

Exploration of Dynamic Stratification and Smart Information Pushing Functions of General English Information Platform of Vocational Colleges in The Internet Era

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Abstract: With the rapid development of information technology, the Internet's role in education has become increasingly prominent. "Teaching students according to their aptitude" is an eternal principle in education. With the support of the Internet, the concept of "teaching students according to their aptitude" in public English information teaching in higher vocational colleges will be more realized and optimized. Based on the analysis of the single learning test method, the lack of personalized customization function, and the inability to carry out individualized teaching on the public English information teaching platform of higher vocational colleges in the current Internet era, this paper puts forward a new idea of creating hierarchical learning test function in combination with information teaching practice, so as to optimize the hierarchical learning test function of the English information teaching platform of higher vocational colleges. To provide students with a higher quality teaching experience.

Keywords: Dynamic Stratification, Smart Information Pushing, General English Information Platform.

1. Introduction

The "Internet +" model appears with the continuous development of Internet technology and has a huge impact on people's production and life. The "Internet +" model refers to the integration of Internet technology into traditional industries and the use of Internet technology to reform traditional production or business models in other fields of society, so that traditional industries can keep up with the pace and trend of today's social development. Although the traditional industry has a very perfect system after years of development, the scope and channels of the traditional business model and development mode are too narrow, and can not well adapt to the current trend of world economic and cultural integration. Therefore, Internet technology, as an important tool to connect the world, has gradually become an opportunity and a bridge for the development of traditional industries in the new era. In this context, the concept of "Internet +" model has been gradually proposed, and how to use Internet technology to reform the current traditional industry has become the focus of attention of all parties in society. [1]

As the first great educator in Chinese history, "teaching students according to their aptitude" advocated by Confucius is an important educational principle, an effective teaching method, and a valuable tradition in China's educational history. "Individualized teaching" means that educators must use different educational methods to implement education according to the specific conditions of different objects on the basis of understanding the advantages, disadvantages, learning preferences and characteristics of the educational objects. In other words, before implementing the teaching behavior, teachers must understand the students' basic learning situation, including: the English knowledge and ability base at the time of admission, the knowledge base of the current learning module, cognitive ability, learning characteristics and needs, and professional characteristics; In

the teaching process, students' learning behavior and process data should be scientifically observed and recorded; A more objective assessment should be given at the end of the course. The teaching is very complex and requires a lot of effort.

Higher vocational colleges are important channels for talents output in China. Facing the continuous and in-depth international exchanges in politics, economy, culture and other aspects, the importance of English in talent training is more prominent. In recent years, there have been many reforms in public English in higher vocational colleges, among which the hierarchical teaching aimed at "teaching students according to their aptitude" has been terminated because the details such as hierarchical screening, class scheduling and segmented evaluation are too complicated and difficult to implement. Under the background of the prosperity of information technology in the current building era, it is feasible and necessary to use information platform to teach students according to their aptitude.

2. The Necessity of Constructing General English Information Platform in Vocational Colleges

The Teaching Requirements for College English Courses issued by the Ministry of Education (Document No. 3 of the High Office of Education [2007]) stipulates that all colleges and universities should make full use of modern information technology, adopt the English teaching mode based on computers and classrooms, and improve the single teaching mode based on teacher-lecturing. The new teaching mode should be supported by modern information technology, especially network technology, so that English teaching and learning can be developed in the direction of personalized and independent learning, which is not limited by time and place to a certain extent. The demand of college English teaching determines the direction of college English teaching reform. It has become necessary in the new era to build a college English teaching platform and lead the reform of college

English teaching with information technology. The reform not only includes the reform of English teaching materials, but more importantly promotes the construction of college English teaching team through informatization, the reform of teaching methods and learning methods, the interaction between teachers and students through informatization, the construction and sharing of college English teaching resources through informatization, and the enhancement of process evaluation and teaching supervision through information technology. Comprehensively improve the level of college English teaching, so as to improve the quality of talent training, and fully implement the quality project of the Ministry of Education. [2]

3. Relevant Research Status at Home and Abroad

At present, there is almost no research on the construction of public English information platform in higher vocational colleges. When collecting relevant research on English teaching information platform, it is found that the current research mainly focuses on the following points: 1. Build a digital foreign language teaching platform integrating production, learning, research and innovation, build a shared library of digital resources for foreign language courses, a digital teaching model for foreign language courses, an interdisciplinary virtual teaching and research room for course construction, a digital evaluation system for foreign language teaching, and a digital transformation and sustainable development system for foreign language teaching. [3] Relying on Internet technology, develop a scientific and reasonable English information teaching mechanism in higher vocational colleges, introduce new teaching models, and develop new English teaching content. 3. Integrate professional learning resources such as flipped classroom and micro-class and optimize multimedia materials to establish multiple resource libraries; Optimize the network teaching platform interface function, optimize the college English resource library directory index. [4] In view of the e-language literacy of college students in the process of independent learning of information English, this paper discusses the relationship between independent learning of information English and e-language literacy from the current situation of independent learning of information English, and puts forward ways to improve e-language literacy of college students. [5]

4. The Status Quo of General English Information Platform in Vocational Colleges

4.1. Lack of pre-learning test and analysis

The analysis of learning situation is the analysis of teaching objects, and its main content should include the analysis of students' starting ability and learning characteristics. Scientific, true, comprehensive and specific learning situation is the basis for the full implementation of teaching, teaching should be based on students' existing cognition to increase their new cognition. If there is no special data collection, research and analysis based on students' basic learning situation, it will be impossible to understand the specific problems faced by teaching in a specific and comprehensive way, so as to conduct strategic research. All teaching activities

must be based on students' cognitive development level and existing knowledge and experience. [6]

In traditional information-based teaching, there are few tests for students' early learning situation, and there are a few tests for learning situation, but there are also the following problems: 1. Ignoring students' cognitive and ability starting points; 2. Lack of science and comprehensiveness of learning test tools, easy to overestimate or underestimate students, teaching divorced from the reality of students; 3. Not paying attention to students' learning characteristics. It is difficult to reflect the students' learning situation and to teach them according to their aptitude.

4.2. Lack of personalized hierarchical test implementation

Due to the lack of pre-school basic learning tests for students, teachers cannot carry out individualized teaching practices according to students' cognition, knowledge base, learning characteristics and needs when teaching on the information platform. In the pre-class preview, the content pushed by teachers to students on the information platform is unified; There is no difference in the teaching tasks accepted by students in the course of teaching and links; In the reinforcement session after class, students need to consolidate knowledge and complete exercises are also unified. These learning materials are generally of moderate difficulty, taking into account students with learning difficulties. The final result of this teaching method, which does not distinguish students according to their basic learning situation and does not classify students according to their actual cognition and learning ability, is that students with learning difficulties in the downstream area are still difficult to learn, students with excellent learning in the upstream area gain little, and only students in the middle area are possible beneficiaries.

5. Design and Exploration of Dynamic Stratification and Smart Information Pushing Functions of General English Information Platform of Vocational Colleges

Based on the public English course "Practical English I" taught by the author in Wenzhou Vocational and Technical College, this project jointly developed the layered learning and testing function of the public English information platform in higher vocational colleges, and tested the students of Class 2101 of real estate.

5.1. Aptitude test

Based on the process data collection, the difference chemistry is analyzed accurately. Through the simulation information platform I-WISE to obtain learning data, accurate analysis. Taking the teaching of "Livable" in the fourth module of "Practical English I" as an example, (Figure. 1), the learning situation of the information platform is tested and analyzed.

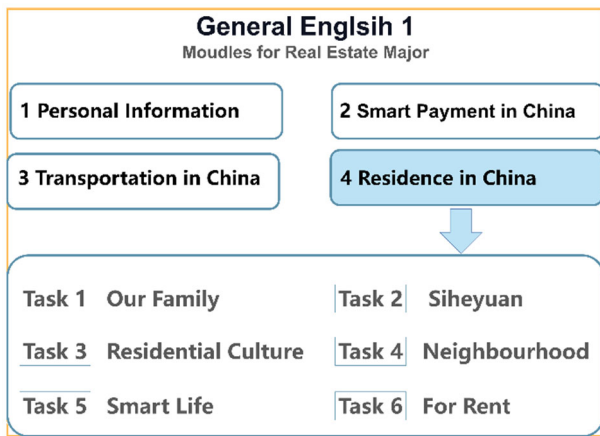


Figure 1. Teaching modules

5.1.1. Beginner's test and implicit stratification

In the early stage of enrollment, we rely on the platform data collection tools to obtain students' knowledge and skills, analyze and compare them to determine the teaching objectives. The data shows that 50 percent of the students in Level A, 46.7 percent in Level B, and only 3.3 percent in Level C. According to the above data, the students are hidden stratified.(Table 1.)

LEVEL	Percent	Vocabulary	Grammar	Listening Skills	Speaking Skills
C	4.2%	Less than 1000; Hard to communicate	Very limited, difficult to understand sentences; Lack of knowledge of grammar rules	Unable to understand basic expressions in life, unable to process information in continuous sentences	Low pronunciation accuracy, unable to accurately express information
B	45.8%	Around 1500; Can organize simple language	Can analyze simple sentence structure; Able to use common grammar knowledge; The ability to use compound sentences is weak	Can understand common expressions in life, but sometimes have difficulty processing information in sentences	Able to express themselves coherently on familiar topics; Sometimes it will cause misunderstanding of the listener and the fluency needs to be improved
A	50%	Around 3000; Can communicate with most aspects of life	Can analyze compound sentence structure; But basically can not write long difficult sentences	Can understand most conversations in daily life; But has slow reaction	Fluent and coherent expression of familiar topics, as a whole will not cause misunderstanding of the listener; It can only express some social and cultural views

Table 1. Implicit dynamic stratification according to the basic learning situation of English knowledge and skills of students at the beginning of Term

5.1.2. Knowledge base

The results of the knowledge base test of the pre-module "Transportation in China" show that students have mastered the English expressions related to life travel and have the relevant listening, speaking, reading, writing, and translating skills, but there are still great differences in English level. Comparing the results of the entrance test and the knowledge base test of the "Transportation in China" module, students in the middle of the score made obvious progress, with an improvement range of 10-20 points, while students in the upstream and downstream areas made slow progress, with an improvement range of 5-10 points. Therefore, individual differences and improvement space of students should be fully considered. (Figure. 2)

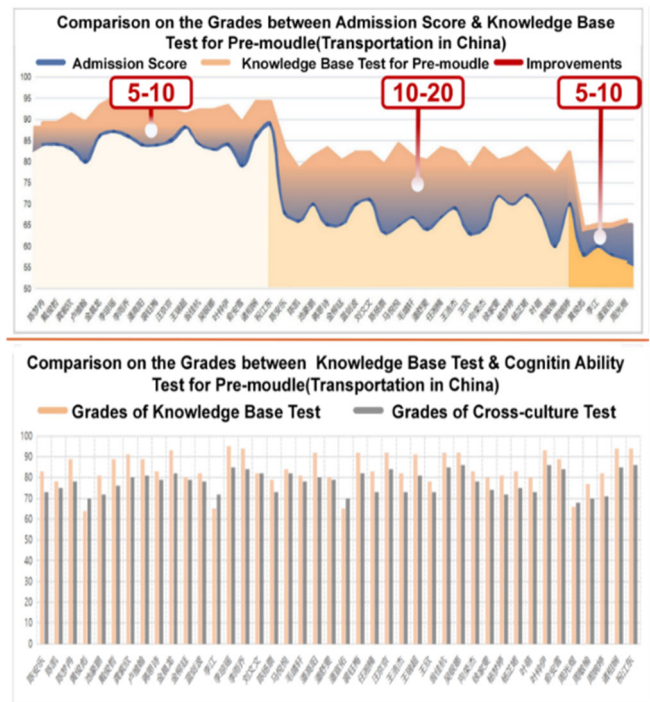


Figure 2. Knowledge base

5.1.3. Cognitive ability

The survey data of cultural background cognition of "Livable" module show that students have personal experience of Chinese family concept, but lack in-depth understanding of Chinese living culture. The average score of cross-cultural practice tasks in the "Smooth Passage" module is 77.8 points, which is lower than the score of knowledge base test in this module, indicating that there is a disconnect between students' knowledge base and cognitive ability, and their language application and practical ability need to be improved.(Figure. 3)

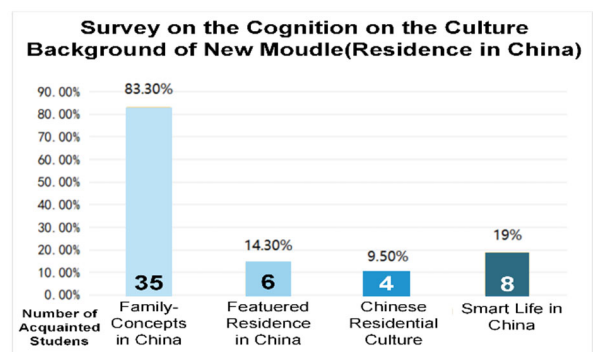


Figure 3. Survey on cognitive ability

5.1.4. Learning characteristics and needs

The study characteristics and needs survey at the beginning of the semester shows that 76% of students tend to integrate into the excellent traditional Chinese culture in the class; 42% of the students think that traditional English class is not interesting, and the willingness to take the initiative is low; At the same time, students also present different English learning needs, such as higher education, competition and so on.(Figure. 4)

Survey Results of Learning Features and Needs

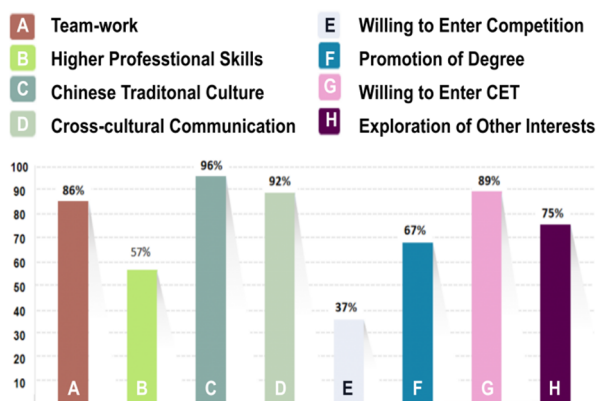


Figure 4. Learning characteristics and needs

5.1.5. Professional characteristics

According to the real estate professional training program, students should have the English level required by the real estate major according to the job requirements. Since no professional English courses have been set up in the future, in order to cultivate students' foreign communication ability in the workplace, this course should be closely combined with the foreign scene in the workplace to carry out English teaching, play a supporting role in the development of students' professional ability, and achieve the purpose of public English courses supporting the training of professional talents.

5.2. Real-time implicit dynamic stratifying, smart and accurate task-pushing

In the pre-class insight stage, the platform will push the learning tasks related to this module "micro-classroom" for students to learn independently. Students can watch and learn again. If the time is up to standard, it will push the pre-class test task intelligently; If the viewing time is not up to standard, the platform will remind students with intelligent feedback. Pre-class tests are implicitly stratified into A, B, and C layers according to grades, and students cannot see their own level in the platform. In the process of teaching implementation, real-time monitoring of each student's learning effect, with its latest knowledge and ability level as the starting point, carry out the next stage of stratification, intelligent implicit adjustment of student levels, accurate push class stratification tasks and after-school advanced tasks, cycle through, stimulate students' learning potential, respect individual differences, achieve personal value-added, and teach students according to their aptitude.

5.3. Cycle through the steps

In the promotion session after class, the platform pushes advanced tests according to the level of students. Students with scores higher than 85 are in grade A, and the platform

intelligently pushes practical tasks of higher difficulty to the next level. If the score is lower than 85 points, it is located in the B layer, and if it is lower than 60 points, it is the C layer. It is necessary to continue learning through online teaching and other ways, and take the test again, until the score reaches 85 points or more, you can continue to the next practical task.

Finally, students' advanced test scores are higher than their pre-class test scores. It means that they have acquired academic growth.(Fig. 5.)

I-WISE Smart Learning & Test System

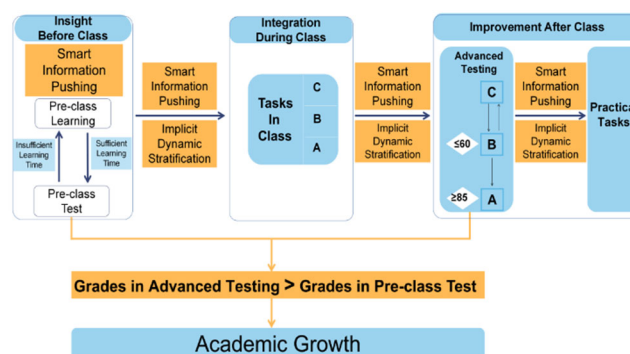


Figure 5. Introduction of the learning function of the Information platform

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