Exploration of the Ecological Teaching Strategy for the Chinese Language in the Teaching Environment of Internet Cloud Platform

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Abstract. “Internet” education is a new form of education where Internet technology is combined with the education field. As a traditional discipline, Chinese language courses inevitably have a number of problems to be solved in the curriculum reform process. In this paper, the causes for the imbalances in the construction and operation of the ecological teaching mode are analyzed based on the Internet cloud platform environment. A teaching mode construction plan based on the mind map is proposed to provide a beneficial reference for the healthy and sound development of Chinese language teaching.

Keywords: Ecological Teaching, Chinese Language Teaching, Cloud Platform

1. Introduction
With the rapid development of computer network technology, the Internet is playing an increasingly prominent role in our work, life and learning process [1-2]. Based on this, the Chinese language and literature major is inevitably affected by the Internet in the development process. The integration of Chinese language teaching and the Internet environment is an inevitable trend of teaching reform and development, and in the process of the integration of the traditional teaching mode of Chinese language courses and modern network technology, there will inevitably be some systematic mismatch in various aspects of Chinese language teaching, including teaching environment, teaching concept, teaching mode, teaching methods, etc. [3-4]. “Internet +” has become the only way for education reform to meet the multi-dimensional education needs of the new era. However, online teaching is a “double-edged sword”. How to apply IT technology and Internet education resources scientifically has become one of the problems that teachers need to solve [5-6].

This article uses ecological teaching theory to construct a theoretical framework for online teaching of Chinese language, analyzes the imbalance in the reform of the teaching mode of Chinese language courses, and proposes corresponding reform measures from the two levels of classroom teaching and online teaching, in order to be able to teach Chinese language. In the network environment, the system balance and the adjustment of ecological conditions provide practical and effective reference experience and practical ideas.
2. Theoretical framework for the ecological teaching mode of Chinese language in the cloud platform environment

2.1. Ecological education and teaching mode
In recent years, the theory of ecological education has gradually attracted the attention of the education community. The theory is based on pedagogy and ecology, mainly to seek the relationship between the changes in the ecological environment of nature, society, culture, etc. and the education system. And laws, thereby facilitating the construction of an educational ecosystem. As early as the late 1970s, Cleming, an American scholar, published the concept of ecological education in the book “Public Education”. Klemming scholars believe that the ecological environment will directly affect people's psychological environment. As a research discipline in the education system, the change of the group's psychological environment will inevitably have an impact on the implementation process of education and affect the entire education system. Regard education as an organic and independent ecosystem, interpret and analyze it from the perspective of ecology, and establish a relationship between the research objects in education and ecological factors in the surrounding environment, and reveal the education system through this relationship Whether the ecological structure, laws and functions are balanced and perfect, and make corresponding optimization adjustments, will help the healthy development of the educational ecosystem and the continuous improvement of the educational environment.

Ecological teaching mode refers to how to construct an ecological teaching environment in the teaching process, and clarify the specific implementation framework of teaching nature and effect. The main research objects of the ecological teaching mode include the ecological education system at the macro and micro levels. From the macro level, the construction of the ecological teaching mode involves the entire education system of the country; from the micro level, the ecological teaching mode is mainly an ecological environment construction of the specific classroom teaching system. The focus of discussion here is on the construction of an ecological teaching mode at the micro level. The main research objects include three major elements in classroom teaching: Firstly, the participants in classroom teaching, that is, teachers and students; second, various teaching tools For example, teaching materials, multimedia facilities, teaching courseware, etc.; the third is the hidden soft teaching resources, such as teachers’ flexible use of various teaching resources and methods, students in the problem-solving to stimulate the teacher's creative thinking, etc. Considering these constituent elements as ecological factors in the ecological environment, if the functional relationship between these ecological factors can reach a balanced state, it can be considered that the classroom teaching environment has achieved ecological development, that is, “ecological classroom”. “Ecological Classroom” applies the principles of ecology to classroom practice teaching, analyzes and adjusts the changes of various influencing factors in classroom teaching from the perspective of ecology, with a view to achieving the best teaching environment, and teaching around this environment Each ecological discipline unfolds and gradually forms an educational ecosystem suitable for the growth of ecological individuals.

2.2. Ecological teaching mode of Chinese language in the cloud platform environment
The integration of the Internet and the teaching mode has provided emerging technical support for the implementation of Chinese language teaching and has become another dynamic factor in the traditional Chinese language teaching mode. How to expand the new environmental elements in the traditional Chinese language teaching mode and form a relatively stable function relationship with other environmental elements to achieve a good ecological environment is the key research content of this article.

In the new Internet environment, the ecological construction of the Chinese language teaching mode is mainly divided into three steps:

1) To clarify the theoretical basis on which the teaching mode is constructed, that is, the theoretical framework of the model construction, which will control the overall idea and implementation process
of the teaching mode design from the macro level. The relevant research theories of ecological pedagogy cover many disciplines such as ecology, pedagogy, psychology and social environment, which serve as the theoretical basis for the ecological construction of the Chinese language teaching mode, and the educational concepts and teaching ideas revealed therein. It determines the role of key factors such as the frame structure of the Chinese language teaching mode and the way of teaching implementation, and supports the ecological transformation of the entire teaching environment.

2) Set teaching goals and teaching content, set the matching teaching goals and teaching content with the Internet environment, fully mobilize Internet resources, and adopt appropriate teaching methods, such as project design, online prompts, online interaction and other methods to carry out teaching activity.

3) Implement model design in specific teaching activities, design corresponding teaching strategies, processes, supporting resources and teaching methods for specific teaching contents, and fully integrate the Internet environment with specific teaching contents.

Due to the addition of Internet technology in traditional Chinese language teaching, this has resulted in more diverse changes in the use of many resources in the teaching process, and also enriched the form of interaction between teachers and students, students and students. The advantages of the language ecological teaching mode make up for some of the shortcomings in the traditional teaching, and the realization of personalized teaching in the true sense is the significance of this study, as shown in Figure 1.

![Figure 1. Cloud platform ecological education model](image)

3. Analysis of mismatch phenomenon

3.1. The traditional teaching mode fails to match the information-based teaching environment
From the perspective of individual students, the imbalance between the current teaching mode and the environment is fully consistent with the characteristics of the short board law. Although the new teaching environment has many advantages, but because the teachers still use the past teacher-centered teaching mode, the teaching content is unidirectionally infused, and the students' learning lacks the initiative and positive thinking, resulting in a passive and very boring learning process. The lack of communication and interaction teaching process also makes it difficult for teachers to provide targeted guidance and answering questions to students, which ultimately leads to students in a passive learning and passive coping state in the teaching process, lacking the consciousness and ability of independent learning. As a result, learning efficiency is low, and various information technologies and resources of the new teaching system cannot be effectively used. The advantages of the system can be fully utilized. In order to successfully complete the teaching tasks, some college teachers do not pay attention to the reactions of students in the learning process, making the teaching practice behavior too mechanized, the teaching atmosphere of Chinese language and literature is dull and boring, so that the students cannot integrate into it, and the educational thoughts based on the network environment are too old. It always occupies the main position of classroom teaching, which is contrary to the principle of educating people in the new era and cannot improve the effectiveness of Chinese language and literature teaching in colleges and universities. No matter how abundant the teaching resources are, the educational ideas and teaching content need to be communicated through the educational process of scientific education, using educational methods as a bridge to guide students into the knowledge world. However, the current Chinese language and literature education methods in colleges and universities are not good enough to make full use of online education resources. The main reason for this phenomenon is that teachers have insufficient experience in educating people online, failing to balance the relationship between teaching and learning, scientific application, innovation, and optimized education. The method makes the educational method too rigid and cannot improve the effectiveness of Chinese language and literature teaching in colleges and universities.

3.2. Teachers have insufficient ability to apply network information technology
The lack of Chinese language course teachers' ability to master and apply network information technology is a manifestation of the “pot effect”. The “pot effect” is also known as the local habitat effect, which refers to the growth of plants that grow in a small and suitable environment in a closed space to adapt to the external environment, and appear after being transferred to a new ecological environment. Stagnation. The current problems of teachers of Chinese language courses in network informatization teaching ability are mainly because they have become accustomed to teaching in the traditional Chinese language teaching environment, and their teaching ability is constructed and developed in the traditional teaching environment. The thinking pattern developed by the teaching mode makes it difficult to adapt to the new teaching system. In the new teaching eco-environment based on network information technology, there is resistance or unfitness to the network information technology that has not been contacted previously. It requires that teachers should actively adjust their mentality, change their thinking, work hard to adapt to the new teaching system and teaching mode, actively familiarize themselves with the networked teaching environment, learn and master new technologies conscientiously, and be able to apply them proficiently in the teaching process of Chinese language courses.

4. Establishment of the teaching mode
In view of the imbalance in the current Chinese language course teaching ecology, it is necessary to further optimize and adjust the teaching mode to promote the development of Chinese language course teaching.

Teachers should actively learn the idea of student-centered education, always carry out networked education activities around students' learning situation, reduce the resistance of Chinese language and literature teaching in colleges and universities, and lay the foundation for improving the effectiveness of educating people; secondly, teachers should learn to establish moral education ideas. Teaching
students literary knowledge can also cultivate students’ core literacy; finally, teachers should learn teaching and research ideas, based on the online education environment at the school, analyze their own educational achievements, implement school-based teaching and research goals, better implement new teaching programs for teachers, innovate teaching methods, and optimize The education system creates conditions. For example, when teaching “modern literature”, teachers can first encourage students to share their knowledge of “modern literature”, and through “interaction between students and students”, guide students to master the teaching content of modern literature timeline, representative characters, development significance, etc. Students are the mainstay of Chinese language and literature teaching in colleges and universities, and can discuss modern literature-related topics with research scholars online. Teachers reflect on the results of teaching and find weak links in networked teaching through teaching and research, laying the foundation for teachers to continuously optimize the education system and promote colleges and universities. The sound development of the teaching of Chinese language and literature.

Taking the teaching of certain courses in Chinese language and literature as an example, the design of a teaching mode based on mind mapping consists of three parts: preparation before class, implementation in class, and reflection after class.

1) Prepare before class, guide students to participate in the design of mind maps, and clarify the learning tasks and goals

Network information technology provides teachers with rich forms of knowledge presentation. Teachers can clearly and intuitively display the topics and learning objectives of the course content of this chapter to students through multimedia presentation equipment and mind mapping tools, as students on the online learning platform As a reference for autonomous learning, students can also deploy mind map analysis and refinement tasks to cultivate their enthusiasm for learning and tap their potential for autonomous learning. Students can further improve the mind map through the preview of the course content and their own understanding. When they encounter problems, they can suggest that students complete the learning tasks in groups. For example, the teacher only provides the backbone of the mind map before the class. After studying on the e-learning platform and completing the extended reading, the teacher proposes his own detailed plan and prepares in advance for the students to express their opinions in class. While improving the independent learning and collaborative learning ability of students, it can also address the issue of their enthusiasm and classroom engagement effectively.

2) Classroom implementation, discuss and refine the mind map together, encourage thinking and communication

In the implementation of classroom teaching, teachers should affirm the efforts made by students in preparation before class, and guide students to summarize the results in small groups for discussion, and encourage students to explain and elaborate their thinking maps according to their ideas. Understand and build the plan, in the process of discussion, provide the supporting materials collected from the network, analyze and verify each other, and finally further refine and improve the mind map after reaching a consensus, so that students can collaborate with each other, learn from strengths and complementing shortcomings becomes an effective learning model. In this process, teachers should provide students with the necessary guidance based on the discipline of the course, make corrections to the directional errors in mind mapping, and guide students to avoid learning errors.

If the posterior distribution function X2 of different element state variables X1 of the mind map under different cloud platforms is known, then the mathematical expectation of any function is shown in equation (1):

$$E(g_i(x_i)) = \int g_i(x_i) p(x_i | \theta) \, dx_i$$  \hspace{1cm} (1)

It can be approximated as equation (2) below:

$$E(g_i(x_i)) \approx \frac{1}{N} \sum_{i=1}^{N} g_i(x'_i)$$  \hspace{1cm} (2)
The discrete sample \( \{x_i', i = 0, \cdots, N\} \) represents a sample sequence generated by sampling from the posterior distribution function \( f(x|z) \). When \( N \) is sufficiently large, \( E(g,(x_i')) \) absolutely converges to \( E(g,(x_i)) \). Hence, how to obtain the posterior distribution function has become the key to solving the problem.

5. Conclusion
The continuous development of Internet technology has provided new directions and opportunities for modern teaching reform. However, various problems inevitably occur in the application of the traditional Chinese language teaching mode to the emerging Internet environment. In this study, from the perspective of ecology, ecological education is taken the theoretical guide and basis to conduct an in-depth analysis of the ecological environment for Chinese language teaching mode in the new network environment and strive to design and establish the ecological teaching mode of Chinese language on this basis, to provide a beneficial reference for the healthy and sound development of Chinese language teaching.

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