

Research on the Ecological Construction of College English Flipped Classroom

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Abstract: The widespread application of the Internet in teaching, especially its effective integration with the flipped classroom teaching model, has provided teachers and students with richer educational resources and means of instruction. From the perspective of educational ecology, we analyse the context of the current ecological education concept, discuss the ecological connotation of flipped classroom teaching in college English, analyse the ecological balance relationship between ecological subjects in English classrooms, between ecological subjects and the classroom teaching environment in order to realize the ecological construction of the flipped classroom teaching model.

1. Context of Teaching Ecology of College English Flipped Classroom

The development of multimedia network technology has greatly extended the English classroom. The "flipped classroom" is one of the results of its technological support. The flipped classroom makes possible the ecological transformation of the English classroom by subverting the conventional teaching process to advance knowledge transfer and optimize knowledge internalization. The flipped classroom is generally composed of four stages: design and preparation, pre-study and quizzing, discussion and internalization, and feedback and conclusion. It is both a pedagogical model and a basic educational philosophy. The "flipped classroom" emphasizes "student-centeredness", the core idea being that by shifting the decision to learn from the teacher to the students, students can effectively construct the meaning of what they are currently learning; classroom reform also transforms traditional lecture-based teaching into a student-centered learning environment. The Eco-English Classroom is a system that studies the holistic, balanced, dynamic, open and sustainable nature of the English classroom. The ecological English classroom is a system that studies its integrity, balance, dynamics, openness and sustainability in order to promote harmony and symbiosis among teachers, students and the environment and keep them in dynamic balance, thus realizing the nurturing function of the English classroom ecosystem.

The term "ecology of classroom" was first proposed by American educationist Waller in his book *Sociology of Education*. In the 1970s, Lawrence Cremin introduced the concept of 'ecology of education' in his book *Public Education*. The English classroom is a place where teachers engage in English teaching activities, control students' affective factors, coordinate students' learning behaviors and ensure the quality of language input. It is also an important place for teacher-student communication and for students to receive comprehensible language input. The ecology of the English classroom refers to the organic and unified whole formed by the interaction and influence of teachers, students and classroom environment elements in the English classroom. According to ecological theory, the English classroom is like an ecosystem. However, it is a special ecosystem. English classroom teaching with ecological implications is a harmonious English classroom with developmental potential built by both the teaching subject (teacher) and the teaching receptor (student)." Ecological factors such as classroom environment, teachers, students, English teaching materials and teaching methods and their interrelationships make up different ecologies of English classroom teaching and learning. Among them, students are the main ecological factors and their development is largely influenced by other ecological factors. However, in order to truly study the

English classroom as an ecosystem, we must adopt a systematic perspective and approach, that is, we must use ecological thinking to examine the classroom, use ecological principles and methods to construct the classroom and use ecological perspectives to manage the classroom, and comprehensively examine the components, characteristics, roles and interrelationships within the classroom.

2. The Ecological Composition of College English Flipped Classroom

The interconnections and interactions among ecological subjects and between ecological subjects and the surrounding environment in the flipped English classroom under the ecological vision of teaching constitute a harmonious and balanced dynamic environment, and the dynamic environment is in a state of benign and sustainable development. It includes the following aspects.

2.1. Ecology of Teaching Philosophy

In the flipped classroom, the concept of student-centered teaching notion should be established. The teacher will guide students in their language learning and help them to acquire language skills, self-management, international perspectives and cultural awareness. etc. Teachers are required to believe that students have the ability to master language knowledge and skills, etc., and that they have the ability to use what they have learned to experiment and exercise. It also requires students to believe that the teacher has solid professional and high cultural competence. The teacher-student partnership includes not only cooperation between teachers and students, but also between students and students. The successful development of the teacher's teaching activities requires the active cooperation of the students as well as mutual cooperation between the students so that the teaching objectives can be accomplished. Only in this way can teaching and learning activities be completed and training goals be achieved.

2.2. Ecology of Teaching Methods

First of all, teachers are expected to have the ability to use multimedia teaching equipment proficiently. Multimedia-assisted English flipped classroom teaching provides learners with rich materials and language learning environment, so that learners can be exposed to more materials in a limited time. Secondly, teachers are expected to stimulate students' interest and learning motivation in learning English. The design and arrangement of teaching activities should be in line with the learners' cognitive, acquisition and psychological characteristics, giving full consideration to students' interests and hobbies, and creating a relaxing and colourful English learning environment for students. Thirdly, the cultivation of emotional attitudes, learning strategies and cultural awareness should be strengthened. On the basis of students' knowledge and skills in the target language, through various teaching activities, both teachers and students participate and cooperate with each other, which strengthens students' ability to identify, analyze and solve problems and effectively guides students to change their way of thinking. It is of great significance to improve students' comprehensive quality, and enhances learners' self-confidence.

2.3. Ecology of the Teacher-Student Relationship

The English ecological classroom is a "symbiotic" classroom of teachers and students. Ecological teacher-student relationship refers to the interaction and mutual influence between teachers and students. Teachers, students and schools are combined to form an organic link in order to jointly nurture a new type of teacher-student relationship. The teacher, as one of the main factors in the teacher-student relationship, plays a primary role in the construction of a good teacher-student relationship. As an object, students play a driving role, learning to understand, to learn and to collaborate. In the process of learning, teachers are both teachers and friends and their attitude towards students is more equal, encouraging and tolerant; teachers are expected to give students more care, love, respect and help.

2.4. Ecology of Teaching Evaluations

A summative evaluation is an evaluation conducted at the end of a teaching activity to judge its effectiveness and is an appropriate assessment of the final outcome of classroom teaching. The purpose of summative evaluation is to assess the quality of education at the end of a unit, a module, a period, a semester or a subject, with the aim of making a conclusive assessment of the quality of students' stage of learning. Formative evaluation is developmental evaluation based on continuous observation, recording and reflection on the whole process of student learning over a long period of time, including the evaluation of students' performance, attitudes, emotions, methods and strategies as well as the achievements made in the process of daily learning. It focuses on the development of every aspect of the teaching and learning process in order to assess the strengths and weaknesses of teaching activities and to lay the foundation for the overall assessment of teaching activities. Formative assessment transforms students from passive recipients of assessment into subjects and active participants in assessment. Its purpose is to motivate students to take an active role in learning and to help students effectively control their learning process, cultivate the spirit of cooperation, so that students gain a sense of achievement and enhance self-confidence. Formative assessment of students pays attention not only to their cognitive ability, but also to their emotional and behavioural ability, and more emphasis on their self-evaluation and mutual evaluation. In classroom teaching, the two methods of formative assessment and summative assessment are complementary and inseparable. Teachers should abandon the traditional single method of teaching assessment and adopt a combination of formative and summative assessment. By building an ecological English teaching classroom, we can create a harmonious and sustainable ecological environment for teachers and students, so that students can enjoy learning in the learning process and thus acquire the ability of lifelong learning.

3. Current Problems of English Language Teaching in Chinese Universities

Educational ecology emphasizes the order and balance of ecological factors in classroom teaching. The ecological imbalance in the classroom leads to the inability to achieve a benign language teaching docking between teachers and students' recipients in the classroom, which is not conducive to giving full play to the auxiliary teaching functions of modern education and information technology, and students' passivity in English classroom learning is prominent and their learning interest and enthusiasm are hindered. The main effects of this are as follows.

First, the application of multimedia technology is unbalanced. Although the integration of modern information technology and English teaching has become the mainstream, most teachers fail to give full play to the positive role of multimedia technology in the input and output of English language, resulting in limited teaching resources and insufficient broadening of students' knowledge. Secondly, there is an imbalance in the role of teachers in university English classes. In the construction of the ecological classroom, teachers need to change their teaching philosophy from their roles and emphasize the balance between classroom teaching and the input and output of teaching effects. In the current university English classroom, teachers often act as the inspirer of tasks, performing teaching tasks and accomplishing teaching objectives on behalf of students, which breaks the dynamic interaction and balance among the ecological factors in the ecological classroom. Thirdly, students' interest and enthusiasm in independent learning are frustrated. The current English teaching in universities is mostly taught in large classes, and students are more passive in language communication. In the self-study, pre-study and review sessions, teachers mostly assign tasks according to the mode of homework, neglecting students' interest in listening and speaking training, and failing to follow up and supervise effectively. Fourthly, the assessment mode of English classroom is unbalanced and deviates from the objectives of classroom teaching. In particular, the assessment fails to emphasize the objective of teaching English as a comprehensive language, which in the long run fails to arouse students' enthusiasm for learning English.

4. The Construction of Teaching Ecology in the College English Flipped Classroom

To build a flipped English classroom from the perspective of ecology, it is important to focus on the integration and promotion of the ecological subjects and the classroom environment in the flipped classroom, to create a dynamic and harmonious ecological classroom atmosphere, and to promote the positive and sustainable development of all ecological elements. English teaching in the flipped classroom is a microcosm of the educational ecosystem, if the system or one part of it is damaged, then other aspects will be affected and the whole will be damaged and imbalanced. Likewise, in English teaching, if one ecological factor is damaged, it will cause a series of chain reactions and eventually lead to an imbalance in the English classroom teaching ecology. The construction of "teaching ecology in English classroom" means that the English classroom is seen as an ecosystem, and through the interconnections and interactions between ecological subjects, and between ecological subjects and their surroundings, a dynamic balance can be achieved and a healthy and orderly development can be achieved.

4.1. Ecological Construction of the Teaching and Learning Environment in the Flipped Classroom

Constructing a flipped English classroom begins with constructing the language environment of the flipped classroom. As we all know, the best way to master English is to combine learning and use. However, most of the students are not able to learn and use the language. They acquire a lot of language knowledge but have little chance to apply it in real communication. Teachers can create a variety of "real" situations and design target tasks according to the classroom tasks. The teacher should use the target language as much as possible in the classroom, and the students should communicate in the target language as much as possible; secondly, the English classroom should be the main place for learning and using English, so that the knowledge of the target language can be used in a timely manner.

In addition, a more ecological flipped classroom environment can be built by optimizing the classroom arrangement, class size, seating arrangement and English teaching facilities. English teaching facilities include teaching computers, projectors, multimedia and the Internet, which play an indispensable role in English classroom teaching. If used properly and appropriately in teaching, they can improve the effectiveness of English teaching. It has been found that the classroom layout and English teaching facilities have a certain influence on the psychological state of students. A classroom with an English learning atmosphere (such as bookcases displaying English books and English newspapers and playing English songs) can stimulate students' interest in learning English more quickly than an ordinary classroom without any English elements. The number of students in a class also has a great deal to do with the effectiveness of English classroom teaching, students' English language skills and even their physical and mental development. Smaller classes, in which every student gets the teacher's attention and has the opportunity to participate fully in class activities, are more likely to practice their language and communication skills. A flexible seating arrangement facilitates discussion among students, brings teachers and students closer together, and enhances communication between teachers and students.

4.2. Ecological Construction of Teacher-Student and Student-Student Relationships in the Flipped Classroom

The traditional classroom teaching format is to teach knowledge in class and consolidate knowledge outside of class. The flipped classroom, on the other hand, puts the knowledge transfer process outside the classroom as well as before the class. Students learn independently by watching videos recorded by the teacher, and then discuss the problems they encounter in the classroom with the teacher and their classmates to consolidate and internalize their knowledge and complete the transfer of their knowledge. In the flipped classroom, teachers and students are the main factors in the English classroom ecosystem. Both sides take each other's presence as a basis and premise. The teacher changes from a knowledge transmitter to a classroom organizer and learning guide; the students complete the internalization of knowledge by participating in relevant activities, and are the protagonists and active learners in the classroom. Throughout the teaching and learning process, the teacher's main task is not to lecture, but to provide more targeted tutoring for students. The

teacher is the designer of learning activities, the guide of teaching and the facilitator of students' learning, and becomes the "scaffolding" of students' independent learning.

In order to build a good teacher-student relationship in the English classroom, teachers should provide students with opportunities for experimentation and practice. At the same time, teachers should constantly update their knowledge and teaching philosophy, improve their overall quality, excellent teaching skills and charisma to win the respect of students, so that students are convinced. Students will have a sense of trust in their teachers, which is conducive to the formation of a positive attitude to learning, to arouse their enthusiasm for English learning and to the smooth development of classroom teaching activities. To build a good collaborative relationship between students, students should not be regarded as isolated individuals, but as an important factor in the classroom ecosystem. Ensuring an open channel of information exchange between students and developing a cooperative and interactive learning style is the key to promoting a balanced English classroom ecosystem, which is also in line with the objective requirements of English learning. Only when students establish a harmonious cooperative team relationship and a learning mechanism to consolidate and apply their language knowledge can they use the language and improve their comprehensive language skills in the process of language learning.

4.3. Ecological Construction of Teaching Methods in the Flipped Classroom

Teaching methods are a component of the English flipped classroom ecosystem. The flipped classroom allows students to receive knowledge outside of the classroom through instructional videos, and students discuss, dialogue, and collaborate with each other to solve problems. The flipped classroom does not replace the teacher's instruction with video, but is a means to increase interaction between teachers and students. The flipped classroom expands the breadth of the classroom and the participation of students, leaving more space for students to learn and think, so that students can really reach a deep understanding of knowledge and ability development. In the teaching process, teachers fully respect students' individual differences. It is impossible for students in the same class to have the same level of English proficiency, and it is not practical to adopt a one-size-fits-all approach. Therefore, teachers should tailor their teaching to students' learning needs, language levels, personal characteristics and other factors, propose different objectives and tasks, use different forms of classroom organization, and pay attention to the way questions are asked and feedback after questions are asked in order to stimulate students' learning motivation and improve classroom teaching efficiency. At the same time, teachers should emphasize students' subjectivity based on students' individual needs, and students should complete learning tasks independently; they should pay attention to students' knowledge limitations, do students' self-study, teachers' follow-up, guidance, and supervision in a timely manner, and encourage students to internalize vocabulary, phonetics, grammar, parts of speech, translation and other skills through their own efforts from learners' language acquisition practice.

4.4. Ecological Construction of Teaching Content in the Flipped Classroom

Ecological teaching resources are the foundation of the English flipped classroom teaching ecology. Teachers should make efforts to provide students with high-quality learning and educational resources, such as in-depth interpretation of the content of the teaching materials, professional course teaching videos, as well as various types of English newspapers and magazines of the same edition and online learning database. Teachers should be the vanguard of educational resources exploration, setting the scope for students' pre-school learning and providing the necessary differentiated educational resources to ensure that students' learning does not go astray and that students of different quality levels can get the most suitable learning resources. Teachers should also be the sharers of educational resources. Under the current premise of abundant educational resources on the Internet, the energy and space teachers use to identify various resources is always insufficient, which leads to a shortage of their inventory of educational resources. Therefore, teachers, in particular, need to form effective partnerships within schools, specific online consortia or learning organizations to share credible and high-quality educational resources within the same version.

5. Conclusion

The flipped classroom is a typical model for strengthening the role of students' learning subjects and expanding their learning space. The purpose of the flipped classroom is to optimize the ecological factors in the classroom, strengthen the connection between ecological subjects and objects, and create a harmonious ecological environment in which students can grow in a relaxed and enjoyable environment. Through the ecological construction of the diversified educational environment in the flipped classroom, the ecological incorporation of rich educational resources, the ecological selection of efficient teaching methods and the ecological interaction of positive teaching relationships, a more benign, scientific and systematic ecological teaching pattern can be constructed, which is a necessary exploration for English educators to practice the new model.

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