs of accounting posts, and lacks the informationization conditions for efficient simulation. In addition, many companies are reluctant to provide information-based training bases for colleges and universities, and universities lack a good partner, which leads to accounting information practice base lags behind in information construction.

### 3.3.3 ACHING REFORM AND INNOVATION STRATEGY OF ACCOUNTING MAJORS IN UNIVERSITIES

#### 3.1 Improve curriculum and teaching construction

In the curriculum design, the new education model needs to adopt the mechanism of integration of the physical curriculum and the online curriculum. Of course, if conditions permit, you can also boldly try the teaching mechanism based on the network curriculum and the entity curriculum. Universities should cooperate with enterprises to develop a teaching platform that is fully functional and in line with teaching thinking. Create and introduce a high-quality cloud service platform to give full play to the platform's teaching and auxiliary functions. Efforts to build information-based teaching resources with high reuse rate. On the one hand, we will continue to strengthen the division of labor among team members, realize the creation and sharing of information resources among teams, and record high-quality teaching videos and interactive activities through division of labor to enable cooperation in teaching resources development. On the other hand, schools can give more support to the informatization teaching curriculum, provide more curriculum construction funds, and provide a strong guarantee for the creation of excellent teaching resources.

#### 3.2 Enhancing the ability of teachers to adapt to informational teaching

For the accounting education in the "Internet +" age, colleges and universities need to strengthen the organizational construction of the accountant team, and accounting teachers should have higher overall quality and team cultivation. The new age requires teachers to have teachers in different disciplines such as accounting, computer science, network science, information science, and education management. Teachers in the team can discuss and communicate in a timely manner, and strive to achieve the organic integration of "Internet + accounting education". For teachers who are not familiar with the new software, they will conduct basic learning training, and invite industry experts to enter the school for guidance and training, so as to expand the scope and intensity of training. Teachers should actively guide students to change their learning styles, cultivate students' interest in learning, and enable students to actively

carry out active learning. In addition, the in-depth analysis and understanding of the "Internet +" impact on accounting theory, the challenges of the accounting industry and accounting education model, the teaching philosophy, teaching content, teaching methods and other aspects of improvement and innovation.

#### 3.3 Increase the information construction of accounting professional practice base

First of all, colleges and universities need to increase their investment in practical teaching equipment. According to the actual situation of corporate accounting positions, the corresponding accounting simulation laboratory is constructed, and post-based teaching is implemented. The teaching content includes accounting responsibilities, business operation methods and skills, so that students can familiarize themselves with the professional requirements of professional positions as early as possible. In addition, in the "Internet +" age, the functions of accounting software have gradually changed from accounting to management direction, software functions have become more complicated, and teaching content has become rich. Therefore, universities should further improve the breadth and depth of cross-level professional practice simulation. Colleges and universities should strengthen the information construction of accounting professional practice bases, establish good cooperative relations with enterprises and institutions, and give play to their own advantages to form a stable practice base for off-campus accounting professionals.

### 4. CONCLUSION

Under the background of "Internet +", informatization has occupied an important position in the process of accounting majors in colleges and universities. It is the development trend of the teaching reform of accounting majors in colleges and universities. The informatization teaching mode breaks through the inherent limitations of the traditional teaching mode in learning time and space, which increases the effective interaction between teachers and students, and is undoubtedly a scientific teaching method. As an accounting professional education worker, it is necessary to actively participate in this innovative teaching practice, to better integrate informationization and education, solve existing problems in education, improve daily teaching activities, improve teaching quality, and thus cultivate more high-quality accounting talents that meet the needs of society.

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# A Brief Study on the Impact of Artificial Intelligence on Future Education

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**Abstract:** The development of artificial intelligence technology has provided technical support for the advancement of educational technology. With the continuous expansion and deepening of artificial intelligence in the field of education, the future development direction of education has received much attention. Through the generalizing and analysis of the impact of artificial intelligence on future education, this paper believes that the development of artificial intelligence technology will have an impact on the goals and contents of future education. We need to cultivate more innovative and compound talents to adapt and promote development of the era of artificial intelligence. Artificial intelligence also promotes the advancement and transformation of educational technology and promotes the upgrading of the future education system.

**Keywords:** Artificial Intelligence; Future Education; Relationship between Education and Technology

## 1. INTRODUCTION

Artificial intelligence is a new technical science that studies and develops theories, methods, techniques, and application systems for simulating and extending human intelligence. At present, a new round of technological revolution and industrial transformation is emerging. The development of artificial intelligence have been driven into a new stage by the formation of big data, the innovation of theoretical algorithms, the improvement of calculate ability and the evolution of network facilities. intelligence has become an important direction for technology and industrial development, and artificial intelligence will also bring revolution to the development of education. Under the new industrial development situation, the future employment environment will undergo tremendous changes, and the market's demand for labor capacity will also be rapidly reformed. In the process of realizing the strategic goal of the new generation of artificial intelligence development planning, it is of great significance to cultivate high-end talents of artificial intelligence and accelerate the promotion of future education by using intelligent technology. The speech recognition, image recognition, semantic recognition, big data, adaptive, machine learning and deep learning involved in artificial intelligence have a natural fit with the application needs of the education field. The transformation of talent demand and the support of artificial intelligence technology have made

education continue to move toward information and intelligence.

## 2. NEW REQUIREMENTS OF ARTIFICIAL INTELLIGENCE FOR FUTURE EDUCATION

### 2.1 The Impact of Artificial Intelligence on Future Teaching Goals

Different eras have very different requirements for the knowledge and skills of talents, and the content of teaching and learning has changed a lot. In the era of artificial intelligence, creative and compound talents are required. Therefore, future education should focus on teaching students in accordance with their aptitude, paying attention to the different characteristics and Personality difference of students, developing the potential of each student, and achieving "differentiated education".

Artificial intelligence technology can shift the educational goal from the acquisition of knowledge to the cultivation of core competence such as high-order thinking, social interaction, and innovative practice.[1] Due to the application of robot learning, deep learning, personalized learning, adaptive learning, learning analysis, emotional computing, smart education, big data and other technologies in the field of education, [2] The importance of knowledge that is easy to be recognized and used by computers in the future will decline, and the importance of abstract knowledge and tacit knowledge, which are difficult to grasp by intelligent robots, will rise. Therefore, from now on, we should focus on developing innovative thinking and sensitive data analysis skills of students to solve problems flexibly. Students should focus on learning and constructing knowledge and skills related to emotion and creativity that intelligent robots are not good at. The combination of artificial intelligence education and traditional education is a comprehensive and efficient way to cultivate compound talents, so that students can adapt and lead the era of artificial intelligence better.

### 2.2 new requirements of artificial intelligence on future educational content

In the era of artificial intelligence, a more open, diverse and personalized learning system will grow up. The content of learning is more from the network and life practice, not just books and textbooks. The goal of learning is to build a personalized knowledge system. In addition to basic literacy and computing skills, it is more important to teach students how to conduct online learning, how to use smart machines,



how to program, how to use big data, how to conduct emotional communication with others, how to think creatively, etc. Emotional ability, data analysis ability, and innovation ability will become the core competence of human beings.

Higher education should also increase the artificial intelligence curriculum that trains students' innovative thinking and technological innovation ability. It not only allows students to learn a comprehensive range of knowledge in computer science, physiology, philosophy, psychology, philosophy, linguistics and so on, but also provides students with new ways of thinking and problem solving. At the same time, students are expected to be forward-looking on computer cutting-edge technology, improve their scientific and technological quality and academic level, so that they can better adapt to the production and life of the artificial intelligence era.

### 3.IMPROVEMENT OF FUTURE EDUCATION BY ARTIFICIAL INTELLIGENCE

At present, there are four main aspects of the combination of artificial intelligence and educational technology, including data collection (speech recognition, image recognition, sensors, etc.), data processing (semantic recognition, big data, adaptive, cognitive computing, emotional computing, etc.), machine learning (deep learning) and human machine interface (AR/VR, robot, 3D printing). From the specific application of artificial intelligence, there are mainly intelligent classrooms, automatic correction and layout of homework, photo search questions and online Q & A, intelligent assessment, real-time supervision and other applications. Artificial intelligence complements traditional classroom education. Students can use the intelligent classroom and intelligent Q&A to freely match learning content according to their personal development needs, and conduct self-testing in time, thus providing effective protection for differentiated and personalized learning.

Integrating artificial intelligence into education can allow computers or smart devices to replace teachers with a lot of unnecessary repetitive work, greatly reducing the workload of teachers. The future education is an era of collaboration between teachers and artificial intelligence. Artificial intelligence will replace the simple and repetitive mental work of teachers, and let teachers better do more important work such as teaching method innovation, complex decision-making, emotional care and moral education.

At the same time, artificial intelligence technology has also made outstanding contributions to areas such as special education and education equity. Artificial intelligence can play a role in areas such as corporate training, family education, and continuing education, providing special education for special people. The use of intelligence aids to narrow the difference in

physical and mental functions between special and normal people, thus providing a more equitable and convenient learning environment for marginalized groups in educational practice.[1]The resource sharing of artificial intelligence large database also makes the problem of uneven distribution of educational resources solved.

### 4.THE MPACT OF ARTIFICIAL INTELLIGENCE ON THE EDUCATION SYSTEM

Because education is a knowledge-intensive industry, artificial intelligence will become an important driving force for future breakthrough development of education. But if you want to make the role of artificial intelligence more fully, you must build a holistic architecture. This system should have large databases, artificial intelligence algorithms, and the system ports of operators, teachers, and parents. The three parties interact with each other to form a holistic and systematic structure, thus realizing the new functions of the combination of artificial intelligence and education.

The future artificial intelligence education model is mainly divided into two levels—the database layer and the functional system layer. The database layer is mainly composed of three databases: online learning resource database, online question database and student learning database. The functional system layer is actually operated by the user to realize knowledge learning, detection, supervision and feedback. The data and information exchange between the two layers is mainly based on smart devices and is realized by technologies such as cloud computing and intelligent search.[3]And there is a special department responsible for the management and maintenance of the database layer, the deployment and upgrade of the functional system layer.

In the era of artificial intelligence, one-on-one learning guidance, personalized self-learning, socialized communication and collaboration will become mainstream.[4]One-on-one learning guidance can be achieved through a smart educational model, which is done by intelligent machines and human teachers. Intelligent machines help students acquire routine knowledge from large databases, and also help students with educational activities such as adaptive learning systems, digital evaluation systems, self-tests, and intelligent education decisions. And human teachers are responsible for teaching abstract knowledge, innovative knowledge, and emotions, attitudes, and values. Human teachers and intelligent robot teachers work together to complete the education and teaching tasks in the era of artificial intelligence.

### 5. SUMMARY AND OUT LOOK

The continuous development of artificial intelligence technology makes artificial intelligence not only become one of the contents of school education, but also provides rich educational technology and

resources for education. The core of artificial intelligence education should return to the educational goal and value system, and the key to solving the problem is to combine the advantages of artificial intelligence technology with the educational process, resulting in the effect of  $1+1>2$ . [4] Optimize education through the proper and effective integration of artificial intelligence and education. Use artificial intelligence to optimize teaching methods and paths, help teachers improve teaching effects, solve learners' difficulties in various learning situations, provide personalized learning services, help education managers to optimize decision-making and improve management efficiency. We should also believe that with the continuous maturity and deepening of artificial intelligence technology, traditional learning methods will be innovated. Artificial intelligence will inject new power into the development of artificial intelligence education from the aspects of improving teaching efficiency, satisfying individualized learning, enhancing interaction and feedback. Through the continuous innovation of theoretical research, it is

also possible to open up new fields, new models and new scenarios of artificial intelligence education applications.

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# The business profit model of Esports

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In the last decade, people might consider game players as teenagers who are addicted to games and have no plan for their future. These days, however, as games become more and more vivid and competitive, an increasing number of crowds give their credits to games, making the game industry one of the most popular and biggest business in the world. As games are booming, esports, “video game competitions engineered by global organizations that culminate in big-money championship tournaments”<sup>1</sup>, have begun to show the world what it is capable of. According to the SuperData2, for 2017, esports had a revenue of \$1.5B and are expecting to grow 26% by 2020.

‘Esports’ consists of game companies that create games and run game competition leagues, companies that train gamers in a professional way and compete in the league, and players who play extremely well to become professional esports gamers and to show their talents in the arena. All of them have different but some similar ways of earning money.

The huge development of esports has been led by the spread of streaming services like Twitch, Douyu, PandaTV and other online screen recording servers, which are able to broadcast a streamer’s screen to viewers as the streamers play the games. These streaming services generate a lot of income. Saobai, a seventeen-year-old Chinese streamer who streams the mobile game “Honor of Kings” received a \$31 million contract with Douyu. This huge contract shocked the world and many people were confused about why Douyu would spend so much money – enough that could afford an NBA super star like Stephen Curry’s yearly wage (\$34 million) - to sign a mobile phone gamer. On January 21, 2018, the first day that Saobai streamed on Douyu, over 150 million viewers flooded into Saobai’s stream. Douyu had never seen a single streamer who could attract over 100 million viewers before. Actually, Saobai was not unknown before he signed up with Douyu. He was a well-known streamer on another streaming service called Kuaishou with millions of fans. Douyu saw the huge fan base around him and wanted his fans to migrate from Kuaishou to Douyu. That is why Saobai is worth the money.

It is clear that esports is related to several businesses. In this paper, I will show how esports has made money from streaming, competing in league and marketing partnerships, and explain how they could make more money in the future.

Let’s begin with the individuals, the esports stars (or “the gamers”). There are two main ways that an outstanding gamer can earn their money: streaming

online and competing for an esports team. A seventeen-year-old boy called Xleft, or XDD, is a professional gamer of PUBG (Playerunknown’s Battlegrounds), who can earn his money by streaming and competing. He has 4 million followers on Douyu, and every time he streams, he attracts about 1.5 million viewers, who watch him play his game and donate money and give gifts. According to a recent official report given by Douyu in April 2018, XDD received \$220,000 worth of gifts in just a month, along with the salary that Douyu gives to him annually. This young boy is able to feed his own family. Besides, gamers like XDD also get salary from their esports team and get bonus if they outstand a competition.

League of Legends Pro league, the biggest League of Legends esports competition in China, offers a \$237,000 award for the champion team and \$126,000 for the runner-up in 2017. The esports companies that recruit and train the gamers also share this revenue. Apart from the bonus, the esports companies generate revenues by utilizing the team members celebrity endorsements for computer or games related products, like keyboard, mouse and spinoff of the game. For instance, Cloud 9, one of the biggest American esports team, has been using their team’s fame to advertise products for companies like HyperX, a company who makes computer hardware. The advertisements are on Cloud 9’s official website and on the screen of Cloud 9 streamers, like Tarik, a Cloud 9 CSGO professional player.

The ways that a game company makes its money are straightforward: one is to sell their games, and another is to arrange esports competition. By April 2018, Bluehole, a game company, has sold over 22 million copies of PUBG (steam official data), which worth 98 RMB each, making it the bestselling game in 2017-2018. Free games like League of Legends may not receive this kind of money, but they make money by selling in-game characters, skins and items that can improve players’ game experience. Moreover, to increase its revenue and boost its players’ willingness to purchase expensive skins, LOL put out lottery that allows players to gamble for rare skins, using people’s addiction to gambling to earn huge amount of money. By arranging esports competition, game companies gain the profit of selling seats to the huge crowds who are passionate to the game and esports stars. For example, in 2017, the grand final of League of Legends season 7 had attracted 80 thousands fans to Chinese national stadium, the Birds Nest, which is only used for significant sports

competition. The reason behind the industry boom is streaming. By streaming online on streaming servers like Twitch, Douyu, and Panda for hours daily, streamers, some are also professional players, attract their audience and gain their loyalty. Let's look at one particular streamer, XDD, and find out how a seventeen-year-old boy get to have millions of fans watching him play games.

Zuo Zixuan, also named XDD or Xleft, started his esports career as an Overwatch professional player in Royal, one of China's biggest esports teams. During his short professional career, XDD got to acquaint with many other well-known streamer players, and showing himself in their streams. A few people began to notice his hilarious style of chat and high-level skills in game. Fans began to notice his hilarious style and high-level game skills, asking XDD to open up his own stream channel. XDD determined to have his own channel on Douyu, because he discovered his huge potential to entertain viewers and his primary fan base.

His channel started smoothly in the first few weeks and attract thousands of viewers. When the PUBG came online in China on November 22, 2017, XDD felt in love with it immediately. Unlike H1Z1, a similar game that is prior to PUBG, PUBG popularized the globe. With the talent of FPS (First Personal Shooting) game and the training gaining from playing Overwatch professionally, XDD topped the game and wishing to compete professionally. With increasing number of crowds playing and watching this game, XDD's stream boomed. His well-known funny style along with the unbelievable accuracy and the passion of a teenager chasing his dream drew millions of people's attention. His fame increased at a rapid pace and soon he became one of the most popular streamers on Douyu. The donations he gained from his audience increased from a few dollars to thousands. His audience pays to watch a talented player, supporting a passionate teenager and appreciating the laughter he gives to them.

Streaming makes people loyal to their favorite streamers. Fans will do the same things as those who are chasing a pop star; following his social media, talking about him with friends and going to see them personally. That is partially why people are willing to buy expensive tickets to watch gaming team competing in the arena. Another reason is that viewers are patriotic. The esports teams usually represent their cities or counties, fighting for their honors. Therefore, people are willing to go offline to support their native teams. Just like the World Cup, people will still assemble groups to go outside their countries to support their teams in the arena and enjoy the competition.

Esports seems to have a good sign of development; however, there are many challenges that esports will have to overcome as the industry develops.

First of all, not all people accept esports and may not

consider esports as a professional sport. "Some people don't see athletes. They see people playing a video game." (Molina, Brett. "Why watch other people play video games? What you need to know about Esports." USA TODAY. 12 Jan. 2018. Web. 30 Mar. 2018.) There is no denying the fact that esports is only accepted by the majority of young generation, because only they know the passion of gaming. The older generation (people born before 1990) usually consider gaming a waste of time and they will not regard professional gaming as a job. This kind of stereotype will be an obstacle to esports' development because policies will be made by a government dominated by older people, which will inhibit the significance of videogame playing in the economy.

Another challenge is that young people have fickle passion, so they will be tired of playing one game easily. Just like as in eating people will dislike a dish if they have it often; similarly, it will be hard to make people loyal to one game. Game companies have to always look for creative features, different but interesting modes, or special items to refresh players' interests; otherwise, players will move on to the next popular game.

Also, health problems are in the way of the future development of esports. Playing games competitively requires players to sit in front of the computers for hours without stretching their bodies. Professional players always suffer from tendinitis of wrist, neck, shoulder, and even back. Moreover, not only the physical health of the gamers will be influenced, but the mental health of the players --- the addiction and violence - will be impacted too. Playing too many computer games and being addicted to it, is not rational for teenagers because not every one of them can make it to the top. They usually don't consider the path that they will take if they failed to become a professional gamer, which means they give up their opportunity to be educated and to get a stable job when they grow up. Also, some misbehaves teenagers may confound the reality and gaming world, influencing their behavior like hard hit, dangerous jumps or even shooting. There have already been tragedies caused by disordered teenagers who played violent shooting games.

Although esports faces many challenges, there are reasons that leave me convinced that esports will skyrocket in the future. South Korea, the world center of esports, has already started their esports schooling, helping teenagers who are chasing after a dream of becoming a professional player. Also, Korea has a strong esports culture. People respect esports players and teenagers look up to them, hoping to become one of them. And China owns millions of crowds following the esports. These phenomena suggest the potential economic value of esports.

It is clear now how esports companies, teams, and players make their money, whether by streaming, competing and marketing. As the Internet steps into

people's lives and the influence that esports gives to the teenagers advances, the huge potential for the development of esports is inevitable. I believe if esports overcomes the challenges, like the loyalty of their fans, the physical problem for the gamers, and other challenges that I mentioned in this paper, will help it become one of the most prominent sports over the next few decades.

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# On the Cultural inheritance of Jiangxi Guqin

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**Abstract:** China has a long history of piano culture, most of which contain important philosophy of life. Guqin is one of the unique musical instruments in China. At present, due to the influx of western instruments into our country, the learners of piano, guitar and other modern instruments are increasing, while the learners of Guqin are few, which seriously affects the inheritance of Jiangxi Guqin culture. Under this background, this article takes Jiangxi Guqin as the main research object, probes into the historical development situation of its Guqin musical instrument, and forms the contrast analysis with the modern musical instrument, in order to promote the Jiangxi Guqin inheritance and development related question. In order to let more people know more about Jiangxi, we should work out the corresponding measures to solve the problem. Guqin, to know Jiangxi, to promote Jiangxi.

**Keywords:** Guqin; Jiangxi; Culture; Comparative Analysis

In our country, with the continuous improvement of economic level, people need more spiritual level in social life, especially the music involved in shaping people's sentiment. Guqin playing is the most close music type in our daily life. The key factor that affects the quality of Guqin performance is the timbre. The quality of the timbre is directly related to the performance ability and professional technical skills of the whole Guqin player. Combined with the existing public understanding of the Guqin and the corresponding degree of liking, it is found that the cultural heritage of Guqin is hindered, so how to carry on the effective inheritance of Guqin culture is proposed to strengthen the cultural inheritance of Guqin. Measures.

## 1. JIANGXI GUQIN DEVELOPMENT HISTORY

The Guqin is called the "Qixuqin", mainly because in the ancient emperor Fuxi's record of the piano, the whole ancient Qin, such as Shun and Wen Wang, has been changed accordingly, and the relationship between the validity of the whole Qixuqin and that of the whole Guqin has been realized. And then realized in ancient Qin chess calligraphy and painting, put the piano in the first place, only in this way can reflect the charm of the ancient Qin, and then reflect the whole ancient literati's history of development of the ancient Qin. From the historical development of Guqin, the Guqin unearthed in 1979 in China, from an archaeological point of view, is from the Eastern Zhou period, its Eastern Jin Dynasty "Tao Yuanming" in the poem "Wuxuqin" story spread to the present. At that time, Guqin formed a three-legged situation among the corresponding literati.

## 2. THE SIGNIFICANCE OF INHERITANCE AND PROTECTION OF JIANGXI GUQIN

### 2.1 contribute to the integrity of cultural heritage

Guqin culture is one of the key art types of art inheritance in China. Therefore, for the inheritance of Guqin culture as a whole, it is based on the development level of Chinese historical art and culture. Through the analysis of the cultural heritage and the corresponding particularity of the whole Jiangxi Guqin, so as to realize the correlation between the Jiangxi Guqin and the lyre songs, as far as the piano spectrum is concerned, it can develop history according to the corresponding Guqin, and then it will reflect the piano art. Qin Feng and other related particularities of the analysis, so as to achieve the change of the whole artistry. The process of making the harp should be combined with the change of history and culture, and the whole process of making should be analyzed, and then the corresponding combination of the ancient harp and the song of the harp in Jiangxi should be carried out. By analyzing and analyzing the particularity of the making of Guqin, the Guqin can be developed and changed in the history of Guqin.

### 2.2 conducive to the dissemination of the Guqin spirit

Guqin is one of the relatively elegant musical instruments, which has the cultural spirit of "the unity of nature and man", but the modern society has a certain hindrance to the development of Guqin culture and the dissemination of the corresponding culture. Therefore, it is necessary to spread the deep spirit of Guqin accordingly, and then to spread the corresponding history and culture effectively.

The inheritance and protection of Guqin by modern people will help to analyze Jiangxi's Guqin making technology and corresponding Jiangxi culture, so that future generations can feel the corresponding peace and tranquillity of the Guqin, thus allowing the modern society to calm down. Let people feel the whole Guqin historical and cultural heritage of the related spirit, and will think about life, the pursuit of self as the key guidance for work and learning.

### 2.3 beneficial to changing public perception

With the description of the details of the film, it can allow the public to have a certain nostalgia for the play of the Guqin and the corresponding music rhythm, for example, under the circumstances of "Gao Shan water foraging sound", the playing of the Guqin became a class of art, and then entered thousands of families, providing a favorable recognition for the effective inheritance of the history and culture of the Guqin. Thus, strengthening and improving the heritage and protection strategy of the Jiangxi Guqin will help to convert the public to the

wrong cognitions of the guqin, and make the public clear the tone, skill and sound of the guqin, especially some TV plays or films involving the guqin, and more need to strengthen the understanding of the Guqin culture and distinguish it from the guzheng. Play timbre to reduce the misdirection to the audience. This is also the reason why the public needs to ingest a comprehensive Guqin culture, because it helps to spread Chinese traditional culture correctly.

### 3 ANALYSIS OF THE EXISTING PROBLEMS IN THE PROCESS OF INHERITING THE GUQIN CULTURE IN JIANGXI AT PRESENT

#### 3.1 inadequate understanding of the current situation of Guqin protection by regulatory authorities

The process of playing Guqin needs to be coordinated with the contents of the music, so as to reflect the rhythm of the whole instrument and the corresponding cultural atmosphere. In the process of making Guqin, there is a certain cultural infiltration, so we need to create the whole cultural atmosphere, so as to ensure that the traditional Guqin consciousness can be effectively analyzed with the corresponding Guqin playing content. And then reflects the relevance of the content of the whole piano art teaching. In the process of playing Guqin, we should make it not only a musical instrument, but also a symbol of culture, representing the heritage of traditional literature and art culture.

Because art culture belongs to a type of marginal culture, its long-term inheritance mainly depends on the successor's inheritance and propaganda, plus the propaganda of relevant units, only in this way can the inheritance of Jiangxi Guqin culture be continuously improved. Judging from the strength of the protection of the relevant literary and artistic units, because the records of the Guqin materials are relatively few and the collection is relatively difficult, all the work on the Guqin is only in the superficial form, in order to realize the protection of the Guqin. At the present stage, we should strengthen propaganda, embody the special features of Guqin, and analyze the relevant protection policies and measures. Thus, the passive supervision of Jiangxi Guqin will make Guqin culture is constantly missing, the extent of defects will continue to increase.

#### 3.2 narrow channels of dissemination of Guqin culture

At the present stage, the dissemination of Guqin culture mainly depends on the assistance of the government and is carried out in the form of setting up the Qin Society. Neither the speed of transmission nor the requirement of cultural communication can meet the requirements of inheritance. Therefore, the transmission channel of Guqin is relatively narrow. In addition, the government mainly attaches importance to the dissemination of Guqin itself, and does not pay much attention to the art of Guqin and the corresponding Guqin culture. Therefore, the Guqin culture and the history of Guqin should be analyzed.

In order to achieve the effective dissemination of the whole Guqin history and culture.

### 4.ECTIVE NHERITANCE AND PROTECTION EASURES OF JIANGXI GUQIN CULTURE

#### 4.1enhancing cognitive awareness of heritage protection

For the relevant functions and regulatory departments, the art of Guqin is a part of the intangible cultural heritage, which strengthens the supervision of the whole art culture to promote the related protection of the intangible culture. For the cultural heritage, it is necessary to effectively analyze the development history of the whole Jiangxi Guqin and the contents of the corresponding ancient piano songs, and then realize the effective inheritance of the whole Guqin culture. In addition, the study of Guqin in China is relatively late, which is only compared with other ancient instruments. From the analysis of the playing effect of the whole Guqin and the spiritual connotation of the whole Guqin, thus, in the process of inheriting and protecting the Jiangxi Guqin, Not only to inherit the Guqin culture, but also to pass through the Guqin spirit and connotation, so that future generations can enjoy the music aesthetic sense of Guqin itself, but also can experience its cultural spirit as an elegant art.

#### 4.2 perfect Qin Society to attract Guqin lovers

Jiangxi Guqin Society and Youmin Guqin Studio are famous Guqin Society in Jiangxi Province, attracting the attention and participation of many Guqin lovers. In addition to the entity Guqin Society, the responsible person of the Society also built the official website to update the dynamic of the Society in real time. At the same time, it also showed to the public the Qin style of Jiangxi Qin people, so that the heritage and protection of the Guqin can be carried out in place. However, in the future construction and perfection of the Qin Society, we still need to combine the modern information with it. Information technology, explore more promotion channels, so that Guqin lovers can deeply understand the history of Guqin, learn Guqin playing. At the same time, according to the different playing styles of Guqin, the Guqin Society can be developed. At the same time, Qin Society can also enter into enterprises, especially some of the management of ancient culture, heritage of ancient prose The company.

#### 4.3 reinforcement of Campus Guqin lectures

As an important base for the study of Guqin, the College of Art is one of the main channels for carrying forward and inheriting Guqin culture. While teaching, Guqin teachers also need to guide students to deeply understand the artistic and cultural spirit of Guqin. In addition, Jiangxi Qin School paid more attention to the integration of piano techniques and songs, and now gradually formed a unique "Jiangxi music." As a result, the school can organize skilled pianist to Jiangxi colleges and universities to promote the ancient Qin culture, let students feel the spirit of

Guqin, so that their study of Guqin to add a strong interest.

#### 5 CONCLUDING REMARKS

To sum up, Jiangxi Guqin has a long history and its effective inheritance and protection is a work item that the government and people of Jiangxi should attach importance to. And on the current situation of protection, there are still a lot of problems to be solved.

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# The merger of US Airways and America West

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**Abstract:** Mergers come with diverse benefits to the formed company including a combination of resources, expanding economies of scale, synergy creation, enjoy operating economies in addition to the elimination of competition. The merger of the U.S Airways and America West was a major turnaround as it promoted to the development of a new a big airline which was anticipated to be in a position to become the fifth largest airline in the country. In order to figure out how the merger affect both two airlines, we use data analysis with regression set in pre-and-post merger. This merger is a Cournot competition and fitted in discrete choices model. The merger was formulated and proposed at the time when the two companies were facing substantial financial crisis combined with stiff competition in the industry. The merger was a good move considering the fact that it helped the formed company to improve its operations, expanded its market operations, increased the amount of revenue and increased the earning of the shareholders.

## Introduction

Mergers and acquisitions are part of a corporate strategy and are used to boost the growth and development of an organization. In a merger, two companies integrate together to become one mega-company (Mudde & Sopariwala, 2014). Mergers come with diverse benefits to the formed company including a combination of resources, expanding economies of scale, synergy creation, enjoy operating economies in addition to the elimination of competition. In 2005, the U.S airline industry engaged in restructuring and consolidation of the industry where some of the major airlines engaged in series of mergers and acquisitions. This led to reduced competition and effective operations of the industry by re-aligning with the demand and supply of the services.

The merger of the U.S Airways and America West was one of the mega mergers in the U.S airways industry which happened in 2005. The U.S Airways decided to enter into a merger agreement because it was facing a financial upheaval to where it was declared bankrupt. Until 2008, they finally use a uniform name, representing the end of merger. For the two airline before merger, there are 180 overlapping routes in total.

The U.S Airways was the seventh largest airline in the U.S, and the America West was the eighth largest. Because of their enormous sizes, the merger was expected to produce a total amount of revenue

amounting to \$10 billion combined with 361 planes and over 44,000 employees in the country. After the merger, the company formed was expected to rise in rank to surpass other airline companies in the industry (Lee, 2003).

The U.S Airways faced huge financial problems since the end of 20th century. The US Airways name was arrived at after a series of rebranding. The airline sunk deeper into financial problems after the terror attack in 2001 whereby it was forced to file for bankruptcy protection in 2002. Unlike the US Airways, the America West started its operation in 1983. The company operated in Phoenix with 290 employees and made trips to 5 major cities in the country.

## 1. The news and Academic Literature

The U.S airline industry has continued to be subjected to a wide range of laws and regulations to ensure smooth operations backed with high-quality standards. The Air Commerce Act is one of the oldest laws in the airline industry. It was ratified to regulate the industry by establishing factors such as registration, examinations, and rating of the aircraft to ensure quality. The Civil Aeronautics Act was appended in 1938 with the aim of promoting safety in the aviation industry. In 1958, the Federal Aviation Administration (FAA) was established followed with regulations of the industry opening for free-market competition (Steinberg, 2007). The federal government has continued to play a critical role in the U.S airline industry by restructuring laws and regulations to ensure that industry is operating under favorable political, legal and economic conditions.

## Data analysis

### 1. Measures

In order to conduct an analysis for the merger, some major definitions should be defined. Market share is the percentage of the number of passengers in specific airline per route. It can be calculated by the number of passengers of specific airline per route divided by the number of total passengers per route. And in this situation, market fare can be considered as the price of each airline in each route. Moreover, the main product characteristic for airlines is their on-time performance. To be specific, the important product characteristic is the delay time in minute.

### 2. Model

US Airways is one of the top network airlines while America West is a regional low cost airline. In the market, it's a Cournot competition and it should be fitted in discrete choices model.

The merger was a lucrative idea based on the fact that it contributed to the expansion of the market share of the formed company. In the article posted on the US Today, Shell (2013) stated that after the merger, the shares of the US Airways share surged upwards by 26%. This was attributed to the increase in the number of low-cost trips that are made to other nations. On the other hand, the U.S market share of the formed company expanded from 5.13% to 9.16% (Harlan, 2015). Market expansion after the merger was attributed to the expanded business operations effective management promoted by the executives of the America West Company.

### 3. Analysis

The first step, we defined the merger period. The pre-merger period is quarter 3 in 2004 to quarter 2 in 2005. The post-merger period is quarter 3 in 2008 to quarter 2 in 2009 since we know that the merger happened in 2005 but until 2008 they became one airline.

Secondly, we use the data in BTS website to find overlapping routes. Of the total 180 routes, we pick up 5 routes and their return routes, total 10 routes, which have representative number of passengers or large hub.

From selected routes, we find 5 consumer choices, the airlines which includes all the 10 routes. We figure out the consumer choices are Delta, ATA, American Airline, US Airways and America West. So  $j$  is equal to 5.

Then we calculate outside options, Sort. Besides people who take airplanes, people in same origin have other options like cars, trains or ships to travel to the same destination. In APTA website, we are able to find out the number of people who use heavy rail and light rail from the 10 origins. That's the number of outside options. We make an assumption that the people departure from the origin all go to the destination we selected. For some origin doesn't have population data, we assume the number of city which is in neighboring region is same.

Fifth step, as we defined before, the main product characteristic,  $z$ , is delay time in minute. The data we can seek through BTS website. We calculate the delay time in minute of each airplane in specific airline and add them together to get the time of each route.

The last step, it's necessary to define  $P_{jrt}$  and  $S_{jrt}$ .  $P_{jrt}$  is defined as market fare. As discussed before,  $P_{jrt}$  is the price of each airline in each route.  $S_{jrt}$  is market share, which can be calculated from DB1B sheet in BTS website.

### 4. Regression set

With the data collected above, we are able to calculate the number of " $\ln(S_{jrt}/Sort)$ ", which need to use in regression model. The last and most important step is to run the regression model. We set " $\ln(S_{jrt}/Sort)$ " as input Y value, then  $P_{jrt}$  and delay time in minute as input X value. In this way, we get

an ANOVA table below.

So the final formula will be " $\ln(S_{jrt}/Sort) = -0.000449014 Z_{jrt} + 0.012227954 P_{jrt}$ ". The coefficient of  $P_{jrt}$  is positive so that the merger will have positive effect on market fare. While the coefficient of delay is negative means the delay time in minutes will hurt consumers' feeling in negative way.

Later, using the formula we produced above, we are able to calculate brand reputation of each airline, cost of each airline per route and mark-up value. Since it's a discrete choices model, we know that brand reputation is equal to " $\ln(S_{jrt}/Sort) - \hat{\alpha}Z_{jrt} + \hat{\alpha}P_{jrt}$ ", then calculating the average number of each airline. The cost is simplified as  $C_{jrt}$  and can be calculated through the equation of mark-up " $P_{jrt} - C_{jrt} = 1/\hat{\alpha}(1-S_{jrt})$ ". So we can get all the data below.

### Post-merger analysis

The US Airways provided the airline with an opportunity to rise again to become one of the leading airline companies in the world. The company gained the financial stability with more than \$2.5 billion (Harlan, 2015). It became a Star Alliance membership comprising of 16 airlines with more than 15,000 flights on a daily basis. With the increase in operations, the investors have gained extensively from the increase in the earning per share (Harlan, 2015). The company has increased its market participation with the increase in the share of the company.

With the data we find in BTS, comparing the pre-merger with post-merger, we get a table.

The acquisition in the market of the US Airways by the America West was succeeded by other changes in the economy including strengthening the position of the airline in the industry. With the reduced cost of operations, the customers are required to pay relatively low for the air transport both locally and internationally.

### Concern

Although the merger was a success, it has potential threats which can dent its future performance. Firstly, after the merger, CEO of American West and top leaders in the organization took over the leadership of the formed company. Although this decision was formed out of the efficient operations that were experienced at America West, it has potential negative implication in the organization. Disputes over seniority are likely to emerge as the leaders of both company starts exercising their power they are likely to start clashing with the other parties. Only having the America West executive leading the new company can lead to future challenges in the employee relations which can intern spill over to the customers.

### Conclusion

The merger between the US Airways and the American West was one of the mega-mergers in the recent times. At the time of the formation of the

merger, both companies were facing economic upheavals coupled with threats from the rival companies in the industry. As one of the leading companies in the industry, US Airways was unable to meet its financial obligation and therefore filed for and was declared bankrupt by 2005. However, since the formation of the merger, the formed company was able to regain its position in the industry. The merger was a good move considering the fact that it helped the established company to improve its operations, expand its market operations, increase the amount of revenue and increase the shareholders' earnings.

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# Research on the Promotion of Villagers' Rights Conscious

— Based on the perspective of villagers' autonomy

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**Abstract:** Since the implementation of the organic law on villagers' committees officially promulgated in 1998, under the guarantee of the constitution, departmental laws and local autonomous laws and regulations, villagers' autonomy has basically embarked on the road of establishing a legal system and managing villages by means of a system. Citizens have been gradually familiar with the concept of democracy and the rule of law contained in, and the focus of villagers' autonomy has also moved from systematical perfection to rights protection. However, what should not be ignored is that the villagers' awareness of their rights is lagging behind. During the process of autonomy, villagers have showed low enthusiasm for political participation and neglected some autonomy rights stipulated by law, which led to the reckless behavior of village cadres, putting privilege above the villagers' autonomy rights. Thus, the villagers' legitimate rights and interests were often violated. Through probing into the current situation of villagers' rights awareness, this paper in the view of villagers' autonomy draws a conclusion: villagers' legal awareness is lacking due to the lag of legal literacy education in rural areas and the complexity of the legal environment in rural areas. It also proposes to promote villagers' rights awareness through regulating the legal awareness of political parties, improving the legal environment in rural areas and carrying out legal literacy education in an all-round way. This paper promotes villagers' autonomy towards democracy and the rule of law on the basis of promoting villagers' rights awareness.

**Keywords:** villager autonomy; awareness of villagers' rights; consciousness on the rise

## Introduction

At present, China is in a stage of arduous struggle for a well-to-do society. With the disintegration of the old social structure, a new democracy-rule-of-law society has gradually taken shape. Against this backdrop, the process of rural modernization in our country has entered a period of sluggish development. Although the current economic development in rural areas is prosperous and the social order is relatively stable, rural politics also shows the development trend of democracy and the rule of law. However, it should be clearly understood that villagers have major problems in the process of self-government. In particular, the weak awareness of the rights of

villagers in rural areas has caused the problem of the abnormal development of villagers' autonomy. This problem is particularly serious. The concept of democracy and the rule of law of villagers is a concept at the surface level. That is, villagers in vast rural areas do not really realize that they are the family members of a socialist country and have a series of rights. Their democratic legal consciousness is far from the requirements of the times. The awareness of the villagers' rights in rural society shows a state of stagnation. There is an urgent need to raise awareness of villagers' rights and change the predicament of villagers' autonomy. I. Villager autonomy system and autonomy right

### 1.1 The connotation of the village self-governance system

The village self-government system means that villagers manage their own affairs on the basis of the law. In other words, the rural people follow the relevant laws and regulations and the village rules and regulations. Under the leadership of the grassroots party organizations, the residents of the village are the unit. Through the participation of village leaders themselves, they participate in villages related to their own interests by participating in village committee. Through the direct exercise of democratic elections, democratic decision-making, democratic management and democratic supervision, the villagers participate in the process of village self-government and implement self-management, self-education and self-service.

### 1.2 The connotation of villagers' autonomy rights.

In the process of continuous improvement, the village self-governance system has formed four autonomous links around self-management, self-education and self-service, i.e., democratic election, democratic decision-making, democratic management and democratic supervision. According to the relevant provisions of the Constitution and the Organic Law of the Village's Committee, the rights of villagers' autonomy are mainly focused on the following four aspects.

**The right to vote:** the villagers who have reached the age of eighteen have rights to directly elect or remove the posts of the village committee officials in accordance with the Constitution, the Organic Law of the Villagers' Committee and other relevant laws and regulations.

**The decision-making rights:** determined by villagers'

congresses or villager congresses on village-level important issues involving the collective interests of villagers based on the principle of the minority obeying the majority to calculate the results and determine the handling of village affairs.

The management rights: according to relevant laws and regulations and the Party's guidelines and policies, the principle of adjusting to local conditions are adopted, and all villagers discuss and formulate autonomous regulations or village regulations. The comprehensive and specific provisions have been made on the rights and responsibilities of villagers, the work flow and division of work of village cadres, and the requirements concerning rural economic development, social security and folklore of the village.

The right to supervise: the majority of villagers will supervise major village affairs and supervise the work of village committees and village cadre through open village affairs, appraisal of village cadre appointments and regular reporting by village committees.

II. Villagers' rights awareness

2.1 The status of villagers' rights awareness

In the rural areas of China under the new era, some villagers who have received modern education already have a preliminary awareness of their rights. In the process of village self-government, collective decisions involving economic interests, such as land acquisition issues, selection of low-income families, and allocation of compensation funds for dilapidated houses, show that most villagers have great decision-making enthusiasm and actively exercised it. right. It can be seen that the enthusiasm of villagers

to exercise their rights is related to the economic benefits attached to them. However, the link of villagers' autonomy does not only include economic benefits. It also involves the promotion of progress in rural social civilization and the popularization of the rule of law and democracy. The one-sided pursuit of economic interests by villagers ignores the real meaning of the rights granted by villagers to the autonomy of the law. However, the awareness of the rights of villagers in rural areas has shown the characteristics of delay. The specific performance is as follows. [1]

Right to vote

First, according to the data survey (see Table 3-1 for details), it can be known that the number of villagers who really participate in democratic elections is very small. One of the reasons is that the "One house one ticket system" limits most of the voting rights, but most of them are due to migrant workers working in rural areas and rural children and the elderly. When the general election in rural areas, almost no one will come back to participate in this incident, so some of them give up the right to vote, and some are left to leave the elderly home casually elected, perfunctory. Second, the villagers do not attach importance to the right to vote, and most people have a blind bond. In particular, it is reflected in the clan identity, and the villagers jointly elect their own people with the same surname. Finally, the abuse of voting rights is a common practice. Many people believe that the corruption and corruption culture in rural areas is the same. All of them think that whoever chooses to serve as a village cadre has to bribe. Therefore, during the accepted favor and abused their rights. [2]

Table 3-1 Investigation of exercise of villagers' right to vote		
every village cadre	participated in	not participate in
	the general election	
election participates		
8%	21%	71%

Source: Field surveys and questionnaires in April 2018

Decision-making power

According to the survey data, 19% of the villagers are unclear about the concept of democratic decision-making and the way of exercising it. 26 % of the villagers took part in collective decision-making in the form of a villager assembly or a villager representative meeting. 14% of the villagers stated that they had participated in collective decision-making before, but only took a form. 41% of the villagers reported that the village had not made collective democratic decisions. Thus, it can be seen that the phenomenon of sluggish awareness of power reflected by villagers in the democratic decision-making process is mainly due to the lack of knowledge of decision-making power, lack of decision-making power, improper exercise of decision-making power, and the inability of village cadres to convene villagers' meetings to make

villagers unable to exercise decision-making rights.

Management rights

Short of legal awareness among village cadres has led to the inability of village administration to implement democracy and the rule of law. Villagers' awareness of their rights has been indifferent and they have not participated in management or have been involved in the management of economic interests. First, the village committee exercised its own management power, dealt with village collective affairs exclusively and arbitrarily, and deprived the villagers of the opportunity to exercise management rights. Second, the villagers were not satisfied with the management of the village committee, but most were dissatisfied with the verbal choice. Endeavoring to swallow it, they dare not take actual and effective rights-protection actions (see Table 3-2 for details). Finally, when villagers participate in the democratic management process, they unilaterally pursue the management of economic interests and adopt a

perfunctory attitude towards the management of other village-style cultural constructions. The double weakness of the legal consciousness of the villagers and the village cadres has led to the fact that

management only reflects the authority of the village cadres and loses the practical effectiveness of autonomy.

Table 3-2 Satisfaction Survey on Villagers' Work by Villagers

satisfaction	can't talk about not satisfied or not	not satisfied
19%	37%	44%

Source: Field surveys and questionnaires in April 2018

Supervision rights

Village cadres who have low legal awareness rely on personal connections and economic foundations and put power above the law, and selectively evade the autonomy rights legally enjoyed by villagers. In terms of openness of village affairs, the villages that the author surveyed have almost no village affairs open

popular than in cities, and the cultural quality of most villagers is low (see Table 3-3 for details). On the one hand, the cultural level directly affects the villagers' understanding of the law. For people with a low level of culture, although they understand the legal provisions, they are not able to understand the true meaning of the legal provisions and not sure about the various rights contained in the law. On the other hand, people with limited education have a prolonging transition of their ideology, and they tend to adhere to old customs. It is difficult to change from a traditional concept of human governance to a concept of modern democracy and the rule of law in a short period of time, which has led to the lack of individual legal awareness among villagers. [3]

2.2 Reasons for the delayed rights consciousness of villagers

2.2.1 The lack of individual legal consciousness of villagers

In most of China's rural areas, education is less

Table 3-3 Survey on education level of villagers in rural areas

Age/Education	Primary school and below	Junior high school education	High school education or above
18 to 30 years old	3%	76%	21%
Between 30 and 50 years old	32%	59%	9%
50 and over	76%	18%	6%

Data Source: Author's field questionnaire survey conducted in April 2018

2.2.2 The influence of traditional Chinese culture

The concept of subjects in traditional culture, the idea of reciting courtesy law, and the concept of valuing and valuing the peace have gone deep into people's hearts. The "acquaintance ethics" has far-reaching influence on rural society. When disputes occur between villagers or between villagers and village officials, villagers will not take up legal weapons to safeguard their rights. Instead, they will resort to interpersonal relationships to resolve conflicts. Over time, if you fail, you will seek a private solution. In addition to being influenced by "level ethics", villagers are accustomed to obeying instructions and mediation from elders or elders and losing their independent thinking. The villagers are not familiar with the law in the depths of their hearts, resulting in the overall phenomenon of a weak legal consciousness.

understand the law. From this we can see that the environment in which rural residents are regulated by law has been deprived, and most villagers have a difficult relationship with legal people in the real sense because of the occlusion of their personal connections. In addition, the phenomenon that rural rights are greater than the law has occurred from time to time. Most of the villagers see power above the jurisdiction of justice, and the "human case" and "money case" have seriously affected the image of the judiciary in the hearts of the villagers. Avoiding and rejecting psychology.

2.2.3 The influence of rural legal environment

There are no special legal service agencies in rural areas. Professional law firms are located in busy business districts because of their business needs. And the judicial organs such as the procuratorate and the people's court are generally set up in the county or urban areas, which leads to no real legal person in the countryside, and very few people actually

2.2.4 The lack of rural law education

Because of the large area of the countryside, the villagers live in scattered areas, and organizing to study the law cannot guarantee time and space. It is difficult for the villagers to concentrate on farm work because of their difficulty in time, and because of the decentralization of residence, it is difficult to implement the practice of gathering together to study law[4]. With the rapid economic development since the reform and opening up, and the widening urban-rural economic disparities, most villagers have become migrants. The villagers collectively returned home in large numbers only at the end of the year. It is not realistic to organize and study laws, and the lack of popular education has led to The overall legal awareness of the villagers was sluggish.

### III. Villagers' awareness of the promotion of rights awareness

#### 3.1 Multi-facet and multi-channel development of law education

Raising the awareness of villagers' rights should translate the rights prescribed by law into the rights that villagers consciously advocate, and change the concept of villagers from passive obedience to active rights protection. In the general law education in rural areas, village officials can issue legal propaganda manuals to remind the villagers of their rights and obligations as the family members of a modern democratic and law society. At the same time, the villagers are regularly educated in laws related to law, and the village cadres are trained in law-related courses. The training can include the promotion of typical cases (cases of successful rights protection by villagers, low awareness of villagers' right to be cheated, and so on). The major autonomous subjects know the law, understand the law, and abide by the law.[5]

Based on the characteristics of the social network information age in today's social popular education for the villagers should not be limited to face-to-face actual popularization, but it should be extended to the Internet. Smart-phones are almost universally available to every literate person in the countryside. Village cadres can use We Chat groups to forward relevant laws and regulations. Typical cases can also be made into micro-video modes to be forwarded in We Chat groups. At the same time, people with professional legal knowledge can be invited to join. We Chat group answers the gaps in legal awareness for the villagers. Other aspects can enrich the legal aspects of the APP software for the law, for the various judicial departments and legal agencies We Chat public number, enrich and improve the legal consulting project.

#### 3.2 Improve the lawful environment of rural areas

The rural legal market should be standardized and lawyers should be promoted to the countryside. There are two reasons for lawyers going to the countryside: First, the rural legal service market has great potential with the development of the rural economy and the awakening of the awareness of rural people's rights; Second, in the eyes of the rural people, the lawyer is a profession with pejorative meanings. Chinese lawyers can imitate the practice of early European professional legalists engaged in various charitable acts in order to maintain the reputation of the lawyers' profession.[6] Attorneys at the grassroots level provide consulting service and agency litigation services for the general public to eliminate the inevitability of the lawyers' occupation in the minds of the villagers and to increase the legal awareness of the villagers while opening the legal market in the countryside. [7]

Grassroots legal institutions should be established. There are no legally-related institutions in rural areas,

so village cadres serve as the main body of popular education for a long time and perform simple legal interpretations for villagers. However, due to the lack of democratic legal literacy of village officials, they cannot make up for the gaps in the legal knowledge of villagers. Therefore, the establishment of grassroots legal institutions in rural areas, such as legal counseling offices composed of professional legal personnel, can effectively solve the villagers' confusion about legal knowledge, make up for the gaps in the common sense of villagers' legal knowledge, and improve the legal awareness of villagers. The most effective way.

#### 3.3 Regulating the legal literacy of autonomous subjects

The college student village system is strongly promoted. As a new type of talent that has grown up under the rule of law under the new era of democracy and rule of law, college students are able to make up for the shortcomings of the low cultural level of village cadres in rural areas. College students who have received higher education have a more profound and comprehensive understanding and understanding of the law. They can better grasp and appreciate the relevant policies of the party and the government, and help improve the understanding and execution of the law and policy of the villagers. In the process of village self-government, they have better democratic legal literacy. They can not only establish a clean and honest, democratic, and pragmatic work style, but also change the image of village cadres in the minds of the villagers. It will help increase the enthusiasm of villagers to participate in self-government, and at the same time make the building of rural political culture a real path to democracy and the rule of law.

The village cadre legal knowledge assessment system should be established. The township government or county committee presided over and regularly held legal training courses, stipulating that village cadres participating in villager autonomy participate in the course training and incorporate this curriculum assessment into the assessment of the village cadre's political achievements, and assess the completion of the course for village cadres within a certain period of time. Verify the degree of understanding of legal knowledge and decide whether or not the village cadres should be employed.[8] This move can increase the awareness of the law of the villagers' participation in politics, standardize their behaviors, eliminate illegal behaviors, protect the legal rights of the villagers, regulate all aspects of villagers' autonomy, and improve the villagers' participation in the initiative of self-government purpose.

#### Conclusion

The system of village self-government has continued thirty years, which is known as the rural political revolution quietly. Villagers' autonomy system has erected an effective interaction between state leaders

and grass-root self-government and has grown in the vast rural areas of China. Before that, rural China did not have democratic and legal system and villagers could not participate in the governance of the country. What they could do was to passively accept or obey the political villagers. However, since the emergence of the village self-government system, the political requirements of the majority of rural people have been expressed. It can be seen that the emergence of the village self-governance system is a milestone that promotes the development of China's grass-root democratic politics. It signifies that villagers have become real masters of the country. In the 30 years of self-government practice, the role of village self-government in rural political, cultural, and social development has been invaluable. However, the village self-government system with Chinese characteristics does not borrow any foreign experience and can be used for reference. It can only be used to cross the river by practicing the stones in the long river of history. [9] In this process, it is also reasonable to fail to achieve the ideal democracy and the rule of law. The predicament of the villagers' sense of power delays should also be expected. Raising the awareness of villagers' rights is not an overnight thing. The state and every rural people should take the initiative to consciously make efforts for this matter and commit themselves to getting out of the predicament of villagers' autonomy.

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# Design and production of winter garden scene based on 3d technology

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**Abstract:** At present, the level of winter landscape construction in China is not very high, so it needs a good landscape design. Because there are many pleasant landscapes in good landscapes. Landscapes such as flowers and trees, rockery and other landscapes can temporarily forget our work or study pressure, and enjoy the relaxed feeling that landscape brings us. I think a good garden landscape should not only have good scenery, but also consider the local climate and environment. We should also consider the economic cost of the landscape, and also don't forget the diversification principle of the landscape. Good landscape construction can reflect the local cultural characteristics, and can also give local residents and foreign tourists a good living environment. This article from the construction of a good landscape, let us move towards an ideal landscape. Good landscape construction can reflect the local cultural characteristics, and can also give local residents and foreign tourists a good living environment. This article from the construction of a winter good landscape, let us move towards an ideal landscape.

**Key Words:** Winter; garden landscape; living environment; cultural characteristics

## Introduction

Nowadays, the 3D technology is gradually improving, and the construction of the model is also very realistic. The resulting animated short film is also very real, which can bring a more realistic winter and winter garden landscape appreciation to the audience. Let us have the feeling of being in the winter and winter garden landscape, which allows us to better understand the layout of the winter and winter garden landscape and the direction of its construction. I understand that a good winter and winter garden landscape needs to be considered during construction. What can also enjoy the kind of pleasure that the winter garden landscape brings to us.

3D Max software is used to model the houses, rockeries and other models in the winter and winter garden landscape. After the modeling is completed, the model should be mapped to the material, and then the scene is added with lighting to create a scene of winter and winter garden landscape. It is to capture the scene and need to add a camera to operate. Then use After Effects software to create some special effects at the beginning and end. For the good animation, use Premiere to give it soundtrack, rendering, scene transition and post-compositing.

After doing this work, you can show the true appearance of a good winter and winter garden landscape.

## 1. Basic design flow for 3D roaming animation

(a). Pre-preparation: First visit the excellent winter and winter garden landscapes in many places, take photos of these winter and winter gardens, collect some pictures, and then collect some excellent winter and winter garden landscape pictures online and put them together. Take a look at some of the differences in their details.

(b). Construction model: There is a general layout view for the winter garden landscape to be designed, the whole model is first built, and then each concrete instance is built. In order to make our modeling work easier, we can divide the difficulty of modeling, make separate models, and make complex models.

(c). Texture mapping: There are many types of textures in 3D Max. The texture type is the texture of the surface of the object. Although the setting is very simple, the operation of the texture coordinates is more complicated. Material mapping is to make the scene more realistic. We can download these texture maps from the online stickers, or you can create some texture maps according to your own preferences.

(d). Scene design: When designing the scene, you should consider the lighting problem of the scene, some structures of the ground, and what kind of lighting is more suitable for the camera to shoot the winter garden landscape.

(e). Animation rendering output: create a camera, set the camera's parameters, then set the camera's line, then use the camera to capture the scene animation, after the capture is complete, you can render the output.

(f). Post-synthesis and special effect addition: For scene animation of winter garden landscape, use After Effects software to design the beginning and end effects, add background music to the finished video, and then synthesize the output into AVI with video editing software Premiere Pro2015. video.

## 2. Landscape modeling and texture mapping

(a). Creation of the winter landscape floor: Open the 3d max2016 software, click on the "Plane" in the standard base of the panel created on the right, then create the plane in the top view and rename it "Ground".

Then open the material editor, select one of the empty shaders, set the material style to "mix", and set the material type of the "mixed" material to "standard".

Open the rollout of the texture, add the ground map we have downloaded in the channel of "Diffuse Color", and then add the upper bitmap in the "Bump" channel. It is also the image we prepared, and then the intensity of the texture. Set to 30, then add "VR Map" in the "Reflective" channel, the texture intensity is 45, and finally give the created shader to the "ground".

(b). House creation: Click on the "Rectangle" in the right panel spline and create 3 rectangles in the top view.

Then convert them into editable splines, attach the three rectangles together, find the Boolean operation in the right menu bar, and use Boolean operations to remove the extra line segments in the middle.

Select the rectangle, find the Extrude command in the modifier list, add the Extrude modifier, and set the number of extrusions so that the wall comes out.

Then select the object, name it "first floor", convert it into an editable grid, select several faces in the middle, and use the extrusion command to extrude the wall on the second floor.

When making a first floor roof, create a plane in the front view, name it "first floor roof", convert it into an "editable polygon" and resize it, and rotate it to a certain extent in the left view. Angle, use the "Extrusion" command to extrude a certain thickness.

The roof on the second floor can make the house that you want according to your own preferences, and it is also the step of repeating the roof of the first floor.

The chimney on the second floor is also created by creating a "rectangle", creating a rectangle inside the "rectangle", adding "edit spline" modifiers and additional commands to them, and finally extruding a chimney with the "extrusion" command, chimney

The vents are made in a regular manner. When making doors and windows, you need to select the sampling line rectangle to convert it into an editable spline, add the "Extrusion" command, extrude it into an editable polygon, select the face and select the two edges of the object. Then repeat the above command, finally select the polygon and click delete, and dig out the door and window so that the door and window are made. After the model of the house is built, you can make a texture map for it. Open the material editor and select a shader inside it and name it "roof". Enter the "diffuse color" map inside and select the material of the roof to map. If you see that the texture scale is not very suitable, you need to add a "UVW texture" modifier to it, enter the Gizmo level, select "Select and evenly scale" to scale the texture, adjust the scale of the texture to As appropriate, this will look more realistic. The map of the exterior of the house and the map of the doors and windows and the steps in the "diffuse color" should choose the appropriate color, and then give the material ball to them.

(c). Making a rockery: Click on the "Plane" in the standard base of the Create panel on the right to

create it in the top view. The length and width are both 100mm. Select this plane to name it "Magic Mountain" and convert it to "Editable Poly". Put the right modifier down to find "Draw Distortion".

Use the push-pull function in "Drawing Deformation" to draw the approximate direction of the rockery. You can do some detail processing by changing the brush strength and the value of the push-pull value. The details should be slower. After processing the details, add a "slack" modifier to it, smooth the stretch just after, and then texture the texture of our found rockery map.

(d). The production of flowers and trees: The first is to make trees, we can use the tree model that comes with the software to create and then texture the material, but one thing to note is that the tree that comes with 3d max2016 software is very fast, but it is very fast. Its accuracy is not high enough. Here is how we build a tree ourselves. First create a "flat" in the top view, name it "tree", align the "tree" plane with the ground, and click on a shader in the material editor. In the map channel of Diffuse, paste the image of the tree we have downloaded, select another image in the opacity map channel, and assign the shader to the plane of the tree, so that the channel map We can make the effect of real trees. We are copying the plane of "tree" and rotating some angles to cross the two "tree" planes, so that the trees we render will be more realistic and Aesthetic. For the beauty of the trees, we can add a green ring to the tree. The green ring is made in this way. Click on the "ring" in the panel image on the right to create a ring in the top view, then add the ring to the ring. A "edit spline" modifier, and finally add a "extrusion" command, the thickness of the extrusion should not be too high, and then the texture map of the ring. Then put the created trees in the center of the circle and group them into a group named "tree group". And look at the scale of the model first in the view, if the proportion of the model is not suitable, then it is a little more than a few times. Return to the object hierarchy, use the Select and Move tool in the top view to move the petals along the Y axis, then click the Hierarchy command panel and click the Affect Only Axis button to zero the axes. Then close the axis control, copy the petals in the top view with the array tool, set the rotation angle to 360 degrees, select the instance type for the object type, set the number to 6, then select the starting petal, adjust its position in the left view, let These petals are seen more closely, and then the relationship between the petals is removed, so that adjusting any one of the petals does not affect the other petals. After adjusting the positions of the petals, they are combined into one. This small flower is finished. Next is the production of grass, using VRay hair, create a new "flat" in the top view, then convert it into "editable polygon", click on the point level to add a few vertices to it, then add VRay hair, adjust it The parameters of the VRay hair. The texture is then

mapped to the model using a UVW map.

(e). The production of grass and trails: First, the production of grass, click on the plane in the creation panel on the right to create in the top view, the parameters of each grass are not the same. If you want to change the shape of the grass, you can change it to the "editable polygon" and then go to the level of the point to change the vertex position to change the shape of the grass. After the grass is created, the texture map of the grass is done, so that the grass is made. Next is the production of the path, click on the plane in the standard basic body on the creation panel to create in the top view, the parameter settings of each path are also different, after creating it, give it the name "small road", click material editing Select a material ball inside to make a texture map for the path, add the image of the prepared path behind the diffuse color in the texture channel, and assign the shader to the "small road" in the scene, so that the path is Created.

#### SUMMARY

This article is to use 3D Max to model the model, use

Photoshop to process some images and design some images in order to map the model, then use After Effects to create some special effects at the beginning and end, and finally use the Premiere Pro for video dubbing. , post-synthesis and rendering output.

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# The Effects of Strategies-Based Instruction on Reading Comprehension

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**Abstract:** This paper reports an empirical study on the effects of strategies-based instruction (SBI) in Chinese EFL reading classes. The study adopted a pretest-posttest equivalent design, with 61 freshmen in Nanjing Sports Institute as its subjects, who were randomly selected into two parallel classes (EG and CG). The treatment for EG was an 10-week SBI, which integrated strategies training into regular reading classroom activities, while CG received traditional ways of teaching on reading comprehension during the same period. Multiple instruments such as questionnaire, interview were employed to detect changes in EG students.

The results indicate that the EG outperformed the CG in the posttest of reading comprehension. The finding suggests that the SBI does facilitate the students' reading performance. The analyses of the questionnaire and interview show that the EG students utilized not only more strategies but also utilized them more appropriately when compared with the CG students. We may infer that the SBI has enabled the EG students to have significant gains in the quantity and quality of the strategy use in addition to their improvement in reading comprehension. In light of the findings, the paper suggests that teachers should integrate strategy training directly into the classroom teaching plans and embed them into daily language tasks.

**Key words:** strategies-based instruction; reading comprehension; effects of SBI

The author plans to investigate the effects of strategies training on reading comprehension. Most of strategy training studies take ESL students as subjects in Western countries, whereas this study takes EFL students as subjects in Chinese context. While most of the studies use mono-method for investigation, this study combines qualitative and quantitative methods so as to produce an ultimately full picture of the effectiveness of reading strategies training from different aspects.

Group	Number	Mean	SD	t-test	
				T-value	P
EG	30	15.47	3.40	-0.11	0.91
CG	31	15.56	2.97		

\*p<.05

As shown in Table 1, the average mean of the EG from the pre-test was quiet similar to that of the EG, while the standard deviation of the EG form the pre-test was a little larger than that of the CG. Yet on

## Methods and Procedures

**Research questions:** The present study is an experimental one which attempts to find answers to the following

questions:

1. What are effects of SBI on reading performance?
2. What are the effects of SBI on the reading strategies use during the whole process?
3. Are there any correlation between reading strategies use and the reading performance?
4. What are the effects of SBI on students' affection for reading?

**Research design**  
**Subjects :** The subjects involved in this study were 61 freshmen enrolled in Nanjing Sports Institute. Thirty students comprised the experimental group (EG) and thirty-one others served as the control group (CG). The EG and CG were randomly selected to form two parallel classes at the very moment of their enrollment. Moreover, nine students from experimental group were selected to provide additional data in the form of interview regarding their strategy use and reading performance. The 9 interviewees represented three different levels of reading proficiency.

**Pretest:** The purpose of a pretest is to identify differences in comparison groups prior to the introduction of the treatment. The pretest of this study consisted of a background questionnaire and a pre-treatment reading comprehension test so as to identify the essential differences in the reading proficiency and previous systematic strategy instruction.

The results of the background questionnaire showed that the two groups did not differ significantly on any of the background characteristics, including systematic strategy instruction on reading before. The results of the reading comprehension test showed that there were no significant differences in overall reading proficiency between the EG and the CG.

Table 1 Overall reading proficiency between EG and CG in the pre-test

the whole, there were no significant difference between EG and CG. Therefore, we concluded that the EG and CG were similar on the reading proficiency as well as on the strategies-based instructions on reading before the treatment.

Treatment

SBI is a learner-centered approach to teaching that includes both explicit and implicit integration of strategies into the course content. The strategies were incorporated into the regular classroom learning activities.

In a SBI reading course, the instructor often took the following steps:

1. Selected a set of reading strategies according to the nature of different reading tasks;
2. Described, modeled, and gave examples of potentially useful strategies in details ;
3. Provided reading tasks corresponding to the strategies instructed .
4. Led small-group/whole class discussions about strategies instructed and utilized;
5. Encouraged the students to experiment with a broad range of strategies with similar reading tasks;
6. Reviewed all the strategies instructed and reinforced their functions, advantages and the appropriate situations they could be applied for;
7. Asked the students to integrate the strategies into take-home assignments for more contextualized strategies practice;

To guarantee the fairness of the treatment, both the EG and the CG students finished the same amount of in-class reading tasks and take-home assignment; these two groups were taught by the same instructor. The only difference was that the CG students received their reading instruction in a traditional way whereas the EG students received systematic strategies training integrated into the reading instruction, which resulted in different class-time arrangements and different instruction focuses for

Group	Number	Mean	SD	t-test	
				T-value	P
EG	30	24.02	2.74	3.08	0.004
CG	31	21.57	3.66		

As shown in Table 2, the overall reading mean score of EG were higher than that of CG, while the standard deviation of EG turned to be much smaller than that of CG. The findings pointed out that there were fruitful gains for EG students in their overall reading proficiency after the 10-week reading strategies training.

To conclude, the 10-week SBI on reading comprehension has exerted much positive effect on EG students' reading performance. The result shows that the EC students have outperformed the CG

each group.

Reading comprehension tests

Reading comprehension tests consisted of a series of three reading tasks. All subjects from the CG and EG were asked to complete a pretest and a posttest reading comprehension test including three tasks to determine whether there were gains in reading ability over the ten-weeks.

Questionnaire

A questionnaire was invented focusing on strategies utilization. After a pilot study, more items were added since students reported that they had used them. There were eventually 56 items in the questionnaire. The questionnaire used a 5-point-Likert scale: 1 (never), 2 (sometimes), 3 (often), 4 (usually), 5 (always).

Interview

As a complement to questionnaire and tests, interviews with 9 students from EG were carried out to gather extra information in relation to the research questions. The interviews were conducted in Chinese so that the participants could express their views freely and clearly.

RESULTS AND DISCUSSION

The pre-treatment reading comprehension test showed that there is no significant difference in overall reading proficiency between the EG and the CG (see Table 1). Yet after the 10-week SBI on reading comprehension, the result of post-test showed that EG students outperformed the CG students in the overall reading proficiency (see Table 2).

Table 2 Overall reading proficiency between EG and CG in the post-test

students in the post-test, and that the differences between EG and CG are of high statistic significance. From this finding, we assume that the SBI on reading comprehension has strong positive effects on reading achievement.

Effects of SBI on reading strategies utilization

At the end of the 10-week treatment, all the subjects of EG and CG were asked to fill in a questionnaire. The statistic results of the questionnaire in Table3 showed there were great many differences on reading strategies utilization.

Table3 Differences on reading strategies utilizationCategory	Group	Mean	Mean difference	T-value	P
Metacognitive strategies	CG	2.7422	.4098	2.855	.008
	EG	3.1520			
Cognitive strategies	CG	2.6771	.4308	2.229	.033
	EG	3.1078			
Social/affective strategies	CG	3.2500	.4755	2.399	.023
	EG	3.7255			

To conclude, the EG students outperformed the CG

students on the quantity of reading strategies use

among all the category items in the whole reading process.

#### CORRELATION BETWEEN STRATEGIES USE AND READING PERFORMANCE

The correlation coefficient between overall strategies use and overall reading proficiency was 0.331,  $p=0.008$ , which revealed that there was a positive directional relationship between overall reading strategies use and post-treatment reading outcomes. This meant that students of high reading proficiency tended to use reading strategies more frequently and successfully than those of less-high reading proficiency.

#### Effects of SBI on students' affection for reading

Verbal report data indicated that the EG students tended to have more positive attitudes towards reading and that all of them regarded the SBI as a useful method to improve their reading comprehension. Of all the 9 subjects in EG, 8 students deemed it helpful to their reading improvement; 3 regarded it very helpful and 5 considered it extremely helpful.

The SBI with emphasis on reading strategies has had positive effects on reading performance and on reading strategy use. The findings are further confirmed by the significant correlation between strategy use and reading outcomes. And the validation of this strategy training is correlated by the evidence both for the subjects' bettered affection towards reading and improvement of affective strategy use.

#### CONCLUSIONS AND IMPLICATIONS

The SBI on reading comprehension has exerted positive effects on reading achievements of the EG

students. The EG students outperform the CG students on the overall reading proficiency. The findings suggest the SBI does make differences in reading performance, and that students without the benefit of systematic training and practice in strategy use over time were consequently less adept at using certain strategies to their benefit.

In addition, data from interview demonstrate that the SBI with emphasis on strategies has facilitated EG students' affective strategies use. They become more active, more confident, more autonomous in dealing with reading tasks. They are more able to employ lowering-anxiety and self-encouragement strategies in reading as well as other tasks. This provides further interpretation of the statement that strategies control not only cognition but also affection during the learning process.

The present study has its own limitations and there is room for improvement. First, the samples of the study are more of homogeneous nature, and the size is not big enough, both of which may affect the generalizability of the research findings. Secondly, the present study emphasizes the frequency of strategy use rather than on successful use. The concern is that repeated use of a strategy may just be a sign that the learner is continuing to use a given strategy unsuccessfully. On the other hand, it may indicate that the learner has genuinely found the strategy useful. This study does not have a direct method to measure how successfully the learners used the strategies, but an indirect one. So there is a need to measure a particular strategy used at a certain point in the task performance and with certain scale of successful us

# The Effectiveness of Group Counseling on Improving Psychological Capital of Poor College Students

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**Abstract:** Objective: To explore the effect of group counseling on the increasing of psychological capital of college students with poor family. Methods: The Positive Psycap Questionnaire was selected to measure the subjects before and after group counseling. Then analyzed the data statistically. Results: (1) Before the test, there was no significant difference in the factors between experimental group and control group. The two groups were homogenous. (2) After group counseling, the scores of factors in experimental group were improved to different degrees, among which the “toughness” scores were significantly different ( $p < 0.05$ ), so were the differences in “self-efficacy”, “hope and “optimistic” scores ( $p < 0.01$ ). (3) There was no significant change in the scores of factors before and after the test in the control group. Conclusions: (1) Group counseling is useful for the improvement of psychological capital of college students with poor family. (2) The improving degree of group counseling on psychological capital of poor college students is directly related to the content of counseling.

**Key words:** Group counseling; College students with poor family; Psychological capital

## 1 FOREWORD

The disparity between the rich and the poor has put the poor students in colleges and universities under pressure from economics, academics, and interpersonal interactions. A large number of studies have shown that college students from poor families are more likely to have psychological problems than other groups, such as low self-esteem, anxiety, depression, poor interpersonal relationship, negative coping and defense methods. Their mental health status is not optimistic[1]. At the same time, it is found that some poor students have normal mental health level. They are as good, confident and active as the best among ordinary college students, and have strong adaptability and resilience. There are many reasons for this difference, but the most important point is that these poor college students have better psychological states than other poor college students, that is, they have positive psychological capital which can promote their development actively. This study integrates the concept of psychological capital into group counseling, and explores effective ways to improve the psychological capital of poor college students through group counseling.

This paper defines college students from poor families as students whose basic living expenses are difficult to meet the minimum food standard, students who are unable to pay tuition fees or use student loans to pay tuition fees, and students who do not have economic security in their daily lives.

## 2 RESEARCH DESIGN

### 2.1 Research Object

In the form of open recruitment and counselor recommendation, 20 college students from poor families were randomly selected from the students of Nanyue College of Hengyang Normal University. After communication, 10 family-poor college students with sufficient spare time were identified as members of the experimental group of group counseling for 6 times group counseling, including 4 boys and 6 girls. The other 10 students served as the control group, including 6 boys and 4 girls.

### 2.2 Research Method

Literature review method, questionnaire survey method, statistical analysis method, experimental method, etc.

### 2.3 Research Tool

#### 2.3.1 Psychological capital measurement tool

Use the Positive Psycap Questionnaire (PPQ) compiled by Zhang Kuo and other researchers (2010), including 26 project and 4 factors: hope, optimism, self-efficacy and resilience.

#### 2.3.2 Group counseling Implementation Tool

##### (1) Group counseling program

The program is designed as 6 units, conducted once a week, 45-60 minutes each time, on weekends. The location is set at the comprehensive building of Nanyue College of Hengyang Normal University. The design of the program refers to the works and papers of Luthans et al (2006, 2008), Yang Minyi et al (2010), and Fang Biji (2012). Each unit has a goal, including improving self-acceptance, self-efficacy, psychological resilience, and cultivating an optimistic and positive attitude.

##### (2) Group counseling effect evaluation questionnaire

The questionnaire consists of four closed questions and three open questions, mainly aimed at surveying members' active participation in group games, group trust, sharing and feedback, goals achieving, and application of what they have learned.

### 2.4 Research Steps

(1) Develop a group counseling program. There are

three phases: set-run-end, and six thematic activities.

(2) Determine the subject, pretest.

(3) Intervention will be performed on the experimental group, while not on the control group.

(4) After the intervention, the experimental group fill out the "Group Counseling Feedback Form". And then test two groups of subjects.

(5) Collect and organize the questionnaire, analyze the data, and draw conclusions.

### 3 RESEARCH RESULTS

#### 3.1 Difference Comparison of the Pretest Results of Experimental Group and Control Group

Table 3-1 Difference Analysis Table of Pretest Result of Experimental Group and Control Group

Scale Name	Experimental Group (N=10)		Control Group (N=10)		t	p
	M	SD	M	SD		
Self-efficacy	21.40	3.777	21.40	3.596	0.000	1.000
Resilience	24.20	2.936	22.00	5.395	1.133	0.272
Hope	22.10	3.604	20.60	3.134	0.993	0.334
Optimism	20.90	3.348	19.70	1.767	1.002	0.329
Psychological Capital Total	83.70	8.367	88.60	4.600	1.623	0.122

Table 3-2 Difference Analysis Table Between Pretest and Posttest in Control Group

#### 3.2 Comparison of Results Between Pretest and Posttest in Control Group

Scale Name	Pretest (N=10)		Posttest (N=10)		t	P
	M	SD	M	SD		
Self-efficacy	21.40	3.596	21.70	3.592	-0.635	0.541
Resilience	22.00	5.395	23.30	5.658	-1.998	0.077
Hope	20.60	3.134	20.10	3.281	0.631	0.544
Optimism	19.70	1.767	19.60	1.430	0.190	0.853
Psychological Capital Total	83.70	8.367	84.70	8.744	-1.581	0.148

As shown in Table 3-2, the data of poor college students in the control group were basically consistent before and after the test. There were no significant differences in the scores of the four dimensions and the total scale. This indicates that in a natural growth environment the control group has no

significant change in the level of psychological capital.

#### 3.3 Comparison of Results Between Pretest and Posttest in Experimental Group

Table 3-3 Difference Analysis Table Between Pretest and Posttest in Experimental Group

Scale Name	(N=10)		(N=10)		t	p
	M	SD	M	SD		
Self-efficacy	21.40	3.777	29.40	4.402	-6.414	0.000***
Resilience	24.20	2.936	28.90	2.726	-3.909	0.004**
Hope	22.10	3.604	30.00	2.309	-5.733	0.000***
Optimism	20.90	3.348	28.70	3.164	-7.341	0.000***
Psychological Capital Total	88.60	4.600	117.00	5.754	-15.650	0.000***

As shown in Table 3-3, the experimental group's psychological capital and the dimensions of "self-efficacy", "resilience", "hope" and "optimistic" were significantly different ( $P < 0.05$ ), of which the differences of total scale, "self-efficacy", "hope" and "optimism" were noticeable ( $p < 0.01$ ). This shows that the implementation of group counseling can effectively improve the psychological capital level of

the poor college students, and improve individual self-efficacy, enhance the resilience and optimism of participants.

#### 3.4 Difference Comparison of the posttest results of experimental group and control group

Table 3-4 Difference Analysis Table of Posttest Result of Experimental Group and Control Group

Scale Name	(N=10)		(N=10)		t	p
	M	SD	M	SD		
Self-efficacy	21.70	3.592	29.40	4.402	4.286	0.000***
Resilience	23.30	5.658	28.90	2.726	2.820	0.011*
Hope	20.10	3.281	30.00	2.309	7.802	0.000***
Optimism	19.60	1.430	28.70	3.164	8.288	0.000***
Psychological Capital Total	84.70	8.744	117.00	5.754	9.758	0.000***



As shown in Table 3-4, after the group counseling was implemented, the scores of the four sub scales and the total scale of psychological capital scale of control group and experimental group were significantly different. The scores of the experimental

group were significantly improved, which again shows that this group counseling is effective for the development of psychological capital.

### 3.5 Effect Survey of Group Counseling

Table 3-5 Group Counseling Effect Questionnaire

Question	Number of people who selected				
	Very consistent t (5)	Quite consistent (4)	Normally consistent (3)	Not very consistent t (2)	Not very consistent t (1)
1.In the group, I feel very comfortable.	1	5	3	1	0
2.In the group, I can say what I want to say.	1	3	4	2	0
3.I can participate in activities in the group with care.	3	5	2	0	0
4.I have benefited a lot from this tutorial.	2	4	3	1	0

As shown in Table 3-5, 90% of the poor students in the group who participated in group counseling think that they feel very comfortable in the group; 80% of the students think that they can say what they want to say in the team; 100% of the students are attentive when participating in activities in the group; 90% of college students believe that they have benefited a lot from this tutorial.

#### 4.1 Analysis of Psychological Capital Measurement Results

##### 4.1.1 The scores of four dimensions of psychological capital of experimental group have improved in different degrees

The members of experimental group participated in group counseling actively, correctly recognized themselves through various activities, learned to accept themselves, improved self-efficacy, and learned the skills of using correct psychological defense mechanisms to enhance their psychological resilience. At the same time, group counseling also helped them establish reasonable expectations and made them form a positive motivational state, so the psychological capital of experimental group was effectively improved. And the data from control group before and after the test showed that there was no significant change in psychological capital level. It can be seen that group counseling has improved the psychological capital level of the experimental group, which plays a certain role in the cultivation of positive psychological capital of college students from poor families.

##### 4.1.2 Group counseling has different effects on the four dimensions of psychological capital

The four thematic activities in the running phase of counseling activities are “regulating emotions”, “accepting self”, “igniting hope” and “challenging frustration”. In the “regulating emotions” unit, members experience emotional interaction with others, learning Emotion ABC Theory, clarify irrational beliefs, master the methods of regulating emotions, form an optimistic interpretation style. In

the "accepting self" unit, members actively participate, recognize themselves correctly, promote self-acceptance, learn positive attribution methods and positive suggestion, effectively improve self-efficacy. In the "igniting hope" unit, activities focus on helping members to establish a sense of purpose, clear goals, and analyze their own status and deficiencies rationally, discuss ways to achieve goals, which can help improve the overall level of hope of members. In the “challenging frustration” unit, members experience patience and perseverance required in insistence, learn the correct treatment of setbacks and how to effectively use the correct psychological defense mechanism, and gradually improve their psychological resilience. The aimed quality in counseling activities has been significantly improved. When the activities are easy to complete and their content is enough to attract members, their effect is more significant. The content of the unit that was aimed at “improving resilience” is too much and too deep, and the activity time is too short, and the members cannot fully experience the activity content, so the level of resilience dimension is lower than that of other dimensions. This shows that the degree of improvement of psychological capital of poor college students is directly related to the content of counseling. To conduct targeted counseling activities, it is very important to set the content reasonably.

#### 4.2 Analysis of Group Counseling Feedback

The results of the questionnaire show that college students from poor families who join group counseling can participate actively. Members trust each other and get along well. And the group atmosphere is good, which can bring them great psychological support and alleviate inner negative autism, anxiety and other states. According to the answers in the open questions, group motivation and social imitation in group counseling have a great impact on the interpersonal skills of members, and the interpersonal environment of the group members has been significantly improved. Group counseling is positive for helping poor college students recognize

themselves correctly, accept themselves, enhance self-confidence, and grow optimistic attitudes.

## 5 SUGGESTIONS

### 5.1 College Students from Poor Families Should Enhance Their Awareness of Actively Raising Psychological Capital

Compared with ordinary college students, poor college students will face more economic and academic pressures and encounter more difficulties and development obstacles. Poor college students should strengthen their awareness of their own level, improve their positive psychological capital and their sense of self-efficacy, enhance self-confidence and psychological resilience, and lay a psychological foundation for better development.

### 5.2 Schools Should Create an Active Campus Environment for Poor College Students

Schools can help with the introduction of group counseling activities and vigorously call for maximizing their role. Studies have confirmed that the effectiveness of group counseling was directly related to the selection of activity content, so schools can organize more targeted group counseling activities from the needs of students. At the same time, it can organize all kinds of campus activities, enrich the spiritual world of college students, help students find opportunities for social practice, encourage poor college students to participate and integrate into the campus, and promote their all-round development.

### 5.3 Society should provide more support for students from poor family

For poor college students, the society should take the initiative to provide more support, provide them with opportunities for social practice, and adopt a more

inclusive attitude to accept poor students to experience social life, and recognize their practicing process from a developmental perspective.

## 6 CONCLUSION

(1) Group counseling has a certain effect on improving psychological capital of poor college students.

(2) The influence of group counseling on psychological capital of poor college students is related to the content of counseling.

(3) The method of group counseling has practical significance.

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# Economic Growth of China: 1950s to 2010s

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**Abstracts :** This article will answer the question “Can China continue its rapid growth in the future” and contains three main parts. The first part is evaluating the general situation of China economy from 1952 to 2007. Then, it reviews recent literatures and generalize factors that will impact on China’s economic growth. On the final part, it provides a discussion on the current problems existing in the China economy.

**Key words:** China’s Economy Growth, accounting decomposition, policy reforms, existing problems.

## INTRODUCTION

In recent years, China’s economy growth has shown slowdown. China’s economy was always considered to be an integral part of world economic growth. By 2015, Chinese economic growth has occupied 12.9% of World’s GDP. There is no doubt that the fluctuation of Chinese economy will influence the global economy. It emerges a question that “Can China continue its rapid growth in the future?”

To answer this question, this article will be divided into 4 sections. Section 2 provides the general situation of China’s economy by presenting the growth accounting result from 1952 to 2007. Section 3 reviews recent literature and generalize the factors that leads Chinese economy to rapid increase and slowdown as well as the future economic trend of China. Section 4 discusses the problems existing in Chinese current economy. It mainly quotes the Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang (2017) “From “Made in China” to “Innovated in China”: Necessity, Prospect, and Challenges” and Yan Bai, Dan Lu, Xu Tian (2016) “Do Financial Frictions Explain Chinese Firms’ Saving and Misallocation?” to discuss two questions. The first one is “Dose China invest enough and wisely in research and

development to transit to an innovative-driven economy?”. The second is “What extent financial friction, identified using firm-level behavior, can explain saving and capital misallocation?”. Section 5 concludes.

A growth accounting decomposition for China from 1950s to 2010s

China has missed the three “Industrial Revolution” of the world. China did not start its industrialization process until 1949. Prior to 1977, Chinese average growth rate of real GDP per capital was 2.38 percent a year. From 1977 to 2007, China’s growth in per capital GDP was 6.2 percent. But from 2008 to 2015, growth in per capital GDP remained at 7.12. This sector draws on the method of Xiao dong Zhu (2012), decomposing the source of growth into capital deepening, labor deepening and productivity growth.

Figure 1 presents growth accounting result from 1952 to 2007. The data on GDP per capital before 2010 is taken from the Penn World Table (PWT7.0) version 1. GDP per capital before 2010, Labor participation rate and real investment data has merged the data from PWT9.1, UN Databases and NBS of Chinese. The physical capital stock data is constructed using Zhu’s method. The average level of human capital before 2010s is constructed using the average schooling years from Barro-Lee data updated at 2016 and the method of Hall and Jones (1999). After 2010, average schooling years is constructed using Barro and Lee (2010)’s method. According to Hall and Jones (1999), the GDP per capital can be expressed in this way using Cobb-Douglas framework:

$$\frac{Y}{Pop} = \frac{L}{Pop} \left( \frac{K}{Y} \right)^{\alpha} h A^{1-\alpha}$$

Table 1

## Decomposing China's Growth:1952-2016

Period	Average annual growth rates(%)				
	GDP per capital	Labor participation rate	Capital/output ratio	Average human capital	TFP
1952~1977	3.44%	0.91%	2.05%	1.47%	-0.50%
1977~2007	8.38%	0.73%	0.19%	1.19%	3.14%
2008~2015	7.10%	0.01%	3.16%	1.09%	1.42%
2008~2016	6.97%	-0.01%	3.16%	1.11%	1.36%
Period	Contributions to per capital GDP growth				
	GDP per capital	Labor participation rate	Capital/output ratio	Average human capital	TFP
1952~1977	100.00%	26.52%	59.46%	42.80%	-28.78%

1977~2007	100.00%	8.69%	2.22%	14.22%	74.86%
2008~2015	100.00%	0.17%	44.48%	15.35%	40.01%
2008~2016	100.00%	-0.15%	45.27%	15.93%	38.94%

The decomposition reveals that before 1977 growth was mainly coming from investment and the TFP in this period was actually deteriorated, decreased by 0.5% per year. From 1977 to 2007, aggregate productivity growth was the most important growth source. After 2007, the investment has been the main growth source. It's easy to see that the contribution of TFP continuously decrease after 1977, and the contribution of labor participation decrease in whole period. However, contribution of the capital per output ratio and the average human capital are relatively stable. And the growth rate of average human capital and labor participation rate remain in a low level in whole period. The growth rate of capital-output ratio sustains in a high level in recent decade. Connecting with the fact of recent China's economy slowdown, it implies many problems, such as the inefficient economy growth pattern, the unfavorable dependency ratio and the misallocation in China's economy. However, to discuss those problem, it's much better to start from analyzing China's economy growth based on its past experience.

China's economy growth in the past, recent and future

Growth in the past

Many literatures introduced the factors driving the China's rapid economy growth in the past. Xiaodong Zhu attribute the reasons of the rapid growth into the growth in aggregate productivity due to a series reforms.

In the aspect of agricultural sector, a reformation at rural sector shift the "collective farming system" into "rural household responsibility system" in the early 1980s. The "collective farming system" required famers farming collectively and selling all of their output to a price set by national plan. Under the "rural household responsibility system", every farm household were assigned a certain quantity output that should be sold to the government at pre-set price. However, the remained output that farmers produced could be sold at market price. Meanwhile, farmers were granted land use right. The use rights of land were assigned to farm households clearly. Those measures incented farmers to work hard and to adopt new technologies to produce extra grain as much as possible.

With the growth in agriculture productivity, the food needed by national wide people can be produced by a small part of labors. Lots of labor force was released from the land and be allocated to the sector that is more productive, which were manufacturing firm. Thus hundreds millions of farms came into nonfarm sector with lowest wage comparing with other developing countries. Meanwhile, there is a system

called "hukou", which made workers living in their home place and restricted workers migrating internally. Thus, many of them were working for the township village-owned enterprises located in rural. All these changes boost the labor's reallocation which transformed the labor from low-productivity farm activities to higher-productivity manufacturing activities and then increased the aggregate productivity.

From the nonagricultural sector, there also had many changes. In early 1980s, Chinese government implement a dual-track system which assigned state-owned enterprises' quotas of input and output transacting at set price and, at the same time, allowed them to buy input and sell output at market price. In addition, at 1990, a reformation of the township and village enterprises and of the state-owned enterprise sector allowed the state-owned enterprises to be privatized. And the non-state-owned enterprises were allowed to enter the industries in which the personal involvement was not allowed before. Most of township and village enterprises were privatized and almost disappeared. "The number of state-owned firms declined from 1,084,433 (or 24 percent of the total number of firms) in 1995 to 521,503 (or 3 percent of the total) in 2014." (Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang 2017). "Between 1978 and 1988, the share of total employment in nonstate enterprises increased from 15 percent to 39 percent. The expansion of employment in the nonstate sector was also accompanied by total factor productivity growth averaging 5.87 percent a year during this period." (Xiaodong Zhu 2012). To minimize the social instability and to reduce the resistance of the reform, there was a strategy--"reform without loss" called by Lau, Qian, and Roland (2000), which required the banks to bail out state-owned enterprises and thus provide a soft budget constraint. Therefore, the low profitable and inefficient state-owned enterprises would not be erased by market mechanism. In contrast with the state-owned enterprises, due to the pre-reform high entry barriers faced by private, those industries were inefficient and thus had huge unexplored or underexplored profitable opportunities. After the reformation, private sector grew rapidly that became the mainly force driving China's economy growth. There are two "70 percent rules" documented by Wei and Zhang (2011b) using manufacturing firm census data in 1994 and 2005. "First, approximately 70 percent of the growth in industrial value added came from private sector firms between these two census years. Second, approximately 70 percent of private sector growth in value added came from growth in the count of new private sector firms (the extensive margin), while the remaining 30 percent came from growth of existing

firms (the intensive margin).”

Aside from those changes, the local government also carried out some reform to seek to improve the economic performance of state-owned enterprises. There was system called “managerial responsibility system” which linked the workers’ income to the outcome of the enterprises. Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang (2017), pointed out “China had implemented a system of fiscal and economic decentralization that grants local governments sufficient decision-making power—and more importantly incentives—to compete with each other”. The performance of local economic growth is linked to the career advancement of the government officials, which incented the local government to seek economy growth-friendly. Since the local government had a deepening understanding toward the local enterprises, they can make more reasonable policy to boost the local economic growth. Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang (2017) also pointed out this measure could provide some protection to farms’ property right through restraining the local government officials to expropriate local firms.

In December 2001, China joined the World Trade Organization. “China’s government also started to cut tariffs, broadened trade rights, and liberalized its regime for foreign direct investment” (Branstetter and Lardy 2008). In this period, the state-owned enterprises were allowed to go bankrupt and exit the market. It provided a way to reallocate the labor and the capital among the existing firms and significantly increased the productivity. According to the Hsieh and Klenow (2009)’s research, “between 1998 and 2005, a more efficient allocation within four-digit-level manufacturing industries contributed 2 percentage points per year to aggregate total factor productivity growth in the manufacturing sector, with a significant portion of it coming from the reallocation from state-owned to non-state enterprises”.

In addition to these viewpoints, Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang (2017) also propose and supplement some factors. In the 1980s and 1990s, China’s government set up numerous special economic zones and special development zones in the coastal provinces to attract foreign direct investment in the 1980s and 1990s. Policy reforms are much easier carry out within the zone than on a national scale, and the success of reforms in the zones could facilitate the similar reforms outside the zone. Additionally, in the early years, China only had limited public funding for infrastructure. Establishing these special zones can make resources concentrated and provide firms with adequate roads, power supply, waste treatment and other infrastructure.

They also introduced two demographic factor that was favorable to economy growth. China had carried out the one-child policy which required each family can only have one child. Thus the fertility rate

decreased sharply, and the working cohort only needed to support fewer young dependents. “The fraction of prime age people in total population rose steadily for three decades, creating an unusually large demographic dividend, which in turn contributed to economic growth” (Cai and Wang 2008; Wei 2015).

Another factor was the gender ratio imbalance of the premarital cohort. The one-child policy has yielded an unexpected consequence in distorting the sex ratio in favor of boys, which emerged a social problem. “As the one-child generation enters the marriageable age, young men face a very competitive marriage market. In order to attract potential brides, families with sons choose to work harder, save more, and take on more risks, including exhibiting a higher propensity to be entrepreneurs”. (Wei and Zhang 2011a, b; Chang and Zhang 2015; Wei, Zhang, and Liu forthcoming). Wei and Zhang (2011b) estimated that there was two percentage points of economic growth contributed by the marriage competition due to the sex ratio.

Additionally, Kehoe and Ruhl (2010) compared the Mexico’s economy growth with China’s, emphasized the importance of trade openness during all economy stage and concluded that the strong central government that has been able to overcome some of the problems associated with poorly functioning markets enable China’s economy to grow rapidly.

The recent slowdown

The recent slowdown of China’s economy growth has caught much attention from scholars. Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang (2017) and Zheng Liu (2015) summarized the reasons of slowdown, including the 2008 global financial crisis causing the substantial decline of Chinese export, rapidly increased labor cost, unfavorable dependence ratio produced by a “favorable demographic structure” mentioned previously that relatively few people entering the labor force today relative to the new retirees and hence yielding an unusually unfavorable dependence ratio and the structure imbalance including the financial repression, the lack of a social safety net, the export-oriented growth strategy, and the capital account restrictions. In 2009 and early 2010, China’s government adopted a large-scale fiscal stimulus package in order to response to the 2008 crisis. “This policy accommodation significantly boosted investment growth, especially in targeted areas such as infrastructure and construction, and led to short-run booms in output in 2009 and 2010” Zheng Liu (2015). However, though this policy boosted the average growth rate of China into 8% between 2011 and 2014, the growth rate still slowed substantially comparing with 10% between 2000 and 2010 calculated by Zheng Liu. And the growth rate slowed further to 7% in 2015.

Barry Eichengreen, Donghyun Park and Kwanho Shin (2011) presented the growth accounting results calculated by Bernanke and Gurkaynak and used a

pobit model to identify the determinants of growth slowdown. They extrapolated the historical experience and claimed that “all fast growing economies eventually slow down”. Based on their research, a slower labor force growth, a slower increase in educational attainment, a slower rate of increase in the capital stock and a slowdown of TFP growth would cause economy slowdown. And the unfavorable dependency ratio, undervalued exchange rate and the low consumption share of GDP would increase the likelihood of the coming regarding the slowdown.

#### CHINA'S FUTURE GROWTH

The views on the future growth of China's economy could be divided into two groups—pessimistic views and optimistic views.

The pessimistic group believe China's economy growth would remain low in the medium term around 5 percent or lower. Barro (2016) found the recent China's economy growth is much higher than what his model of growth convergence expected. He predicted the GDP per capital growth rate would decrease from 8 percent to 3%-4% in the long run. Pritchett and Summers (2014) also proposed China's economy growth would fall to 2.3%-5.5%. In the next 20 years, “International experience suggests that rapid-growing catch-up economies slow down significantly, in the sense that the growth rate downshifts by at least 2 percentage points, when their per capita incomes reach around \$17,000 US in year-2005 constant international prices” Eichengreen (2012). Since China has almost reached this income level, the growth of GDP per capital would be 5%-6% in the next 20 years. Emphasizing the detrimental effect of aging, Cai and Lu (2015) predict that “China's potential growth rate will slow to 6.2% in the short term (2016–2020) and continue to slow down to 3%-4% in 2050, depending on the extent to which structural reforms are successfully implemented”. Based on the fact that only small group of countries can avoid the middle income trap and the existing huge size of China's structural challenges, Barry Eichengreen, Donghyun Park and Kwanho Shin (2011) claimed that it's would be a big challenge for China to jump to upper-middle-income-country status.

In addition, some of other pessimists' views are based on the estimation of the productivity. Lee and Hong (2010) found that the capital was the main sources of GDP per capital growth in the first two decades during 1981 to 2007, and the TFP is in the third decade. Based on the facts of the decline in TFP growth, less improvement in human capital and aging of population, they calculated that the economy growth of China will be 5% to 6% during 2021 to 2031.

The optimistic group tend to found that the TFP was the main factor driving China's economy growth in recently 3 decades. Xiaodong Zhu (2012) presented

the result of growth accounting of China from the 1950s to 2007s and claimed that China's economy growth will remain fast since the productivity growth could be risen by reducing the lots of existent distortions and inefficiencies in its production. Justin Yifu Lin, Guanghua Wan, Peter J. Morgan (2016) argued that the recent slowdown of China's economy growth could be mainly attributed to the external and cyclical factors instead of the domestic structural problems. And China still has many positive factors that could support a potential growth rate of 8%, including latecomer advantage provided by the productivity gap between China and other advanced economies, the relatively low level of urbanization, the low level of educational attainment and the high share of agricultural employment which could be reallocated to more productive sectors.

Justin al et also disagreed with some of pessimistic views mentioned above. As Eichengreen's view “International experience suggests that rapid-growing catch-up economies slow down significantly, in the sense that the growth rate downshifts by at least 2 percentage points, when their per capita incomes reach around \$17,000 US in year-2005 constant international prices”, Justin al et considered that “the relative level of per capita GDP compared with advanced economies is more relevant than the absolute level”. They found when China reached the level in Eichengreen's view, China's per capital GDP still only 25% of US level, which means China still has plenty of room to achieve a high rate of growth.

the existing problems in China's economy

This sector will summarize the problems in China's economy proposed by recent literature. Hsieh and Klenow (2009) suggested that China has huge capital misallocation and significantly depressed productivity. Xiaodong Zhu (2012) compared China's productivity growth with Japan, South Korea and Taiwan implied that there is big distortions and inefficiencies existing in China's production, including the state-controlled banking sector, barriers faced by private and foreign firms of entering the protected industries such as telecommunication, energy and transportation, and the tight budget constraint of private firms. Justin Yifu Lin, Guanghua Wan, Peter J. Morga (2016) referred to the ADB (2015)'s estimation of overall manufacturing capacity utilization rate in the fourth quarter of 2014 and Han (2015)'s estimation of capacity utilization rates in major industries, found that the capacity utilization rate in number of key sectors were considerable lower and pointed out that the overall share of total value-added of those industries was considerable smaller, only 11% in 2015. It implied that those industries should be restructured if the demand would not rebound recently to absorb this excess capacity. Brandt (2015) found that the share of the state sector of industrial out was still substantial, at 36% in 2008. The state-owned-enterprises are generally thought to be

more inefficient than private and foreign owned enterprises. It implied that considerable wasted capital because of state-owned-enterprises' privilege to access capital and distorted price signal caused by monopolistic conditions of state-owned-enterprises. Wan et al (2006, 2007, 2008, 2014 and 2016) identified the inequality among China's society and claimed that the high inequality would undermine the political stability and thus affect growth. However, they also found later that the inequality has been decreasing continuously and has less probability to return to its peak because of continued urbanization, abolished agricultural taxes and national wide introduced social welfare system. Guangjun Qu and Kevin Sylwester and Feng Wang (2016) and Wei Jin and ZhongXiang Zhang (2016) also did some research on the relationship between corruption and environment pollution problems faced by China and GDP growth rate.

As mentioned by Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang (2017), "China's investment to GDP ratio was already a remarkable 43.3 percent in 2015, it is hard to expect a high growth rate of productivity from continued physical investment". And as Justin et al's view, the overall share of total value-added of main industries of China is considerable smaller. Meanwhile most of factors that caused a rapid growth of China in the past cannot produce the same growth force anymore. it's very urgent for China to find a new growth engine.

#### CONCLUSION

China has remarkable growth performance in the past decades. From 1978 onwards, China has experienced a series of policy reforms in from agricultural sector to nonagricultural sector ,including the establishment of "rural household responsibility", privatization of state-owned enterprises, division of coastal special economic zones and etc. All of those institutional innovation and reforms implementation made a great contribution to Chinese growth miracle over the past 30 years. But thorough the recent data as well as the Chinese economic growth accounting decomposition, the recent economic growth trend indicated the slowdown signs. TFP and Labor's contribution to per capital GDP growth shows the marked decrease. After analyzing and generalizing the recent literature, I made to conclusions.

The first is some factors that drive Chinese fast growth has already disappeared or weakened, including the favorable dependency ratio, the low labor cost and others.

Although some scholars considered that these slowdown or invalid factor can stimulate Chinese economic development again by carrying out some simple reform such as postponing the retirement age and relaxing and canceling the restrictions on internal migration. However, there is no denying that even if these factors can stimulate Chinese economy again, China will still experience the slowdown in the near

future if China still use original economic growth pattern.

The second is some problems existing in Chinese economic system is currently increasingly and obviously influencing Chinese economic development. The People's Republic of China is a young country, with only 67 years. China did not establish the Market Economic System until 1992. Based on the China's market system today, many scholars still did not admit the status of market economy country of China. As one can imagine, on the basis of congenital condition and acquired condition, Chinese market system is not very mature and there are lots of problems in it. Many scholars discussed the problem in Chinese economy, the main viewpoint is that there is huge capital misallocation. Based on the current Chinese regime, state-owned enterprises is always considered to be an essential part of Chinese Market. However, huge misallocation inevitably occurs because of the privileges owned by state-owned enterprises in various aspects. Though the number of state-owned enterprises has continuously decreased in recent decades, and many previously forbidden industries are open to the private person, however in national key industries, including telecommunication, energy, transportation and others, the industrial monopoly still exists. Meanwhile, various favored policy for the state-owned enterprises made the unfair competition relationships in the market, which restrains the development of non-state-owned enterprises.

Hence, based on these two conclusions, I generalized two papers written by Shang-Jin Wei, Zhuan Xie, and Xiaobo Zhang (2017) "From "Made in China" to "Innovated in China": Necessity, Prospect, and Challenges" and Yan Bai, Dan Lu, Xu Tian (2016) "Do Financial Frictions Explain Chinese Firms' Saving and Misallocation?". The first dissertation provides a new thought for future Chinese economic growth: The innovation-driven growth pattern. The second dissertation specifically analyses the main problem in China's economy from the financial aspect.

Back to the original question: "can China continue its rapid growth in the future?", in my view if China wants to transit to a new growth pattern, it is hard for China to avoid a growth trough in transition period. Additionally, if China wanted to have a high growth rate base on the present growth pattern, according to the recent China's economy situation, it is difficult to imagine that China's economy growth can reach level its peak level without any practical reforms. Moreover, if China wanted to become a high-income country, China's existing growth pattern would be a considerable barrier. However, once China can meet those factors, it would provide rational reasons for us to hold an optimistic expectation toward Chinese future economic growth.

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# The Application of Meta-cognitive Strategies to Lexicon Learning in Senior High School

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**Abstract:** As the great linguist George W Wilkins said, without grammar, very little can be conveyed; without vocabulary, nothing can be conveyed. (Linguistic and Language Teaching, 1973) Lexicon plays an extremely significant role in English learning. However, it is difficult for senior high school student to remember numerous vocabularies effectively in practice; namely, learners may have not mastered systemic learning strategies. In reality, whether learners or teacher, they often pay less attention to meta-cognitive having three parts---manage, monitor and evaluate, so learners often go back and forth: planning, then monitoring, then planning again etc. Therefore, it is of great necessity for learners to deepen their knowledge of meta-cognitive and apply it into their lexicon learning.

**Key words:** lexicon learning, meta-cognitive, senior high school

## INTRODUCTION

Recently, more problems are found in lexicon learning, but due to the limitations of space and research purposes, consequently, three main problems will be mentioned.

The first one is the lack of systematic meta-cognitive strategies, hence they do not know how to plan, how to manage and supervision and how to evaluate their lexicon learning. The second one is memorizing the meaning of words in isolation, instead of combining sentences and articles. Therefore, when they meet the same vocabularies in different sentences or articles, they may not be able to get correct understanding. The third one is the speed of oblivion is too fast. Due to be short of effective strategies, many students always ignore timely review. Even if they look through words every day, they rarely remember these words.

## 1 THEORY OF META-COGNITIVE STRATEGIES

### 1.1 The Brief Introduction of Meta-Cognitive Strategies

Literally, Meta-cognition = meta + cognition, and

meta means a prefix appearing in loanwords from Greek, with the meanings beyond, meanwhile, cognition is the act or process of knowing. (Webster's Unabridged Dictionary of the English Language, Random House, 2001)

What's more, in O'Malley & Chamot's views, it can be regarded as knowledge about cognition or the management of cognition. And meta-cognition means the a knowledge of cognition, and an ability of control or regulate his/her learning process by using planning, monitoring and evaluating (1985).

Generally, planning is making an arrangement for a text. For example, learners should make a long-term and recent plan for themselves at the beginning of the new term. As for monitoring strategy, it is the process of making adjustments and monitoring learners' cognitive process in time. For instance, learners should monitor their memory process and memory method. What's more, evaluating strategy is making evaluation to learners' cognitive process and cognitive results timely.

## 2. THE APPLICATION OF META-COGNITIVE STRATEGIES IN LEXICON LEARNING

Let's take Vocabularies in Module 2 in Senior One as an example.

### 2.1 The Application of Meta-Cognitive Strategies

#### 2.1 The application of planning strategy

In this part, the most important goal is making plans and clarifying the goal of lexicon learning. In the process of lexicon learning, many students always passively complete their learning tasks which are required by teachers. For example, numerous students just look through the word list before dictation, as for other times, they don't have any plans to remember words at all. They are so blindfold that they cannot formulate an effective memory plan. Therefore, learners ought to ask the teacher for help so that they are capable of acquaintance of lexicon learning target, main points, difficult points and solutions. The following example can be used as a reference, and questions in parenthesis should be thought about before making a formal plan.

1. There are 38 vocabularies in total, and I must remember all of them in a week, so I'm going to recite six to seven words a day. (How many words are there in the unit and how many words should be recited in a day and in a week?)
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2. The adjectives (amusing, patient, serious etc.), being used to describe character and the verbs (hate, appreciate etc.), being used to express attitudes are key words. (What are the key words and phrases of this unit?)
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I have to review the words at once after remembering. After an hour, I will review again, and I will
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review the words that have been remembered before remembering the new words. (What should I do to prepare for the task?)

The learners' learning goals will be clearer and more feasible by making a study plan, and the more detailed the plan is, the better the actual effect is.

2.2 The application of monitoring strategy

In this part, the main task is checking that whether the task is carried out correctly. So learners must

abide by following actions: the first step is checking the whole progress on the task; the next is checking whether they really understand the meaning of words; the last one is checking whether they can use these words correctly. Learners may use the following table to help them better apply the monitoring strategy.

The words I have already remembered and understood:
The words I have not remembered :
The most important words and phrase in this unit:
The reasons for being able to finish the task on time:
The most difficult point for me:
The measures to solve the problem:
What I need to improve in vocabulary learning: A. Pronunciation B. Spelling C. Meaning D. Usage

Through self-monitoring, the learners can learn more about their learning situation in a more comprehensive way, and make appropriate adjustments in time.

2.3 The application of evaluating strategy

1. The actual situation of memory (assess how well they have accomplished the task of remembering): A. Perfect B. Good C. Average D. Bad E. Very bad
Reasons for completing or failing to finish this task.
The learning strategies which are used in my lexicon learning.
Whether Planning and Monitoring strategies work (assess how well they have applied the strategies).
My Introspection of utilizing the meta-cognitive Strategies:

After completing a task, all learners ought to make an analysis and judgment on their own learning situation. The following table will help learners make some appropriate adjustments to their plans.

The cultivation of self-evaluation ability can stimulate students' learning motivation because it can improve the students' ability to adjust and control themselves, meanwhile, it is beneficial to improve their learning efficiency.

CONCLUSION

With the development of globalization, English has become a language that the contemporary students must master, and the first step of English learning is lexicon learning, particularly, to senior high school learners, vocabularies are important guarantee for listening, reading, speaking and writing respectively. Therefore, in order to memorize vocabularies more effectively, learners must use meta-cognitive strategies. Planning strategy contributes to control the overall learning process, and monitoring strategy is conducive to carry out the plan correctly, what's more, evaluating strategy is propitious to make a reasonable evaluation of learning situation. Through this series of activities, the learners can not only improve the quality and efficiency of learning, but also exercise their own ability.

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# On Inheritance and Innovation of Luban Culture

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**Abstract:** Luban culture is not only an excellent traditional culture in China, but also an innovative culture, which plays an important guiding role in the development of our country. Developing Luban culture is a way of inheriting excellent Chinese traditional culture. It can increase the self-confidence of workers at grass-roots and is beneficial to promoting the long-term development of China's education, and it also can help to improve the quality of China's education industry.

**Keywords:** Luban culture; craftsmanship spirit; inheritance; innovation

It is actually the promotion of craftsmanship spirit when propagating and inheriting Luban culture. Lu Ban, the grandfather of carpenters, has a far-reaching influence in the history of our country. He has become a symbol of wisdom and diligence. Luban culture promotes the progress of social civilization and the development of all walks of life in China. Luban culture, an excellent traditional culture, needs to be passed down and must be innovated at the same time.

## 1. DEFINITION OF LUBAN CULTURE

Most of our understanding of Lu Ban comes from legends, but it is undeniable that Lu Ban was a very influential craftsman in ancient China. He is the representative of the craftsmanship spirit, which is an important part of our excellent traditional culture. The craftsmanship spirit mainly includes the following five sections [1].

First of all, Luban culture is rigorous, dedicated and quality-oriented. Luban is a great engineer and inventor, especially in carpenters. His outstanding achievements have changed our lives to a great extent. And today, techniques invented by Lu Ban are still used in many industries. In the past, the wood cut by the people with axes was not smooth, which can not achieve the expectation. Luban continued to practice and invented the planer. Therefore, he is regarded to be the grandfather of carpenters. The invention of planer can reduce the intensity of labor and improve the efficiency of production.

Besides, Luban culture is "mass entrepreneurship and innovation". After continuous practice, Lu Ban not only invented Luban ruler and planer, but also created doors and Trojan horses, and also produced military instruments. His inventions are close to life and realize the unity of "technology" and "use". The essence of "mass entrepreneurship and mass

innovation" is to stimulate people's creativity. The spirit of Luban culture is the pillar of the spirit of "double creation".

In addition, Luban culture is rule-inherited, diligent and enterprising. Lu Ban studied hard from childhood, and practiced repeatedly. He accumulated experience in practice time after time, and persisted in honesty and self-discipline when building houses for rich and noble families. That principles, rules and regulations is the embodiment of Luban spirit, instead of giving up and hard working.

What's more, Luban culture is strives for perfection and is good at self criticism and reflection. According to ancient records, after Lu Ban invented and created an item, he will not be satisfied with the existing achievements. On the contrary, he will find the shortcomings of these items, and make numerous improvements to the created items.

Last but not least, Luban culture is respecting teachers and emphasizing teaching. Lu Ban always remembered the teacher's exhortations when he worshiped his teacher. He inherited the skills, and received many disciples, preached and learned, passed on the skills learned, and trained many craftsmen.

## 2. HERITANCE AND INNOVATION OF LUBAN CULTURE

### (1) "Manufacturing in China" in Luban culture

With the development of society and economy, people's living standard has been constantly improved, and the pursuit of high-end products has become a trend. However, all kinds of fake and inferior products and low-end products circulate in our country's market. The supply and demand can not adapt to each other, the economic development is not vigorous, and the lack of technological innovation, which seriously restrict the economic development of our country and non-inheritance of craftsman spirit of Luban culture. In manufacturing in China, it is necessary to carry forward the craftsmanship spirit of Luban culture. Only if we are dedicated and quality-oriented, with innovation and striving for perfection, can the sound and rapid development of China's economy be promoted[2].

### (2) "Vocational education" in Luban culture

China's education is to train not only knowledge-based talents, but also skilled and high-quality talents. In vocational education, the "good builder" with self-reflection and criticism is to

be cultivated who is responsible, innovative, enterprising. The craftsmanship spirit of Luban culture is the spiritual core of the “good builder”. In today’s vocational education, it is often difficult for students to find jobs and technical personnel in enterprises is insufficient. This is the phenomenon caused by the inadequate inheritance of Luban culture. Therefore, only when vocational educators take Luban culture into root in vocational education and continue to inherit it, can they cultivate excellent students who can adapt to social development[3].

### (3) “Professional ethics and social morality” in Luban culture

With the rapid development of technology and economy, the wrong values such as money first and power supremacy affect people’s thinking. It can be seen that there is a lack of professional ethics and social ethics in China. Luban culture emphasizes the inheritance of rules. To do things after being a man is the embodiment of Luban craftsmanship spirit, that is, the craftsman must first have ingenuity. The so-called “people who want to cultivate themselves, first correct their hearts” is also the core spirit of Luban culture. But in many industries, there is a lack of the pursuit of quality, excellence and innovation. If they are not competitive in the market, there will be phenomena of taking improper means to seek benefits. No matter what industry, professional ethics and social ethics must be put in the first place. Only everyone has an ingenuity, can the society be able to have a good development [4].

### (4) “Innovation” in Luban culture

Invariable is also backward. Only by continuous innovation can we achieve real success. The inheritance rules of Luban culture do not mean conservatism. We need to innovate based on the principles and constantly improve the ability to create to produce products more suitable for people’s needs [5].

### (5) “Professionalism” in Luban culture

“The soul of occupation lies in ingenuity”. For the laborers themselves, the edification of Luban culture is conducive to their realization of their own value. Workers in the work constantly improve their own professional quality and professional ethics. Working for them is a kind of enjoyment. They continue to carry forward Luban craftsmanship spirit. They put

together noble morality to prevent the phenomenon of moral decline. When inherit Luban culture, teachers should focus on strengthening the training of school’s professional ethics, respecting teachers and attaching importance to teaching, and integrating knowledge with practice. In school, teachers should pay attention to cultivating students’ ideological and moral character, operational skills, cultural knowledge. And teachers should set an example to students. Luban culture should be integrated into each link of teaching[6].

### 3. CONCLUSION

The spirit of Luban culture is not only the soul of our craft, but also the basis of innovation for innovation. It is the backbone of a diligent and enterprising nation, and the scientific way of self-reflection. Faced with the current social development situation in China, it is necessary to penetrate Luban culture throughout the whole education and all walks of life. The realization of inheritance and innovation of Luban culture is conducive to the promotion of social and economic development in China. And it is beneficial to the cultivation of talents in China and the improvement of the comprehensive quality of our citizens.

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# The Strategy of College Administration in the Perspective of Information Construction

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**Abstract:** In the context of the information age, college administration must be paid attention to during the process of education modernization in colleges and universities to adapt to the development of the times. This is an important force to promote the improvement of school management. The administration has a guarantee effect on the school personnel training and logistics support, and the administrative management in the perspective of information construction is an adaption to the development of the times. By combining the author's own work experience, the article analyzes the important strategies of college administration in the perspective of information construction to promote the orderly management of each university's administrative management.

**Keywords:** information construction; administrative management; university information technology

In the perspective of information construction, the implementation of information technology in the administration of colleges and universities not only is the basis for the promotion of the level of school management, but also is an important symbol for the realization of the modernization of education. Every school should increase their emphasis on information management of administrative management, introduce advanced information equipment, and optimize hardware and software facilities, and finally improve the education level of schools, and cultivate more high-quality talents.

## 1. ANALYSIS OF THE PROBLEMS EXISTING IN THE INFORMATION MANAGEMENT OF COLLEGE ADMINISTRATION

### (1) The degree of information sharing is low.

In the context of the information age, many administrative staff of various universities began to attach importance to information sharing. However, due to lack of experience, the electronic educational system in schools is still at a low level. The administrative management platform is also imperfect, which leads to the obstruction of the construction of administrative information in colleges and universities and low degree of information sharing.

### (2) The network environment is not strong.

Nowadays, the network environment of various colleges and universities is worrying. Many non-school personnel access the campus network

through the public network. The speed of the inquiry is slower and the effect is not satisfactory. As a result, the information construction is hindered, and the entire administrative work is affected by time and space limitations.

### (3) The level of cognition of informatization is poor.

In fact, the administrative work of colleges and universities is essentially service-oriented. However, many administrative managers neglect to carry out detailed research on them, and there is serious formalism in information construction. The level of cognition and the degree of information sharing is not high, and there is still a big gap between the real realization of informatization construction of administrative management.

## 2. THE SIGNIFICANCE OF INFORMATION CONSTRUCTION TO IMPROVE THE ADMINISTRATIVE MANAGEMENT OF COLLEGES AND UNIVERSITIES

### (1) Conducive to the modernization of education

Informatization construction is the premise of realizing education modernization. Through the organic combination of information construction and university administration, it is conducive not only to reforming and optimizing the teaching mode, but also to implementing the modern teaching concept. The level of education not only affects the comprehensive strength of a country, but also affects the future of the country. Through the development of information technology to promote the development of administrative work in universities, the goal of educational modernization can be better achieved.

### (2) Beneficial to the realization of university mission and development goals

Now the educational mission of colleges and universities is to cultivate innovative talents and promote exchanges and cooperation between countries. Under the background of the information age, updating educational concepts and models can enhance the comprehensive strength of colleges and universities, and realize the informationization and innovation of college education, and better realize the development goals of colleges and universities.

### (3) Propitious to the modernization of school management

The organic combination of administrative management and informationization in colleges and universities is essentially the expression of management modernization. First of all, the office

automation through the information management system is conducive to efficient handling of office management. Secondly, intelligent information processing can better collect and process information to make the school database more perfect. Besides, changing the past paper files to save the mode to realize the information storage and management of the document. Finally, it is beneficial to realizing the sharing of educational teaching resources to ensure more users obtain high-quality teaching resources.

(4) Beneficial to integrate with internationalization

Under the background of internationalization of education, the informationization of university management needs to be integrated with the international community. The informationization of university management can enhance the international service level of relevant departments. The reform of administrative management in colleges and universities needs to learn from the experience of the developed countries, to create an open platform for international information and innovate the management model of higher education, and to adapt to the international pace.

### 3. THE STRATEGY OF COLLEGE ADMINISTRATION IN THE PERSPECTIVE OF INFORMATION CONSTRUCTION

(1) Renewing the idea of administrative management in colleges and universities

Managers of colleges and universities should firstly insist on updating the concept of administrative management, which involves many aspects such as personnel allocation and logistics management. In the construction of information, the administrators of the school should attach importance to the development of the whole.

Administrators should promote the construction of information through innovation drive and attract all the teachers and staff to participate in the work of construction of administrative management. In addition, schools should set up special working groups to improve information coordination system. The expert advisory committee is set up to provide the basis for scientific decision-making to improve information processing and organizational structure, and to enhance the level of information management.

(2) Paying attention to the management of funds input

Lack of funds in colleges and universities is an important factor hindering the development of higher education. Colleges and universities should pay more attention to the management of financial input. The total consumption of computer hardware is relatively large, so it is easy to overlook the investment of other software facilities. Colleges and universities should adapt themselves to their economic conditions, and clear their development goals, and promote the modernization of hardware facilities and software. Schools should attach importance to the construction of information infrastructure, do well in the public

services, raise the utilization ratio of funds, and realize the value of funds.

(3) designing the overall solution of informatization and doing a good job in the construction of platform and database

When building information platform, colleges must combine with the actual situation of the school, and improve the school's plan and plan, and achieve the goal of school development in an orderly way. Schools should develop the existing information resources, develop new management information systems, build open databases and systems, break through the restrictions of time and space, improve the existing information processing system, receive and deal with and transmit information in time, and facilitate better communication information.

(4) Improving the modern technical literacy of administrative staff

The organic integration of information construction and university administration is inseparable from high-quality administrative staff. Now the society has put forward higher requirements for the talents. Only by building a high-quality information talent team can we collect and deal with information better, and provide an important reserve force for the development of the school. Informational talents should not only have certain system capability and information processing ability, but also have basic technical capability. While improving the comprehensive quality of teachers, colleges and universities can not ignore the training of information technology, so that teachers can better deal with and collect information, and increase the development and innovation. University administrators should learn advanced information technology knowledge and deal with problems in administrative management with the help of information technology.

(5) Strengthening the system construction, improving the long-term mechanism, and maintaining the normal development of information technology

Institutions of higher learning should set up special organizations and improve information management and system. This institution must formulate relevant systems of school and information construction combining with the development level of schools. In addition, this specialized organization must regularly train teachers and implement new rules and regulations. Finally, the personnel incentive system in schools and human resources management must be perfect, and make the construction of administrative management informatization take a new step.

### 4. CONCLUSION

From the above analysis, it can be known that the development of information management relies on a sound institutional system, which is also a prerequisite for improving the efficiency of administrative management. There are some shortcomings in the current informatization construction of colleges and universities. By

improving the long-term mechanism, improving the information level of administrative staff and updating the administrative management concept of learning managers, it is conducive to realizing the value of administrative management information and to promoting the humanization and preciseness of the information service work of administrative management.

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# Research on Optimization of Learning Mode of Psychological Health Curriculum Based on Big Data

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**Abstract:** At present, there is no consistent conclusion about the definition of psychological health. In 1946, it was defined at the International Conference on Mental Health as: "Psychological health refers to achieving a good state of mind, being able to properly handle the relationship with others." Psychological health includes physical, mental, emotional, willing, adaptability, interpersonal coordination, positive learning and life, maintaining a good attitude at work, and lead a quality life. With the development of the times, the word "big data" has attracted more and more attention. And its application has been extensive from the initial electronic computer to the various fields of today. Mental health has always been a very important educational project, and its curriculum learning mode is constantly updated. Based on the background of big data, learning mode of mental health curriculum is becoming more and more colorful. More attention and efforts need to be injected into the road of reform and innovation.

**Keywords:** Big data; psychological health curriculum; learning mode; optimization

## 1. Mental health education in the context of big data

In the context of the era of big data, the resources of psychological health education are abundant. With the big data of mental health, a large number of dynamic psychological data of learning are prevalent in the network era. Under the background of the combination of education and network with big data, psychological education can study comprehensively at any time and anywhere, and it can be more scientifically diverse. The wanted information, rich and comprehensive, can be quickly obtained through shortcuts, which provides a wealth of educational resources for psychological health education. In the past, health education was a single consultation or one-to-one counseling, while in the context of large data, psychological health education is more about recording the psychological development of students in all aspects to develop more comprehensively. Mental health course is a necessary way to carry out mental health education and a key factor to promote students' psychological quality.

## 2. Traditional learning mode of mental health education curriculum

### (1) Learning knowledge of mental health in classroom

In traditional classroom, because of the limitation of teaching and learning time and space, the knowledge can only be limited to some textbooks. Compared with other courses, the mental health education courses are not paid attention to. Moreover, the content of the lecture is monotonous and boring, and the theory is out of touch with the reality. Students have no interest in mental health courses, which will make it impossible for them to learn profound psychological health education through the classroom. In the mental health education mode, it is often limited to the structure of psychological counseling. Therefore, students can not learn all aspects of mental health education, and only have a one-sided understanding of health education knowledge.

### (2) Learning knowledge of mental health out of classroom

The content of health education can be effectively disseminated through extracurricular publicity. However, the content of the advertisement rarely attracts the attention of students. Many of them are ignored and skipped. The methods of publicity are mostly stereotyped. There are more ways to promote mental health education outside of class, such as leaflets or posters, to publicize the study of health education, which is a way not only to waste paper resources, but also to attract no students' attention to learn. There is no new way to publicize the contents of mental health education, so that health education has not been learned by all. The weak knowledge learnt through the classroom is easy to be ignored in extracurricular activities, and it is difficult to combine with reality.

### (3) Learning knowledge of mental health through passers-by

With the development of the era of big data, the use of network resources to enrich classroom teaching content has aroused students' interest in learning. With the network resources of big data, the mental health curriculum should be reformed and innovated actively, and the video or some pictures should be skillfully used in the classroom to demonstrate and express the mental health education knowledge, so that students can have a learning understanding of mental health knowledge in a simple and clear way.

Video teaching is a popular teaching mode nowadays. What we have learned can be expressed more clearly and simply by video teaching. Many students are willing to learn knowledge by watching video. In this way, students can not only learn in a pleasant atmosphere, but also have a better understanding of all the knowledge. Adding fun in the classroom can enable students to be interested in learning and to take the initiative to learn.

#### (2) Diversification of extracurricular learning

With the enrichment of mental health education content resources, people can learn by ourselves through network service in extracurricular learning activities according to their own needs. In the era of rapid development, the teaching resources are rich and colorful. People can not only learn knowledge in the classroom, but also conduct in-depth health education through extracurricular online courses. Extracurricular activities can be carried out by participating in mental health content activities, broadcasting story knowledge, disseminating knowledge online. People can inquiry and download what you need or what you want to learn in a variety of ways. The content of mental health can be explored and researched in different regions, at different times and in different spaces through the network sharing function. The combination of a variety of different factors can make the content of mental health education more comprehensive and enriched.

#### (3) The improvement of the quality of people promotes the learning of psychological education

Based on the development of modern society, the quality of the citizens is constantly improving. And with the development of the network era, many of behaviors of passers-by will probably arouse attention and discussion on the network. The prevalence of data networks makes everyone become the focus of public opinion. Whether it is a good

behavior or a bad behavior, it will become a hot topic of discussion on the network. Therefore, through the study of mental health education, it can not only improve the quality of the people, but also set a good example of learning for students, so that students can be exposed to the content of mental health in the classroom other than the behavior in the real society.

#### CONCLUSION

In the era of big data, the times are changing, human beings are making progress, and innovation and innovations are indispensable at all times. In the state of mental health, having good quality is the basic that we should have. Society cannot be separated from talents. Broadly speaking, mental health refers to an efficient, satisfying and continuous state of mind. In a narrow sense, mental health refers to the complete and coordinated process of human basic psychological activities, that is, cognition, emotion, will, behavior, integrity and coordination of personality, which can adapt to society and keep pace with society. With the development of the times, we should pay special attention to mental health education, and we can develop the future better under the guarantee of basic morality. Therefore, mental health education curriculum has become an important research object, and should be optimized and reformed in the learning mode, so that mental health education can be better developed by optimizing the learning mode.

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# Research on Cognitive Conflicts in Foreign Language Teaching Based on Applied Linguistics

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## Abstract

In foreign language teaching, due to the differences in geography, culture, economy, humanities and other aspects, learners are easily plagued by cognitive conflicts during the learning process, which also restrict the improvement of students' comprehensive quality. Therefore, in foreign language teaching, it is necessary to recognize the essence of applied linguistics teaching, and to fully cultivate students' language thinking in the development of teaching strategy, instead of being limited to the improvement of students' language level. Based on this, this paper briefly introduces the basic definition and application significance of cognitive conflict. According to the problems of cognitive conflict in the process of applied linguistics teaching, this paper deeply studies the cognitive conflict in foreign language teaching based on applied linguistics with a view to improve the efficiency and quality of foreign language teaching in colleges and universities.

Keywords: applied linguistics; foreign language teaching; cognitive conflict; exploration

## INTRODUCTION

At present, the scope of applied linguistics research is more and more extensive, and with the gradual widening of the research field, the problem of cognitive conflict is becoming more and more obvious. This requires that English teachers in colleges and universities must pay attention to cultivating students' logical thinking in English and help students to overcome the learning confusion caused by cognitive conflicts. Cognitive conflicts are problem-oriented, which often lead to discussions of various viewpoints, and learners need to fully use intelligence to resolve them. Cognitive conflicts are often used as a teaching strategy not only to promote students to change their learning thinking, but also to let students enrich themselves more effectively in foreign language teaching. In this regard, this paper puts forward some effective suggestions on how to use cognitive conflicts for foreign language teaching in view of the problems existing in the application process of cognitive conflict in applied linguistics and the matter of cognitive conflicts that should be paid attention to in foreign language teaching.

### 1. THE CONCEPT AND APPLICATION

## SIGNIFICANCE OF COGNITIVE CONFLICT

The so-called cognitive conflict refers to a kind of thinking concept that students gradually form when they study applied linguistics. When students' newly accepted theoretical knowledge is integrated with existing theoretical knowledge, certain contradictions and conflicts will arise, but this contradiction can be used effectively. The rational use of cognitive conflict theory can not only help students to understand the teaching content more deeply, but also help students to learn English in tandem, so that students can gain a deeper understanding. At the same time, teachers fully utilize the cognitive conflict theory in foreign language teaching can not only promotes students to form clear logical thinking ability, but also can exercise students' language analysis ability. It is obvious that it is necessary to carry out teaching and research activities on cognitive conflict theory, which also has considerable practical significance in improving students' language application ability.

### 2. THE ROLE OF COGNITIVE CONFLICT IN APPLIED LINGUISTICS

Learning is an interactive process with others or by themselves. From a social and cultural point of view, simply teaching is not enough for students to master and understand knowledge. It is necessary to enable students to gain a deeper understanding in second language acquisition to gain access to knowledge internalization and to promote the update of students' language knowledge through interaction. In the teaching of English linguistics, teachers use cognitive conflict can not only achieve the effect of teaching with less effort, but also enable students to continuously make interactive adjustments through interaction so that they can better understand the teaching content.

### 3. THE DIFFICULTIES OF FORMING CORRECT COGNITION OF COGNITIVE CONFLICT THEORY

#### 3.1 It is Difficult to Form a Correct Understanding of Cognitive Conflict Theory

In the teaching of applied linguistics, it is necessary not only to assess the humanistic spirit of students, but also to improve students' language application ability. However, in practical teaching, teachers usually ignore the English language ability of students, and they do not realize the instrumentality

and humanity of applied linguistics, and they do not correctly recognize the practical application value of this subject, so it is difficult for them to form correct cognition of cognitive conflict theory, which makes it difficult to achieve qualitative improvement in applied linguistics teaching. Therefore, we must fully recognize the importance of applying cognitive conflict theory in applied linguistics teaching, and find breakthrough points in thinking to improve the effectiveness of foreign language teaching.

### 3.2 The Timing that Cognition Conflict Cuts into Foreign Language Teaching is Not Appropriate

In the process of applied linguistics teaching in colleges and universities, many teachers even realize the importance of cognitive conflict theory, but they do not give full play to the advantages of cognitive conflict theory in teaching. Teachers lack the understanding and application of cognitive conflict theory's connotation and eventually lead to the difficulty of implementing foreign language teaching reform activities. It can be seen that because the timing of cognitive conflict theory cut into foreign language teaching is not appropriate, students gradually lose their interest in learning. We should encourage students to express their personal views in learning, cultivate their own clear logical thinking ability, consolidate students' subject status in teaching, and attaches importance to the cultivation of students' ability of applied thinking and to solve problems.

## 4. THE MATTERS OF COGNITIVE CONFLICTS SHOULD BE PAID ATTENTION TO IN THE FOREIGN LANGUAGE TEACHING

### 4.1 The Inevitability to Understand the Appearance of Cognitive Conflict

In foreign language teaching, teachers usually pay too much attention to the orderliness of the classroom, and they do not want have any accident occurrence, but they will be unprepared if there is an accident. In the process of constructing students' cognitive structure, students will have a variety of questions, which is an important manifestation of cognitive conflicts. Therefore, teachers must understand the inevitability of the appearance of cognitive conflicts. When dealing with cognitive conflicts, teachers must also treat them rationally and objectively, make full use of cognitive conflicts to play an active role of teaching resources, and responded positively to unknown events that may occur in classroom.

### 4.2 Recognizing the Limitations of Resolving Cognitive Conflicts of Pre-class Preset

Teaching is a purposeful and planned activity. It requires teachers not only to maintain the order of the classroom, but also to make presuppose before teaching. Teachers need to invest enough energy in the preparation of the lesson, and to have the ability to deal with conflicts. Therefore, teachers must maintain the practicality of the teaching content when selecting the teaching materials, and broaden the knowledge and vision of the students. At the same

time, teachers must also make greater contributions to classroom presupposition by improving their comprehensive teaching level and expanding their knowledge.

### 4.3 Dealing with Cognitive Conflicts on the Basis of Respect

Teaching activities are an open and interactive process that needs to be completed through the dialogue between teachers and students. In this process, cognitive collisions will inevitably occur. In this case, teachers must avoid treating the differences in the teaching in a repressive or perfunctory way, but should affirm the correct viewpoints of the students and reserve opinions on the disputes that are incorrect or temporarily unsolvable. Therefore, it can be said that teaching is the process of generating cognitive conflicts rather than the process of eliminating cognitive conflicts. Teachers must ensure the ease and equality of the teaching atmosphere and create a harmonious learning environment for students. Only in this way can it be beneficial to successfully launch English teaching activities.

### 4.4 Solving the Cognitive Conflicts According to Their Types

In order to help students solve cognitive conflicts more effectively, teachers must first correctly judge the types of cognitive conflicts, including the actual learning level and ability of students, the setting of learning objectives, etc. Once cognitive conflict occurs, it is necessary to carry out targeted guidance according to the types of cognitive conflicts to help students improve their learning efficiency. Therefore, teachers must pay attention to improve the level of teaching cognition, classify and resolve various conflicts in teaching, and take corresponding guidance to students.

## 5. HOW TO USE COGNITIVE CONFLICTS TO TEACH FOREIGN LANGUAGES

### 5.1 Understand the Connotation of Cognitive Conflict Theory

In order to ensure the effective development of foreign language teaching activities in colleges and universities, first of all, teachers and students should be required to clarify the basic meaning of the theory of cognitive conflict, and make full use of this theory in the application of linguistics teaching to improve the quality and efficiency of teaching. At the same time, teachers should use the theory of cognitive conflict to effectively improve students' basic language abilities, so that students can master more skills in the process of language application and promote students' interest in language learning.

### 5.2 Clarifying the Goal of Foreign Language Teaching in Colleges and Universities

In foreign language teaching, teachers must clarify the teaching objectives, and adjust them according to the actual situation of students. According to the differences between old and new knowledge, teachers should set up effective knowledge fusion channels for

students to improve teaching effectiveness and improve students' comprehensive quality. And teachers should also master the balance of applied linguistics teaching and imparting the concepts of applied linguistics to students.

### 5.3 Scientifically and Rationally Launch Foreign Language Classroom Teaching Activities

In order to give full play to the advantages of cognitive conflict theory and to improve the timeliness of teaching, it is necessary to improve the timeliness of teaching classrooms, and require teachers to scientifically and reasonably carry out foreign language classroom teaching activities, to stimulate students' enthusiasm for learning, to promote the gradual improvement of students' applied linguistic abilities, and to cultivate more comprehensive language application talents for the society.

### CONCLUSION

In summary, the cognitive conflicts in the process of colleges' foreign language teaching based on applied linguistics is more and more obvious, which leads to the cognitive deviation when students are learning applied linguistics. Therefore, we must pay attention to the cognitive conflicts in foreign language teaching, and fully integrate the students' actual characteristics, ensure the timeliness of foreign language teaching, improve the students' thinking clarity, improve the students' comprehensive quality in a step-by-step manner, and play a good foundation for the future work of student. Therefore, in terms of how to use cognitive conflicts to teach foreign languages, we can fully understand the connotation of cognitive conflict

theory, as well as clarify the goals of foreign language teaching in colleges and universities, and scientifically and rationally launch foreign language classroom teaching activities to realize the educational goal of English teaching in colleges and universities and cultivate more applied and comprehensive English talents for the society.

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# Discussion on the Design Operation and Social Phenomenon of Bicycle Sharing

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**Abstract:** At present, due to the continuous accumulation of urban population in China, the scale of space is constantly expanding while the development of public transport system is not complete. The automobile has become the tool for riding instead of walk for most people. Road construction is unable to satisfy the growth of traffic demand in most cases, which is difficult to fundamentally solve the problem of traffic congestion. The phenomenon of traffic jams are so severe in many cities in China that they not just converge on the periods of morning and evening peaks. In order to figure out the problem of traffic congestion, exhaust pollution and noise pollution, bicycle sharing with going green and environmental protection has gradually entered the field of vision of people. However, for domestic market, bicycle sharing is still a new thing, which has encountered a variety of problems in practice. It has become a new topic for how to construct a stable, convenient and reliable bicycle sharing management system.

**Keywords:** Bicycle Sharing, Design Operation, Social Phenomenon.

At the moment, it is generally lower for the service level of urban public transport in China, which is difficult to satisfy the travel demands of residents. The low coverage of station, poor accessibility and inconvenient transfer result in the slow development of public transport, which can not assume its significant role in urban transportation. The transportation of bicycle is convenient and flexible, with the suitable riding distance of less than 5000 meters, which shows up an unparalleled performance compared with other modes of transportation in the short distance travel. The bicycle can be used for point-to-point trip with nonstop and speediness, as well as a press tool for public transport to crack the difficulty of the last kilometer in the end of the traffic, so as to realize the seamless joint between bicycle sharing and public transport, to complete the mass transit type in the whole trip and improve the attraction of transit trip. Compared with other individual modes of transportation, bicycle has the advantage of less occupied area. Bicycle accounts for less road resources, which can improve the utilization rate of road resources and alleviate the traffic congestion. Moreover, bicycles generally run in

non-motorized vehicle lanes and do not conflict with motor vehicles especially when there is a special road for bicycles. (Special version: due to the limitation of time factor, geographical environment, corresponding conditions, etc. , the design operation of the part in the paper take ofo bicycle as an example, and please understand the limited actual cases listed. )

From the listing of ofo bicycle, a company engaged in bicycle sharing, to the first quarter of 2017, there have been many models of bicycles. There is little distinction in the exterior design of different types of bicycles. They are all adjusted in detail, such as material of handle, bell accessories, thickness of seat cushion, the size of tires, etc. For the aspect of safety lock, there have been three types of coded lock at present: mechanical lock with touch-tone, mechanical lock with rotation type, electronic lock with touch-tone.

When you want to use a ofo bicycle: First, you must download the app software of ofo bicycle with real name registration and payment of 99 yuan cash pledge. While you open the software, the page will display nearby vehicles and you can find the bicycle you want to use. You are required to check the license plate number or QR code in front and under the seat. You can use the mobile phone to scan the QR code directly, or manually input the license plate to get the four-digit password.

Second, after the lock is opened, the page showing the password will stay for 120 seconds in order to check for problems such as whether the vehicle can ride regularly. If there is a problem, it will be requested for repair immediately. Repair can be divided into nine cases: brake failure, flat tire, lost chain, broken handle, broken lock, damaged seat, private lock, broken pedal, and incorrect password. If there is no problem, the cyclist's journey will be started.

Finally, after completing the ride, the bicycle should be parked in the assigned position and the cyclist manually closes the lock with self-consciousness. While finishing the journey, the page will display the time of riding, the corresponding cost and the end button. If you confirm to finish the journey, it will be transferred to the automatic charging page to pay the fares with riding fees of 1 yuan per hour while teachers and students for 0.5 yuan per hour. After confirmation of payment, you can share the red

envelope, pick up the discount coupon for the next use, and finally go back to the start page.

The above operation is the best ideal condition to complete a journey, and there are many problems with ofo bicycle in actual operation. In the initial operational stage of its company, the deficiencies of ofo mechanical locks have been highlighted. For example, some bicycles do not have GPS positioning system, and the location of bicycle displays in APP is not consistent with reality, so that users are not easy to find their selected vehicles. The passwords issued by mechanical locks for every coding bicycle are the same. The previous user must be used to disrupt the password disk, otherwise, the latter user can skip app software and directly unlock. Sometimes vehicles are riding for free, even stolen, and platforms are hard to detect. In addition, with a large number of launch and use of bicycle sharing, some problems about management order of bicycle sharing frequently hit headlines. Misplacing bicycles and riding with breaking rules and regulations. Some users refuse to pay the fine after breaking the law and leave the bicycle to the traffic police and so on. In China, many cities generally have the problem of uneven distribution of road space. With cycling lanes and vehicle roads or sidewalks used in common, potential safety hazard should not be underestimated. Behind the test is how to build a more mature social credit system, popularize the spirit of social contract and build a friendly environment for urban cycling. On this basis, with the help of mobile Internet, the interconnection between human to human and things can be realized in a larger scope.

Bicycle sharing can alleviate traffic congestion and relieve urban traffic pressure, so as to make the public have more choices about transport problems. At the same time, it can help to reduce emissions of motor vehicle exhaust and protect the natural environment on which everyone depends. In fact, apart from these, there are many other advantages of bicycle sharing. First, cycling can promote blood circulation and help relieve the pressure. If you often ride a bicycle, it can play the effect of physical fitness.

Encouraging people to ride public bicycles is also positive for the idea of "national fitness". Second, this is a decent way of entertainment and leisure. With the rhythm of urban life faster and faster, people are looking forward to a simple and convenient way in the busy work. They are able to make an appointment with a few good friends for a short trip and walk in the arms of nature. Third, it can help people to establish awareness of resource protection and save resources for the country. It is believed that more and more people will join the ranks of public transportation, while improving their awareness of resources protection, it also contributes to the country's strategy of saving resources.

Cycling has become a fashion while bicycle sharing system has become a city concern. Although the bicycle sharing service in China is starting soon, it is growing rapidly at an incredible speed. In order to provide cycling experience of bicycle sharing with high quality, a more reliable and convenient bicycle sharing management system is also needed except for providing better bicycles. In a word, the advantages of bicycle sharing are far greater than the disadvantages. I believe that through common research, common practice and joint efforts, we can certainly create a better blueprint for bicycle sharing system in the near future.

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# Digital Creativity and Artificial Intelligence Drive the Upgrading of Cultural Industry

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**Abstract:** In recent years, with the continuous development of society and the continuous progress of science and technology, people have ushered in a modern mode of industrial communication marked by digital creativity and artificial intelligence. With the continuous improvement of the level of human economy, people pay more and more attention to their spiritual needs. Therefore, the cultural industry as an emerging hotspot industry that people are most concerned about at present, should use digital creativity and artificial intelligence to achieve the goal of improving their industrial needs. Creativity, as a core of the cultural industry, can play a leading role in cultural communication. At the same time, digital creativity combines the latest digital media functions, resources and data sharing functions. It can bring more clear and concrete cultural transmission for the public. As a new technology, artificial intelligence has become increasingly mature, which can be integrated into the cultural industry. Its combination with digital creativity can promote the development of cultural industry communication. This paper will focus on the upgrading effect of digital creativity on the cultural industry and the driving function of artificial intelligence with digital creativity.

**Key words:** Digital creativity; artificial intelligence; cultural industry; driving upgrading

With the continuous development of social economy, the development of digital economy is becoming more and more mature. As the main trend of future social operation, the influence of artificial intelligence can not be underestimated. Cultural industry is also the new focus of people's attention at present. People can not live without the pursuit and yearning for culture in their daily life. This demand is reflected in the daily viewing of movies and TV plays, listening to music and browsing various books and periodicals. The use of increasingly mature digital creativity and artificial intelligence means can systematically analyze the information that people want to receive, and classify and integrate the information, and re-emerged in a new form. Such methods of operation are changing the production and consumption methods of cultural industries. It can not only facilitate the dissemination of cultural content, but also accurately lock cultural consumers and improve the quality of cultural industries. This paper makes a research on the promotion effect of

combining digital creativity with artificial intelligence in the field of cultural industry.

## 1.EFFECT OF DIGITAL CREATIVITY ON CULTURAL INDUSTRY

In contemporary society, with the improvement of material living standards, people are more and more pursuing spiritual prosperity. Therefore, people are more and more willing to consume cultural products, and culture has become a dominant demand. In order to be able to adapt to the needs of consumers, the cultural industry needs to do innovative planning to meet the needs of social and economic groups of consumers. With the high-quality characteristics of technology, immediacy, science, expansion, and convenience, digital creativity can be used to digitize the material database and resources. The data in the source database are extracted, the traditional cultural content is analyzed and digitally transformed, and a cultural industry content system is constructed to meet the needs of consumers. Therefore, the traditional cultural industry should make corresponding changes in time, such as adding digital creativity to the development of traditional industries, to take digital creativity as the core direction to promote the upgrading and dissemination of the cultural industry. Digital technology can be used to create film and television, music scene settings and other aspects of cultural industry foundation, to create, render and disseminate culture. And a new modern cultural industry model will be built with the use of digital creativity in the rapid technological change, production digitization, communication network, consumer personalization and other characteristics, to complete new supply and optimize new consumption. Gradually, people's attention to the cultural industry will be greatly enhanced. Only by meeting the needs of the cultural development of modern society can more and more people focus on the development of cultural industry, and can the dissemination and development of cultural industry be more optimized and upgraded.

## 2.REALIZATION OF ARTIFICIAL INTELLIGENCE IN CULTURAL INDUSTRY

With the development of artificial intelligence in recent years, the major listed companies have been aiming at this inevitable trend of development planning and development. As a new round of technological support and driving force for the industrial transformation of human society, artificial intelligence can once again gather the energy of the



scientific and technological revolution and the industrial revolution, and reconstruct new modes of production, creation, distribution, exchange and consumption. It aims to meet the needs of the development of human social industry in the new era. The demand of a new field from big industry to subtle work of human life makes people's work and life more intelligent and technological, and leads the social and economic structure of mankind to achieve the effect of reconstruction and optimization. The use of artificial intelligence can not only re-trigger human understanding of social life, but also change our traditional thinking mode to make us have a more quality work and life of material and spiritual experience. Thus, in the cultural industry, artificial intelligence technology should be integrated into the production of theatre scenery, music creation and the dissemination of books and newspapers. In the process of traditional cultural industry, artificial intelligence technology should be added to make the development of cultural industry more systematic and efficient.

### 3.DRIVING THE UPGRADING OF CULTURAL INDUSTRY WITH DIGITAL CREATIVITY AND ARTIFICIAL INTELLIGENCE

As a new concept of combining digital technology with cultural industry creativity, digital creativity has a series of high-quality characteristics, such as novelty, efficiency and convenience, which conform to the trend of the times. The scientific and reasonable nature of artificial intelligence can also help people solve some related problems in various industries. Therefore, in the cultural field, the combination use of digital creativity and artificial intelligence will be a good opportunity for the development of the cultural industry. The combination of new digital technology and creativity in cultural industry has developed into a new cultural industry concept of digital creativity. As the main research direction of social science in the future, artificial intelligence is becoming more and more mature. The scope of its application has spread from the previous research field to all aspects of our lives, which can integrate into human life. In recent years, with the deepening of reform and development, China's economic structure is constantly changing, and cultural industries are also constantly upgraded and optimized. The integration of digital creativity and artificial intelligence in cultural industry can greatly promote the upgrading of cultural industry in the field. The significance of this "cultural +" model is playing a more and more important role in the needs of contemporary society. This kind of integration development can be used to jump out of the previous cultural industry to improve the traditional mode of communication and development. Hence, the combination of digital creativity and artificial intelligence to create new development

opportunities for the cultural industry is the best choice in the context of the times.

### 4. CONCLUSION

Based on the above, it is important to introduce digital creativity and artificial intelligence in the cultural industry. The combination of digital creativity and artificial intelligence in the field of cultural industry really enables the cultural industry to achieve the high-efficiency "culture +" concept of dual development of creativity and science and technology. It makes people pay more and more attention to cultural creation and the rich spiritual content brought by culture. It also makes people in cultural industry hardly be confined to traditional industrial thinking and then to promote the cultural industry to a higher level of regional expansion and upgrading. To sum up, the dual integration of digital creativity and artificial intelligence in the cultural industry can achieve remarkable results in the breakthrough of the development of the cultural industry, which is worthy of further research and discussion in the field of cultural industry.

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# Research on Innovation and Practical Teaching of Airport Construction Engineering

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**Abstract:** Based on the analysis of the current situation of practice teaching in airport engineering, aiming at the existing problems in practice teaching, combined with the needs of airport engineering talents training, the reform of airport engineering practice teaching is discussed. The practical teaching system for training innovative airport engineering professionals is put forward.

**Keywords:** practical teaching, airport construction engineering, innovation

Airport construction engineering for the aviation industry and regional economic and social development aims to cultivate all-round development senior personnel with strong engineering practice and innovative ability, as well as a certain international perspective and good professionalism, those can do project planning and bidding, engineering design, construction, supervision and consultation in airport engineering and bridge area. Practicality is the biggest feature of the major [1].

## 1 PROBLEMS IN PROFESSIONAL PRACTICE TEACHING

### 1.1 Lack of connection in experimental practice

The course experiment is the practical link of setting up the teaching content of the course. It can be divided into confirmatory, comprehensive and design experiments. The training programs set up a number of experimental projects: mechanical properties test, soil mechanics test, concrete strength test and so on. These experiments lacking the engineering background are basically confirmatory experiments that are very theoretical [2]. It makes the students feel that the experiment distance is far from the actual project, and it is difficult to arouse the students' interest in learning.

### 1.2 Lack of initiative in professional practice

Professional practice is an important practical teaching mode of professional theory and practice of the airport construction project. Through field visits to practice bases, construction sites and manufacturing factories, it can strengthen the understanding of professional theoretical knowledge, enhance the ability of integrating theory with practice, and also improve students' professional comprehensive ability [3].

Visiting and studying the airport and road engineering to form a sense of theoretical knowledge. Combined with the course content of the construction

technology and organization of the airport and the construction of the underground engineering, students participate in engineering practice at the airport construction site [4]. There are many problems in the practice process: in the process of internship students are mainly passive visiting projects, and their active participation is not high; internship content is influenced by project progress and internship time; it is difficult to participate in the main link of the project construction, and lack of systematic and integrity.

## 2 Design of innovative practical teaching system

Practice teaching system is the guarantee of practice teaching. The practice teaching content is the core in the practice teaching system, and the practical platform is the guarantee for the completion of the practical teaching content and the realization of the ability and quality training [5]. According to the requirements of the training program for the airport engineering talents, the practical teaching system is planned from two aspects: the content of the practical teaching and the construction of the corresponding platform.

### 2.1 Planning of practical teaching content planning

The practice teaching of Airport Engineering covers not only the experimental teaching of engineering survey, engineering geology, civil engineering drawing, building materials and other courses, but also the curriculum design of airport planning and design, airport pavement design and so on, with extensive practice contents and various means.

Airport engineering practice teaching includes experimental practice teaching and professional design practice teaching [6]. According to the preliminary understanding, comprehensive training and innovation practice, the three level is to cultivate students' practical and innovative ability. The primary practice mainly refers to the verifying curriculum experiment and the basic curriculum design. Comprehensive design practice mainly refers to students' exploratory experiments and curriculum design based on knowledge and skills, using some knowledge of one course or multiple courses, or designing and implementing them. Innovative practice is the research experiment and design that students use their knowledge and put forward by themselves [7]. Design of innovative practice teaching system is given in Figure 1.

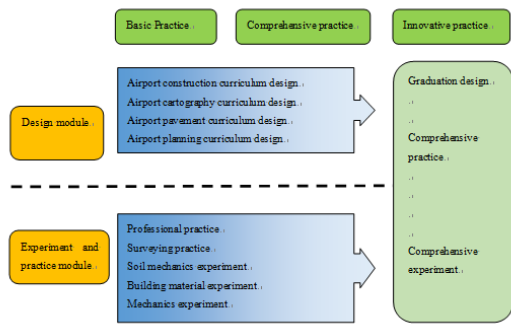


Figure 1 Design of innovative practice teaching system

Through the full investigation, reasonable design for airport construction engineering in all experimental courses and practice courses teaching syllabus and content, independent experimental courses, reform the experimental teaching system, experimental teaching contents to try to establish regulations as the basis, students were experiment table, the selection of projects, the new experimental teaching system of self complementary experimental content.

For the airport construction project seasonal, time span, practice content rich, complex construction technology and production projects cannot be repeated, the establishment of practice base and practical training base combining on-site operation training and virtual simulation experiment combined with practical teaching mode, cultivating innovation consciousness and innovation ability of students [8]. Strengthen the practice process management process and the practice examination, changing the status quo in the past only to practice report to student achievement evaluation, so as to effectively prevent the practice report plagiarism phenomenon, formed

by "practice - practice base materials for selected - practice mobilization and practice education, computer simulation of virtual practice - site practice - phase composition practice discussion and exchange a reply exchange - Performance Evaluation and other aspects of the complete production practice teaching system

In graduation design and curriculum design topic selection and content setting, it is necessary to change the past simple imitation training, gradually transition to the change to the research training.

In the curriculum design and the basic requirements of graduation design based on the syllabus, according to the characteristics of personal learning ability of students, to research deeply with the teachers' scientific research projects and related engineering problems and professional issues, thus improve students' curriculum design and graduation design of interest, give full play to their potential and innovation, to create awareness of students.

### 2.2 Planning of teaching platform system

Combining the practice teaching content system and perfecting the construction of practical teaching platform system in an all-round way. At present, the teaching platform supporting the practice of airport engineering mainly consists of 8 internal school practice platforms and 3 kinds of practice bases outside school [9]. In order to ensure the smooth development of practice teaching, and actively expand the innovative experiment project, it is suggested to expand the student independent innovation laboratory, and combine practice teaching team management and laboratory information management, and establish the practical teaching platform system shown in Figure 2.

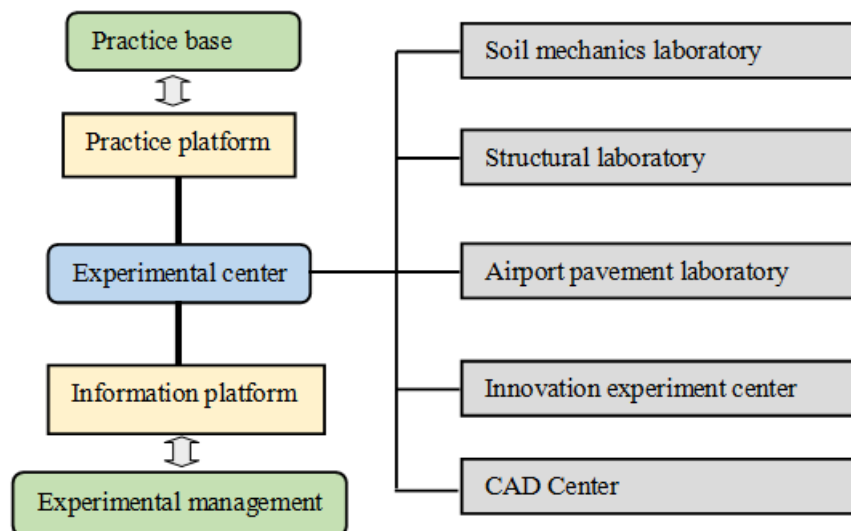


Figure 2 Practical teaching platform system

The purpose of setting up students' science and technology innovation projects is to improve students' awareness of technology participation,

scientific and technological practice consciousness, technological competition consciousness, technological innovation consciousness and observation, thinking, hands-on and creativity [10]. We should carry out extracurricular scientific and

technological activities at various levels and ways, improve students' innovative ability, carry out extracurricular scientific activities extensively, and rapidly improve students' scientific research ability by participating in Teachers' research projects.

Under the guidance of this idea, every year, a number of scientific lectures and academic reports will be held every year, and academic conferences will be held, and colorful and varied technology and cultural activities are being built to create a good campus cultural atmosphere. Through all kinds of scientific and technological activities, we can stimulate students' interest in learning, let students know all kinds of hot topics and frontiers, and encourage students to devote themselves to professional technology innovation, and have achieved good results.

2.3 Establishing a stable and practical base for the practice of production, learning and research

Combining the characteristics of the course system of the airport construction engineering and the various links of the production process, the whole process of production practice is established. The interactive virtual experiment is made through computer virtual environment, making it an important supplementary and effective auxiliary means for theory and practice teaching, so as to maximize the comprehensive quality of students [11]. The virtual experiment means are integrated into pre-class preview, training in class and practice after class, etc. The construction process is demonstrated by virtual experiment, and the use of construction equipment, construction process and matters needing attention are explained, so as to build a teaching platform for students to practice and interact with each other at any time.

Based on the actual engineering situation, the internship base participates in the formulation of the internship plan and determines the content of internship, reflecting the combination of theoretical teaching and production practice, and making the internship more targeted.

### 3 CONCLUSIONS

Based on the analysis of the practical teaching situation of the airport engineering specialty, this paper puts forward the conception of the reform of the practical teaching of the airport engineering specialty. From the aspects of teaching content and platform construction, we have planned the construction of airport engineering practice teaching, hoping to promote the practice teaching reform of airport engineering specialty, and hope to play a reference role for other similar professional practice teaching system construction.

### ACKNOWLEDGEMENT

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# An international comparative analysis of the scale of government investment in Higher Education

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**Abstract:** This paper mainly in the higher education funds accounted for the proportion of GDP, higher education funds accounted for the proportion of total education funding of higher education funds accounted for the proportion of government expenditure of three indicators as the standard, in the year 2014 as the international comparison and analysis, the average level of China and WEI and OECD countries to do, the study found that in addition to funding for higher education the proportion of the total expenditure on education is higher than the average level of WEI countries outside, the rest of the index was low. Thus the general conclusion of our government's overall investment funds for higher education is not enough.

**Key words:**International Comparison investment education funds Higher Education

## 1.STITUTION OF HIGH EDUCATION INVESTMENT IN CHINA

The higher education investment system in China is the main source of financial appropriation, and the funds raised by multiple channels are supplemented by funds. In the past, our country has been a single financial institution to invest in running the school, but the investment has been enlarged, but only the basic needs are satisfied, and at the same time, other levels of education (such as initial and middle education, etc.) have been developed, so that the financial allocation alone will not meet the development of the higher education, and the shortage of education funds will make the teaching equipment impossible to be updated in time, which restricts the further development of the high education.

State financial allocation. That is, the national finance is still a major source of funding for the education, which accounts for about 60% of the total budget of the education, which is currently at the end of the year 2015, and the Chinese government has a \$50.75% budget on education, which is a basic guarantee of the stability of the higher funding of education. However, multi-channel financing, i.e., other non-financial funding accounts for 49.25% of

the total funds of higher education, which mainly includes social groups and individuals' education funds, can effectively alleviate the pressure of insufficient funds of higher education. In particular, it mainly includes: Tuition and fees、Income from school-run industry、 and social financing.

## 2.ERMINATION OF INVESTMENT SCALE INDEX OF EDUCATION

### Basic index

In order to make an international comparison, the basic indicators are to be determined first. From the point of view of theoretical and practical needs, it is mainly divided into two categories: absolute quantity index reflecting total investment and relative quantity index reflecting investment in society.

The absolute value index is mainly applied to the comparative analysis of a country itself, which can provide a more in-depth analysis of the development and internal structure of its higher education investment scale.

In terms of the total amount of investment of higher education, it can be divided into source scale and application scale. In terms of the relative value of higher education investment, the main measure of higher education investment accounts for a percentage of gross domestic product, public higher education investment funds accounted for the proportion of fiscal expenditure, etc.

The determinants of the scale of investment in higher education

The size of higher education investment size is not discretionary or is not a determined value. The reasonableness of its scale depends on its suitability with the development of the social economy, for example:The size of a country's population、Per capita income level、the industrial structure of a country and the level of social and economic development of a country.

Investment scale of high education fund in China

Analysis of total quantity

Table 1

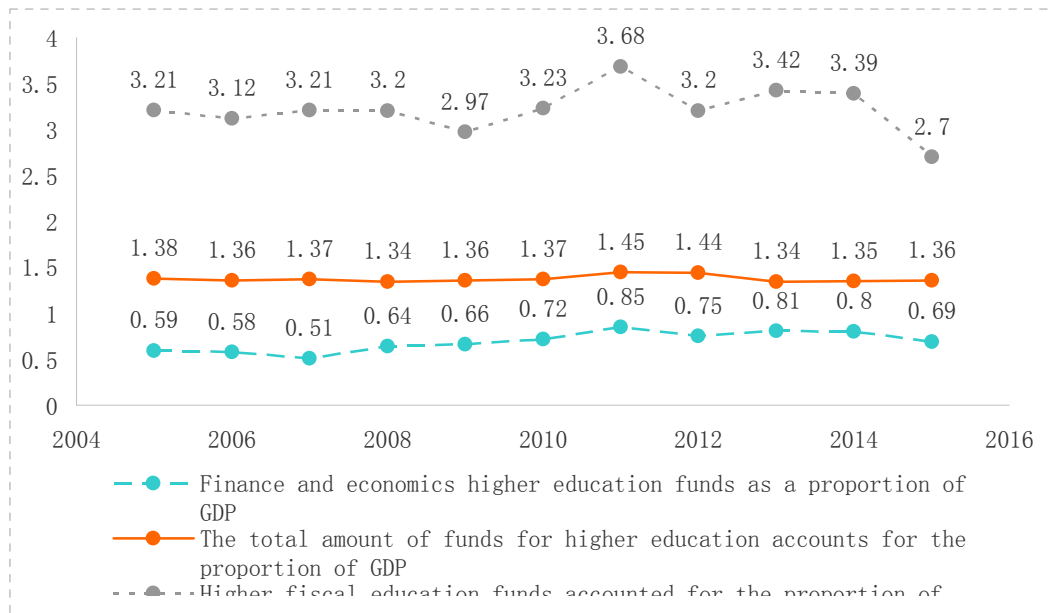
year	General financial higher	The growth rate	Total amount of	Total funding
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	education funds (one hundred million yuan)	of fiscal education	funds for higher education (100 million yuan)	growth rate of higher education
2005	1090.84	12.48	2550.24	12.96
2006	1259.57	15.47	2938.88	15.24
2007	1598.32	26.89	3634.19	23.66
2008	2003.51	25.35	4210.24	15.86
2009	2264.51	13.03	4645.01	10.33
2010	2901.80	28.14	5497.86	18.36
2011	4023.50	38.66	6880.23	25.14
2012	4034.71	2.8	7807.91	13.48
2013	4796.88	18.89	7975.77	2.15
2014	5144.88	7.25	7612.38	-4.6
2015	4752.06	-0.76	9364.11	23.01

Data source: data management according to Chinese statistical yearbook (2002-2016) Since 2005, the fund for higher education has increased steadily. The rapid growth of higher education funding, brought about by rapid economic development, has become a reality. Annual growth rate of 18.7% of the total higher education funds, and financial institutions of higher education funds average annual growth rate is as high as 20.6%. In 2014, the fund for financial affairs and education exceeded RMB 500 billion, and the total amount of higher education exceeded 800 billion yuan (RMB), which reached 869366 million yuan, which fully explained the increasing

importance of the country's importance to higher education and the development effort of the institution of higher education. The growth rate of higher education is less than the growth rate of the government's education budget, which means that our country's higher education is still a government investment, and other financing channels need to be increased, and the diversification of the funding of the education is to be achieved, and the increase in the growth rate of the non-fiscal education funds has increased significantly.

Analysis of relative quantities



Data source: data management according to China statistic annual review (2006-2016)

It can be seen that since 2005, the proportion of the total amount of higher education funds in China's GDP has been stable, basically maintained at around 1.35%, reaching 1.45% and 1.44% in 2011 and 2012. From the perspective of higher fiscal expenditure of education, except for the decline in 2007, its proportion in GDP showed an upward trend, rising

from 0.59% in 2005 to 0.69% in 2015. The proportion of education funds in financial expenditure of higher education institutions has fluctuated between 3% and 3% in the last decade. General colleges and universities in our country higher education funds to ensure the 11 years from 2005 to 2005 years, our country funds continue to rise from 109.084 billion yuan to 475.206 billion yuan, total turned over four times. However, it is worth noting that the new 2015 figures, on the

specific gravity of the financial expenditure, show a significant reduction

AN INTERNATIONAL COMPARISON OF THE INVESTMENT SCALE OF HIGHER EDUCATION Education investment accounts for a percentage of gross domestic product, is divided into the total education investment funds accounted for the proportion of gross domestic product (GDP) and public education investment accounts for a percentage of gross domestic product, including public education investment in China for financial education funds. It is still a major proportion to provide high education in public in most countries, and in some country it also plays an important role in private schools. Such as Latin America, east Asia and sub-saharan Africa and other countries. Here we mainly in five Asian countries and the bric countries of higher education investment accounted for the proportion of gross domestic product (GDP) for analysis and comparison.

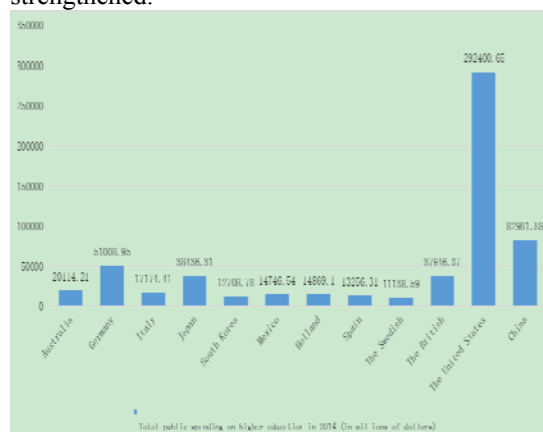
WEI(the world education indicators), According to the UN communique, 19 middle-income countries are selected from the highly sophisticated education statistical program. These countries are also representative countries on four continents. The OECD is called the "organization for economic cooperation and development", which is an intergovernmental international organization, whose membership comprises 34 markets and economic countries around the world, whose establishment aims at the challenges of the economic, social and government governance of globalization and the opportunities presented by globalization.

The proportion of higher education funding in the government's total education funding is 9.23% for the 11 countries available in 2014, the highest of which is China, reaching 19.47%, the lowest is Zimbabwe, only 2.02%.

According to the data available, the ratio of the total government expenditures in the government of WEI country is 3.78% in the total government expenditure, the country with the highest proportion is Tunisia, which is 5.67%, and the lowest country is only 2.17%, in which 6 countries are lower than the average level, including China. There are three countries with less than three percent of the total population, and there are big differences. An average of education in 22 countries in the OECD for a proportion of 3.021 per cent of government expenditure. As can be seen from the known data, the higher education funds accounted for the largest proportion of government public expenditures in Chile, 4.91%, followed by the United States and New Zealand, were 4.73% and 4.50%, respectively, are much higher than all other countries. The proportion of Luxembourg are the lowest, only 1.22%, followed by Hungary and Italy also has 1.55% to control only. In which essentially all remain in between 2 and 4 per cent. China's specific gravity is 2.7 percent. Conclusion

1. The comparison of the total higher education funds

The total expenditure of higher education in China has increased rapidly since 2001, reaching 6880.23 billion yuan in 2011, reaching 18.7% an annual average. However, in terms of data in 2014, the total investment of our government in higher education is 829.2 billion us dollars in the same year, the total investment of our government in higher education is 829.2 billion us dollars, and the country in which the data acquisition available is more than us \$10 billion, which is shown in the following figure, which is the United States of the United States in the following year, which is the United States, which is the largest in us, with a total of us \$292.4 billion, far exceeding that of other countries, which is China, but only one third of us, which is in the United States, which is actually Germany, us \$510.9 billion, which is us \$38436 million in Japan. This data only survey the government's investment in the higher education. According to the country's education system, China is mainly supported by financial support, and other channels such as donation, social school and other channels do not play an important role well, therefore, the investment of the Chinese government on the higher education is still to be strengthened.



Source: according to the United Nations educational, scientific and cultural organization website sorted COMPARISON OF OTHER DATA

According to above analysis result, to measure a country's government attaches great importance to higher education level of the three indexes: the total higher education funds as a share of GDP, higher education funds accounted for the proportion of total funding the government education and higher education funds of government public expenditure proportion of the total, our country basically all behind the average of the WEI and the OECD countries. This demonstrates from the side that our government's attention to the cause of higher education is to be further strengthened.

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# Can Your Nation Survive the Climate Change

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**Abstract:**s a result of global climate changes, such as natural disasters increase, glaciers melting, forest coverage reduction and sea level rise, the world is undergoing problems from aspects. These problems reflect the level of national vulnerability. In our article, we use the Fuzzy C-means Algorithm and the BP Neural Network Model to measure the impact of climate changes on state vulnerability.

**Keywords:** Global climate changes; National vulnerability; Fuzzy C-means Algorithm; BP Neural Network; MATLA

## 1. INTRODUCTION

### 1.1 Background

With the development of the international society, "fragile state" has gradually attracted the attention of academia and even the countries. Fragile states refer to countries that are prone to social unrest because they are exposed to a variety of factors which can cause citizens lose confidence in their own country. It's the focus of international attention whether it is easy to be a fragile state. As a result, national vulnerability arises [1]. In the past ten years, national vulnerability evaluation has become an essential academic direction. And the quantitative assessment of the state vulnerability is thought one of the core content in the research of the fragile state in the western academia. Thus, many nation-fragility-evaluate systems appeared [2].

### 1.2 Introduction of Fragile State Index

The fragile state index (FSI), also named the failed state index, is an index of national stability compiled by the American Foreign Policy journal and US Peace Foundation since 2005. They rank countries in terms of their social stability based on societal, economic, political, and military indicators. The Peace Foundation focuses on 12 indicators of social, economic, political and military, which reflect the state fragile degree and the risk of the outbreak of violence briefly[3].

We can use some specific dimensions, core characteristics to refine the connotation of fragile states, these characteristics are operable dimensions of fragile state index[4]. We learn from the FSI systems that the dimensions of the concept of FSI are generally divided into two groups, functional dimensions and structural dimensions, table 1 is shown below. The higher the FSI is, the easier an uncontrollable situation appears which might even collapse the country.

Table1. The Dimension Structure of the National Vulnerability Index

## 2.0BLEM STATEMENT AND ANALYSIS

### 2.1 Problem statement

We deal with the problem in three tasks:

We look forward to establishing a mathematical model to assess whether climate change affects the vulnerability of a country and how it works (Task 1). We analyze how climate change makes countries more vulnerable by combining this model with the 10 most vulnerable countries on the website. Then applies the model on another state not in the top 10 list to measure its fragility, and see in what way and when climate change may push it to become more fragile (Task 2). And we are requested to explain what state interventions can be taken to reduce the risks of climate change and forecast the cost (Task 3).

### 2.2 Overall analysis

We build a set of SESEE indicators (social, economic, technological, ecological and education). By means of fuzzy c-means clustering, the degree of fragility of 24 countries with different economic development degrees from six continents is evaluated. On this basis, we add the average temperature and average precipitation, and then the two climatic indexes were clustered, analyzed and concluded. And then through the BP neural network model, we test on the 10 most vulnerable countries by indexes in task 1 as the training sample, evaluating and analyzing of how the ten countries become more fragile under the influence of climatic conditions. Then we make a comprehensive evaluation of the fragility of the country, and use the angle cosine method to establish an evaluation system to find the critical point of the change of fragility degree. When accounting for what kinds of intervention and measures by the country shall adopt, which can reduce the risk of climate change, we use the method of grey correlation analysis to calculate the size of the correlation between different measures and climate conditions. And we analyze the total cost of intervention in climate change by grey forecasting model. Finally, we improve and promote the model based on the results of the model operating in different areas.

### 3ASIC ASSUMPTION

- Assuming the country's climate change is regular.
- Assuming that there are no ethnic contradictions within the country, do not consider religion and other external factors.
- Assuming the country is in the same climatic zone, and the temperature and precipitation are evenly distributed in the country

•Assuming that there is no deviation between the indexes of the model in this paper.

Task 1 requires to develop a model that determines a country’s fragility and simultaneously measures the impact of climate change. We selected twenty-four countries from six continents, including developed and developing countries. And these countries are numbered from 1 to 24 in the order of the chart. Then, we select five SESEE index: Labor force

participation rate, total (% of total population ages 15+), GDP per capita, Research and development expenditure (% of GDP), Renewable internal freshwater resources per capita (cubic meters), Expenditure on education as % of total government expenditure (%) according to the society, economy, science and technology, ecology, education.

Table2. Five Index of Vulnerability

Sector	Indicator	Significance
Economy	$x_1$	GDP per capita
Ecology	$x_2$	Renewable internal freshwater resources per capita (cubic meters)
Society	$x_3$	Labor force participation rate, total (% of total population)
Education	$x_4$	Expenditure on education as percent of total government expenditure (%)
Science and technology	$x_5$	Research and development expenditure (%)

Table3. Ecological Index

Sector	Indicator	Significance
Climate	$x_6$	Annual mean temperature
	$x_7$	Average annual precipitation

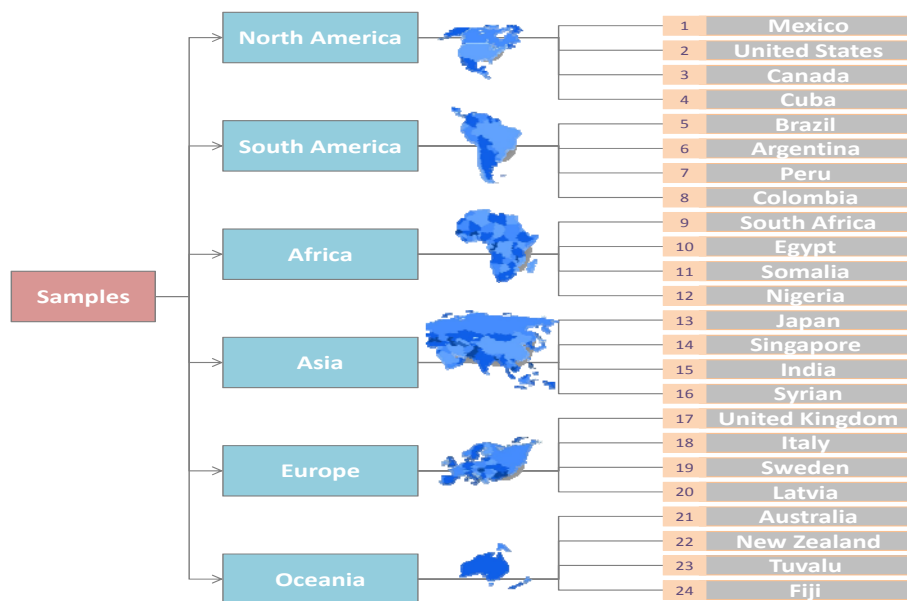


Figure1. Selected country

5.2 Model preparation

Fuzzy c-means clustering means dividing N vector  $x_i (i = 1, 2, \dots, N)$  into c fuzzy set and locate the clustering center of each group so as to make the objective function of the dissimilar index minimum. Then, we can determine the membership degree of the dissimilar index to each group by the given data points between 0 and 1.

We divide these 24 countries into fragile, vulnerable and stable though these five indicators. Then, we

perform clustering analysis twice coupled with two indicators that measure ecological change: the annual average temperature change and the annual precipitation change. By analyzing the results of the three clusters, we can get the impact of climate change on national vulnerability. Finally, we remove one item which is influence-item from the five indicators and group the left four indicators with the two climatic indicators in turn.

Table4. The data of Country index

Country	MEX	USA	CAN	CUB	BRA	ARG	PER	COL	ZAF	EGY	SOM	NGA
$x_1$	8208.56	57638.14	2157.97	602.2	8649.95	212440.3	6049.23	5805.61	5284.6	3477.85	434.21	2175.67

		80181.03332.227721.0				52981.044882.0							
$x_2$	3292.5	8845.96	4	4	4	6793.62	2	7	827.38	19.61	444.01	1252.4	
$x_3$	61.31	61.89	65.2	54.34	63.67	59.85	76.65	70.37	54.72	47.99	46.11	55.15	
$x_4$	19.07	14.55	12.22	10.23	15.97	14.72	17.6	15.05	19.13	10.51	9.46	8.53	
$x_5$	0.55	2.79	1.62	0.43	1.17	0.59	0.12	0.24	0.72	0.72	0.18	0.22	
Country	JNP	SGP	IND	SYR	GBR	ITA	SWE	LVA	AUS	NZL	TUV	FJI	
$x_1$	38900.552962.4				2058.040341.430674.851949.214064.649927.839416.3								
$x_2$	7	9	1709.59	4	1	4	7	6	2	6	3083.625233.47		
$x_3$	3378.48	109.69	1117.59	371.4	2244.123002.18	4	8496.42	5	7	6	3		
$x_4$	60.21	68.46	53.79	41.07	62.34	48.62	64.04	60.62	64.81	69.21	59.25	58.24	
$x_5$	9.29	19.96	14.09	19.18	13.88	8.01	14.94	13.96	13.9	17.99	10.23	14.03	
$x_6$	3.28	2.2	0.63	0.3	1.7	1.33	3.26	0.63	2.2	1.15	0.85	0.82	

5.3 Model establishing--fuzzy c-means clustering

Set  $X = \{x_1, x_2, \dots, x_N\} \subset R^p$ ,  $R^p$  represents the space of p - dimensional real vectors, make  $u_{ik}$  mean that the kth sample belongs to the membership of

class I,  $0 \leq u_{ik} \leq 1$ ,  $\sum_{i=1}^c u_{ik} = 1$ ,  $v_i$  represents the cluster center of class I, so a fuzzy c-means clustering of  $X$  is to find the minimum value of the objective function under the above conditions:

$$J(X, v_1, v_2, \dots, v_c) = \sum_{k=1}^N \sum_{i=1}^c (u_{ik})^m (d_{ik})^2$$

Among them,  $d = \|x_k - v_i\|$  is the k th sequence to the Euclidean distance of the class I center.

A new auxiliary function constructed by Lagrange multipliers:

$$\bar{J}(X, v_1, v_2, \dots, v_c, \lambda_1, \lambda_2, \dots, \lambda_N) = J(X, v_1, v_2, \dots, v_c) + \sum_{j=1}^N \lambda_j (\sum_{i=1}^c u_{ij} - 1) = \sum_{k=1}^N \sum_{i=1}^c (u_{ik})^m (d_{ik})^2 + \sum_{j=1}^N \lambda_j (\sum_{i=1}^c u_{ij} - 1)$$

The necessary condition for  $J(X, v_1, v_2, \dots, v_c)$  obtaining the minimum value :

$$v_i = \frac{\sum_{k=1}^N (u_{ik})^m x^k}{\sum_{k=1}^N (u_{ik})^m}$$

$(i = 1, 2, \dots, c; 1 < m)$  and

$$u_{ik} = \frac{1}{\sum_{i=1}^c \left(\frac{d_{ik}}{d_{jk}}\right)^{\frac{2}{m-1}}} \quad \forall i, \forall k$$

The fuzzy c-means clustering algorithm is a simple iterative process by the above two necessary conditions. The specific steps are as follows:

- (1) Take c,m and initial membership matrix, and iterate steps I=0.
- (2) Calculating the clustering center:

$$u_i^{(l)} = \frac{\sum_{k=1}^N (u_{ik}^{(l)})^m x_k}{\sum_{k=1}^N (u_{ik}^{(l)})^m} \quad (i = 1, 2, \dots, c; 1 < m)$$

$$u_{ik}^{(l+1)} = \frac{1}{\sum_{j=1}^c \left(\frac{d_{ik}}{d_{jk}}\right)^{\frac{2}{m-1}}}$$

- (3) Correcting U:  $\forall i, \forall k$

- (4) For a given  $\epsilon > 0$ , in the actual calculation, the initial function value should be calculated by

iteration, until  $\max\{|u_{ik}^l - u_{ik}^{l-1}|\} < \epsilon$ , algorithm termination, or  $l = l + 1$ , turning to (2).

If  $u_{jk} = \max\{u_{ik}\}$ , it belongs to category j.

5.4 Model solving

Step1: By clustering SESEE indicators, we get this result:

Table5. Country classification I

Classification	Country										
Fragile	MEX	CUB	ARG	ZAF	EYG	SOM	IND	LVA	SYR	NGA	
Vulnerable	BRA	PER	COL	NZL	TUV	FJI					
Stable	USA	CAN	JNP	SGP	GBR	ITA	SWE	AUS			

Step2: By clustering SESEE indicators with variable

$x_6$ , we get this result:

Table6. Country classification II

Classification	Country												
fragile	MEX	CUB	SGP	ZAF	EYG	SOM	IND	LVA	SYR	NGA	BRA	COL	TUV
vulnerable	ITA	PER	CAN	NZL	SWE	FJI							
stable	USA	AUS	JNP	ARG	GBR								

Step3: By clustering SESEE indicators with variable  $x_6$ 、 $x_7$  , we get this result:

Table7. Country classification III

Classification	Country										
fragile	MEX	CUB	ARG	ZAF	EYG	SOM	IND	LVA	SYR	NGA	
vulnerable	TUV	PER	CAN	NZL	COL	FJI	BRA				
stable	USA	AUS	JNP	SGP	GBR	ITA	SWE				

Step4: By clustering four indicators of SESEE indicators with variable  $x_6$ 、 $x_7$  randomly while eliminating ecological indicators, the results shows that the clustering results were completely identical with the third step.

5.5 Result analysis

Through the analysis of the results we can find that: when combining SESEE indicators and climate indicators, the countries under each category has great changes, and any remove of SESEE indicators that are related to ecology will cause numerous changes. Since the ecological index is closely related with the changes of annual precipitation, we can find that climate changes the country's fragile index indirectly by influencing its ecological environment and the influence is far-reaching.

5.6 Model test

We conduct a series of tests on the model and analyze the effectiveness of clustering results by Friedman test:

$$R_i = \frac{1}{N}(R_{i1} + R_{i2} + \dots + R_{is})(i = 1,2,\dots,s)$$

$$Q = \frac{12}{s(s+1)} \sum_{i=1}^s (R_i - \frac{s+1}{2})^2 \sim \chi^2(s-1)$$

$$R_{i+} = NR_i = R_{i1} + R_{i2} + \dots + R_{is}(i = 1,2,,s)$$

$$Q = \frac{12}{Ns(s+1)} \sum_{i=1}^s R_{i+}^2 - 3N(s+1)$$

Using MATLAB software, the results of the above clustering are tested by Friedman and the test level is  $\alpha = 0.5$  , The differences between different types of tests and two types of mergers were examined, and the differences between them were large. The differences between the categories were small, and the results were consistent with the basic principles of clustering.

6. TASK II

6.1 Task analysis

Task 2 requires us to select one of the top 10 most fragile states as determined by the Fragile State Index and determine how climate change may have

increased fragility of that country and use our model to show in what way the state may be less fragile without these effects. As we can find, these ten countries are: South Sudan, Somalia, Central African Republic, Yemen, Sudan, Syria, Democratic Republic of Congo, Chad, Afghanistan and Iraq. These countries are generally unstable and poor of resources and suffered from war. We introduce BP neural network to evaluate and analyze Task 2 based on the fuzzy c-means clustering and its conclusion. BP neural network has the characteristics of simple structure, good plasticity and is widely used in function approximation and pattern recognition. The model structure is shown in the figure

.6.2 Model preparing

6.2.1 BP network structure

Set of BP neural network of three layers, namely the input layer, hidden layer and output layer. This section aims to input in the neural network by the normalization and to determine the positive and negative correlation. The final state is calculated through the hidden layer and output layer to obtain fragility state grades. Among them, the input layer contains five nodes. The output layer contains one node, which represents the state of national fragility.

We can learn from the known data that the website's assessment criteria for the country include the following 12 points: Security Apparatus, Factionalized Elite, Group Grievance, Economic Decline, Uneven Economic Development, Human Flight and Brain Drain, State Legitimacy, Public Services, Human Rights and Rule of Law, Demographic Pressures, Refugees and IDPs, External Intervention. We find that compared with the models established by the task, the ecological indicators were lacking, and the climate change factors were not taken into account. We test the samples of these countries through the BP neural network.

Set the pair samples  $(X, Y)$

is  $X = [x_1, x_2, \dots, x_m]'$  ,  $Y = [y_1, y_2, \dots, y_n]'$  ,The

hidden layer neurons are  $O = [O_1, O_2, \dots, O_l]'$  . The network weight matrix between the input layer and

the hidden layer neurons  $W^1$  and the network weights between the hidden layer and the output layer neuron.  $W^2$  are

$$W^1 = \begin{pmatrix} w_{11}^1 & w_{12}^1 & \cdots & w_{1m}^1 \\ w_{21}^1 & w_{22}^1 & \cdots & w_{2m}^1 \\ \vdots & \vdots & \cdots & \vdots \\ w_{l1}^1 & w_{l2}^1 & \cdots & w_{lm}^1 \end{pmatrix},$$

$$W^2 = \begin{pmatrix} w_{11}^2 & w_{12}^2 & \cdots & w_{1m}^2 \\ w_{21}^2 & w_{22}^2 & \cdots & w_{2m}^2 \\ \vdots & \vdots & \cdots & \vdots \\ w_{l1}^2 & w_{l2}^2 & \cdots & w_{lm}^2 \end{pmatrix}$$

The threshold of the hidden layer neurons

$$\theta^1 = [\theta_1^1, \theta_2^1, \dots, \theta_l^1]^T,$$

$$\theta^{21} = [\theta_1^2, \theta_2^2, \dots, \theta_l^2]^T$$

The output of the hidden layer neurons is:

$$O_j = f\left(\sum_{i=1}^m w_{ji}^1 x_i - \theta_j^1\right) = f(\text{net}_j), j=1,2,\dots,l$$

Among them,

$$\text{net}_j = \sum_{i=1}^m w_{ji}^1 x_i - \theta_j^1, j = 1, 2, \dots, l; f(\cdot) = \sum_{l=1}^l e_l < e$$

, is the transfer function of the hidden layer.

The output is:

$$z_k = g\left(\sum_{j=1}^l w_{kj}^2 O_j - \theta_k^2\right) = g(\text{net}_k), k = 1, 2, \dots, n$$

Among them,

$$\text{net}_k = \left(\sum_{j=1}^l w_{kj}^2 O_j - \theta_k^2\right), k = 1, 2, \dots, n, g(\cdot)$$

is the transfer function for the output.

The error of network output and expected output is:

$$E = \frac{1}{2} \sum_{k=1}^n (y_k - z_k)^2 = \frac{1}{2} \sum_{k=1}^n \left[ \sum_{j=1}^l w_{kj}^2 (O_j - \theta_j^2) - \sum_{i=1}^m w_{ki}^1 \left( \sum_{j=1}^m w_{ji}^1 x_j - \theta_i^1 \right) - \theta_k^2 \right]^2$$

Error E maps the weight of the hidden layer and the output layer neuron about the partial derivative of  $w_{kj}^2$  is

$$\frac{\partial E}{\partial w_{kj}^2} = \frac{\partial E}{\partial z_k} \times \frac{\partial z_k}{\partial w_{kj}^2} = -(y_k - z_k) g'(\text{net}_k) O_j = -\delta_k^2 O_j$$

Among them,  $\delta_k^2 = (y_k - z_k) g'(\text{net}_k)$  Error E maps the weight between the input layer and the hidden layer neurons about the partial derivative of  $w_{ji}^1$  is

$$\frac{\partial E}{\partial w_{ji}^1} = \sum_{k=1}^n \frac{\partial E}{\partial z_k} \times \frac{\partial z_k}{\partial O_j} \times \frac{\partial O_j}{\partial w_{ji}^1} = \sum_{k=1}^n (y_k - z_k) g'(\text{net}_k) w_{kj}^2 f'(\text{net}_j) x_i = -\delta_k^1 x_i$$

From the former two formulas, the adjustment formula of the available weight is:

$$\begin{cases} w_{ji}^1(t+1) = w_{ji}^1(t) + \Delta w_{ji}^1 = w_{ji}^1(t) - \eta^1 \frac{\partial E}{\partial w_{kj}^1} = w_{ji}^1 \\ w_{kj}^2(t+1) = w_{kj}^2(t) + \Delta w_{kj}^2 = w_{kj}^2(t) - \eta^2 \frac{\partial E}{\partial w_{kj}^2} = w_{kj}^2(t) + \eta^2 \delta_j^2 o_j \end{cases}$$

Among them,  $\eta^1$  and  $\eta^2$  is respectively the training step of the middle layer and the output layer.

In the same way, error E maps threshold of the output

layer neurons about the partial derivative of  $\theta_k^2$  is

$$\frac{\partial E}{\partial \theta_j^1} = \sum_{k=1}^n \frac{\partial E}{\partial z_k} \cdot \frac{\partial z_k}{\partial O_j} \cdot \frac{\partial O_j}{\partial \theta_j^1} = - \sum_{k=1}^n (y_k - z_k) g'(\text{net}_k) w_{kj}^2 f'(\text{net}_j) (-1) = \sum_{k=1}^n (y_k - z_k) g'(\text{net}_k) w_{kj}^2 f'(\text{net}_j) = \delta_j^1$$

The threshold values of the formula for the adjustment of the upper and lower formulas is:

$$\begin{cases} \theta_j^1(t+1) = \theta_j^1(t) + \Delta \theta_j^1 = \theta_j^1(t) + \eta^1 \delta_j^1 \\ \theta_j^2(t+1) = \theta_j^2(t) + \Delta \theta_j^2 = \theta_j^2(t) + \eta^2 \frac{\partial E}{\partial \theta_j^2} = \theta_j^2(t) + \eta^2 \delta_k^2 \end{cases}$$

The threshold value and connection weight of each layer of neuron node are adjusted repeatedly, and the error between network output and target output is set within the setting precision, namely:

### Training sample

To successfully train a neural network model, it relies heavily on the quality of the selected samples and the representativeness of the selected samples. If the training samples are not representative, the value of the model will be discounted or even useless. There are seven factors that we use, of which there are two climatic factors, namely five independent variables of the network input.

### 6.3 Model establishing

Step1: Building a BP network.

MATLAB provides the newff function to create a BP network:

Step2: Training samples

Step3: Checking the network

### 6.4 Model solving

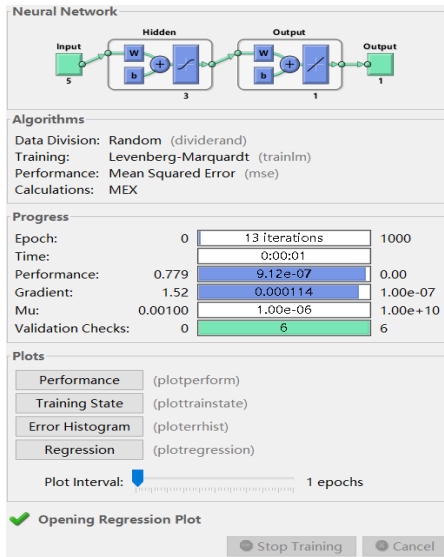


Figure2. Neural network in this problem

The first weight after network training is:  
 iw1 = -0.7319    -0.1358    -0.1262    -0.5297  
 -2.7245  
           3.4604    -6.3176    -1.5641    -1.7445  
 -1.0429  
           0.8237    0.1502    3.0086    -0.8076  
 1.8608

The test results G=3.0070 1.8413 3.2732 1.0017  
 0.9998 1.0071 1.2418 1.0490 0.9976 1.0054

The matching degree is: 85.709726%

6.5 Result analysis

Analyzing the results, we know the ten countries fragility index in our model given by the matching degree is higher, and the evaluation grade conform to the rankings, as known. It can be concluded that the climate affected by ecological factors and influence the fragility of the country. At the same time, apart from the effects of climate, we find that other factors have a slower impact on national fragility.

7.TASK III

7.1 Task analysis

In the first two questions, we've figured out whether and how the climate change influences the country's fragile degree. We've learned that the climate change influences the country's fragile degree by changing the ecological indicators. The impact of climate change on ecological forms mainly includes natural disasters, sea level rising and the shortage of resources. These three forms are expected to lead to the loss of their livelihood, economic decline, and directly insecurity or forced-migration-insecurity. These factors may contribute to political and economic instability, social disintegration, and inappropriate responses by immigrants and governments when combined with poor governance, social inequality, and poor neighborhoods relationships[5]. So, it is essential to control these ecological factors from the root.

Through clustering multiple ecological factors, we finally find that the utilization of water resources is a very important indicator, which has the greatest impact the results of clustering and BP neural model. Therefore, it is a particularly effective way to construct water conservancy facilities such as reservoirs. It is also very effective to set up national ecological environment protection zone. The we use the method of grey correlation analysis to calculate the correlation degree between different measures and climatic conditions and figure out the total cost of state intervention[6].

7.2 Model establishing

We have a grey relation between the natural disasters in the United States in recent years and the cost of the post-disaster reconstruction and budget on environmental protection[7]. The data are as follows:

Table8. Correlation index data

Indicators	Year	2017	2016	2015	2014	2013
	Hurricane frequency		21	17	13	13
Flood frequency		7	6	9	4	6
Drought frequency		8	9	6	4	10
Extreme weather frequency		6	5	7	9	10
Earthquakes frequency		10	8	7	5	8
Building water conservancy costs		864.5	751.4	621.5	643.1	726.8
The cost of establishing city parks		31.2	28.4	14.8	14.2	16.7
Tsunami cost		168	136	104	104	184
Fire cost		120	106.5	110.5	116.5	102.4
Spending on environmental protection		281.4	262.9	251.7	236.2	218.5
Extreme weather costs		214.2	185.3	146.7	168.4	190.5

We establish the grey relational matrix with the data and obtain the correlation matrix  $r$  through

MATLAB:

$$R = \begin{pmatrix} 0.8131 & 0.8121 & 0.7357 & 0.6173 & 0.8703 \\ 0.7846 & 0.7584 & 0.7531 & 0.6029 & 0.8319 \\ 1.0000 & 0.7704 & 0.7761 & 0.6326 & 0.8419 \\ 0.7153 & 0.7906 & 0.6610 & 0.6547 & 0.7637 \\ 0.7301 & 0.7711 & 0.7014 & 0.6343 & 0.7963 \\ 0.8166 & 0.7881 & 0.7101 & 0.6114 & 0.8416 \end{pmatrix}$$

To facilitate analysis, the program will have a histogram output, as shown in the figure below:

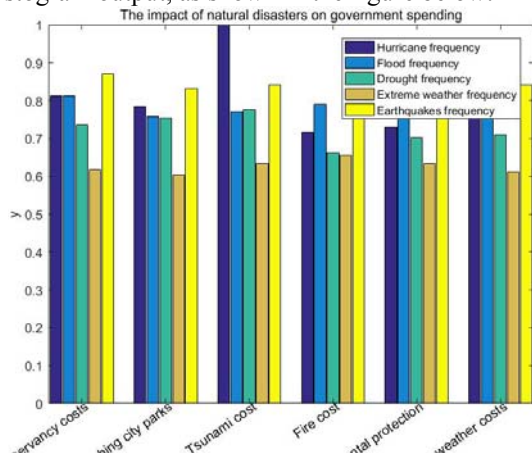


Figure3. The grey correlation between natural disasters and national expenditure costs  
According to the graph and matrix  $r$  data, the

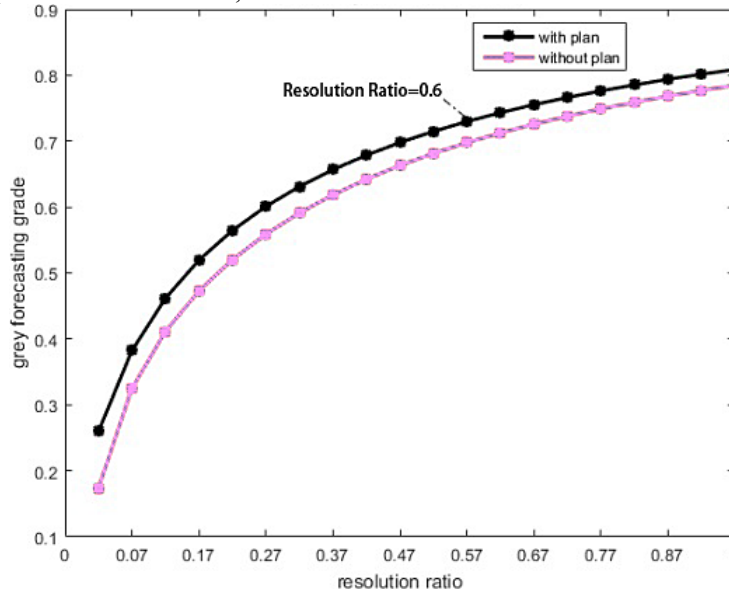


Figure4. The sensitivity of resolution ratio  
Take the example for the long-term plan. It is obvious that grey rational grade with our plan is high than that without plan. And with the increase of resolution rate, the grade initially increases than tends to remain unchanged. Apparently, the  $\delta=0.6$  is a good choice. In this paper, we have considered the indicators of the fragile countries and evaluated the indexes of different fragile grades, within the climate and without the climate indicators. And forecasting when

analysis is as follows:

As we can see that  $r_{31}=1$  is the largest number. This shows that hurricanes and tsunami have the greatest impact, which means that effective ways to the prevent a tsunami when hurricane appears can reduce government spending significantly[9].

City parks, nature reserves, the reservoir are related to a variety of damage to a large extent. This shows that the earthquake may lead to the largest loss of the property, thus nations should do a lot of preparation for the infrastructure[10].

We add the expenditure of the state to build water conservancy, establish nature reserves and urban parks so as to predict the change of expenditure in recent years through the grey prediction model.

Finally, we found that the United States government had spent about \$117.71 billion on these measures in 2017, and it's growing at a speed of 10.47% per year. In the end, we can budget out that the budget of the U.S. government in the prevention of climate change will be about \$130.034 billion in 2018.

### 7.3 Sensitivity analysis

In our model of grey relational analysis, the grey rational grade varies from different resolution ratio  $\delta$ . We test the sensitivity of grey rational grade with and without our plan.

the country will reach different levels of fragility. Comparing and analyzing the losses caused by different natural disasters to the country and predicting the future costs of changing the natural environment caused by climate change.

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# Customer Relationship Management integrated CRM strategy plan

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**Abstract:** In order to improve the effectiveness of company's product and service, many companies have use Customer Relationship Management to ensuring the efficient of performance. The CRM can assist the sustainable development of the company, therefore this research will detailed introduction the concrete content of CRM.

**Key words:** Customer Relationship Management; Development; SWOT analysis

## INTRODUCTION

Customer relationship management which can be used to track and improve interaction with customers by enterprises is an information system (Chen & Popovich, 2003). The effective CRM project plan can ensure the efficiency of performance, and it will build a database about its customers in order to match customer needs and increase profitability for company (Nguyen, 2007). This paper will introduce the David Jones Company's CRM project is based on one-to-one marketing approach, and it will select SAP CRM software to use in its marketing automation application. The first part will briefly introduce the background of David Jones, and then it will analyse the internal and external environment around this company. The next part will identify CRM project objective, and select CRM vendor product suite to achieve these objectives. The final part will introduce the implementation of this project including infrastructure requirements, training, timeline and budget.

## SWOT analysis

### Strengths (internal)

As the company continues to invest in media to introduce more new brand for customers, the visitor numbers is doubled to 5.4 million throughout 2012/13 (Annual report, 2012). The updating of online shopping activities including 10% discount and different gift policy may produce 288% increasing in sales volume on 2012 (Direction plan, 2013). Company also has complete system that built customer membership to create customer loyalty, and it has used this information to identify loyal customers and potential customers (Direction plan, 2013). At same time, the digital contacts may assist company to communicate with customer and delivery important customer related information, and it has attracted additional 8000 Facebook fans (Direction plan, 2013).

## WEAKNESSES

With the increasing number of visitors come into Australia, the international customers may visit DJS. However, the company's activities are mainly focusing on local customer, and it may lack marketing automation to make customer segmentation (Annual report, 2012). The revenue of DJS is declined 6.7% through 2012-13 (Magner, 2013). DJS management has no clear capabilities to create customer analysis no matter in profitability or timely information (Annual report, 2012).

## OPPORTUNITIES (EXTERNAL)

The feedback of individual and group customers from digital use will influence the strategic decisions of the company including IT technology and customer relationship management, and it will help company analyse the marketing (Direction plan, 2013). Over 300 national and international new brands will ensure visitation rate (Annual report, 2012). The increasing trends of using e-communication tools all around the world can lead to increasing of popularity of DJS no matter in Australia or foreign areas, and the company can improve the online integrated direct marketing (Annual report, 2012).

## THREATS

The department stores industry annual growth is -1.9% from 2009-2014 as the weak retail environment and low consumer confidence after the global financial crisis (Magner, 2013). As the factors influencing customer decision making is not only the credit crisis but also the competition from domestic and international retailers, DJS earnings fell by 47.2% over the five years through 2012-13 (Fitzpatrick, 2013). As consumers are willing to pay down debt and increasing saving, DJS still need to face difficult trading environment (Magner, 2013).

## CRM PROJECT OBJECTIVES

As DJS market share is 1.4% and the industry annual growth is 2% from 2013-18, it is continuing to improve its digital use and in-store activities in order to facilitate its short-term investment return, and keep its current most profitable customers via CRM system (Fitzpatrick, 2013). Currently, it focuses on telecommunication that may capture and recognise its target customers' needs, such as Facebook and its web store (Direction plan, 2013). It provides Omnichannel to achieve its strategic objective that increases its sales volume and create customer loyalty (Direction plan, 2013).

### 3.1 The overarching objectives

It attempts to introduce new communication technology reach a larger group of organizations and customers in order to increase Gross Profit Margin, and it may increase the digital use to improve its online environment to keep its current customers that ensure profit increasing (Nguyen, 2007). From the DJS Direction plan (2013) it can be known that when company strengthen its core business that built one-to-one marketing in Australia marketing, it can be integrated with CRM system to increase customer loyalty. The campaign management will create customer records that establish customer-related data in order to improve business performance and relationship management, and it will increase customer retention rate and meet customer satisfactory to increase the profitability of company (Direction plan, 2013).

Selected CRM Suite and analytical capabilities

David Jones will select SAP system to help the company can perform successfully and increase profitability by fully understand customers (SAP marketing, 2013). Before choosing the CRM solution it should be known that customer centric-information of DJS is the key section for company's future development (Nguyen, 2007). More exactly, the company's sales volume is decided by the effective marketing planning that followed by customer centric-information (Chen & Popovich, 2003). It should be known current and potential customer's behaviour and needs, and then create customer loyalty and company's profitability. From this case the profit of this company after tax is decreased in 2012 as it may lack complete customer-centric information to keep its current customers (Annual report, 2012). As mentioned before this CRM project is based on the one-to-one marketing framework, consumers' feedback may affect the company strategic decisions (SAP marketing, 2013). DJS management will implement a suitable solution that utilizing SAP Business suite. It is the SAP CRM solution that can divide customers into different groups and engage customers with personalized and differentiated experiences across all channels to achieve its objectives, and it will help DJS focus on marketing campaign to attract customers (SAP marketing, 2013). The approach of solution is followed by: customer segmentation, dividing customer based on the needs and value, campaign management, create personalized and better experiences, customer loyalty management.

Customer segmentation

Siebel CRM solution may use integrated platform helps that company can differentiate its business to achieve maximum growth, and it has contact centre application that can be used to resolve customer issues quickly and effectively (Siebel CRM, 2008). However, The SAP CRM will be used to target the right audience with the best offers across every customer segment through identifies target audiences

(SAP marketing, 2013). As customer will contribute to the firms' profitability and time and cost will be saved by target groups, the integrated database should be captured to make customer segmentation for DJS (Katta, 2008). MySAP may provide completely approach that combines transactional and external data to know all aspects of customers (Katta, 2008). For example, the e-marketing tool of SAP CRM may make demographic-based target group outline that it will divide customer groups based on income or age (E-marketing for SAP CRM, 2013). Hence, the company can focus on different audiences to make suitable strategy, and it will select target group to save marketing costs that implement effective marketing campaign (Payne & Frow, 2005). This segmentation also can help DJS to use adaptable criteria ensure valuable customer that are profitability (Payne & Frow, 2005).

Dividing customer based on the needs and value

One objective of this project is to build and maintain loyal and valued customer relationships. Customer lifetime value can be used for a company define the customer value and evaluate the customer value from two points of view: current value and potential value, and customer value is the contribution of relationship between customer and company (Payne & Frow, 2005). For example, SAP CRM may help DJS use criteria to evaluate the customers, such as frequency of visitation and average consumption (Winer, 2001). The customers who high level of consumption will have high value. If customers visit stores one time a week, they may have high potential value even though they may not have expense (Bohari et al, 2012). The divided approach helps firm treat each customer differently rather than treating all customers same (Payne & Frow, 2005). DJS will allocate its limited resources to obtain maximum return as CLV can help company evaluate the investment in retaining the customer in order to achieve positive returns (Reilly, 2013).

CONCLUSION

The purpose of this paper is identifying CRM project for David Jones, and it will integrate on one-to-one marketing framework. The selected product-SAP CRM can help company overcome the weakness and keep customer loyalty because of using customer-centric information. SAP CRM provides a complete system that DJS can know the customer needs, and it can divide its target customers to create effective marketing campaign. It will use CLV theory to better management its relationship with customers.

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# Reflections on Innovation of Discipline Inspection and Supervision System

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**Abstract:** One of the key contents of China's anti-corruption construction is the reform and innovation of the discipline inspection and supervision system. The main ways to curb corruption are to actively promote the Party's style of work and anti-corruption work, the most important of which is the Party's discipline inspection and administrative supervision. Under the background of reform and opening up, the work of discipline inspection and supervision in China has encountered unprecedented opportunities for development, but new problems have emerged. Therefore, it is necessary to improve and perfect the existing problems in the future development. This paper will make relevant research on the discipline inspection and supervision system.

**Keywords:** Discipline inspection and supervision system; problem; improvement; innovation

Let the Party's discipline inspection and administrative supervision work develop towards the direction of standardization and institutionalization, which is the innovative content of discipline inspection and supervision, to make the socialist democratic civilization construction be fully guaranteed. It takes a long time to carry out discipline inspection and supervision and there are certain challenges and difficulties in the process. Compared with some developed countries, the time for China's development is still relatively short. So the implement of the discipline inspection and supervision system in accordance with the system of Western countries is unfavorable for China's development. China's discipline inspection and supervision system should be improved based on the actual situation of national conditions. In order to be able to match the development needs of the new era, the discipline inspectors must fully enrich their own experience and continuously innovate their work to ensure the development and completeness of their system.

## 1. PROBLEMS IN THE WORK OF DISCIPLINE INSPECTION AND SUPERVISION

(1) The independence of the discipline inspection and supervision system is seriously insufficient.

In addition to the previous level of disciplinary inspection organs, the leaders of the discipline inspection and supervision organs in China have the same level of Party committees, which leads to the lack of independence of the discipline inspection and

supervision organs in some situations, such as handling their cases, supervision and inspection work, giving warnings or punishment measures. Therefore, if the main leaders of a local unit do not pay enough attention to the discipline inspection and supervision work, and the leaders themselves can not abide by the relevant principles of discipline inspection and supervision, which is likely to cause certain obstacles to the implementation of the entire discipline inspection and supervision work. It will cause serious adverse effects on the anti-corruption struggle. Specifically speaking, the five systems of supervision within the Party have not been fully implemented. In particular, the lack of supervision by the Discipline Inspection Commission over members of the Party Committee at the same level makes it difficult to implement the independence of the preliminary approval of the case to the Discipline Inspection Commission. Nominally, the management mode of the leading cadres of the next level of the Discipline Inspection Commission is called "dual management", but the actual management mode is "passive management". The management of the Discipline Inspection Commission is simply a form of management, which fails to implement the unified management in practice. The establishment of the Discipline Inspection Commissions at all levels are more difficult.

(2) The problem of offside is more serious.

There are three major tasks for Discipline Inspection Commission to deal with, that is, to conduct investigation on violation of disciplines, to supervise and inspect the integrity and self-discipline of Party members and leading cadres, and to correct the unhealthy tendencies existing in departments and industries [1]. The purpose of the establishment of the Discipline Inspection Commission is to help the Party committees to carry out the work of building a clean and honest government and fighting corruption. However, the fact is that the Discipline Inspection Commission has done a lot of government work. For example, the Discipline Inspection Commission undertakes the responsibility for the construction of a clean and honest government. If Party committees and governments at all levels can shoulder their responsibilities in the work of building a clean and honest government, the construction of a clean and honest government will be implemented and be put into practice. The effect will definitely be very significant.

(3) The skills of discipline inspection departments have low.

At present, globalization and computer informationization are developing at a relatively fast speed, which leads to more and more scientific and professional economic and trade activities, and to the development of corruption in the direction of intelligence and internationalization. However, there are not enough advanced discipline inspection and supervision techniques and capabilities to adapt to this modern development. There are many factors restrict the development of administrative authority.

(4) The quality of discipline inspection cadres is relatively low.

It is difficult for the staff of the discipline department to operate. The unhealthy social factors and the salary remuneration have some influence on the operation of the discipline inspection works, which makes the staff of the discipline inspection department have not firm ideological principles, and the work motivation is seriously inadequate. It is prone to form the phenomenon that the staff delay to do the work. Moreover, the discipline inspection team has not employ new talent for a long time, and the age of the original personnel is getting older, making the overall quality is relatively low.

## 2. MEASURES TO IMPROVE AND PERFECT DISCIPLINE INSPECTION AND SUPERVISION

### (1) To perfect internal mechanism

The first one is to ensure the personnel, equipment, funds and technical means of discipline inspection and supervision departments can be matched with the needs of the work [2]. The discipline inspection and supervision staff also need to have good business quality and moral quality. They must resist temptation and always keep uncorrupted. Therefore, building a scientific mechanism is necessary, in which the employment of personnel, business-related training, welfare benefits have the corresponding provisions. The mechanism provides guarantee for the introduction of high-quality talents. At the same time, in order to achieve better results in the implementation of the work of discipline inspection and supervision department, the relevant government departments should provide security for the staffing establishing, office equipment and office funds of discipline inspection and supervision department.

### (2) To create a new system of discipline inspection and supervision

Generally speaking, the leaders of the Party committees at the same level assign their work functions to the Discipline Inspection Commission, so it is necessary to ensure that the discipline inspection and supervision departments have their independence and autonomy when implementing the work. The Discipline Inspection Commissions at the same level and the Party committees at the same level supervise each other's work and functions. Thus, the intensity of supervision itself has been significantly

strengthened, and the effective prevention of supervision has weakened. For example, if only a few people or individuals hold too much power in a unit, it is possible that the situation of individual monopoly occurs at work.

### (3) To increase the penalties appropriately

The current law of "Criminal Law of the People's Republic of China" focuses on investigating the criminal responsibility of the parties involved in corrupt crimes such as corruption and bribery [3]. Although the criminal responsibility is more severe, its economic punishment is relatively weak. The fundamental purpose of corruption and bribery is to obtain more economic benefits. So it is possible to consider the criminal and civil proceedings for corruption offences to fully recover the illegally earned money. In addition, the penalties of the bribery party should be increased appropriately and the property of the bribery party should be completely confiscated [4]. Only by reasonably strengthening the penalties of corrupt elements can the rampant trend of corruption be obviously curbed.

### (4) To increase the probability of investigation of cases

The discipline inspection and supervision departments should improve information collection and analysis effectively, so that the probability of finding and punishing corruption behavior has been significantly increased. The discipline inspection and supervision departments can implement law enforcement inspection, administrative supervision and financial audit work by means of comprehensive census or random sampling survey. Strengthening the work of information collection and analysis [5], so that officials can be clear that their work will be subject to the supervision and audition of the discipline inspection and supervision departments. Thus officials know how to work according to law, making corrupt criminals get a thorough blow to the lucky psychology.

## 3. CONCLUSION

Discipline inspection and supervision works need to be carried out for a long time, which can play a role in promoting the building of a clean and honest government and fighting against corruption in China. The achievement of anti-corruption work carried out by China in the new era is relatively satisfactory, but there are still shortcomings in its work, so it is necessary to constantly innovate the work of discipline inspection and supervision. Discipline inspection and supervision departments should recognize their own development opportunities and shortcomings in the new era, and correctly handle the opportunities and shortcomings, so as to make discipline inspection and supervision work better.

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# Research on University Ideological and Political Education under the Background of Big Data Era

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**Abstract.** In recent years, the research on university ideological and political education in the context of the era of big data has become a hot topic. The research results of this paper are mainly embodied in the following aspects: elaborating the development trend of university ideological and political education in the context of the big data era, and the countermeasures to solve problems, which is of great practical guiding significance for the work of university ideological and political education in the new era.

**Key words:** big data, ideological and political education, research review

## 1. DEVELOPMENT TREND

### 1.1 Opportunities and Challenges

The application of big data has brought new opportunities and challenges to the ideological and political work of universities in the new era. In terms of opportunities, as the network that big data is relying on is characterized by openness, rapidity and vitality, the space and time of ideological and political education moves from "a real world" to "a virtual world". The contents of ideological and political education are more abundant, and many fresh information resources can be used for the work of ideological and political education. The methods of ideological and political education are more diversified. The means are more advanced and the forms are more attractive. Pertinence and effectiveness of education have been significantly enhanced. In terms of challenges, network big data not only changes human society as a technological force, but also affects human society as a cultural force. Developed countries attach great importance to the political role of the internet, publicize their own standards, systems, values, economic, cultural and political models on the internet, and conduct ideological penetration. Therefore, for the work of ideological and political education in colleges and universities, higher requirements are put forward for its contents, methods, and means of education. The main status of ideological and political education and the quality of ideological and political education workers are also facing severe challenges [1].

### 1.2 Features

In the era of big data, university ideological and

political education presents the following features. First, it acquires students' ideological and behavioral dynamics on the basis of data analysis. Second, it overcomes the deficiencies of inferring based on experience or intuition, and is able to realize the "full sample" data analysis and the "accurate description" of integrity, so as to make the work decision of ideological and political education scientific and supported empirically. Finally, it gives full play to individualized education teaching and enhances the pertinence and effectiveness of ideological and political education.

### 1.3 Changes Brought about

Big data has brought the following changes to the ideological and political education of universities: first, education subject and object have changed. The application of big data and the diversification of information channels have led to the change of the new teacher-student relationship. The acquisition mode of knowledge is more in line with students' cognitive needs, and the concept of subject and object of education is gradually blurred. Second, the education space is three-dimensional and multidimensional. In the age of big data, it is not limited by time and space, but always in the state of knowledge expansion. The teaching place is not confined to the classroom. The fragmented reading experience is combined with the mobile phone terminal, and data is being transmitted and received all the time. Third, education pays more attention to teaching quality. In the era of big data, it pays attention to students' sensory education, thinking cultivation and behavioral guidance. Finally, education influence is positively correlated with a teacher's personal charm. The teacher who has appeal and affinity plays the role of opinion leader. The more authoritative and charismatic the teacher is in the field of education, the more students are willing to accept his or her opinions and resonate with him or her, thus producing the best education effect of "resonance", "common progress" and "common" natural education [2].

### 1.4 Innovation of Concepts

a. Concept of quantitative schema. "Numbers are the essence of everything." Students' daily learning, communication, life, and different behavior paths in other areas are integrated digitally to scientifically

quantify the data which delineates the sequence of social hot spots that university students concern, ideological and behavioral characteristics, trend of teaching quality and so on by visual colorful graphics, icons, curves, etc., providing important empirical support for the scientific decision-making of ideological and political education, the objective evaluation of teaching quality, and the process of supervision and restriction.

b. Education concept of personalization. The value of big data is not only in data collection, digging and analysis. But more importantly, it is based on the data analysis to provide personalized education public products for specific student groups or individual students to meet their ideological demands [3]. For example, students can carry out individual independent online learning or organize learning teams for discussion by themselves by means of MOOC at home and abroad, so as to stimulate their autonomous learning interest and passion and improve personalized learning motivation and effect [4].

c. Concept of accurate study and judgment. In the era of big data, samples are all. Without the interference by local errors or individual differences, teachers can judge students' recent public opinion trends, state of mind, value guidance, psychological warning, etc., to make a targeted countermeasures for public opinions, ideological education, or provide a scientific basis for psychological intervention according to the data of college students in study, life, social communication and other aspects [5].

## 2. COUNTERMEASURES

### 2.1 Basic measures

The potential value of big data lies in the analysis and mining of data. First measure is data collection. The research center of big data education is established, and the integrated information collection platform is built. Through the targeted data collection from the offline ideological and political education course teachers, counselors and other teachers who organize thematic, thematic network questionnaire surveys, network learning and communication, students' behavioral thoughts and expression of views are digitized. The second measure is data mining. The "education chain of ideological politics" is set up in an open way: "platform, construction -- functional departments -- teachers or counselors -- project group data analysis -- visual presentation -- education countermeasures": firstly, information is collected by establishing data platforms. Secondly, functional departments, teachers and counselors carry out online and offline activities, and then the project team presents problems in a visual way according to the algorithm. Finally, a scientific and effective countermeasure is developed. The third measure is to develop a "data model". Through the methods of problem demand, semantic mining, data visualization

and so on, a "data model" is created to analyze students' thoughts and behaviors, and a systematic "student portrait" can be realized. The final one is to establish big data technology team and build teaching assistant system.

### 2.2 Methods

a. Enrich the interaction between subjects and objects. The model of university ideological and political education in the era of big data reflects the three-dimensional, dynamic and hyper time-space characteristics. The model of university ideological and political education should adopt online and offline interactions to gather and amplify education effects [6]. As college students have a natural sense of awe and concealment towards teachers, the communication between teachers and students in the class of ideological and political education inevitably generates a sense of distance. However, through the virtual platform, ideological and political education workers can become good teachers and helpful friends on the internet, which can stimulate students' learning enthusiasm, enable students to exclude the psychology of rebellion, and make them easier to accept and identify with the contents taught by teachers. Students can make full use of media resources to improve themselves, participate in social development, actively and positively advocate the concepts of "surfing the internet healthily" and "using media correctly and reasonably", so as to instill these ideas in their minds, guide and correct them in practice [7].

b. Education results can be shared. Building a shared community model is a new approach to strengthen the ideological and political education of universities in the era of big data. The realization of university ideological and political education in the era of big data needs to take "sharing" as the basic way and "community" as the common place. Such "sharing community" reflects knowledge sharing, life sharing, resource sharing and process sharing. Therefore, the evaluation mechanism of shared communities should be established and improved to guarantee the education goal of university ideological and political education in the era of big data [8].

c. Create a new platform of "carrier resultant force". As a new platform to strengthen ideological and political education in universities in the era of big data, "carrier resultant force" is to build "network teaching platform and teaching resource center" in terms of course carrier. In the material carrier and the management carrier, it establishes the navigation system and special websites. In the campus culture construction, it enriches and extends the campus culture function. In the team construction of educators, it creates a fast transmission channel of information between teachers and students. In terms of the function extension of carrier's resultant force, it attaches great attention to the construction of related media platforms [9].



d. Collaborative innovation development. To strengthen the ideological and political education of collaborative innovation research, from the collaborative theory perspective, the theoretical basis, value guidance, participants, development driving force, implementation process, cultural ecology, security system and development pattern of the ideological and political education collaborative innovation should be explored to quest the way of innovative development of ideological and political education towards developmental, humanistic and resource integrated modern education [10].

### 3. CONCLUSION

In conclusion, the development of university ideological and political education in the context of the big data era has presented some new trends and problems, which require further measures to adapt to the development in this new situation.

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# An English unit consolidation course based on core accomplishment Grade 8A-8B

## Problems and advice

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**Abstract:** This is an integration course. It is a review course with the theme of reading and writing for U10 and U1 of Grade Eight. The class has large capacity, compact rhythm, and active students. Students at different levels can develop at different levels. The teaching design of the content is interlinked, and the cohesive devices are appropriate and complete. The subject of the class is distinct, closely linked with Doctors and spiraling upward. Based on the situational type core literacy tasks: common drugs, common symptoms, reasonable suggestions, common problems of student diversity suggested, a living actual problem, suitable suggestions, the problem of an empty nest elderly, suit the remedy to the case writing, Earth Song, environmental protection consciousness, looking from listening, speaking, reading and writing. These five aspects improve the efficiency of the classroom

**Key words:** Problems and advice

### I . ANALYSIS OF THE TEACHING MATERIAL:

It's based on two units, students learn to be doctors ---find out problems to give good advice in this period. First, the students will find out problems by telling the illness. Then, they will give advice to illness and problems by watching, reading and writing. And the activities will get the students to continue to talk about how to give advice in different ways. Therefore, they will learn to be good, famous doctors for all the people and the earth.

**Analysis of the students:** They have learnt words and phrases about illness, and also they have known a lot about the clause If will. This period, they will be led to give different advice in the limited situation. Maybe they'll feel confused when they do some writing about advice.

### II . Teaching aims and demands:

#### 1. Knowledge Object

Revise words and phrases about illness.

Try to give more advice in different ways.

Revise the key sentences about problems and advice.

#### 2. ABILITY OBJECT

To improve students' ability of communication.

To improve students' ability of listening, speaking and writing.

#### 3. Moral Objects

To play a part in saving the environment.

To solve problems well and be doctors for themselves.

To visit parents as often as possible.

#### 4. Teaching key points

Look, listen to a video and give advice.

Read a letter of a lonely man to give advice.

Watch a video about Earth song to give advice.

#### III. Teaching methods

Task-based teaching method.

Watch a video and give advice.

Read and write. Brainstorm and group work.

PPT.

#### IV. Teaching procedures:

##### Step 1: Pre-task

T: Good morning, everyone! Do you like stories?

In Greek mythology, there was a famous story. Have you watched it? Do you know about it?

Let's go!

S: Watch the video Pandora's box.

T: From then on, people began to die, grow old and get sick.

It was called Pandora's box. To open a Pandora's box means to invite trouble.

Trouble, problems are normal in our daily lives today.

They often make us sad, unhappy, angry and soon.

[Bb] Problems [Bb] Advice.

[Comment] The topic is close to students' lives. Students are asked to learn something from the story, and they will take an interest in the leading of this class.

##### Step 2: While-task

Task 1: We are new doctors

T: It doesn't matter. Come on, let's be new doctors.

Look here, What's the matter?

[Show pictures of different kinds of medicine one by one]

S: Look and say very quickly. e.g. have a toothache.

T: Well done! I feel a little cold here. Q: What's the weather like today?

It's getting colder and colder, more people are ill.

Look, the ambulance is coming, it's time for our jobs.

Q: What's the matter with...? What should they do? Or what shouldn't they do?

[Show pictures of different kinds of patients one by

one]

**We are new doctors**



**We are all doctors**



S: Look, think and talk about illness and give advice.  
e.g. She has a toothache. I think she should go to a dentist.

she shouldn't drink cold water.

Say: When we meet problems, it's best not to run away from our problems.

[Comment] Present medicine they learn. The students

**We are good doctors**



My friend Lucy has a problem. She has too much homework and she doesn't know how to plan her time well. I think she should make a plan for doing her homework everyday. If she uses some free time between classes, she will finish her homework on time. And also it is good to work on her homework when she gets home from school.

(Bb) Advice      Should / shouldn't  
                          { have to / has to  
                          { must  
                          { It's good to  
                          { The best way to do

Ss: It's the best way to/ If..., will.../ need to.../ You'd better....

Read them together and make up sentences together.

T: Let's remember, if we have a problem, we must ask for good advice.

T: Please watch a video made by a girl student and listen.

Q: What's the matter with the girl?/I believe you are warm doctors./Can you give her some advice?

Please write about it.

Ss: Watch and listen [A video made by the girl] Then think and write.

e.g. My friend has a problem. He/ She . I think

Read by themselves to the class or read each other.

**We are famous doctors**

Dear Doctor,  
One of the biggest problems is that my kid hardly ever visit me. I miss him very much but he says he is much too busy. I feel very upset. I worry about everything from the time he was born, I do a lot for him. In fact, his life is my life! Now I am getting older and older. My wife died last year, I didn't like to do anything. So I only eat and sleep. I'm too heavy to walk easily. I have a terrible life, what should I do?  
I look forward to hearing from you.  
Mr. Wang

Task 4: We are people's doctors

T: Maybe you are tired, let's relax now.

Q: What's the matter with our earth?/ What should we do?

Draw a map in the mind in groups and present in class.

Ss: Look and enjoy the song Earth Song.[ Draw a map in the mind in groups and present in class.]

[Comment]: It is a good idea for them to practice after their watching. It connects listening to speaking

are asked to name the illness and give advice. These ideas will benefit the students' oral English.

Task 2: We are good doctors

T: Luckily, we are good doctors. Q: What's wrong with them?

Read and try to match pictures with passages. Q: Who is Lucy?

the little son?

Tom?

Q: How do you know that? What should they do?

[Underline the sentences in the passage]

Ss: Read them one by one. [S :match it on the Bb]

Read and answer, pointing out reasons.

T: Ok. It's known that sharing a problem is like cutting it in half.

[Comment]: Students get the key information by reading, listening and writing. They will find it easier to find some sentences about advice in this way, and so summary work makes students enjoy solving problems .

Task 3: We are famous doctors

T: How time flies! We are already famous doctors. So the problem is getting more and more serious.

Q: What's the matter with Mr. Wang?/Can you write a letter to him? Please.[Check and help]

Ss: Read and answer, underlining the sentences about problems.

Write a letter to the old man very quickly. [Exchange to enjoy well.]

T: Our parents are always there to help us. Remember to visit them as often as possible.

[Comment]: Students get the key information by reading and give advice by writing. They will find it happier to help a lonely man in this way, and so summary words make students enjoy visiting parents.

better. And their eyes will be opened from their daily lives and their environment.

Step 3: Post-task

T: Doctors are not only doctors. Everyone should play a part in saving the earth.

Because we are doctors for ourselves. We hope our lives will be like flowers!

Homework:

What should we do to save our earth when it is crying?

You can write about it after school.

[Comment]: The students go through the mind maps, it will make them remember easily. And with the help of them, they will have a good writing. And the designs of homework will make Ss grasp what they learnt by listening, speaking and writing. As a result, they will love their earth and their lives like flowers.

[The design of the Bb]

This is an integration course. It is a review course with the theme of reading and writing for U10 and U1 of Grade Eight.

The video Pandora's magic box is introduced to present the learning theme and arouse students' interest in learning. Brainstorm over disease terms; To judge the disease according to the symptoms and give advice; Sentence pattern matching leads to suggestions; Watching the video made by the students themselves and put forward appropriate suggestions using the sentence patterns they have learned. Read the empty nesters' letters to find out the specific problems and write a letter of advice. To give advice

What should we do when the earth is crying? by enjoying the Earth Song.

The class has large capacity, compact rhythm, and active students. Students at different levels can develop at different levels. The teaching design of the content is interlinked, and the cohesive devices are appropriate and complete. The subject of the class is distinct, closely linked with Doctors and spiraling upward. Based on the situational type core literacy tasks: common drugs, common symptoms, reasonable suggestions, common problems of student diversity suggested, a living actual problem, suitable suggestions, the problem of an empty nest elderly, suit the remedy to the case writing, Earth Song, environmental protection consciousness, looking from listening, speaking, reading and writing. These five aspects improve the efficiency of the classroom.

Deficiency: students accumulate insufficient vocabulary, which leads to insufficient divergent thinking of giving advice.

# Critical Discourse Analysis of News Discourse Taking the Sino-US Trade War Reported by China Daily and the New York Times as An Example

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**Abstract:** Critical discourse analysis is an interdisciplinary language study that reveals the complex relationship between language, power and ideology. Firstly, this paper introduced the theoretical basis and commonly used research methods of critical discourse analysis. Secondly, according to the specific discourse contents, researchers conducted a comparative analysis of the news reports of Sino-US trade frictions and trade wars on China Daily and The New York Times. Through the analysis of the title, structure, word selection and conversion quotes, researchers explored the impact of different political positions and ideologies revealed in news reporting.

**Key Words:** CDA; news discourse; Sino-US trade war; ideology

## INTRODUCTION:

In recent years, news discourse has gradually become an important object of critical discourse analysis, to prove the subjectivity and inclination of it and reveal the views and positions of the reporters while they are reporting the incident. This paper makes a critical discourse analysis of the Sino-US trade war reported in China Daily and The New York Times, to explore how journalists use language to express the ideology they represent and the impact of different political positions and ideologies on news reporting.

### 1. THEORETICAL OVERVIEW

#### 1.1 Theoretical framework

Critical linguistics, also known as critical discourse analysis, is the discipline of discourse analysis that first emerged in the UK in the 1980s. It analyzes the ideology behind the language structure by evaluating the linguistic features of the discourse and the social historical background they generate, and reveals the complex relationship between language, power and ideology.

#### 2. Data collection and analysis

This paper analyzes the following critical discourses through three analytical tools: title & structure, word selection and conversion citation. The two discourses selected in this paper are taken from China Daily and the New York Times. The first article was taken from the China Daily on July 6, 2018, titled US tariffs on China first blast in trade war. The second was taken from the New York Times on July 6, 2018 with the

title US. Tariffs take effect — China immediately announces retaliation: 'biggest trade war in economic history'. The content of the report is about the United States launching a trade war against China and China's counter-measures. However, the two media's reports are not the same. By using different language methods, the two media each expressed a different attitude towards the event. This thesis attempts to qualitatively and quantitatively study the news discourse from the three aspects of transitivity, modality and paraphrase, to reveal the ideology hidden in the discourse, and hope to awaken the readers' awareness to critically read discourse.

#### 2.1 Title and structure

The headlines of news generally include the main content of the event, the acts, the events, the results, etc., while implying the subjective intention of the reporter. Although the same incident was reported, the titles of the two articles were very different. Although they were all about trade wars, the title of China Daily stated that "the United States raised tariffs" provoked a trade war, and the New York Times said that raising tariffs is useful for America and it's "China's counter-measures" that have provoked trade wars. The contrary of the two expressions of the "cause of trade war" shows that the two authors have different positions. At the same time, in terms of the words used in the titles, the two authors also showed a completely opposite attitude. The China Daily used "blast". According to the Longman Dictionary of Contemporary English, the word means "to violently destroy or break sth into Pieces, using explosives", which shows that the trade war launched by the United States has brought huge losses to the economies of the two countries and even the world. The New York Times uses the "take effect". According to the Oxford Dictionary, the phrase indicates "to start to produce the result that is intended". This shows that the United States is intentional and deliberately provokes a trade war. The New York Times still uses the word "biggest", while the "China Daily" does not add qualifiers, which highlights the trade wars was provoked by China, not the United States. This indicates the author is on behalf of the United States.

The structure of the news report can also demonstrate

the author's position. The following table is a comparison of narrative sequences and the

information of each part in news:

China Daily		The New York Times	
Parag raph	Content	Parag raph	Content
1-3	The United States imposes tariffs, leading to trade wars	1-2	Pointed out that raising tariffs is because of China's faults
4-5	China's countermeasures	3-5	Measures taken by the two countries
6-8	Serious consequences of the trade war	6-7	Trade war has no negative consequences
9	The US government is bent on its own way	8-9	Accusing China of undermining free trade rules
10-14	American society's concerns about trade wars	10-12	The United States continues to put pressure on China
15-16	Serious consequences of the trade war	13-14	Accusing China
17-22	The Ameircan true intention of the trade war	15-20	Both sides need to resolve disputes through dialogue

The China Daily has a total of 22 paragraphs, four of which state that the United States has provoked specific actions in the trade war, and five paragraphs have expressed the serious consequences of the trade war, while digging deep into the real cause of the Trump administration's provocation of trade wars. That is, the mid-term election in November. Five paragraphs expressed the concern of the American people about the negative impact of the Sino-US trade war on the lives of the American people and the international economic order. In the New York Times, a total of 20 paragraphs, nearly one-third of the length expressed criticism and accusation of China's economic policy; finally used very little space to state that China and the United States should resolve disputes through dialogue and cooperation. At the same time, two paragraphs were used to express that the trade war has no adverse consequences. It can be seen that in the process of news reporting, the reporters can make two different themes of the same topic to express different positions through different combinations of information and proportions.

2.2Conversion quotes

The news media quoted a large number of words

	DS	IS	TOTAL	PROPORTION
China Daily	8	10	18	44%/56%
The New York Times	4	9	13	30%/70%

From the above table, we can see that the two articles are more inclined to use indirect quotes because they can better express the subjective tendency of the reporter. The same content is different after being reported by reporters with different opinions. Reporters often quote the words of a party that is consistent with their interests, thus greatly affecting the viewer's perception of the event. Three of the quotes in China Daily are from scholars and authoritative figures from the United States, and three are from members of the world's financial institutions. And all quotes express that the trade war has brought devastating blows to both China and the United States, even the global economy. The New York Times has three quotes from the US government. Three quoted the Chinese government's remarks, and two quoted the members of the international financial institutions. The Chinese government's remarks,

from the party they represented to influence the audience's attitude towards the incident. Leech and Short (1988) proposed five ways to describe speech: direct quotation (DS), indirect quotation (IS), Free Direct Speech (FDS), Free Indirect Speech (FIS), Narrative Retelling of Speech Act (NRSA). "Because of the very low occurrence rate of FIS and FDS in news discourse. And NRSA is essentially an indirect quote"(Zeng &Wu, 2013) Therefore, this article only analyzes two news from direct and indirect quotes. Direct quotes are more convincing than indirect quotes because they come from the mouths of parties, insiders, and authorities, and retain the original words and style. Therefore reporters often use direct quotations to express their position. However, indirect quotations are the content of the original words, so it cannot retain the spoken habits and characteristics of the original words, but because of these characteristics, indirect quotations are easier to be processed into a statement that is in the interest of the reporter. The following table is the number and proportion of direct and indirect quotes in the two articles:

which were cited three times, were indirect references and were presented to the audience after being processed by the reporters. Therefore, subjectivity is greater and the objectivity of the news media is lost.

2. CONCLUSION

Based on the theory of critical discourse analysis, this paper compares two articles on the same topic published in China Daily and The New York Times. Through the analysis of the title structure, word selection and conversion quotes, it can be seen that the two reports are very different in terms of expression. This study proves that critical discourse analysis is a powerful tool for studying language and ideology. At the same time, I also warned that when reviewing the reports of the news media, we should analyze the language comprehensively and impartially, reveal the relationship between language, power and ideology, and make a correct evaluation of

this relationship, and strengthen the anti-control consciousness of discourse.

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# The Study of Verbal Humor and Humor Translation in American Talk Show from the Perspective of Cooperative Principle

## --A Case Study of The Oprah Talk Show

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**Abstract:** The Oprah Talk Show is the most successful talk show in the history of the United States, also the most famous and the longest-living one. In this paper, by using the principle of cooperation as the angle of view, through the method of literature review and case analysis, based on the case of The Oprah Talk Show, the author will firstly probe into the verbal humor in American talk show which are caused by violating the cooperative principle. Then, the author will analyze the relationship between the CP with its four maxims and subtitle translation of talk show, and explore how these maxims guide the humor translation of the subtitle. At the same time, the study will point out that as a new perspective, the cooperative principle can provide certain reference for the production of verbal humor and its translation studies.

**Key words:** CP, The Oprah Talk Show, verbal humor, humor translation

### 1. INTRODUCTION

In the academic field, talk show has also received the attention of many translators and linguists, who want to find the root of this phenomenon. However, the study of past talk shows focused mainly on the principles and methods behind the discussion of the structure of dialogue or conversation. There is no deep analysis and studies on the relationship between verbal humor and its humorous translation and cooperative principles in talk show. This thesis will focus on the humor of this television programs that violate the principles of cooperation.

### 2. ANALYSIS OF VERBAL HUMOR IN OPRAH WINFREY TALK SHOW FROM THE PERSPECTIVE OF CP

#### 2.1 The violation of the maxims of quality

According to Grice, the false words are violating the quality maxim. But sometimes the speaker to release false information is also a pragmatic strategy, which is "verbal function false information." They themselves know that the information is not true and the other side of the communication can also be realized by the inspiration, but the party does not mind the false, and even in some cases feel better than the good, willing to accept the false points.

Oprah: Well, you know there are all these rumors about the two of you. I'm not going to ask her because she's so shy. She's so shy, she's not going to tell me, but there are all these rumors about the two of you dating. Is it true?

Example:

Robert Pattinson: Kristen is pregnant.

Kristen Stewart: He likes to-he really loves to, like, shock people because he thinks it's funny. No, no, no. We've actually had this conversation.-he's having the baby, because I can't. I'm too-I mean, imagine a baby coming out of this thing. I mean, like, that's just not going to happen.

In this part, when the host wants to know the real relationship of Robert and Kristen and there are rumors about their dating relationship, so she asks the two persons. As we can see, Kristen is quite shy, but Robert is quite open and outgoing. He doesn't answer "yes" or "no". But he says that "she's pregnant". Obviously, Robert's answer is not the truth and he obeys the quality maxim. But according to his interesting answer, we can easily understand their close and intimate relationship and Robert's humorous answer also makes a quite humor effect.

#### 2.2 The violation of the maxims of quantity

Grice's quantity maxim requires that the words expressed by the speakers should be enough, but do not say that the information should be provided too much. But in real life, the information provided by the double sides is often not in accordance with the needs, sometimes beyond, sometimes not enough, but still make the two sides accessible information.

Example:

Oprah: What do you tell them about their biological mother?

Martin Ricky (a gay man): I'm not there yet.

Oprah: You're not there yet.

Here, the background information is that the man Martin Ricky has married with another man. When the gay man Martin is asked how to tell his kids about their mother, he just answers "I'm not there". Apparently, his answer is not enough. Here, actually, we know "there" is not a place but refers to a certain and proper time. That means, Martin would choose a time to tell his kids about the truth but not now.



Actually, the more specific answer would be "I'm not there, but I would tell them in another proper time." If we don't know this real meaning, we would guess Martin wants to say that when the babies were born, he was not there (in their birthplace). So, this meaning can also cause a humor effect as well.

### 2.3 The violation of the maxims of relation

According to Grice, if the answer or speaking words is not relevant to the question or talking content, then the talks must violate the relation maxims. Usually, when one asks one thing, but the other answers another thing that is not related to the topic or gust, then the talker must violate the maxim of relation. Sometimes, this behavior may obstruct the normal conversation. But sometimes, the violation of relation maxim can make great humor effects and the cooperative relationship still exists.

Example:

Oprah : I'm going to ask you this, and it's embarrassing for me to ask you this, but I'm going to ask any way. Are you a virgin?

Michael Jackson: How could you ask me that question?

Oprah: I just want to know, I want to know...

Michael Jackson: I'm a gentleman.

In this conversation, the humorous point is obvious. When the host asks if Michael Jackson is a virgin? Frankly, this question is quite amusing. And Michael Jackson just answers the irrelevant information and says he is a gentleman but not answer he is a virgin or not. Here, Michael disobeys the relation maxims and the smart answer not only helps him avoid the embarrassment, and also his answer amuses the host and the audience too.

### 2.4 The violation of the maxims of manner

The manner maxim of cooperative principle requires that the speaking should be clear and logic, and should avoid ambiguous and equivocal expression. And the sentence or phrase should be in order. But, we all know the there exists a kind of ambiguous thought in people's thinking methods, which is coexist with the accurate thinking and it is scientific and normal. And sometimes, the violation of manner can convey special thinking state and humor influence.

Example:

Oprah: I wanted to ask you, do you have—we always read about this squeaky clean image of yours, that you've never smoked a cigarette, never had a drink. Never, never, never. Is that true?

Taylor Lautnre: Um...

Robert Pattinson: No.

Taylor Lautnre: Yeah. I mean, I guess so. It's kind of just...

In this conversation, when Oprah asks Taylor if he never smokes and drinks, and if he is the perfect guy, Taylor just hesitates and has not given a clear and specific answer. Obviously, Taylor would not like to break his "perfect" image in audience and his

hesitation and intermittent answer, like the words "Um..." and "I guess so", tell us he just disobeys the manner maxim and the humor effects can be easily felt by us.

## 3. ANALYSIS OF VERBAL HUMOR TRANSLATION IN OPRAH WINFREY TALK SHOW FROM THE PERSPECTIVE OF CP

### 3.1 Analysis of humor translation from quality maxim

This principle requires the translator to use literal translation as much as possible, and the text that is translated does not include information that is not the information of the original conversation and the content of the original conversation. That is, in the translation, following the principle of quality, faithfully conveying and reproducing the original information, accurately reproducing of the original conversation's humor effect. In fact, the principle of quality may be the most important factor in humor translation, and the other restrictions can only be met on the basis of the principle of quality that can be further realized.

### 3.2 Analysis of humor translation from quantity maxim

In the humorous translation of the talk show, the quality principle requires the translator to convey enough information to avoid reducing the required information or losing the humor effect. The translator should, as far as possible, retain the humor effect of the communicators in the exchange, and transmit the information needed to send the translation. In the translation, in order to achieve humor, sometimes translators need to properly raise or integrate the original session information. Basically, the English talk show participants communicate with each other in a relatively simple language mode. When the translator in the translation of talk show subtitles, the first thing that should be carefully pondering is the original speakers' true meaning and their exchange of the scene, and then integrate the information, and finally translate it with the detailed and accurate description of the relevant expression.

### 3.3 Analysis of humor translation from relation maxim

In the subtitle translation of the talk show, the relation maxim requires that the translator's translation text should be related to the context of the original conversation. This requires the translator to properly organize the original text of the conversation, and the translation should be more consistent, in order to better reproduce similar translation results. In addition, the translator also need to be relatively flexible to sort out the original conversation in the relative humor of the information component, so as to better rebuild the original session of the information to achieve humor.

### 3.4 Analysis of humor translation from manner maxim

In the humorous translation of the talk show subtitles, the translator's translated text should be logical and

orderly. The information translated should not be obscure and difficult to understand. In the way of translation, then, it is possible to conduct a logical translation, so as to better express the humor effect.

#### 4. CONCLUSION

In this paper, the author based on The Oprah Talk show from the perspective of cooperative principle to explore the United States talk show' humor and humor translation. From the analysis of this paper, we can easily find that there is a very close relationship between linguistics and translation. Linguistics can be used for the translation of conversations and can be used to interpret the humor of the talk program language. The principle of cooperation is of great significance to the production of humor in talk show. Violation of the cooperative principle and its four criteria are the important causes of humor. By analyzing the deliberate violation of the principle of cooperation in The Oprah Talk Show, we can find the true conversational meaning of the speaker's discourse and confirm the true intent of the speaker. At the same time we can find that the four principles of cooperative principle guide the talk show subtitles' humor translation, which has certain feasibility.

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# Implementation Strategy of Internet of Things Technology in College English Teaching

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**Abstract:** English language has a strong cultural background. Therefore, due to the abstract nature of language description, vocational English often encounters some difficulties in the process of classroom knowledge teaching, listening and speaking, and practice review. This article intends to introduce the Internet of Things technology into the classroom teaching of college English under the guidance of the concept of Internet of Things, and formulate corresponding teaching strategies, in order to create a good English learning environment and improve the quality of college English teaching.

**Keywords:** Internet of Things; college English; teaching; implementation strategy

## 1. INTRODUCTION

A few years ago, the Ministry of Education of China promulgated the "Teaching Requirements for College English Courses", which put forward certain requirements for college English teaching in Chinese universities. In the promulgated document, a networked self-learning teaching model was proposed, and personalized teaching and self-learning were emphasized, and the learner's individual learning potential was fully utilized, thus changing the traditional teaching mode of the teacher's listening. However, in practice, it is especially important to correctly understand and rationally apply the new teaching model. It is important not to blindly "move" regardless of the actual situation. If the implementation of the program is not in place, it is very likely that the students' English learning effect will not be as good as before. Therefore, universities around the country should formulate practical and feasible college English teaching reform programs according to the situation of the university, in order to maximize the positive impact of Internet of Things technology on college English teaching.

## 2. PROBLEM IN THE TRADITIONAL COLLEGE ENGLISH TEACHING MODEL

### (1) Ignore nonverbal communication in class

The traditional college English teaching model only pays attention to the one-way language communication between teachers and students, while ignoring non-verbal communication. Cooper said: "Non-language communication is very important for teachers. [1]The non-verbal behavior of teachers is related to students' attitude towards the school.

Studies have shown that teachers can learn how to use non-verbal communication more effectively in the classroom, between teachers and students. The relationship will be improved. Not only that, but students' cognitive ability and learning efficiency will also improve. "The main purpose of English teaching is to develop students' intercultural communication skills. Communicative competence includes two parts: verbal communication ability and non-verbal communication ability. To achieve this goal, college English teachers need to continuously improve their cross-cultural awareness, recognize the importance of non-verbal communication with students in college English classes, and introduce non-verbal communication teaching into college English classes in order to cultivate Students' comprehensive cross-cultural competence.

### (2) Learning methods need to be changed

In the traditional college English class, teachers mainly explain the text, vocabulary and grammar knowledge from the beginning to the end. The classroom interaction between teachers and students is limited to a few students answering questions in English, reading texts or translating sentences. Therefore, students mistakenly believe that as long as a large number of vocabulary, master the language rules, and remember the language rules, these rules can be directly applied to language communication. Since many of the existing foreign language proficiency tests also mainly study language knowledge, this further deepens students' misunderstanding of the nature of language learning. Therefore, students spend a lot of time on remembering English words, doing exercises, and reading grammar books, thinking that as long as the grammar is proficient, the vocabulary is enough for English to learn. Because the method is not right, even if the students have studied English for ten years, they can't open their mouths. The famous linguist Greg Thomson said: "The principle of foreign language learning is so complicated that no one can make it clear; but the process of mastering the language is so simple that it does not need to be clear." But traditional teaching The model allows students to mislead students' methods of learning English. As a result, they have achieved half the effort and failed to achieve the goal of learning English, which has caused many students to lose interest in learning English.

(3)The classroom is mainly teacher-centered  
The English class should pay attention to the effective interaction between teachers and students. At present, many colleges and universities implement large-scale English teaching, and students have almost no language communication activities. The larger the English class, the less opportunities for teachers and students to interact. It is difficult for a teacher to have a student speak, and let the remaining six or seventy students wait.[2] This has led to the entire English classroom teaching to be centered on the teacher. The teacher focuses on presenting the grammar and vocabulary to be explained to the students, and decomposing the interesting chapter into a number of scattered knowledge points to impart to the students, so that the students are always in a passive state. The content, process, and methods of English teaching are mainly the responsibility of teachers. The relationship between teachers and students in the teaching process is the relationship between knowledge transfer and knowledge acceptance. Students must learn according to the requirements of teachers.

### 3. THE VALUE OF INTERNET OF THINGS ON COLLEGE ENGLISH TEACHING

English is a communication tool that cannot exist without real life. In English teaching, language teaching in real scenes should be used as much as possible to cultivate students' ability to actually apply language. At present, most college English textbooks use the interactive web platform to assist in the writing of teaching materials, which provides students with a rich form of language learning. In addition, teachers can guide students to browse and learn rich online language learning materials using wired or wireless devices to consolidate and enhance their understanding and mastery of the knowledge they have learned in the classroom. The Internet of Things focuses on the interconnection of things and things, things and people, and is reflected in the teaching, which is the interconnection between the teaching staff, learners and teaching facilities.

Based on the Internet of Things environment, college English teachers can create an intelligent teaching environment, strengthen teaching management, expand extracurricular teaching activities, and build a network interactive teaching model for English classrooms. Speech communication in real life is a fusion of multiple information modalities, including sound, text, image and so on. Human access to information includes visual, auditory, tactile, olfactory and gustatory aspects. In the current Internet environment, due to the lack of development of digital technology, classroom teaching uses relatively separate information transmission methods such as slides, projectors and videos on the network. The form is limited to both visual and auditory aspects. With the application of information transfer

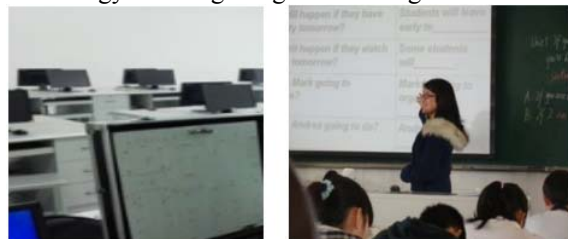
technologies such as touch, smell and taste, the interactive mode in the virtual world becomes closer to the natural and real state. English teaching should fully absorb these advanced scientific and technological means, simulate the real language environment, and simulate more realistic and specific communication behavior.

(1)Change the regular teaching mode and improve classroom efficiency

Spoken language is a difficult problem in college English listening and speaking. It can use the Internet of Things technology for oral error correction and speech correction, which allows students to obtain standard English learning. In recent years, Internet of Things technology has gradually been introduced into college English classroom teaching, and video and voice sensors have been introduced into college English teaching through the Internet of Things. The video sensor can intercept the student's pronunciation port by the camera and transmit it to the computer for scientific analysis; the voice sensor can record the student's voice data and transmit it to the computer. The Internet of Things uses English standard and standard voice recording through digital camera and voice digital recording. The port and voice features are digitally described, and then compiled into software with standard English pronunciation and mouth model demonstration functions. The student's learning situation is automatically assessed.

(2) Optimize the past teaching environment and enhance learning interest

At present, most universities in China have established a large number of multimedia classrooms. Using the Internet of Things, intelligent control can be implemented in the classroom teaching environment. [3]For example, sensors are installed in the teaching building and corresponding network connections can be made. The brightness of the classroom can be automatically adjusted according to the light intensity of the classroom. Infrared sensing equipment automatically controls the temperature and humidity of the classroom; using the Internet of Things recognition technology to establish the associated authorization of teachers and corresponding classrooms, and intelligently control the use of teaching instruments. The figure below shows the application of Internet of Things technology to college English teaching.



Implementation of Internet of Things Technology in College English Teaching

(3) Enrich existing teaching resources and deepen learning resources

The Internet of Things technology solves the problem that teachers and students need to face each other in foreign language learning. With the help of mobile phone's mobile Internet WeChat, QQ group, Weibo, etc., they can access relevant learning information, conduct online exams, conduct dialogues and exchanges, and enhance English learning. Context makes English an important communication tool for students and ultimately improves their English literacy.

#### 4 IMPLEMENTATION OF INTERNET OF THINGS TECHNOLOGY IN COLLEGE ENGLISH PLATFORM

(1) Teachers accurately grasp student emotions and make rational use of the Internet of Things platform  
Internet of Things technology provides a larger and newer platform for college English teaching. Students also have a fresh and free feeling. However, in the process of implementation, students should not be allowed to go their own way. Teachers should arrange different abilities more systematically. Level the content, progress, and level of student learning, and make clear requirements for students to guide students to self-learning and cooperative learning.  
[4] The communication platform should focus on learning content and restrict students from using specific technology platforms for games and chats.

(2) Reasonable training of professional teachers to improve teaching ability

Although the Internet of Things-assisted teaching has been widely recognized by people, there are still a large number of teachers who still adhere to the traditional teaching methods in actual teaching, or a piece of chalk and a blackboard. The Internet of Things teaching resource platform is a space with large amount of information, diverse content, and need to be updated in time. It puts forward higher requirements for teachers. Teachers of all kinds of information on the platform must first understand and master the students in order to guide students. Therefore, teachers should be organized to study the theory and technology of the Internet of Things, so that teachers have the ability to control the Internet of Things. English teachers in the front line need to accumulate and review teaching materials, design and write electronic lesson plans, and network personnel constantly update the webpage to maintain the advantages of resources. It also needs the school to invest a certain amount of money to purchase software and hardware.

(3) Strive to build the core strength of the campus and improve the level of teaching hardware facilities  
In the RFID system of one of the core technologies of

the Internet of Things, the chip has its own characteristics and requirements, such as wireless video, low power consumption, high integration, intelligent customizable and so on. The cost of components such as chips required for the Internet of Things to achieve these requirements is still high. Faced with a huge content teaching system, all the chips with the above functions are obviously not practical. Similarly, the teaching effect of the touch screen blackboard is better than that of the traditional blackboard, but its cost is still much higher than that of the ordinary blackboard. How to solve the cost is the reality faced by colleges and universities. problem.

(4) Pay attention to the confidentiality of teaching information to ensure fair evaluation of education

One of the great advantages of the Internet of Things is the sharing of information by means of the network. [5] Information sharing presents the collective wisdom of teachers to students and optimizes the teaching effect. However, it faces a problem of how to ensure the security and control of the teaching application itself. The classification and processing of resources is more complicated, and the privacy of academic and individual teachers needs to be properly considered. The content of development assessment for students should be strengthened to ensure the objective and fair evaluation of education.

#### 4 CONCLUSION

Internet of Things technology is a new type of technology with great development potential. This article only talks about the implementation strategy of Internet of Things technology in college English teaching. The opinions in this paper may not be very mature, but the ultimate goal is to hope that college English teaching will be better developed because of the reference of Internet of Things technology.

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# Student-centered College English Teaching Model Construction from the Perspective of Internet of Things

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**Abstract:** With the continuous advancement of society, all walks of life have been affected by the development of the Internet of Things. In the construction of the student-centered college English teaching model, there are many different forms and methods in different periods. In this paper, network information technology is regarded as an auxiliary tool for teaching and an integral part of English curriculum. This is the focus of debate on constructing a new college English teaching model. In the period of transformation and development of local colleges and universities, in order to meet the training objectives of applied technology talents, this paper proposes a college English teaching model based on the perspective of the Internet of Things, and builds a student-centered, hierarchical classroom teaching model through full language perception and knowledge acquisition. Comprehensive language exchange and information transmission, effectively strengthen the cultivation of students' language application ability, and achieve the goal of college English teaching reform at this stage.

**Keywords:** students; college English; teaching mode; Internet of Things perspective

## 1. INTRODUCTION

New media emerged with the continuous development of the network. It is a kind of network information technology, mobile communication technology, digital technology and other resources, and uses mobile phones, computers, televisions, etc. as network terminals to provide users with the required information. form. [1]The emergence of new media not only enriches the carriers and channels of information dissemination, but also has been widely used in teaching, which has greatly changed the form of teaching. In English teaching, the cutting-edge research based on the interactive teaching model of the Internet of Things is very important. Based on the preliminary results of the Internet of Things research, a model based on the interactive teaching of the Internet of Things was established, and the Internet of Things was used to study the interactive teaching mode of English to improve the level of English teaching.

## 2. DEVELOPMENT AND APPLICATION OF THE

## INTERNET OF THINGS

The application of the Internet of Things still has bottlenecks such as cost, technology, policies, and user barriers. From the current situation, environmental protection, security, intelligent transportation, agriculture, and medical promotion are the most likely, and the popularity of enterprise and personal Internet of Things applications remains. [2]It takes a long time. Although the Internet of Things will expand to smart homes, intelligent transportation, and smart medical fields in the future, it is estimated that it will take several years in China when it is not widely used. The rise of the Internet of Things industry cannot be developed in a disorderly manner. At present, China is still in the early stage of development. There are still certain industry standards in various industrial chains. The RFID application industry market key system is solely political, and there is no uniform industry standard in China. The vast majority of products produced by each enterprise are not universal. The mobile phone card that has just emerged, telecommunications, mobile, and China Unicom use different technical standards, even if the standards purchased by the same operator are not exactly the same; therefore, the rise of the Internet of Things industry requires more government departments. Guide the entire industry chain to introduce more industry technical standards to regulate the production and R&D order of various industries. Figure 1 below is the statistics of the 2018 innovation project of the Internet of Things.



Figure 1 Internet of Things Innovation Project

## 3. THE STATUS QUO OF COLLEGE ENGLISH TEACHING MODE FROM THE INTERNET OF THINGS

English is a communication tool that cannot exist without real life. In English teaching, language teaching in real scenes should be used as much as

possible to cultivate students' ability to actually apply language. At present, most college English textbooks use the interactive web platform to assist in the writing of teaching materials, which provides students with a rich form of language learning. In addition, teachers can guide students to browse and learn rich online language learning materials using wired or wireless devices to consolidate and enhance their understanding and mastery of the knowledge they have learned in the classroom. The Internet of Things focuses on the interconnection of things and things, things and people, and is reflected in the teaching, which is the interconnection between the teaching staff, learners and teaching facilities.

Based on the Internet of Things environment, college English teachers can create an intelligent teaching environment, strengthen teaching management, expand extracurricular teaching activities, and build a network interactive teaching model for English classrooms. Speech communication in real life is a fusion of multiple information modalities, including sound, text, image and so on. Human access to information includes visual, auditory, tactile, olfactory and gustatory aspects. In the current Internet environment, due to the lack of development of digital technology, classroom teaching uses relatively separate information transmission methods such as slides, projectors and videos on the network. The form is limited to both visual and auditory aspects. With the application of information transfer technologies such as touch, smell and taste, the interactive mode in the virtual world becomes closer to the natural and real state. English teaching should fully absorb these advanced scientific and technological means, simulate the real language environment, and simulate more realistic and specific communication behavior.

Cloud computing technology and ubiquitous learning theory simultaneously generate and promote each other, integrating all information resources to serve intelligent learning. [3] In order to realize ubiquitous learning based on cloud resources, it is necessary to have a wide range of learning resources. Some intelligent learning, wireless and mobile learning-based learning websites based on cloud resources have brought great convenience to English ubiquitous learning, making it possible for students to select specific learning content according to their interests, needs and learning progress. , time and manner. During the learning process, students can connect to any part of the world via wireless network, use online learning tools in real-time or non-real time, select one or more partners for collaborative learning or communication, create specific interactive content and programs, and achieve the established learning objectives.

4 NEW COLLEGE ENGLISH TEACHING MODEL FROM THE PERSPECTIVE OF INTERNET OF THINGS

The reform of the university foreign language teaching mode under the Internet of Things environment must have a certain software and hardware foundation, scientific and reasonable teaching principles and evaluation methods, and rich teaching content, including the following aspects.

(1) Teaching methods are scientific and reliable

The principle of teaching and learning is fully reflected in the whole process of college English teaching. Teachers use a combination of formative assessment and summative assessment to evaluate students. Students can also conduct self-evaluation and group evaluation. The purpose of the assessment is to find and solve problems in a timely manner, which is a powerful complement to summative evaluation. Formative assessments in the IoT environment can be more diverse and easier to operate and manage. The teaching management department can make full use of new technologies, guide and train teachers, encourage teachers to use new media forms to conduct evaluations, and promptly feedback the evaluation results to students to promote their next period of learning. The summary and reflection of teachers in this process also contribute to the adjustment of the new round of teaching methods and methods.

(2) Teaching methods are novel and interesting

The foreign language teaching mode under the Web 3.0 environment supports students' individualized independent learning, which is a seamless ecological learning environment that combines course content and network technology. The teaching content of this teaching mode will realize the ubiquitous learning of teaching connection, interaction and collaboration by means of the cloud resource library and the teaching resource library inside the campus network and the public service platform of the foreign language teaching system. Combining the large-scale online courses "Mu Class" and "Flip Classroom" and other new teaching modes, teachers can design targeted teaching plans according to different teaching objects, and guide students in the classroom through adequate pre-course resource preparation and provision. Conduct cooperative exploration, consolidate exercises, give students personalized guidance, feedback evaluation, and finally complete the course summary.

(3) Various forms of teaching

At present, the campus wireless network of most colleges and universities has achieved full coverage, which provides favorable conditions for access to mobile phones, tablets and laptops.[4] The wireless network in the library, teaching area, living area and campus helps students access the learning interface through multiple modes anytime and anywhere, and is connected with the most advanced and modern educational methods in the world. The application of classroom multimedia is supplemented by the knowledge expansion of the online classroom under

the classroom, which greatly changes the situation of poor communication channels in traditional teaching, and helps to realize the renewal and reform of the diversified information exchange model.

#### (4) Colorful teaching content

What should be the concept of rich and colorful teaching content? Taking the college English listening and speaking course as an example, students can use the teaching resources and platform provided by the College English Autonomous Learning Center and the campus network to conduct network-based learning, and choose their own learning content and learning style according to their own abilities, levels and needs. The integrated teaching system usually includes learning records, coursework, online exams, self-tests, student interactions, etc., and assists with a strict management system. [5] The content of the learning resource library may include the following contents: English film and television drama resource library, general knowledge resource library, foreign famous school open class resource library, celebrity speech, dialogue, interview and forum, etc. English TV program resource library, English news resource library, etc. In the classroom, the teacher mainly tutors the students' spoken language, including voice and oral statements. In addition, you can use the new teaching styles such as "micro-courses" to record small videos of specific topics (such as four or six exams, vocabulary grammar, listening and speaking skills, etc.) to help students learn certain parts of the course. know how.

#### 4 CONCLUSION

At this stage, the Internet of Things is a local application network formed by means of various information sensing technologies and information transmission and processing technologies, so that the state of the managed object (person or object) can be perceived and recognized. In the near future, the

Internet of Things is a huge network that connects these local application networks through the Internet and communication networks, forming a huge network of people and things, things and things. It is the infrastructure that perceives China and perceives the earth. Therefore, in the perspective of the Internet of Things, it is necessary to put the student-centered college English model construction on the agenda as soon as possible. I believe that in the near future, China's student-centered university English model construction will achieve good results.

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# Providing a Larger Stage for Employees -- Creating an Entrepreneurial Spirit

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**Abstract:** The report of the Nineteenth National Congress pointed out that "we should stimulate and protect entrepreneurship, encourage more social subjects to engage in innovation and entrepreneurship, build a large army of knowledge-based, skilled and innovative workers, and promote the spirit of model workers and craftsmen".

**Keywords:** Small group; Everyone is CEO wheel job CEO young entrepreneur internal Entrepreneurship

## 1. INTRODUCTION

Innovation and entrepreneurship are closely linked. In recent years, the promotion of outstanding entrepreneurship has been advocated by the state. Entrepreneurship is not only a matter for senior managers, but also the responsibility of every employee in the enterprise. Enterprises let employees have autonomy, innovation, decision-making training model is to create the internal entrepreneurship of employees.

Internal entrepreneurship and entrepreneurship are equally important. In fact, internal entrepreneurship is a further extension and expansion of entrepreneurship. It is aimed at the individual within the organization, so that employees themselves become the main body, employees from the lower level of executives into core managers. Emphasize the staff's subjective consciousness in the enterprise, truly reflect the staff's sense of ownership, so that employees actively participate in the management of enterprise affairs. Employees within the enterprise and must be the same as the traditional way, go outside to start a business, in the enterprise can also start a business, and then activate the spirit of internal entrepreneurship. Enterprises provide a platform for employees, employees fully display their talents, to create better value for the enterprise, employees are internal entrepreneurs, so that individuals within the organization also have entrepreneurship, the organization can show better innovation, the development of the organization can break through the shackles.

SIEMENS has such a slogan: employees are entrepreneurs in the enterprise. Every enterprise is inseparable from employees. Employees are the most critical factor to create wealth in today's enterprises. Employees, as customers within the enterprise, are getting more and more attention in today's enterprise

management. Similarly, every enterprise is inseparable from entrepreneurs, entrepreneurs are the operator of the entire enterprise management, production organizers and business decision makers, so that employees become the management concept of internal entrepreneurs, this innovative management initiatives for enterprises is full of challenges.

Therefore, how to build entrepreneurship within the organization is very important for the development of the organization. Different companies have different approaches, but their essence is to cultivate internal entrepreneurship, through the following four ways: the United States, Haier, Huawei and New Hope of the specific approach, for enterprises to create internal entrepreneurship to provide better thinking.

## 2. MODE 1: THE "SMALL GROUP" OF THE UNITED STATES

In 2007, American Group put forward the concept of "internal entrepreneurs", which regarded internal entrepreneurs as professional managers with special status. In China, the United States Group has more than 30 divisions, each of which is a platform on which internal entrepreneurs can show their ideas and take corresponding actions. This is equivalent to dividing the American group into smaller groups, each of which is an independent department, in which internal entrepreneurs can play their part. This move brought great success to the United States group. In 2012, the group's sales revenue exceeded 100 billion, while the group also trained a large number of internal entrepreneurs and excellent managers. When facing the bottleneck of development, enterprises may as well provide a platform for internal entrepreneurship and give support to internal entrepreneurs. This practice of killing two birds with one stone not only improves the operating profit of enterprises, but also cultivates their own talents. And the completion of the internal entrepreneurs can not be done by one person alone, but by the entire team, each small collective joint efforts to complete, a person alone is difficult to complete

## 3. MODE 2: THE NEW HAIER "EVERYONE IS CEO"

Not only is beauty trying to use the spirit of internal entrepreneurship to stimulate enterprise innovation and vitality. Haier is also trying to take a different path of innovation. Haier is in the transition period of the Internet era, putting forward "everyone is CEO".

Haier broke all the traditional organizational boundaries and created a new kind of mesh boundless organizational structure. The whole enterprise is divided into many small group organizations, each small organization has an independent structure. This is a new organizational structure explored by Haier itself, and it is also to further activate the vitality and creativity of employees and cultivate the spirit of internal entrepreneurship. Everyone is a talent and a stage. In order to stimulate the potential and creativity of internal entrepreneurs, enterprises need to recognize that all employees are internal entrepreneurs, embody the strategic idea of "everyone is CEO" in actual management, affirm, value and respect the achievements of internal entrepreneurs in their positions.

#### 4. MODE 3: HUAWEI'S WHEEL JOB CEO

HUAWEI has long been aware of the importance of internal entrepreneurship. Rotational CEO is a special corporate culture of Huawei, in which a small team leads the company. This system is an innovative form of Huawei. CEO is generated internally, with eight executives taking turns. Each executive has a term of two months. During this period of time, each of the rotating employees has taken on the responsibility of dealing with the overall situation of the company, sharing risks and benefits, sharing rights and obligations. Every CEO must exercise himself and stimulate his creativity during his or her tenure. He or she not only has to deal with the company, but also drafts documents for high-level meetings. As the highest responsible person for company management and crisis management, rotating CEO is responsible for the survival and development of the company. The practice of managing a company through the organizational structure of a rotating CEO is actually Huawei's effort to build an internal entrepreneur and an innovation.

#### 5. MODE 4: YOUNG ENTREPRENEURS WITH NEW HOPE

Young people are the symbol of this era, but also the most creative and dynamic group of people in this era, starting from the development of young people, give full play to the value of young people, committed to creating a sense of responsibility for every young person with entrepreneurship, this is the essence of internal entrepreneurship.

New Hope Group is facing the problem of aging cadres in the process of reform, removing and giving preferential treatment to the old employees, letting the old managers retreat gradually, giving up their posts, letting the creative young people become the backbone of the enterprise, rejuvenating the cadres, reinvigorating the enterprise, injecting fresh blood into the enterprise, and giving full play to the spirit of the young entrepreneurs. . As Liu Yonghao, the new hope founder, said, "what is more important is to let a

group of managers become entrepreneurs. So I said our company should talk less about professional managers and more about our entrepreneurship in the future, and we are entrepreneurs.

New hope creates conditions for young people, this condition is through three, for young people to provide a stage, first, innovation interconnection; second, internationalization; third, the organization's industrial development entity growth and development and financial platform, called the combination of Finance and industry. Based on the spirit of Internet innovation, Xin Hope Group has invested 100 million yuan to support hundreds of micro-innovation projects to provide more development platforms for young people. Such a stage would provide more opportunities for young people to forge internal entrepreneurship, which is no longer a blank check. Businesses delegate power to young people so that they can put forward their ideas and put them into practice, create value for the organization and give them a bigger

#### 6. IF EVERYONE DEVELOPS, ENTERPRISES CAN DEVELOP

It can be predicted that more and more enterprises will start to create internal entrepreneurs, cultivate internal employees with entrepreneurial spirit, enterprises will have more flexibility, autonomy and innovation. Let each individual within the organization have entrepreneurship, not only for senior leaders to have entrepreneurship, so that each individual can give full play to the value of innovation, and thus promote enterprise innovation. It is worth noting that different enterprises should take different ways to cultivate the internal employee entrepreneurship according to their own actual situation, redefine the roles of managers and employees, and the process of building internal entrepreneurship is actually the process of cultivating employees with internal entrepreneurship. In the future development process of enterprises, we should gradually start to create internal entrepreneurs, attach importance to talents, and create a good working atmosphere and organizational environment. Everyone can innovate, enterprises can innovate, everyone can develop, and enterprises can develop.

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# Research on Effects of Supply Chain Finance - Based on Case Analysis

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**Abstract:** Supply chain finance, as an innovation of supply-side financing tools, is of great significance for SMEs to solve capital problems. However, there are few studies on how supply chain finance can generate effectiveness in enterprises. Therefore, This article reveals developing meaning of supply chain finance in financing and management, through analyzing problems encountered in the process of developing some wine enterprise and large equipment manufacturers, plans and implement effect. Comparing and studying three typical supply chain financing modes, combined with the case put forward building inter connectivity of sharing platform and build a trinity system of credit proposals for development.

**Keywords:** Supply chain finance; Financing; Management; Value creation; Credit system

## 1. INTRODUCTION

As the "long tail customer" in the credit market, SMEs have been facing the problem of financing difficulty and high financing cost, thus incubating a huge financing demand [1]. Supply chain finance came into being to help small and medium-sized enterprises to make up for their lack of credit by taking advantage of the information advantages of the core enterprises in the supply chain, alleviating the financing difficulties, and business model more in line with the characteristics of enterprises [2]. Moreover, supply chain finance, as an innovative tool with great market potential, has a significant effect on financing and management of enterprises, which is of great significance to stimulate the vitality of the supply chain and improve the competitiveness of enterprises.

As to how and what kind of utility supply chain finance produces, this paper will analyze three financing modes, namely, pledge financing, accounts receivable financing and financial leasing, from two perspectives of financing and management, reveal the development effectiveness of supply chain finance, and put forward some suggestions on credit risk control.

## 2. THE SUPPLY CHAIN FINANCE APPLICATION CASE OF LIQUOR PRODUCING ENTERPRISES.

### (1) Introduction to the problem

A domestic wine enterprise has been relying on downstream distributors to achieve product sales. The

company produces alcoholic outlets and distributes them to multi-storey distributors, which then reach consumers through retailers. With the development of business problems have arisen, first, some large distributors gradually control the sales channels, in the transaction continuously depressed the price of alcohol; second, distributors privately downward expansion of distribution network, increased circulation links, resulting in serious loss of products, while each distributor level of price increases, hurting the market demand; The storey distributors keep part of the stock when they distribute downwards, which makes it difficult for the enterprise to judge the market stock of wine, so it is impossible to make the correct production plan.

To solve this problem, the management of enterprises and all intermediary dealers stop cooperation, directly to the retailer to sell products. But the new problem is that businesses will refuse to sell credit when they sell products downstream, otherwise they would rather cancel the order. Previously, dealers offered 20-day discounts to retailers, so retailers had less financial pressure and needed to make up for the 20-day shortfall after trading directly with wine companies. Finally, wine enterprises and retailers are in a stalemate.

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#### (2) Solution

In response to the problems in the case, the bank provided a solution for the liquor company (pledge financing). That is to say, the bank provides the retailer with liquor purchase loan, but needs to collect the margin beforehand, and supervises the goods with the help of the logistics company. After providing the loan to the retailer and remitting the money directly to the liquor enterprise account, the liquor enterprise will store the corresponding goods in the designated warehouse of the bank and supervise by the logistics company. The retailer makes a request for delivery to the logistics company on the basis of the margin, remits the payment to the bank's designated account after completing the sale of the goods, and then obtains the second delivery right of the remaining goods in the warehouse. After several rolling sales, the retailer repays the bank loan and withdraws the warehouse goods in full, completes a round of financing sales activities; if the retailer fails to repay the loan on schedule, the wine company needs to buy back the goods from the bank. In this process, because the retailer's credit does not meet the requirements of bank credit, it is necessary to rely on wine companies to increase the retailer's credit. By determining the real trade relationship between the two, the retailer's qualifications are investigated to provide credit for them.

#### (3) implementation effect

After implementation of the scheme, both wine companies, retailers, banks and logistics companies benefit from it. The mode of direct supply to retailers by wine companies avoids price squeezing by middlemen, resolves the 20-day account contradiction, shortens the distance between decision makers and the consumer market, and has more say in bargaining power.

Retailers can first continue to enjoy a 20-day deferred payment discount; second, they can get more price space by ordering less middlemen; and finally, they can enjoy professional logistics and transportation services. Banks have expanded credit business and played an important role in adjusting the structure of banking business. For logistics companies, the storage and transportation of goods increase business income.

### 3. APPLICATION CASE OF SUPPLY CHAIN FINANCE FOR LARGE EQUIPMENT MANUFACTURERS

#### (1) Introduction to the problem

An aircraft engine manufacturer and an aircraft manufacturer are faced with the dilemma that the airline abandons the transaction when placing an

order with the engine manufacturer because of the unbearable financial pressure, thus causing the engine manufacturer to lose more orders; the aircraft manufacturer often needs the parts supplier first when purchasing the parts. The bank pays the full amount of the goods in advance and waits for the goods to arrive before the payment is made to the supplier. A 30-day account period occurs in the middle of the payment period, resulting in great financial pressure on the supplier and loss of business. As a result, it has gradually become a situation in which the suppliers of aircraft and spare parts can not afford to sell the manufacturer's business on credit.

#### (2) Solutions

In order to solve the above problems, the aircraft engine manufacturers with the strongest capital operation ability and strong own strength provide accounts receivable financing and financial leasing services to suppliers and orderers respectively.

The parts supplier forms an account receivable to the aircraft manufacturer within 30 days after delivery to the aircraft manufacturer according to the order of the aircraft manufacturer. The parts supplier applies to the engine manufacturer for a loan on the pledge of the account receivable. The aircraft manufacturer pays off the purchase to the spare parts supplier after the 30-day account period, and the supplier repays the engine manufacturer with the repaid money. The previously pledged receivables are released and a round of receivables financing is completed.

When providing financial leasing services to airlines, the engine manufacturer signs a financial leasing agreement with the airline and orders the aircraft to the aircraft manufacturer. After the aircraft is manufactured, the engine manufacturer pays off and delivers the aircraft to the airline. According to the agreement, the ownership of the aircraft still belongs to the engine manufacturer at this time, the airline only obtains the right to use the aircraft, and after the aircraft is put into operation to obtain revenue, the airline will pay the engine manufacturer annual rent according to the agreement.

#### (3) Implementation effect

In the above supply chain financing cases, the upstream and downstream enterprises get preferential interest rate loans through the credit transfer and endorsement of the core enterprises. For engine manufacturers, not only do they have ownership of the aircraft, but aircraft manufacturing drives demand for their own engines and provides financing services with interest and rents. For airlines, they only need to pay a lower annual rent to get the right to use the aircraft, solving the huge financial pressure. For parts suppliers and aircraft manufacturers, aircraft orders drive the development of the manufacturer's business while increasing the demand for parts procurement, and the supplier's financial pressure has been transferred, ultimately achieving a win-win situation for the chain-owned enterprises.

4. COMPARATIVE ANALYSIS OF CASES

Comparing with the financing model of the above cases (Table 1), it can be seen that the core of supply chain finance is to transfer supply chain credit and trust [3]. Different supply chain enterprises have

different financing modes of supply chain finance, which requires different enterprises to make appropriate plans according to their own business characteristics and needs.

Table 1 Comparison of supply chain finance case models

Financing mode	financing enterprise	core enterprise	participate in enterprise	existence problem	Solve programme	Letter mode	programme Effect
pledge financing	Zero sell merchant	Wine making enterprise	Bank and Logistics company	Contradiction between delivery time between retailers and liquor companies	Banks supervise the inventory of goods through logistics companies, thereby lending to retailers.	Letter to retailers through good seller's credit in liquor making enterprises	Liquor enterprises realize the reform of distribution mode, retailers solve account conflicts, and banks and logistics enterprises expand their revenues.
receivable Accounts	Spare parts supply merchant	aircraft Manufacturer	Engine Manufacturer	Parts suppliers are too afraid to sign large orders due to too long account pressure.	Engine manufacturers provide loans to parts suppliers.	Credit to suppliers through good buyer's credit of aircraft manufacturers	Parts supplier capital pressure relieved, rest assured to accept orders; aircraft manufacturers business expansion smoothly completed procurement.
financing Lease	aviation company	Aircraft engine manufacturers	aircraft Manufacturer	Airlines are unable to place orders because of the huge volume of single transaction, and the upstream and downstream businesses are deadlocked.	The engine manufacturer ordered the aircraft to be leased to the airline and charged the rent.	Lease agreement with airlines based on stable supply chain cooperation relationship	Engine manufacturers get business income and financing income; Airlines get the right to use aircraft at a lower cost.

The development of supply chain finance can not only alleviate the financing difficulties and financial pressure of SMEs, but also promote the management optimization and operation efficiency of participating enterprises. In the sense of financing, financing enterprises can obtain funds with lower interest rate, solve the contradiction of account period, reduce loan risk, increase financing income, participate in enterprises to increase the turnover of funds, and the flow of capital and information in the supply chain can be dredged; in the sense of management, financing enterprises can expand production and create business increment. Core enterprises can

stimulate the momentum of transformation, consolidate the competitive advantage, get potential cooperation opportunities, extend the scope of service, and deepen the overall collaboration of supply chain. Overall, the dual role of supply chain finance in financing and management has greatly enhanced the overall strength of the supply chain in the economic transition period, and will be more competitive in the fierce market competition.

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# Research on the cultivation and improvement strategy of innovation and entrepreneurship quality of engineering college students in new era

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**Abstract:** Under the background of new era, In order to achieve new development, new development requires new ideas and breakthroughs . In order to achieve this goal, it is particularly important to cultivate innovative and entrepreneurial talents. Because of their academic background, practical operation ability and strong thinking and logic ability, engineering students have unique advantages in innovation and entrepreneurship and are the new force in innovation and entrepreneurship. Research fully understands the significance of innovation and entrepreneurship of engineering college students, explores the problems, and then explores the strategies for cultivating and improving the quality of innovation and entrepreneurship of engineering college students

**Keywords:** The new age; Engineering undergraduate; Innovative undertaking

## The introduction

The 19th CPC report put forward the conclusion that China has entered a new era, a new era, a new journey, the major social contradictions have changed, the rapid development of Internet technology, and new ideas are needed to solve new problems and build a new era, Under such requirements, the cultivation of innovative and entrepreneurial talents is imperative. Due to their strong discipline background, practical operation ability and thinking and logic ability, engineering students have unique advantages in innovation and entrepreneurship and become the new force in innovation and entrepreneurship. Therefore, colleges and universities should pay more attention to the cultivation of innovation and entrepreneurship ability of engineering students, focus on improving the creativity of students, adapt to and meet the demand for innovative and entrepreneurial talents in the new era, and realize the new breakthrough of socialist construction with Chinese characteristics in the new era.

I. The significance of cultivating the innovation and entrepreneurship quality of engineering college students in the new era

The cultivation of the quality of innovation and entrepreneurship is helpful for engineering college

students to give play to their disciplinary advantages and realize their own value. Engineering college students pay more attention to the cultivation of experimental testing ability under the premise of guaranteeing solid theoretical foundation, In the process of applying the theory to the experimental test, engineering college students can further consolidate the theoretical foundation, discover problems in the experimental process, gradually improve and realize innovation, The process of applying the innovation results to real life is entrepreneurship. The whole process of innovation and entrepreneurship is the process of engineering college students' learning, which is determined by their disciplinary background, The realization of innovation and entrepreneurship is also the best test of the training effect of engineering college students and a sufficient verification of its own value.

The cultivation of innovation and entrepreneurship quality enriches the connotation of university personnel training and realizes the leapfrog development.

The new era puts forward new requirements for talents, and the cultivation of talents in colleges and universities faces both opportunities and challenges. The demand of innovative and entrepreneurial talents provides a new development idea for the cultivation of talents in colleges and universities and the cultivation of the innovative and entrepreneurial quality of college students, In particular, the innovative and entrepreneurial quality of engineering students has become a new focus of talent training in colleges and universities. We should promote the continuous transformation of education concept, further promote education reform, enrich the connotation of talent cultivation, and realize the leapfrog development of universities in talent cultivation.

The cultivation of innovation and entrepreneurship quality promotes the implementation of innovation-driven development strategy and the implementation of policies. In the context of the new era, innovation-driven and scientific and technological progress have become important drivers for the country's leapfrog development and

construction of an innovative country. To implement the innovation-driven development strategy, a large number of talents with the quality of innovation and entrepreneurship are needed as the intellectual support. As an important technical talent, the cultivation of innovation and entrepreneurship quality of engineering college students accelerates the development of innovation-driven development in China and further ensures the seamless connection between policy formulation and implementation.

II. Challenges faced by cultivating the innovative and entrepreneurial quality of engineering college students in the new era

Lack of perfect evaluation mechanism of innovation and entrepreneurship quality, talent innovation and entrepreneurship ability is easy to be neglected. In today's university education teaching system, innovation and entrepreneurship education is not included in the talent training and discipline construction planning. Therefore, the overall talent quality evaluation does not include the assessment of the quality of talent innovation and entrepreneurship. In many cases, innovation and entrepreneurship education is faced with the dilemma of working alone without integrating with professional education. In such a education background, it is easy for university students to ignore the conscious cultivation of their own innovation and entrepreneurship ability, and they lack certain passion when facing the innovation and entrepreneurship education provided by the university.

Lack of systematic innovation and entrepreneurship education resources, teaching practice level becomes an obstacle. Whether innovation and entrepreneurship education can achieve the desired effect, excellent teachers play a crucial role. The tutor of innovation and entrepreneurship education requires not only the awareness of innovation and entrepreneurship theory, but also the rich experience of entrepreneurship practice and social experience. The teacher structure of domestic colleges and universities is relatively single, and most teachers do not have social practice experience. In addition, the school-enterprise cooperation and the cooperation mechanism of enterprise mentors are still not perfect, which leads to the lack of attention to the factors of social demand in the process of innovation and entrepreneurship education, resulting in that the so-called innovative and entrepreneurial talents cultivated cannot truly connect with the society.

There is no convenient innovation and entrepreneurship practice platform, and the national innovation environment needs to be optimized. At present, the form of theory teaching is still dominant in the innovation and entrepreneurship education of various colleges and universities, and college students' understanding of innovation and entrepreneurship is relatively abstract. The construction of mass innovation space and innovation

and entrepreneurship laboratory in universities is a scarce resource in terms of quantity, and it is difficult to guarantee the real demand of innovation and entrepreneurship in terms of quality, especially for engineering college students, the cultivation of innovation and entrepreneurship quality requires high requirements on experimental conditions and instruments and equipment, which needs to be guaranteed from national policy guidance and financial support, and the innovation environment is yet to be optimized.

III .Improvement strategies for cultivating the innovative and entrepreneurial quality of engineering college students in the new era

We should update the quality evaluation mechanism of college students and cultivate their awareness of innovation and entrepreneurship. First of all, universities and relevant departments should set innovation and entrepreneurship education as an independent discipline and integrate it into professional course education to realize innovation under the premise of fully mastering professional knowledge; Secondly, the ability of innovation and entrepreneurship should be included in the evaluation mechanism of students' ability so that the cultivation of innovation and entrepreneurship can be supported by evidence; Thirdly, guide engineering college students to realize the potential value of innovation and entrepreneurship and the value of innovation and entrepreneurship through theoretical publicity and practice, so as to form an emphasis on innovation and entrepreneurship from an ideological perspective.

We will improve the teacher motivation system and mechanism to build a contingent of high-quality innovative education teachers. On the one hand, colleges and universities should formulate policy incentive system and mechanism, and use policy to guarantee and encourage teachers to actively improve their ability of innovation and entrepreneurship teaching, at the same time, it is also necessary to communicate with some universities with rich experience in innovation and entrepreneurship, and learn and improve the practical experience of innovation and entrepreneurship through personnel exchange; On the other hand, colleges and universities should actively carry out cooperation with enterprises. Through the integration of social and alumni resources, they should introduce a batch of excellent enterprises with entrepreneurial experience to serve as start-up mentors, and also build a platform for the increase of teachers' practical experience.

We will promote in-depth cooperation between industry, universities and research institutes and build a education practice platform for innovation and entrepreneurship. First of all, the practical learning ability of engineering college students should be strengthened to improve the quality of innovation and entrepreneurship, for example, graduation design,



internship, etc. should be organically integrated with innovation and entrepreneurship education. Secondly, the state should increase investment in the construction of university science and technology parks and entrepreneurship incubation bases, including entrepreneurship services, professional consultation, equipment, venues and capital, so as to provide convenient innovation and entrepreneurship practice platform for college students. Thirdly, the state should improve the policy system for the transformation of scientific and technological achievements, realize the social benefits of scientific research achievements, promote the deep integration of production, education and research, and realize the social value of innovation and entrepreneurship

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# Research on the evaluation model of low-carbon economy

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**Abstract:** Low-carbon economy is a new economic growth mode of sustainable economic development. Evaluating its development can better promote the development of regional low-carbon economy. In this paper, a comprehensive evaluation indicator system and evaluation model for low-carbon economy is established. Then the combined weight method is put forward to measure the weight of indicators and development index of low-carbon economy in Shandong Province from 2004 to 2017. The results show that the overall development trend of low-carbon economy is excellent. In the end, some recommendations to improve the low-carbon economy are presented.

**Keywords:** Low-carbon economy; Evaluation model; Indicator system; Combined weight; Shandong Province

## 1. INTRODUCTION

The continuous advancement of technology has promoted the rapid development of global economy, which brought superior material conditions to people and improved people's quality of life [1-2]. However, along with the advancement of technology, the ecological environment has been seriously threatened by depletion of non-renewable resources, pollution of water resources and global warming [3-5]. Rapid development of industry and neglecting of environmental protection as well as high energy consumption are main reasons for greenhouse [6-8]. In this context, low-carbon economy following low energy consumption and low pollution has become a global hot spot. Low-carbon economy will not only achieve economic growth, but also effectively protect the ecological environment [9].

The low-carbon economy is an economic model that achieves low-carbon development from a series of social activities from production to consumption [10]. Specifically, low-carbon economy is based on the concept of sustainable development including concept innovation, technological innovation, institutional innovation and business innovation to improve the efficiency of energy consumption and minimize the consumption of high-carbon energy such as coal and petroleum in order to achieve the goal of slowing the growth of CO<sub>2</sub> in the atmosphere [11-12]. Finally, low-carbon economy will achieve an economic development model of economic and social development.

In recent years, many scholars have tried to establish a comprehensive evaluation system to measure the development level of regional low-carbon economy [13-14]. For the construction of evaluation model, research ideas are relatively unified to apply theoretical methods of multivariate statistics and multi-attribute decision-making to the well-designed indicator system, which is used to different levels and types of indicators to complete the quantitative assessment of low-carbon economy [15-16]. The modeling method is based on analytic hierarchy process (AHP) and simple linear weighting. The weight of each indicator is determined by AHP weighted and synthesized with the standardized index data to obtain the evaluated objects at different levels. It has advantages of simple operation and strong applicability. The disadvantage is that the subjectivity and ambiguity in evaluation are not considered and reliability of model needs to be improved.

This article uses combined weights to calculation characteristics of various weights, which the disadvantages of certain weight is effectively avoided. The structure of the paper is arranged as follows: in section 2, low-carbon economic evaluation indicator system is established. The low-carbon economic evaluation model is determined in section 3. The fourth part is the evaluation results and finally is the conclusion.

## 2 LOW CARBON ECONOMY INDICATOR SYSTEM

Based on theory of low-carbon economy, this paper considers the scientific, complete, measurable and usable nature of statistical indicators, and combines the specific industries of Shandong Province. According to the level of the target of the evaluation index system, the indicators for the low-carbon circular economy system form a hierarchical structure system consisting of the overall target layer, the system control layer and the basic indicator layer, so as to design a set including low-carbon industry development, low carbon economy development, low carbon technology development, low carbon society development, low carbon environment development evaluation index system, thus forming a logical framework of evaluation indicators covering all aspects of industry, economy, technology, society and environment. The specific evaluation index system is shown in Table 1.

Table 1 Low carbon economy evaluation indicator

system of Shandong

indicator system	basic indicator
industry development	carbon emissions of unit GDP
	resources consumption of billion GDP
	comprehensive utilization of solid waste
	treatment amount of garbage harmless
economy development	renewable resources use ratio
	Per capita GDP
	investment of low carbon industry
	disposable income of resident
technology development	tertiary industry percentage of GDP
	low carbon industry percentage of GDP
	processing conversion rate of energy
	low carbon R&D percentage of GDP
society development	wastewater discharge compliance rate
	industrial dust removal rate
	environmental governance budget
	Engel coefficient
environment development	new energy vehicle proportion
	total investment of environmental control
	environmental protection investment in GDP
	per capita park green area
environment development	green coverage rate of built-up area
	low carbon travel rate
	number of bus per million people
	income ratio of urban and rural residents

3 LOW-CARBON ECONOMIC EVALUATION MODEL

The establishment of low-carbon economic evaluation and development index measurement model mainly includes data standardization processing, determination of indicator combination weight, development index measurement of low-carbon economic subsystem, low-carbon economy overall development index measurement.

(1) Standardization of data processing

is standardized data of the indicator

(2) Combination weight of the indicators

The combination weight of the indicators is determined by difference weight method and analytic hierarchy process. The method for determining the combined weight is as follows:

.is the combined weight, is the weight derived from

deviation weight method, is the weight derived from analytic hierarchy process.

(3) Subsystem comprehensive evaluation

According to the low carbon economy evaluation index system, combined with the calculation model of combined weights, the development index evaluation results of the low carbon economy subsystem are obtained. The formula is as follows:

is subsystem development index, is standardized data of the indicator, is the weight of indicator and .(4) Low carbon economy development index is subsystem development index and is the weight of subsystem.

4 RESULTS AND DISCUSSION

(1) Evaluation of various indicators of low carbon economy

According to the low carbon economic indicator system and the combination weight determination method established above, the combined weights of all indicators are calculated. Based on this, combined with the low carbon economic evaluation model, the low carbon economic development index of Shandong Province from 2004 to 2017 is calculated in figure 1.

It can be seen that between 2004 and 2017, the low-carbon economic development subsystem of Shandong Province is in good operating condition, with rapid economic growth and rising economic development quality. This is because Shandong Province has established a number of low-carbon economy enterprises, which optimized the industrial layout and achieved certain results in development of low-carbon economy.

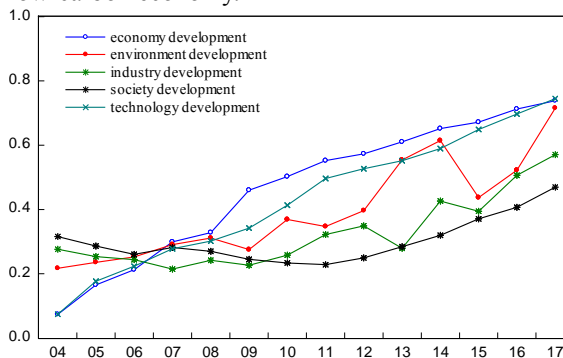


Figure 1 Evaluation of various indicators of low carbon economy

The trend of social development subsystem is better. On the one hand, through the development of low-carbon economic publicity and education, the public's awareness of participation has been raised. In addition, television, newspapers and magazines and other media are used to conduct extensive publicity and expanded the practice of public. Moreover, the trend of social development subsystem and the industrial development subsystem is similar, indicating that the low-carbon economy can effectively deposit the formation of a low-carbon

society and the transformation of a low-carbon lifestyle while promoting industrial restructuring interactivity.

The rising trend of industrial development subsystem shows that the scale of low-carbon industries has increased year by year. This aspect is compatible with the rapid development of economic scale, which also shows that the development of low-carbon economy in Shandong Province has great potential. First, applicable energy saving technologies are used to transform and upgrade traditional industries. Second, transformation of energy and production of cleaner low-carbon energy such as wind power, solar energy, biomass energy and geothermal energy are developed to promote the main direction of energy structure adjustment.

The overall trend of environmental development subsystem is good. This is because Shandong Province implements low-carbon production and clean production in the metallurgical, electric power, coal and other industries to achieve low emissions and. In addition, vigorously developing low-carbon eco-industrial industries and eliminating backward production capacity have not only reduced environmental pollution, but also achieved “win-win” between environment and economy. However, the environmental development subsystem is unstable, which indicating the transformation sustainability of traditional industries into low-carbon industries needs to be improved.

The technology development subsystem is running well and the upward trend is rapid. Shandong Province combines the use of circular economy to promote economic transformation. Moreover, new technical methods are adopted to achieve resource recycling and energy cascade utilization.

## (2) COMPREHENSIVE EVALUATION OF LOW CARBON ECONOMY DEVELOPMENT

According to the low-carbon economic evaluation model, the development index of low-carbon economy in Shandong Province from 2004 to 2017 was measured and the overall trend of low-carbon economic development was obtained. The results are shown in figure2.

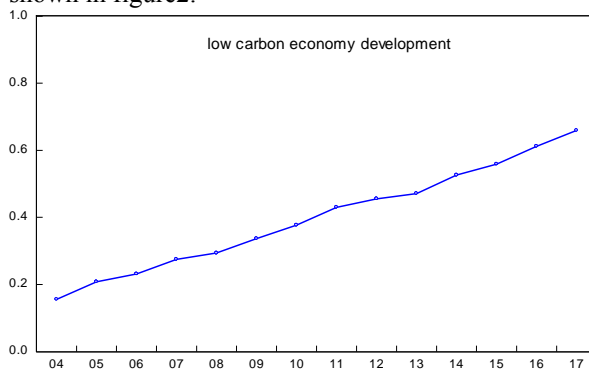


Figure 2 Comprehensive evaluation of low carbon economy development

It can be seen that the development level of

low-carbon economy in Shandong Province has gradually increased and the development of low-carbon economy has been well improved during research period. Together with the development of science and technology, the momentum of deteriorating development of low carbon economy in Shandong Province has been well contained. The efficiency of energy production and utilization has been improved. Moreover, the intensity of energy consumption has been gradually reduced and the development of new energy has replaced some traditional energy sources. The energy consumption structure has been improved to a certain extent, thus the intensity of carbon emissions has gradually declined.

## 5 CONCLUSION

In this paper, low carbon economy evaluation indicator system composed of industry development, economy development, technology development, society development and environment development was established. But the comprehensive evaluation results of low-carbon economic development level will be affected by subjective factors. At present, there is no unified and quantitative comprehensive evaluation method. Therefore, there is still much room for improvement and development of comprehensive evaluation of low-carbon economic development.

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# Research on the Influence of Occupational Identification on Innovation Behavior of Ideological and Political Workers in Colleges and Universities

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**Abstract:** In December 2016, the National College Ideological and Political Work Conference was held in Beijing. The ideological and political work of colleges and universities received high attention. Ideological and political workers in colleges and universities are the main force of the ideological and political work of college students. Their innovative behavior has a great influence on the effectiveness of ideological and political work. We should study and explore the influencing factors and mechanisms of innovative behaviors of ideological and political workers in universities, build a theoretical model that uses policy perception as an intermediary variable and use data to verify the model.

**Key words:** College ideological and political workers; Professional identity; Creative behavior; Policy awareness

## Introduction

From December 6 to 7, 2016, the conference on ideological and political work in universities was held in Beijing. General Secretary Xi Jinping fully stressed the importance of ideological and political work in universities and pointed out that ideological and political work should be carried out throughout the entire process of education and teaching. The understanding of the significance and value of the ideological and political work in colleges and universities (hereinafter referred to as "the ideological and political workers in colleges and universities") to a certain extent determines the smooth development of ideological and political work in colleges and universities, and the innovation of their ideas and methods at work. It determines the effective implementation of ideological work. The convening of the ideological and political conference in colleges and universities is a great opportunity for development of ideological and political work in colleges and universities. The ideological and political workers in colleges and universities should change due to events, advance from time to time, and take advantage of the situation, constantly improving their innovation ability and practice innovation. Acts and practically improve the affinity and pertinence of ideological and political education in universities.

The object of this study is ideological and political workers in universities. This object covers the party and government cadres of colleges and universities, the Communist Youth League cadres, ideological and political theory teachers, philosophers and social sciences teachers, counselors and mentors, counselors and professional development planning teachers. To explore the mechanism of professional identity on innovation behavior, in order to better reflect the role of policy support at the national level to promote the ideological work of universities, and to introduce the perception of such policies by universities as a intermediary variable into the research model. The conclusions are: National, college and individual levels provide evidence for future action and countermeasures

## 1. Research hypothesis and model construction

This study puts forward the following research hypotheses by studying and combing previous research results and combining the problems to be solved in this study.

Hypothesis 1 Occupational emotional identity has a positive effect on the creative behavior of ideological and political workers in universities.

Hypothesis 2 Occupational emotional identity has a significant positive impact on the policy perception of ideological workers in universities.

Hypothesis 3 Occupational stability has a positive effect on the creative behavior of ideological and political workers in universities.

Hypothesis 4 Occupational stability has a significant positive effect on policy perception of ideological and political workers in universities.

Hypothesis 5 Occupational loyalty has a positive effect on the creative behavior of ideological and political workers in universities.

Hypothesis 6 Occupational loyalty has a significant positive effect on the policy perception of ideological workers in universities.

Hypothesis 7 The ideological workers of universities have a positive effect on their perception of national support policies and their innovative behavior. Based on the above theoretical basis and research hypothesis, the theoretical model of this study can be shown in Figure 1 below.

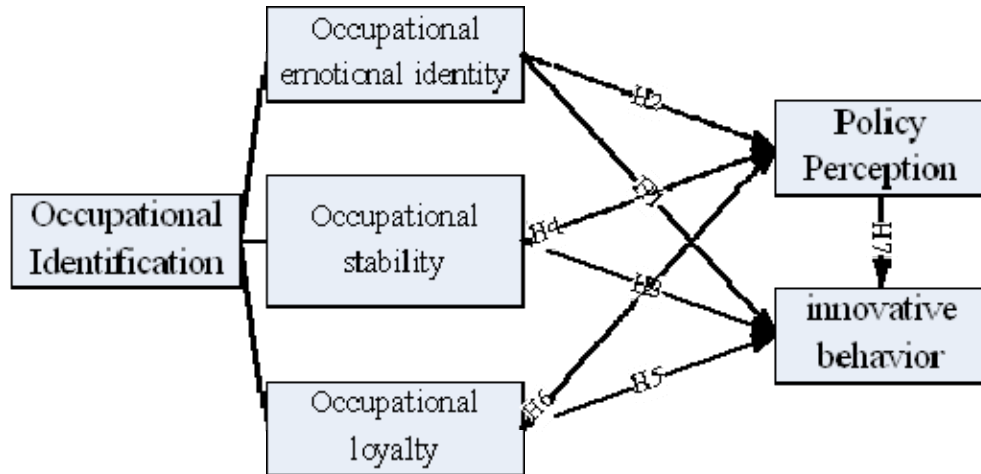


Figure 1 Effect of professional identity on the innovation behavior of ideological workers in universities

2.Hypothesis verification and result analysis

This study focused on ideological workers from various universities and colleges in Tianjin, covering ten universities and colleges including Tianjin University, Nankai University, Tianjin Polytechnic University, Tianjin University of Technology, Tianjin Normal University, and Tianjin University of Finance and Economics. A total of 300 questionnaires were distributed and 247 copies were recovered, including 227 valid questionnaires, with an effective recycling rate of 75.67%. Among the valid questionnaires, there

were 131 females and 96 males, accounting for 57.71% and 42.29%, respectively.

This study uses the Amos data analysis software and uses the maximum likelihood estimation method to verify the influencing mechanism model of innovative behaviors of ideological and political workers in universities. The output of the model is shown in Figure 2. CMIN/F (0.039), GFI (0.759), and AGFI (0.829) as indicators of the fitting effect of the research model all tend to be 1, indicating that the fitting effect is better.

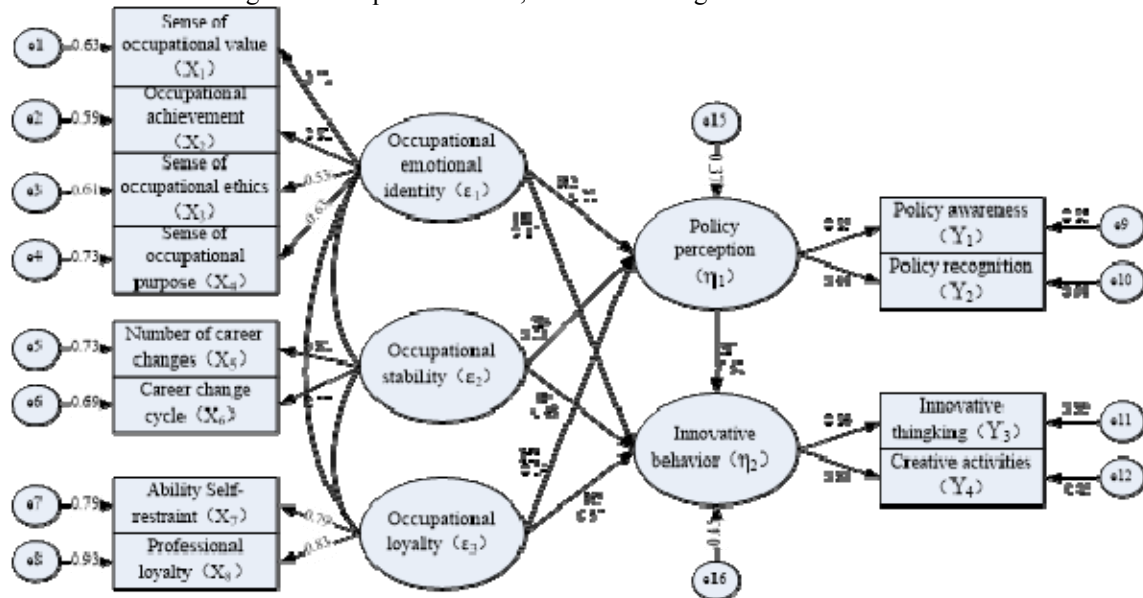


Figure 2 Influence mechanism of professional identity of college ideological workers on innovation behavior

After observing the factor loads of the observed variables in the model, it can be found that the factor loads of all observed variables are greater than 0.5, and the t values of all factor loads have passed the significance test, which indicates that each variable has a stronger theoretical model explaining ability. Specifically as shown in Table 1 below. The sense of professional achievement (0.8103) contributes most to professional emotional identity, and secondly, professional sense of value X1 (0.7097), professional sense of mission X4 (0.6342), professional ethics X3

(0.5345); number of career changes (0.8082) on job stability The largest contribution was made, followed by the career change period of the X6 (0.7701); occupational loyalty contributed the most to the occupational norms (0.8347), followed by the X7 self-discipline (0.7883).

Observed variable policy recognition rate Y2 contributed the most to the first endogenous variable policy perception (η1) (0.9301), followed by the policy awareness level Y1 (0.8281). It can be seen that only understanding the policy recognition and

comparison policy can strengthen the university. Ideological worker concept for a certain policy. Observation variable innovation thinking Y3 contributed the most to the second endogenous variable innovation behavior ( $\eta_2$ ) (0.8792), followed

by the creation behavior Y4 (0.8407). It can be seen that the ideological workers with active innovative thinking promote the innovation behavior more obvious.

Table1 Observing variable factor load coefficient

OVF	LC	OVF	LC	OVF	LC
X1( $\epsilon_1$ )	0.7097	X5( $\epsilon_2$ )	0.8082	Y1( $\eta_1$ )	0.8281
X2( $\epsilon_1$ )	0.8103	X6( $\epsilon_2$ )	0.7701	Y2( $\eta_1$ )	0.9301
X3( $\epsilon_1$ )	0.5345	X7( $\epsilon_3$ )	0.7883	Y3( $\eta_2$ )	0.8407
X4( $\epsilon_1$ )	0.6342	X8( $\epsilon_3$ )	0.8347	Y4( $\eta_2$ )	0.8792

Remark : OVF stands for Observing variable factor ; LC stands Load coefficient.

Table 2 shows the normalized path coefficients of potential variables and their effects. It can be seen from the above that the main path parameters of this

model are all significant at the 1% level, and the t-test is adopted. Through the analysis of the obtained data, the following conclusions can be drawn.

Table 2 Latent Variables Standardization Path Coefficients and Impact Performance

		Direct effect	Indirect effects	Total effect	Potential variable path	Standardized path coefficient	P
→	$\epsilon_1$	0.2147		0.2147	$\epsilon_1\eta_1$	0.2147	***
$\eta_1$		0.1723	0.0637	0.236	$\epsilon_1\eta_2$	0.236	***
→	$\epsilon_1$	0.2345		0.2345	$\epsilon_2\eta_1$	0.2345	***
$\eta_2$		0.4317	0.0714	0.5031	$\epsilon_2\eta_2$	0.5031	***
→	$\epsilon_2$	0.2439		0.2439	$\epsilon_3\eta_1$	0.2439	***
$\eta_1$		0.3749	0.0809	0.4558	$\epsilon_3\eta_2$	0.4558	***
→	$\epsilon_2$	0.3143		0.3143	$\eta_1\eta_2$	0.3143	***
$\eta_2$							
→	$\epsilon_3$						
$\eta_1$							
→	$\epsilon_3$						
$\eta_2$							
→	$\eta_1$						
$\eta_2$							

Remark : \*\*\*stands for significant at 1 % level.

①Among the factors that influence the innovative behavior of ideological and political workers in colleges, the occupational identification factor plays the most significant role in occupational stability (0.4317), followed by the occupational identification degree factor occupational norms identification (0.3749), policy perception (0.3143), occupation Identity factor occupational emotional identity (0.1723).

②The results of data model analysis show that occupational emotional identity has a significant positive effect on the creative behavior of ideological workers in universities. Hypothesis 1 is established. It can be seen that those who have a strong emotional identity for the ideological and political work in colleges and universities, that is, have a high sense of mission and morality, can feel the realization of their own values and ideological and political workers with a sense of accomplishment are also more active in innovation. At the same time, professional emotional recognition through policy perception has a significant effect on the indirect influence of innovation behavior of ideological and political workers in universities. Hypothesis 2 is established.

The direct effect of occupational emotional recognition on ideological and political workers in colleges and universities was 0.1723. The indirect effect of policy perception was 0.0637, and the overall effect was 0.236.

③Occupational stability has a significant positive effect on the creative behavior of ideological and political workers in universities. Hypothesis 3 is established. It can be seen that ideological and political workers with a relatively high level of job stability have accumulated more work experience and are more likely to achieve innovation in traditional ideological and political work. At the same time, career stability through policy perception has a significant effect on innovation behavior of ideological and political workers in universities. Hypothesis 4 is established. The direct effect of occupational stability on creative behaviors of ideological and political workers in colleges and universities is 0.4317, and the indirect effect through policy perception is 0.0714, with a total effect of 0.5031.

④ The occupational norm recognition has a significant impact on the promotion of creative



behavior of ideological and political workers in universities. Hypothesis 5 is established. In other words, workers who have a high level of professional loyalty and who are able to exercise self-discipline in accordance with professional norms in the process of their careers can be deeply explored in ordinary jobs and thus create innovative behavior. In addition, occupational norms recognize that policy awareness has a significant effect on the creative behavior of ideological and political workers in universities. Hypothesis 6 is established. The direct influence of occupational norm recognition on ideological and political workers in universities is 0.3749, and the indirect influence through policy perception is 0.0809, with a total impact of 0.4558.

⑤The ideological worker's ability to perceive policy as a mediator variable of occupational emotional identity, occupational stability, and professional norm recognition has a significant effect on its innovation behavior. Hypothesis 7 is established. The factor load factor shows that for the state has a clear understanding of the ideological and political work policies of universities, higher recognition workers can make full use of policies, respond to national policies, and effectively promote the creation of innovative behavior.

### 3. Research conclusions and suggestions

Summarizing the above research results, this study proposes to improve and improve the following aspects.

First of all, at the national level, various forms of policies and systems should be adopted to ensure a good policy environment for ideological and political work in universities, and through various forms of learning and propaganda to ensure that ideological and political workers in the university are aware of and familiarized with Recognize national support policies, make full use of policies, and exert policy effectiveness.

Secondly, from the perspective of colleges and universities, we should positively respond to the implementation of national policies and attach importance to the ideological and political work of college students; at the same time, we should break the boundaries of traditional forms of ideological and political work, innovate in the form of ideological and political work in the context of "Internet Plus", and use big data. Real-time mastery of the ideological and political status of college students, timely development of problems, analysis of problems, and solutions to problems. In addition, colleges and

universities should provide ideological and political workers with a better working environment and development space, foster enthusiasm and enthusiasm for ideological workers for work, improve job stability, and form a work team and organizational atmosphere with a high sense of professional identity. Thirdly, from a personal perspective, ideological and political workers in universities should fully understand the profession they are engaged in, fully understand themselves, seek a connection between the work and their own development, and formulate a scientific career development path for themselves. In the teaching and educating career, through continuous work and summarization, innovative work ideas and methods, forms a sense of mission and responsibility for the profession; At the same time, Words and Deeds set an example for students to form a good self-discipline and increase their loyalty to the profession.

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# The Impact of Internal Control Quality on Debt Costs

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**Abstract:** This paper uses the data of China's Shenzhen-Shanghai A-share listed companies as a sample to study the impact of internal control on corporate debt costs. The empirical test results show that high-quality internal control can effectively reduce corporate debt costs.

**Keywords:** internal control, debt cost

## 1. INTRODUCTION

If enterprises want to continue to grow and develop in this highly competitive society, high-quality and adequate sources of funds are one of the indispensable factors. According to the superior order financing theory of Myers (1984), enterprises generally prefer internal financing. When external financing is needed, enterprises prefer debt financing compared to equity financing. Although the internal financing of the enterprise does not have to pay the borrowing cost and the risk is small, the amount of the fund source is generally related to its own profit. Therefore, when the enterprise needs a large amount of funds, it will often choose external financing. External debt financing includes bank loans, bond issuance and notes payable, accounts payable, etc., which are mainly bank loan financing (Kim, 2011). When an enterprise applies for a loan from a bank, the bank first considers whether the enterprise can repay the interest on time. It needs to comprehensively analyze the various risks of the corporate loan to decide whether to issue the loan, the size and duration of the loan, and the interest rate. The size of the risk is not only affected by macroeconomic factors with universal significance, such as economic situation, monetary policy, etc., but also related to the business management status and financial information of the individual meaning of the enterprise.

The business risk of an enterprise is not only affected by external factors related to the industry, but also the corporate governance structure, organizational mechanism, risk assessment and control have an important impact on it. This is the specific content and objectives of internal control, so internal control The overall business situation is of great significance. Financial information is a "barometer" of a company's financial situation. It can reflect the overall business situation of the company. However, the collection and collation of financial information is relatively complicated and trivial. It is prone to

various financial problems, resulting in distortion of financial information. Reduce the bank's recognition of corporate financial information, so a good internal control can effectively improve the authenticity and effectiveness of corporate financial information. In summary, effective internal control can improve the business management of the enterprise, improve the authenticity and effectiveness of the financial information of the enterprise, and reduce the risk of the bank's loan to the enterprise. Then, will the quality of internal control have a significant impact on the debt financing costs of enterprises? This paper intends to verify the impact of internal control quality on debt financing costs through empirical data from Chinese listed companies in 2012-2017.

## 2. LITERATURE REVIEW

This part mainly sorts out the existing literature from three aspects: the influencing factors of corporate debt financing cost, the evaluation method of internal control quality and the impact of internal control on debt financing cost. At the same time, for the theoretical analysis of the following, the quality of internal control is selected. Metrics and control variables provide relevant evidence.

### 2.1 Factors affecting corporate debt financing costs

The existing literature mainly studies the influencing factors of corporate debt financing costs from two aspects: national macro level and enterprise micro level.

(1) Regarding the national macro level. From the perspective of the national macro level, it analyzes the cost of corporate debt financing, and analyzes the impact of changes in monetary policy, legal environment, government behavior, financial ecological environment and other aspects on corporate debt financing costs.

Zhao Zhenyang (2017) through empirical research on the data of China's A-share non-financial listed companies from 2007 to 2015 found that when the macro-monetary policy is tightened, the debt financing costs undertaken by enterprises are lower, and the impact is more significant in the eastern region. Macro-monetary policy has a greater impact on corporate debt financing costs, especially in areas where the financial industry is more developed.

Liu Hui, Zhang Junrui, Zhou Jian (2016), through an empirical study of all listed companies in the Shanghai and Shenzhen stock markets except the financial industry in 2007-2013, found that compared

with the high rule of law, enterprises are at a lower level of the rule of law. The pending litigation in the region has a more significant impact on its debt financing costs. This shows that the improvement of the legal environment can effectively reduce the debt financing costs of enterprises.

(2) About the micro level of the enterprise. From the micro level of the enterprise, the paper analyzes the cost of corporate debt financing, and the impact on the financing cost of corporate debt through changes in accounting conservatism, corporate profitability, earnings management, and interest coverage.

Deng Yunjun and Yan (2017) conducted empirical analysis on the data of China's A-share non-financial listed companies from 2013 to 2015, and used the accrued cash flow model to test the accounting robustness. The study finds that accounting conservatism has a significant negative correlation with corporate debt financing costs. Because the firm's accounting stability is high, the default risk faced by its creditors will be reduced, and the expected return will also decline, so the company can get lower. Cost of debt financing.

Wei Zhihua, Wang Yujie, et al. (2012) found through empirical research on 1555 Chinese A-share listed companies in 2006-2009, such as company size, asset tangibility, profitability, debt level, company growth, interest guarantee multiples, etc. It has a significant impact on the cost of debt financing for companies.

## 2.2 Evaluation method of internal control quality

At present, there are three main methods for evaluating internal control: one is based on the business process of the enterprise, that is, it finds all the key control points in the business process and then tests the effectiveness around its control measures, and evaluates according to the test results. The effectiveness of internal control; the second is based on internal control elements, that is, by evaluating the existence and effectiveness of internal control elements and their sub-elements to evaluate the effectiveness of the overall internal control; third, based on internal control objectives And to carry out, that is, to evaluate the effectiveness of internal control by measuring whether it can provide reasonable assurance to achieve organizational goals.

(1)Based on the business process of the company. Dai Yan (2006), based on the case analysis of A provincial power grid company, centered on the existing business management process, with cash flow as the center, and based on the four key categories of "key business", the internal control evaluation process was divided into six. step.

(2) Expand based on internal control elements. Guo Xiaomei and Fu Yuanluo (2002) constructed a three-level hierarchical evaluation index system based on internal control elements based on the internal control elements, including five basic elements, 15 categories and 26 evaluation indicators.

Zhu Weidong, Li Yongzhi, He Xiuyu (2005) based on

the five basic elements of the COSO report, combined with BP neural network, built an evaluation model of the internal control system of the enterprise.

(3)Based on internal control objectives. Zhang Zhaoguo, Zhang Wangfeng and Yang Qingxiang (2011) designed an internal control evaluation system by selecting the indicators, calculating the weights of the indicators, determining the evaluation criteria and scoring methods according to the objectiveness and observability of the internal control objectives.

## 2.3 Impact of internal control on debt financing costs

Lai Lizhen and Feng Yanchao (2016) used the small and medium-sized listed companies as a sample to study the relationship between internal control and external audit quality and corporate debt financing costs, and found that effective internal control and high external audit quality can help reduce corporate debt. Financing costs.

Zheng Jun, Lin Zhonggao, and Peng Lin (2013) used the sample of listed companies in China from 2007 to 2011 as a sample to study the impact of changes in monetary policy and the quality of internal control on corporate debt financing costs. The study found that effective monetary control can significantly reduce the cost of debt financing of enterprises when monetary policy is tightened, but this effect is only effective in areas with more developed finance.

## 3. THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS

First, Doyle et al. (2007) argue that high-quality internal controls have an important impact on the quality of accounting information in enterprises. If a company establishes a good internal control system, it will have reasonable and strict control over the organization, business process, and authority and responsibility. At the same time, the decision-making behavior of management and major shareholders is in a strict organizational structure. And under the reasonable division of powers and responsibilities, the agency costs in the principal agent are reduced, and the adverse selection is prevented. Power checks and balances, supervisory mechanisms, and good communication have increased the cost of financial fraud and reduced the incentives for management financial fraud. It can be seen that high-quality accounting information requires a more effective internal control system. The more effective the internal control of the enterprise, the higher the quality of accounting information.

Second, information asymmetry between banks and firms is the main reason for the cost of external financing to be greater than the cost of endogenous financing (Myers and Majluf, 1984), and also leads to resource mismatches in credit markets (Stiglitz and Weiss, 1981). In general, banks are most concerned about whether financing companies can repay their debts on time and at the same time control the risk of loans. In order to achieve this goal, banks often have

strict qualification audits before they issue loans, such as examining the creditworthiness of enterprises, the profit rate of enterprises, the use of funds they borrow, etc., and there are corresponding measures to deal with the corresponding possible Various risks. However, in the transaction, compared with the enterprise, the bank is often not very familiar with the actual situation of the enterprise, and is in an information disadvantage position. After the financing contract is signed, the bank may not be able to effectively supervise the enterprises that are on the information superiority. The enterprise may generate moral hazard, such as the misappropriation of funds, the investment of high-risk projects, the distribution of dividends, etc., so that the company's future debt defaults. Increased possibilities increase the risk of banks. Therefore, in the case of information asymmetry, banks often require higher risk compensation when they issue loans to enterprises, which pushes up the debt financing costs of enterprises. High-quality internal control can improve the quality of accounting information, curb information asymmetry between banks and enterprises, and reduce the cost of corporate debt financing.

Finally, a high-quality internal control system can release a favorable signal to the outside world, improve the reputation of enterprises in the credit market, reduce the risk compensation requirements of banks to some extent, and reduce the debt financing costs of enterprises. The study found that the internal control of enterprises has a positive and significant positive effect on the value of enterprises. The information disclosed by enterprises has higher credibility in the market, which can reduce the information asymmetry between banks and enterprises, and reduce banks. risks of.

In summary, internal control can improve the quality of accounting information, reduce information asymmetry between banks and enterprises, and release more favorable signals to the outside world. Based on the above analysis, the paper makes the following research hypotheses:

H: High quality internal controls can significantly reduce the cost of debt financing for a company.

Table 1 variable definition table

Variable type	Variable symbol	Variable name	Variable definitions
Explained variable	cost	Debt cost	(interest expense + handling expenses + other financial expenses) / total liabilities at the end of the period
Explanatory variables	ICQ	Internal control quality	The natural logarithm of Dibo's internal control evaluation index
	size	Company Size	The annual book total assets are taken from the natural logarithm
	LEV	Debt level	Total liabilities at the end of the period / total assets at the end of the period
	ROE	Profitability	Net profit / average balance of shareholders' equity;
	growth	Growth ability	(Operating income for the current year - the amount of

## 4. RESEARCH DESIGN

### 4.1 Sample selection and sample source

This paper selects the data of Shenzhen-A-share listed companies from 2010 to 2016 as research samples. To ensure the rationality of the research, the following screening is made:

- (1) Excluding financial listed companies;
- (2) Excluding companies that have been listed for less than two years;
- (3) Eliminate data anomalies or missing and ST-type companies.

In the end, a total of 11317 sample data were obtained, and 1% of Winsorize processing was performed on continuous variables. In this paper, the internal control data comes from the DIB database, and the financial data is from the CSMAR database, and the data is statistically analyzed using Stata.

### 4.2 Variable definitions

(1) The variable is interpreted. The explanatory variable is the cost of corporate debt financing. The ratio of the sum of interest expense, handling fee and other financial expenses to the total debt at the end of the period is expressed in cost in the model.

(2) Explain the variables. The explanatory variable is the quality of internal control, using the natural logarithm of the internal control index of the listed company in the DIB database, expressed in ICQ in the model.

(3) Control scalars. Referring to the existing research results, this paper selects the following indicators as control variables: company size, debt level (LEV), profitability (ROE), growth (growth), total asset turnover (turnover), asset liquidity (Liquid). In addition, the year and industry are controlled. The definition of each variable is shown in Table 1.

### 4.3 Model building

According to the research experience of scholars in the past, in order to test the relationship between internal control and corporate debt financing costs, this paper constructs the following test model:

$$\text{cost} = \beta_0 + \beta_1 \text{ICQ} + \beta_2 \text{size} + \beta_3 \text{LEV} + \beta_4 \text{ROE} + \beta_5 \text{growth} + \beta_6 \text{turnover} + \beta_7 \text{liquid} + \sum \text{industry} + \sum \text{year} + \varepsilon$$

Control variable			operating income for the same period of the previous year) / (the amount of operating income for the same period of the previous year)
	turnover	Total asset turnover	Operating income / average total assets; of which, the average total assets = (assets total ending balance + initial balance of assets) / 2
	liquid	Liquidity of assets	Current current assets / current current liabilities
virtual variable	year	Year	
	industry	Industry	

5. EMPIRICAL ANALYSIS

5.1 Descriptive statistics

Table 2 gives descriptive statistics for the main variables. First, the average debt financing cost of the enterprise is 0.0251, the maximum value is 0.069, the minimum value is 0.0005, and the standard deviation is 0.0157, indicating that the debt financing costs vary greatly among different enterprises. The ICQ maximum and minimum values of the internal control index after natural logarithm are 6.7832 and 5.9091, respectively, and the standard deviation is

0.1220, indicating that there is a significant gap in the internal control quality between enterprises, and the internal control quality of some enterprises needs to be improved. The average value of the assets of the sample enterprises after the logarithm is 22.1521. The average value of the asset-liability ratio is 0.4798. The average profitability index is 0.0732. Including other financial indicators in the table, the basic situation of the debt financing enterprises can be obtained.

Table 2 Descriptive statistics

Variable symbol	N	Min	Max	Mean	Standard deviation
cost	11316	0.0005	0.0690	0.0251	0.0157
ICQ	11316	5.9091	6.7832	6.4959	0.1220
size	11316	19.9019	25.5995	22.1521	1.1859
LEV	11316	0.0978	0.9024	0.4798	0.1957
ROE	11316	-0.3496	0.3542	0.0732	0.0965
growth	11316	-0.5094	3.7051	0.2235	0.5302
turnover	11316	0.0758	2.7832	0.6789	0.4813
liquid	11316	0.2611	8.3283	1.8154	1.3330

5.2 Correlation analysis

Table 3 gives the correlation coefficients between the variables. As can be seen from the table, debt financing and other variables except the company size and total asset turnover rate are significant at the 1% level, and the debt financing cost is significantly positively correlated with LEV, indicating the company's asset-liability ratio. When rising, the debt financing of enterprises will increase accordingly; the

corporate debt financing is significantly negatively correlated with ICQ, size, ROE, growth, turnover, liquid, indicating the improvement of internal control quality, the expansion of enterprise scale, and profitability. The enhancement, the increase in total asset turnover and the enhancement of asset liquidity can effectively reduce the debt financing of enterprises. Assume that preliminary verification is obtained.

Table 3 Correlation analysis

	cost	ICQ	size	LEV	ROE	growth	turnover	liquid
cost	1							
ICQ	-0.1341**	1						
size	-0.0154	0.2581**	1					
LEV	0.1615**	-0.0242*	0.4629**	1				
ROE	-0.2133**	0.4286**	0.1639**	-0.0691**	1			
growth	-0.0994**	0.1353**	0.0411**	0.0408**	0.2209**	1		
turnover	-0.0241*	0.1769**	0.0344**	0.1238**	0.1847**	0.0769**	1	
liquid	-0.2385**	0.0236*	-0.2931**	-0.6535**	0.0610**	-0.003	-0.1447**	1

Note: \*\* Indicates significant correlation at the 1%

level, \* Significantly correlated at the 5% level each variable is between 1-10, indicating that there is no serious collinearity problem between the variables, and each variable is significantly correlated at the 1% level, which can pass the significance test. ICQ coefficient  $\beta_1 = -0.0073$ , further indicating that the improvement of internal debt control quality can significantly reduce the debt financing cost of

5.3 regression analysis

The regression results are shown in Table 4. The regression analysis showed that the adjustment of  $R^2 = 0.1704$  indicates that the model can explain 17.07% of the influencing factors of the dependent variable, and the goodness of fit is within the acceptable range. The variance expansion factor of

enterprises, and the assumption is verified.

Variable name	Regression coefficients	T value	VIF
ICQ	-0.0073**	-5.54	1.42
size	-0.0005**	-3.74	1.67
LEV	0.0078**	6.99	2.59
ROE	-0.0219**	-13.41	1.36
growth	-0.0011**	-4.31	1.08

Note: \*\* Indicates significant correlation at the 1% level, \* Significantly correlated at the 5% level

## 6. CONCLUSION AND SUGGESTION

This paper selects the data of China's 2010-2016 Shenzhen-A-share listed companies as a research sample. The study finds that the quality of internal control has a significant negative correlation with the cost of corporate debt financing, which proves that high-quality internal control can significantly reduce debt financing of enterprises. cost. The level of debt financing has a direct impact on the pricing of enterprise product services, which in turn affects the market competitiveness and survival of enterprises. Therefore, enterprises should improve their internal control quality from the following aspects.

(1) A good internal control environment is the basis for establishing a high quality internal control system. Based on the characteristics of the industry and its own characteristics, the company establishes an efficient and reasonable internal control system, taking into account the institutional settings and power distribution and checks and balances; formulating a scientific human resources policy, using various reward and punishment mechanisms to mobilize the enthusiasm of the employees, so that people can do their best. Make the best use of it; corporate culture is also an important internal control environment that needs attention.

(2) Risk assessment and risk response are the key to internal control

Risk is uncertainty, and internal control is to control the risk brought by such uncertainty within an acceptable range. Enterprises should establish a scientific and reasonable risk management team to identify internal risks in production and management, assess external risks brought about by changes in market environment and government policies, and take measures to control risks within their own acceptable limits.

(3) Strengthening the communication and transmission of information

Enterprises need to establish corresponding institutions to accurately and timely collect and transmit relevant information inside and outside the

Table 4 Regression analysis

turnover	-0.0011**	-3.35	1.4
liquid	-0.0018**	-13.04	1.94
year	control		
industry	control		
Adj-R2	0.1704		

enterprise. At the same time, it is necessary for senior management personnel to analyze the information and respond accordingly to ensure that the enterprise's upper and lower levels and internal and external can be timely. Communication.

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# A Study on Content Validity of CET-4 Reading Comprehension

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**Abstract:** This article explores the content validity of CET-4 reading (2017-2018) from the perspective of task characteristics. The study covers input characteristics (length, genre, topic area, readability) and expected response characteristics (reading skills) and makes a comparative analysis between the study results with the testing syllabus and teaching guide. The results are rather satisfactory in terms of the content validity, the conformity with the syllabuses. Recommendations and advice are put forward for further improvement.

**Key Words:** CET-4; Reading Comprehension; Content Validity

## 1. Introduction

Language testing is a kind of evaluation method, which plays an important role on teaching and learning of language. College English Test Band 4, called CET-4, is currently one of the most far-reaching English test with the largest scale and largest number. CET-4 paper has been paid much attention and reading comprehension accounts for a large proportion of the paper.

Content validity refers to how much in degree a test has covered efficiently the content stipulated in the teaching and testing syllabus, or how much the test items have reflected the behavioral domain of the target ability the test measures. Alderson et al. (2000) state that content validity is the most important facet of the internal validity. Because the higher the test's content validity is, the more accurate it will be to measure what it expects to measure. So it has practical significance to analyze the content validity of CET-4 reading comprehension.

## 2. Theoretical Foundation

Bachman put forward model of test method facets in 1990. And then in 1996, Bachman and Palmer proposed a set of integral theory of task characteristics framework on the basis of 1990's study. Bachman and Palmer (1996) set out to describe a framework with the intention to differentiate characteristics of language use tasks which can be used to describe a language use domain. The task characteristics framework includes characteristics of the setting, the test rubrics, the input, the expected response and relationship between input and response.

## 3. Research Design

On the basis of the Bachman & Palmer's task characteristics framework, the author tentatively proposes a more feasible framework mainly from the angle of the text input and expected responses, which involve text length, topic, genre, readability, and reading skills coverage. Furthermore, the author analyzes in detail the content validity of reading parts in CET-4 test paper by comparison with the Teaching Guide for College English (2016) and Testing Syllabus for College English Band four (2016).

## 4. Result and Analysis

### 4.1 Characteristics of the Text Input

In terms of the newly revised framework, the characteristics of the input involve text length, topic area, genres and readability.

#### 4.1.1 Text Length

The result is presented in Table 1.

Year	Section A	Section B	Section C	Section C	Total
			Passage 1	Passage 2	
2017,12(1)	239	1056	354	357	2006
2017,12(2)	227	1010	341	354	1932
2017,12(3)	251	1009	344	337	1941
2018,6(1)	249	1082	347	345	2023
2018,6(2)	249	1062	347	335	1993
2018,6(3)	249	958	345	334	1886
Mean	244	1030	346	344	1964

Table 1 Text length of reading passages (words)

The testing syllabus (2016) of CET-4 stipulates that the reading passages in reading comprehension part are made up of section A with one passage, section B with one passage and section C complete with 2 passages. The text length of section A is from 200 to 250 words, section B is about 1000 words and section C ranges from 300 to 350 words.

According to table 1, the text length in section B is slightly more than 1000 words except the third set of June, 2018. Compared with other passages, section B has more words. However, the other parts of control better, and all text length is appropriate.

#### 4.1.2 Genre

Genre is a particular class of speech events which are regarded by the speech community as being of the same type. The distribution of the genre from December, 2017 to June, 2018 in CET-4 is presented as follows:

Year	Narration	Exposition	Argumentation
2017,12(1)	1	0	3
2017,12(2)	0	0	4
2017,12(3)	1	1	2
2018,6(1)	0	1	3
2018,6(2)	0	2	2
2018,6(3)	1	0	3
Total	3	4	17
Percentage	12.5%	16.7%	70.8%

Table 2 Genre of reading passages

The testing syllabus (2016) stipulates that a variety of test genre should include narration, exposition, argumentation, and so on.

As the table above shows, the genres of reading passages are relatively diverse. The distribution of the genres in the third one of December, 2017 is the most balanced compared with the others' distribution. Argumentation takes the biggest proportion with 70.8% in the all test papers and exposition takes the second biggest ratio of 16.7%. Narration only takes up 12.5%.

Although almost all of the characteristics of the distribution of the genres reach the requirements of the testing syllabus (2016), there still exists the shortcoming. In fact, in daily study, work and life, it is truly needed to get information by reading advertisement, instructions and diagram with authenticity. Therefore, with the expanding of genre's range, we hope these forms can also have a place in the test papers.

#### 4.1.3 Topic

Year	Section A	Section B	Section C Passage1	Section C Passage2	Mean
2017,12(1)	59.1	63.6	52.9	67.6	60.8
2017,12(2)	51.2	49.4	53.3	41.7	48.9
2017,12(3)	42.7	48.9	51.9	44.7	47.1
2018,6(1)	52.4	54.5	50.8	52.0	52.4
2018,6(2)	65.4	45.7	51.9	52.2	53.8
2018,6(3)	60.0	56.9	61.0	59.3	59.3

"Topic" or "topic area" means the subject matter of the discourse. Here, "topic" or "topic area" refers to what the passage in the reading comprehension part is about. There are 24 texts in the reading comprehension part in CET-4 papers from 2017 to 2018. The distribution of topic is generalized as follows:

Table 3 Topic of reading passages

The testing syllabus (2016) stipulates that a broad range of topics includes and so on. Based on the

testing syllabus (2016), in this study, the topic mainly covers three aspects: humanities, social science and

Year	Humanities	Social science	Natural science
2017,12(1)	0	2	2
2017,12(2)	0	3	1
2017,12(3)	1	2	1
2018,6(1)	0	3	1
2018,6(2)	0	3	1
2018,6(3)	1	2	1
Total	2	15	7
Percentage	8.3%	62.5%	29.2%

natural science.

From Table 3, it can be seen that the reading material in the six sets of paper covers a large area of topics, involving aspects of science, society, culture and education. In table 3, "social science" is the highest topic, accounting for 62.5%, "natural science" is the second one, taking up 29.2% and "humanities" covers lowest, only 8.3%. So more texts about humanities should be covered. In sum, topic of reading passages is in line with requirements of the testing syllabus (2016) and have high content validity. Hence, it is suggested that more topics should be involved in the future test design.

#### 4.1.4 Readability

Readability is an important concept of applied linguistics, which is defined as "How easily written materials can be read and understood (Richards, 2005)." The Flesch Reading Ease readability test has been constructed to describe the comprehension difficulty during the process of reading a passage of contemporary academic English. In the "Flesch Reading Ease" test, reading material with higher scores demonstrates that the passage is easier to understand while that with lower scores indicates that the material is more difficult to read. The following is the formula of the "Flesch Reading Ease Score (FRES)":

Flesch Reading Ease Score =

$$206.84 - 85 \times \left( \frac{\text{total syllables}}{\text{total words}} \right) - 1.02 \times \left( \frac{\text{total words}}{\text{total sentences}} \right)$$

Based on the Flesch Reading Ease formula, the readability is carefully calculated as follows:

Table 4 Readability of reading passages

The testing syllabus (2016) stipulates that low-difficult materials and articles published in English newspaper and other English materials ought to be understood by the test takers. Here, low-difficult is required in the testing syllabus (2016). The teaching guide (2016) about difficulty degree demands is medium-difficulty(2016).

In table 4, it can be seen that the reading passages cover different levels of readability (from 41.7 to 65.4) and the readability corresponds to the level



from “difficult” to “easy” , which shows that the readability distribution of reading passages is not so stable and the span is too large. Thus, the distribution of readability is not appropriate. Therefore, the distribution of readability is not reasonable and is not line with the requirements in the testing syllabus (2016) and the teaching guide (2016).

#### 4.2 Characteristics of the Expected Response

The behavior of reading involves a range of separate skills, abilities or strategies. The study of the expected response mainly focuses on the analysis of reading skills. According to the testing syllabus (2016) and the teaching guide (2016) and for the sake of convenient operation, these reading skills are further divided into the following seven micro-skills:

01 To understand explicitly stated concept or details;

02 To understand implicitly stated concept or details (e.g. conclusion, judgment, inference etc.);

03 To understand the topic and the main idea (e.g. finding the key points to summarize the passage);

04 To understand the writer’s opinions and attitudes;

05 To deduce unfamiliar words and phrases through context clues;

06 To understand sentence-level (e.g. understanding cause, result, purpose, comparison);

07 To understand discourse-level (e.g. understanding the relationship between various parts of the passage).

In evaluation of reading tests, reading skills coverage has been paid high attentions. Through the analysis of reading skills coverage, we can see the quality of each test item in the reading texts and the distribution of test items’ levels and measure stated reading skills of the test takers. Thus, the task ought to be neither too easy nor too difficult, which can objectively assess the coverage of relevant reading skills. By careful and detailed analysis, the micro-skills tested in CET-4 reading comprehension part are shown as follows:

Year	01	02	03	04	05	06	07
2017,12(1)	5	3	0	0	0	2	0
2017,12(2)	5	2	0	0	1	2	0
2017,12(3)	4	3	0	0	0	3	0
2018,6(1)	2	7	0	0	0	1	0
2018,6(2)	3	4	0	0	1	2	0
2018,6(3)	2	4	0	0	0	4	0
Total	21	23	0	0	2	14	0
Percentage	35.0%	38.3%	0%	0%	3.3%	23.3%	0%

Table 5 Reading skill coverage of reading passages According to the data showed in table 5, conclusion can be drawn as below:

Four reading skills is covered among the seven reading skills required in the testing syllabus (2016), complete with 01, 02, 05 and 06, apart from 03, 04 and 07, which never appears in the six papers. Furthermore, the proportions of each paper are quite various. The four reading skills tested mainly focuses on the understanding of important details. Skill 01 and 02 are the key skills tested in each year’s paper. Skill 02 and 01 account for the largest and the second ratio, respectively of 38.3% and 35.0%. And then skill 06 and skill 05, which separately take up 23.3% and 3.3%. The reading skills tested are too centralized and coverage is too small. Furthermore, the skill to seek out the author’s intention and attitudes, to understand the topic, main idea and discourse-level do not involved.

#### 5. Conclusion

In conclusion, the analysis results have showed that CET-4 reading comprehension test has a relatively high content validity. Nevertheless, there are also some problems which have somewhat affected the content validity of reading comprehension test: 1) The topics and genres do not cover more varieties; 2) The difficulty degree is not under a good control. 3) The reading skills tested do not involve all skills required. So the reading comprehension part in CET-4 needs to be improved appropriately in future. To sum up, It is hoped that the above analysis can be helpful to improve the quality of CET-4 reading comprehension, and to improve English reading ability of the college students, so as to further improve the quality of college English teaching.

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# Exploration on the Construction of Open Laboratory

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**Abstract:** With the development of educational reform, experimental teaching has been innovated. Open laboratory is one of the effective measures of experimental teaching innovation. It not only cultivates the experimental skills of college students, but also prompts the practical ability of college students. Because of this, how to strengthen the management of open laboratory has become a common concern of all school administrators. Based on the current situation of open laboratory management, this paper analyzes the specific forms of open laboratory, and puts forward effective measures to strengthen the management of open laboratory.

**Keywords:** Open laboratory; Higher education; Improvement; Diversification

## 1. INTRODUCTION

With the development of higher education, experimental teaching in higher education is becoming more and more important[1]. In the process of training college students' creativity, the role of experimental teaching is irreplaceable[2]. Open experimental teaching can give college students more free development and autonomous learning space, so that all aspects of their ability to be fully exercised and cultivated, conducive to the cultivation of engineering quality and innovation ability of college students[3]. However, the construction and teaching of open laboratory must solve the corresponding problems, which is conducive to the reform of experimental teaching[4].

## 2. PROBLEMS IN OPEN LABORATORY

Although open experimental teaching can play a positive role in the process of college students' cultivation and is the development direction of experimental teaching, according to practical experience, open experimental teaching must follow the objective laws of experimental teaching, do a good job in related work, otherwise it can't play a better role in the laboratory.

**2.1 System and experimental contents need further reform.**

The experimental teaching is carried out according to the experimental teaching content, which is determined by the training plan, teaching program,

experimental teaching program and curriculum setup of each major. Basically, it can be divided into basic course experiment, specialized technical basic course experiment and specialized course experiment. In order to accomplish these experimental teaching contents, the experiments of verification, demonstration, synthesis and design have been adopted respectively, which have been inherited for many years. In recent years, more attention has been paid to comprehensive and design-based experiments, and much work has been done in the reform of experimental teaching. However, the whole experimental system has not changed much, most of the experiments are still dependent on the teaching of various courses, and there is no close relationship between them in the whole experimental teaching process. For example, basic knowledge experiment is mainly to consolidate and deepen the classroom theoretical teaching effect, lack of the use of basic knowledge and skills training. In the comprehensive experiment of specialized courses, many college students have not yet fully understood the theoretical knowledge or stayed on the theoretical concepts, and can't flexibly use the basic theoretical knowledge to solve practical problems. Therefore, the current experimental teaching can't make college students well from book knowledge to practical ability transition and transformation.

**2.2 Experimental teaching mode and teaching method need further reform.**

The purpose of experiment teaching is not only to cultivate college students' basic experimental operation ability and the ability to combine theory with practice, but also to cultivate college students' ability to use knowledge flexibly. The cultivation of creative ability needs corresponding teaching mode and method to support and guarantee, otherwise it can't achieve the desired effect. For example, the open experiment involves a wide range of experimental contents, which puts forward higher requirements for instructors. College students will raise various problems at any time. To help them solve these problems, the workload of explaining and tutoring a course is much larger than that of explaining and tutoring a course. The instructors are required to have a wide range of knowledge and

update their knowledge quickly. We must have a solid theoretical foundation and rich practical experience. Otherwise, college students are lack of interest and participation, and they can't complete the experiment well in the experimental process, resulting in superficial understanding of the experimental results. In this way, the opening of the laboratory often appears a hot and cold situation, college students lack the sense of participation, open laboratories can only welcome a small number of participants, or even no one involved, can't achieve the desired results.

### 2.3 Laboratory management mode and operation mechanism need further reform.

The reform of experimental teaching contents and methods must be coordinated by corresponding management mode and operation mechanism. After the opening of the laboratory to college students, because of the difference from the past, the opening time of the laboratory is longer, involving a wider range of content, involving more subjects. Because of these factors, the opening of laboratories has brought a series of problems, such as insufficient maintenance of instruments and equipment. Although the opening of the laboratory is convenient for college students, so that they can learn a lot of practical knowledge, especially a variety of operational skills have been greatly improved, the utilization of equipment has also been improved. However, due to the uneven level of practical ability of college students, it is unavoidable to cause damage to instruments and equipment in varying degrees, increasing the cost of equipment maintenance, difficulty and workload. Moreover, there are insufficient staff and funds on duty. The opening of the laboratory is often carried out by the use of weekend and holidays. At present, the establishment of laboratory managers in schools is based on the traditional laboratory management methods. Only when the laboratory is open at normal times, the staff are more nervous, not to mention the opening of the weekend and holidays. At the same time, after the opening of the laboratory, due to the increase of the experimental items, the expansion of the experimental content, the number of college students participating in the experiment increases, so that the consumption of experimental materials and materials will also increase, and generally for the consumption of laboratory materials and materials input is limited, which will lead to the lack of funds for the normal maintenance of the laboratory. In addition, after the opening of the laboratory, the workload of teachers and laboratory staff has greatly increased. How to calculate and pay for these excess experimental teaching workload has become a new problem brought about by the opening of the laboratory.

## 3 EXPLORATION OF SOLUTIONS TO EXISTING PROBLEMS

### 3.1 Reform of experimental system and experimental teaching content is the focus of laboratory opening.

We should constantly improve and perfect the experimental teaching syllabus, comprehensively and systematically consider and arrange the concrete experimental contents of basic course experiment, specialized technical basic course experiment and specialized course experiment, so as to make the three interrelated and closely combined, so as to ensure and deepen the comprehensive and design experiment and achieve the arrangement of experimental teaching contents. From the shallow to the deep, to learn from the past, and gradually integrate with the actual application. At the same time, college students should be allowed to give full play to the room and space, such as comprehensive or design-based experiments can give the main framework of experimental research topics, draw up several major topics, put forward different levels of experimental requirements and experimental purposes, so that college students according to their actual situation and interests, choose different topics to complete the actual situation. Experiments, give full play to the initiative and initiative of college students, stimulate their creative thinking, let college students to free imagination, free design, cultivate their practical ability and creativity.

The syllabus of experimental teaching should also update the contents of experimental teaching in time, constantly introduce the latest scientific research results and the most advanced experimental methods and means according to the actual situation, so that the contents and teaching level of experimental teaching will be continuously improved with the development of science and technology, and college students will be exposed to new knowledge, new technology and new equipment as soon as possible. Make the college students learn and use the society to connect, let the college students as far as possible to shorten the adaptation period from school to society, cultivate college students' creativity.

### 3.2 Improving the quality of experimental teachers and improving teaching forms are the guarantee of laboratory opening.

With the renewal of experimental teaching content and the change of experimental teaching form, higher and more comprehensive requirements are put forward for experimental instructors. Because of the diversification of experimental teaching content and the encouragement of college students' innovative spirit, the experimental schemes designed by college students themselves will be various, and the randomness of unexpected problems will increase in the experimental teaching process, which requires experimental instructors not only to have a solid theory of the subject and related interdisciplinary, but also to have a wealth of interdisciplinary theories. Practical experience and quick response handling ability.

Although open experimental teaching can play a positive role in the process of college students'

cultivation and is the direction of experimental teaching reform, it does not mean that the experimental guidance is laissez-faire, the effective restraint on college students is reduced, so that college students relax the study of experimental courses, thus affecting the teaching effect. It is necessary to combine the traditional centralized experiment teaching with the open experiment teaching, and implement different experimental teaching forms and evaluation index system according to the different experimental contents. For example, the experiment of demonstration and verification can still adopt the traditional experimental teaching form and complete the prescribed experiment content in the prescribed time. For comprehensive and design experiments, we can adopt the form of semi-open or full-open laboratory, open experimental time and experimental content, and let college students do experiments in an organized and planned way. At the same time, the experimental contents of special research or scientific and technological inventions with a certain depth can be completed in an open laboratory in the form of interest activity group or research team, providing the necessary equipment and experimental conditions. In this way, college students can not only master the basic experimental skills in the shortest time, cultivate their interest in experimental courses, stimulate their strong thirst for knowledge, but also give them enough space for independent development and exploration, stimulate their innovative thinking and cultivate their creative ability.

3.3 The diversification of laboratory management mode is the condition of laboratory opening.

In view of the diversification of experimental teaching forms, it is necessary to establish a set of diversified management mode to adapt to various experimental teaching forms, especially for the open or semi-open laboratory experimental teaching forms, it is necessary to establish the corresponding laboratory management mode, if you let go, it will be worthwhile. All kinds of management modes should first be student-centered, in order to improve the quality of experimental teaching as the premise, in

order to improve the experimental teaching effect as the goal. Give full play to the enthusiasm and creativity of experimental instructors and college students, so that teachers can be wholeheartedly involved, actively do a good job in the preparation of various experiments, conscientiously and responsibly guide college students to complete the experiments. The corresponding management measures should be formulated to supervise the college students' self-consciousness in learning, assess the effect of the experiment, and formulate the evaluation index of the experiment results. Organizing graduate college students to participate in laboratory management can not only consolidate and improve their knowledge and practical ability, but also help undergraduate college students. Strengthen the formulation of laboratory rules and regulations, reasonably increase the cost of laboratory management, maintenance and materials, improve the treatment of laboratory technicians, increase the opportunities for training and learning of laboratory technicians, strengthen foreign cooperation and exchanges, actively carry out social services, and strive to expand the impact of laboratories. We should improve the investment efficiency of laboratories and the contribution rate of instruments and equipment, and do a good job in the modernization of laboratories.

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# Research on Legal Issues of Private Lending

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**Abstract:** With the development of the economy, China's private lending market is in a stage of rapid development. Although it is a positive aspect, it promotes the development of SMEs and broadens the channels of private financing. However, it is often because of the unequal lending agreement between borrowers and lenders. Or the existence of arrears and other forms, as well as the lack of legal norms, so the emergence of economic disputes are also in a state of high incidence year by year based on practical experience, combined with some specific cases, to explore the various legal issues for reference.

**Keywords:** Legal Issues; Private Lending; Channels of Private Financing; Unequal Lending Agreement

## 1. INTRODUCTION

From a legal perspective, private lending is a civil act. The borrower can be a natural person corporate legal person. The lender can be the above two types and legal persons or other non-governmental organizations engaged in non-financial business. Generally speaking, it can be a pawnshop microfinance company. In essence, private lending is mainly related to official formal financial financing such as banks. The object of lending can be the debt relationship between the borrowing and lending parties such as monetary treasury bonds and legal agreements or oral agreements. Corresponding rights and obligations, protected by law.

The litigation effect of civil lending disputes is stipulated in the General Principles of Civil Law, that is, two years but not calculated from the date of borrowing, but from the time when one party clearly knows that its rights have been infringed. Situation: First, the agreed time limit for borrowing, two years from the end of the borrowing period; second, if the borrowing period is not agreed, the legal protection will be lost if the borrower refuses to perform the repayment for more than two years, but the lender It is also possible to sue the borrower if the court finds that there is no lapse of time, the court will reject the request that the debt repayment date is not agreed in the loan contract, and the creditor does not explicitly require the debtor to perform the

repayment obligation, and is not subject to the two-year limit. The court regards the statute of limitations time as twenty years.

## 2. VALIDITY AND INVALIDITY OF CONTRACTS

In combination with judicial practice, the following three situations should be regarded as invalid in the act of lending and invalidate the contract: involving illegal fund-raising; involving illegal investment financing organizations such as joint meetings; and violation of laws and regulations with legally binding mandatory provisions.

Non-governmental borrowings other than the above three invalid acts shall be regarded as effective borrowing, and the loan contract shall be deemed effective. The following three types shall also be regarded as legal private lending: First, the borrowing of funds raised in accordance with the law of the company law Behavior; the second is the borrowing behavior required for the production and operation of the enterprise, such as the fund is raised internally by the unit for the production and operation of the unit; the third is the lending behavior for the purpose of obtaining high interest. In the case of determining whether the borrowing between enterprises is legal, it is necessary to first distinguish the legality of different lending behaviors, and then examine whether the contract is effective for lending with lending income as the source of corporate profits, such as the lending rate is significantly higher than that of the bank during the same period. For the same type of loan interest rate, it should be determined that the loan is illegal and the contract is invalid. Because both the borrower and the borrower are at fault, the borrower should not receive additional income. Therefore, the borrower only needs to follow the standard at the same time as the borrower returns the principal of the loan. The standard interest rate of the bank's similar loan returns the interest during the loan period and the temporary fund lending behavior between the enterprises for the production and operation needs, if the borrower does not aim at high profits, and does not violate the mandatory provisions of the national financial regulations. In the case of circumstances, it can be considered that the contract is valid and the interest

rate can be confirmed when the interest on the loan does not exceed the legal interest rate.

In addition, private lending for the following situations should be based on the specific circumstances of lending: First, using credit facilities such as banks to transfer loans to borrowers, and obtaining high profits from bank loans is an illegal transfer of loans, but if only appropriate interest does not constitute the second act of illegal lending, and private lending contracts that violate the public interest or public morals that are contrary to social public order and good customs are invalid. For example, contractual agreements involving borrowings between men and women in the case of cohabitation, etc., are contrary to public order and good customs. The loan contract, of course, the invalid court does not protect the third. It is suspected that fraud is a violation of market access crimes, and other legal acts to cover up the illegal purposes should be considered in particular, because criminal responsibility and civil liability should be treated independently, even if a judgment result is issued and the party is found guilty of a crime, its private lending behavior may also bring a civil lawsuit to involve each loan. Although the borrower's loan or the borrower has been sentenced, the court must also follow the contract law. Consideration of the validity of civil contracts

### 3. AGREEMENT ON INTEREST ON LOANS

According to the provisions of Article 1 of the Contract Law of China, the civil loan contract may stipulate payment of interest and may not violate the relevant national restrictions. At the same time, according to the provisions of the Supreme Law, the interest on private lending may be higher than the standard interest rate of the People's Bank of the same period, but the maximum may not exceed In the judicial practice, the bank's interest rate of the same type of loans issued by the People's Bank as the calculation standard exceeds the standard part, which is not only invalid, but also not protected by law. If the parties' agreement on interest is not clear or agreed, The borrower's claim on interest will not support the interest payable in the loan contract, but the interest standard or agreement is not stipulated. When the interest rate is calculated according to the standard interest rate of the People's Bank of China, the debtor's repayment portion has more than the interest rate. Can be used as part of the repayment of the principal when the borrower performs a rolling compound interest on the principal and interest. If the actual interest rate exceeds the standard rate, the excess interest should be treated as a repayment of the principal. However, in

judicial practice, this is often the case. Due to the complexity of the borrowing process, it is impossible to enter It is assumed that when the loan contract is invalidated by the court, the debtor needs to return the principal. If the creditor requests compensation for interest, it should refer to the standard interest rate. When the contract does not stipulate the interest rate when the loan is overdue, and the interest rate is not clearly stipulated, the people's court It also supports the claim that the creditor calculates the overdue interest loss by reference to the standard and the liquidated claim that the actual interest rate after the conversion does not exceed the multiple standard.

### 4. VALIDITY OF EVIDENCE

According to the principle of who advocates the evidence in the civil law, the creditor should bear the burden of proof for the borrowing obligations that it has already fulfilled, including issuing clear debits to prove the relevant evidence of the reasonable occurrence of the borrowings. In contrast, the debtor must also bear the evidence of its repayment. Responsibilities, such as receipts, should also be written in the specific process and cause of the use of the money. In specific life, it should be noted that both the borrowing and the arrears are debt certificates, but the legal effects are quite different. If there is a legal dispute, the borrowing is only used to clarify the fact of the borrowing; and the owing is to clarify the cause of the owing. If the borrower is a business, you must write the name of the company, do not write the abbreviation, the word of the company name is almost another In addition, the interest agreed by the two parties should be clearly written in the loan. With the development of society, the number of people interacting with each other through social tools such as WeChat is more and more frequent. According to the interpretation of the Civil Procedure Law issued by the Supreme Law. Relevant provisions of the article, e-mail electronic data exchange online chat Recording information such as blog microblogging mobile phone text messages stored in electronic media can be used as evidence in civil cases. In cases involving private lending disputes, such chat information can also be used as evidence for loan disputes, but it should be noted that such The evidence also needs to be able to prove the facts of the case or to prove the facts of the case together with other evidence. The source of the evidence also needs to be legal.

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