A Study on Senior High School English Reading Teaching and Strategies Based on Flipped Classroom

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Abstract: As one of the four basic abilities, English reading plays an important role in English learning in senior high school. According to the curriculum requirements of the "New Curriculum Reform", the traditional English teaching methods can no longer meet the requirements of improving students' comprehensive quality. Under the background of the long-standing existence of the COVID-19 epidemic, more attention has been paid to the reversal of the classroom teaching model. This paper studies the application of flipped classroom in English reading teaching, and analyzes its advantages and characteristics.

Keywords: flipped classroom; senior high school English; reading teaching

1. Introduction

Flipped classroom is a hot topic in the field of education at home and abroad in recent years. For English teaching, making full use of the vivid and interesting flipped class can improve the monotonous reading class, help students internalize and absorb knowledge, improve students' autonomous learning ability and create a good learning atmosphere. Therefore, how to combine the flipped classroom with English reading teaching has become the focus of many English teachers. To solve this problem, the article will be divided into five parts. The first part introduces the literature review, the second part studies the present situation and problems of traditional English teaching, the third part discusses the differences between the two teaching methods, and the fifth part concludes that the inverted classroom is beneficial to English teaching according to the present situation.

2. Literature review

2.1. Theories and methods of flipped classroom

2.1.1. Theoretical origin

Flipped classroom originated in the United States. In the paper "Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment", Maureen Lage, Glenn Platt and Michael Treglia from the United States introduced the flipped teaching model and teaching results adopted in their courses at the University of Miami [1]. However, they did not put forward the term "flipped classroom style" or "flipped teaching". Jonathan Bergmann and Aaron Sams, two chemistry teachers at Woodland Park High School in Colorado, USA, adopted the "flipped classroom" teaching model in their classes and popularized it in primary and secondary education in the United States. Salman Khan founded "Khan Academy", a non-profit online learning website [2]. In 2011, he proposed "flipped

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classroom" at the TED Conference, which made it more familiar. With the continuous development of the third E-era and the flipped classroom has become an important means of educational reform. In 2011 and 2012, mainstream media such as The Wall Street Journal, The Economist, The New York Times and The Washington Post gave enthusiastic attention and positive coverage to the flipped classroom. Canada's Globe and Mail even rated the "flipped classroom" as a major technological change that affected classroom teaching in 2011[3].

2.1.2. Relevant research of flipped classroom

As an application of information technology, the flipped classroom can flexibly assign the order of learning activities. This brand-new teaching method has attracted the attention of many scholars since it was born.

Flipped classroom sprouted and formed in the United States. Through a large number of practices, research goes to a deeper level. Bliue pointed out that flipped classroom teaching model is a combination of face-to-face communication between teachers and students and computer communication, which requires students to watch materials before class and conduct self-examination before class [4]. Teachers communicate face-to-face with students in class to help students solve their doubts.

Brian Gonzalez described the inverted classroom as follows. The inverted classroom is also called the inverted classroom, which means that educators give students more freedom to put the process of imparting knowledge outside the classroom so that students can choose the most suitable way to receive new knowledge, while putting the process of internalizing knowledge in the classroom so that students and teachers and students can have more communication and exchange [5].

Strayer redefined the flipped classroom from the perspective of traditional teaching, believing that this teaching model is to allow students to watch learning materials in advance before class, and to enhance the interaction between teachers and students through questioning and cooperation in the classroom, so as to consolidate knowledge [6].

Pranjal Grover believes that flipped classroom technology is an effective teaching method and a kind of mixed learning. It improves the traditional learning environment through the content provided outside the classroom, and can replace or assist the traditional classroom teaching as needed [7].

The domestic research on flipped classroom began in 2012, but with the deepening of its research, it has gradually transitioned from theoretical research to focus on applied research. Zhang Baohui believes that the definition of "flipped classroom" is to reverse the two stages of the learning process: knowledge transmission and knowledge internalization [8]. The transmission of knowledge takes place outside the classroom, while the internalization of knowledge takes place in the classroom.

Guo Jianpeng pointed out that flipped classroom is to promote the "classroom revolution" and has become the focus of China's higher education reform [9]. It helps to face the long-standing problems in college classroom teaching, change the traditional teacher-centered teaching method of "teaching for teachers", form a student-centered teaching method of "teaching for students", and realize the fundamental change in teaching method.

Zhang Ping believes that the so-called "flipped classroom" is to reverse the original classroom pattern and form a brand-new classroom pattern, which is a revolution of the traditional classroom "paradigm"[10].

2.2. English reading teaching related research

2.2.1. Related concepts of reading comprehension

Reading has always been the core issue in language education, and discussion of reading usually begins with concepts. Wang Qiang believes that reading comprehension is part of reading literacy.

Reading ability includes four sub-dimensions, namely, decoding ability, language knowledge, reading comprehension ability and cultural awareness [11]. William Grabe believes that reading is an ability to understand the meaning expressed in printed matter and correctly interpret the information obtained [12]. Yang Yongjun pointed out that reading is an important means for students to obtain information and learn knowledge [13]. The purpose of the reading class aims to cultivate students' reading comprehension, thinking and expression.

It can be seen from this that English reading needs to cultivate the ability of multiple levels and make it develop in an all-round way.

2.2.2. Relevant research on optimizing reading literacy

Reading is a non-negligible ability in English and an important quality that will accompany us for a long time. Mao Guanjun found that the combination of in-class guidance and extracurricular activities is beneficial to cultivate students' reading interest [14].

Yang Ligong uses multimedia technology to optimize reading teaching methods [15]. The use of multimedia technology can create vivid and vivid situations, activate students' relevant background knowledge, and stimulate students' learning interest and thirst for knowledge. The use of multimedia helps students to establish the information structure of discourse comprehension. It is conducive to fully mobilize students' senses, cultivating students' listening ability, observing ability, memory ability and innovative ability, and further improve students' discourse comprehension ability.

Song Jie pointed out that under the guidance of new curriculum standards, teachers should keep pace with the times, develop and improve the existing ideas and methods, support students to maintain their unique personality in their studies, and develop their own personality while ensuring the completion of classroom learning tasks, so as to achieve the dual goals of personality learning and improvement of core quality [16].

Zhu Yinping believes that in the teaching of English reading, teachers should also realize that it is not enough to rely solely on textbooks. Teachers should develop and make use of other resources as supplements to teaching materials, so as to make English reading teaching more flexible and open [17].

Guo Chunshan thinks that teachers should focus on the content of "English core literacy", get rid of the shackles of traditional teaching mode completely, flexibly choose diversified reading teaching methods aiming at improving the effectiveness of reading teaching, and optimize them with the help of information technology [18].

Obviously, as the concept of "new curriculum reform" continues to be deeply rooted in the people's hearts, English reading will no longer only take recognizing articles as the only goal. Students also need to know the text concepts, discourse knowledge, cultural background knowledge and other elements, which can create more space for the improvement of reading ability.

3. The traditional English teaching situation and problems

For a long time, China has been implementing the idea of "exam-oriented education" in senior high schools English teaching. Most English teachers regard the score of college entrance examination as their only pursuit, and carry out English teaching in order to complete the task of senior high school English teaching. Therefore, there are many problems that can not be ignored.

What needs to be improved most is the teaching methods and concepts of teachers. First of all, traditional English teaching does not take into account the students' dominant position. Yang Weili said that although there have been many reforms and optimizations in the field of education, the teaching methods in English teaching at this stage are still relatively backward, and many teachers are used to cramming compulsory teaching [18]. Luo Lu believes that in the traditional classroom,

there is little interaction between teachers and students, and the traditional way of teacher giving lectures on the podium and students listening in the audience is still adopted [19]. The classroom is still dominated by teachers, and students have fewer opportunities to think actively, communicate and interact with each other, and spread their thinking. Secondly, teachers rely too much on teaching materials. However, Peng Chong pointed out that it will take several years for English textbooks to be updated, so most of the materials in English books are old reading materials from several years ago [20]. Zhang Yun concluded that if teachers cultivate students' listening, speaking, reading and writing abilities and comprehensive qualities by not cutting down the contents of the teaching materials, students will not be able to connect the learning contents with their actual lives and apply what they have learned. In the long run, students will be extremely easily disconnected from the actual situation of students [21]. In addition, the problem of inadequate use of teaching resources cannot be ignored. Ding Zhen believes that some teachers cannot apply science and technology to the teaching environment and are only used to the traditional teaching methods, which will cause serious problems such as waste of resources and low efficiency [22]. Cui Junsong said that in senior high school English teaching, facing the traditional mechanized teaching mode centered on teachers and books, new media technology is a good method to optimize teaching [23].

Therefore, in the traditional English teaching, teachers mostly adopt the teaching method of "I teach you to learn", which makes the English teaching classroom lack teacher-student interaction, and it is difficult to cultivate students' learning enthusiasm, and to a certain extent, it reduces the enthusiasm of middle school students in learning English, resulting in an undisciplined and non-valued learning attitude [24]. Faced with the current situation of large vocabulary, difficulty and many types of questions in senior high school reading, teachers usually only pay attention to reciting reading vocabulary, teaching students to do problems by rigid methods, ignoring the cultivation of thinking ability, expression ability and language learning environment, let alone how to teach students to think in English from a macro level and think with the learned words and grammar knowledge. It is difficult to create an immersion English learning environment, which is not conducive to the development of senior high school English teaching and the cultivation of middle school students' comprehensive quality.

4. English teaching based on flipped classroom

Teaching platform

Superstar learning link

Teaching resource

Micro-lesson videos, lesson plans, teaching materials

Table 1: Text and resource selection.

Teaching process:

Pre-class preparation: a list of tasks for previewing "The Violence of Nature" has been released on the superstar learning link before class. The requirements are as follows.

- The students watched the teaching videos of "Weather Disaster Series: Little Knowledge of Tornadoes" and "Science Popularization: Formation and Harm of Hurricane" and discussed the definition, causes and harm of natural disasters in a group of five.
- Preview the new words and complete the word quiz to master the meaning.
- Complete the words and fill in the blanks.

- a) A tornado is a (rotating) column of air from a (thunderstorm) to the ground. On the (average), there are 800 tornadoes each year, causing about 80 deaths and 1500 (injuries). The worst occurred in 1925, affecting three US states and making 700 (dead/killed) and 2700 injured.
- b) The price of the egg is eight yuan per kg (on average).
- c) Without your help, the experiment will (end up with) failure.

Teaching content:

This is a reading lesson. It talks about natural disasters.

Teaching objectives:

- Knowledge objectives:
 - a) Students will learn some words and phrases like tornado, rotating, column, hurricane, tropical, cemetery.
 - b) Students can understand the passage and learn more about the Cause, definition, hazard of natural disasters.

■ Ability objective:

- a) Student will master related expressions of describing disasters.
- b) Students will be able to use different basic reading strategies like skimming and scanning correctly in their reading process.
- c) Students can foster the interest and desire of learning English and be fond of taking part in kinds of class activities.

Key and difficult points

- Key point: Student can master the words and phrases related to disasters and describing them.
- Difficult point: student can understand the past perfect tense and improve the ability to analyze long and difficult sentences.

Major steps:

Step 1: Lead in (4 mins)

At the beginning of the class, the teacher will show some pictures about natural disasters like flood, hurricane, tornado and ask one question:" Have you experienced any natural disasters and briefly describe your experience", then invite some volunteers to share their answers and show the topic for this lesson.

Step 2: Pre-reading (16 mins)

Brainstorming

Each group selects a representative, and four group representatives are selected to show the group's learning results on stage.

■ Evaluation

Evaluate the performance of the whole class in this research activity. Praise the excellent group, and give advice to the group with poor performance. Combine the text with the students' explanation and summarize the definition, cause and harm of natural disaster to deepen the students' understanding of the article.

Step 3: While-reading(15mins)

■ Word exercise

On the basis of the summary, show the pictures again and review the exercises completed before class.

■ Grammar

The text sentence: By the late 1890s, he had moved to Galveston, where he died in 1899, a year before the hurricane struck.

Interpret the structure that by the time + Clause (simple past tense), main clause (past perfect tense). Step 4: Post-reading (4 mins)

■ Class discussion

In this part, students can put forward questions and their own opinions on the topic of natural disaster and the class explanation, and the teacher leads the students to discuss together, so that the whole class can actively participate in and broaden their minds.

Step 5: After-class tasks (1 min)

Provide extended resources on the Super Star Learning app. Students need to complete the required questions for related supporting exercises, and finish the past perfect exercises and discuss the answers in groups. Next class, students will explain how to do the exercises.

The above links integrate new media into every link of English reading teaching, take students as the main body of learning, and encourage students to study efficiently and independently, think positively and express their own views. This kind of flipped classroom teaching mode returns the classroom to the students, and to a certain extent, it can leave a deeper impression on the students through interesting classroom discussions and the study of information resources.

5. Discussion

5.1. Differences of teaching ideas between flipped classroom and traditional classroom

Dewey, a famous educator, believes that classroom teaching, which can promote students' growth, can be realized not by teachers completely instilling the knowledge of textbooks into students, but by helping students establish an organic connection between their existing direct experience and the abstract experience of knowledge [25].

Flipped classroom can truly reflect the guiding ideology of "student-centered" [26]. Before class, students can learn about the problems in their study by means of preview and information feedback, and prepare lessons accordingly. Use free discussion and contact with hot topics to prepare for the class. Different from the traditional teaching, which uses outdated knowledge materials to separate students' lives from knowledge, flipped classroom is not limited to textbook knowledge, but also encourages students to connect knowledge with life and cultivate students' ability to think actively about problems. Interact with students in class, and guide them to find problems, analyze them, think about them further, and finally solve them. Every step can mobilize students' participation in the class. However, the traditional teaching model focuses on "teachers" and mostly ignores students' subjective initiative and directly instills textbook knowledge. There are fewer opportunities for students to express themselves, and their enthusiasm may be affected.

5.2. Differences of teaching processes between flipped classroom and traditional classroom

As a new teaching form of "Internet Plus", flipped classroom is somewhat different from the traditional teaching process. The traditional teaching process is generally as preview before class, simple introduction, teaching of new courses, summary exercises and assignment of homework. Teachers design and conduct teaching activities based on the majority of students, which are mainly designed for the majority of students in the class. Flipped classroom teaching process generally includes completing new knowledge learning through video and other channels before class, and deepening the understanding of the textbook content through building groups and discussions. Class presentation of group learning results, teachers' comments, emphasis on adding important and

difficult points, class discussion, assignment. This way, every student can participate in it and stimulate their interest in learning.

Therefore, teachers can find out each student's individual shortcomings and needs better by flipped classroom, and carry out more targeted teaching according to the students' level.

5.3. Differences of teaching feedback between flipped classroom and traditional classroom

This basic mode of "first learning, then discussing, then teaching" has achieved good results in years of teaching practice.

Zhang Bo found that the implementation of the flipped class has generally improved the students' learning effectiveness. According to the data, under the flipped class model, the proportion of students' good and excellent scores in examination papers has significantly increased, the failure rate has been significantly reduced, and the average class score has been increased by 6-10 points [27]. Chang Luo pointed out that judging from the final examination results, the result of the reversal class is 4.7 points higher than that of the traditional class, and the passing rate is 8.7%. 92% of the students like this kind of teaching method, and have a high enthusiasm for learning [28]. Hong Xinxin said that the flipped classroom had a positive impact on the English learning of the experimental group, and more than 80% of the students liked this learning model [29].

These teaching practices have proved the feasibility of this teaching model, which is conducive to cultivate students' autonomy and development awareness.

5.4. Advantages of flipped classroom under epidemic

Flipped classroom can break through the limitation of time and space with the help of the network carrier, and it is easy to realize network autonomous learning [30].

This advantage is particularly prominent in the context of the current epidemic in COVID-19. Flipped classrooms can be better combined with online classes. Pre-class preparation through the network is the basis for the smooth development of online classes, making online autonomous learning a reality. However, the traditional classroom time is limited, not enough time is used to arouse students' thinking, and students' flexible spare time is not fully utilized.

In short, although the flipped classroom has certain requirements for hardware facilities, the use of flipped classroom teaching has more advantages than disadvantages in the prevailing online teaching environment [31], which is more conducive to cultivating students' autonomous learning ability and promoting students' learning to complete the transformation from shallow knowledge memory and understanding to deep knowledge creation and comprehensive application.

6. Summary

Flipped classroom is to put the learning of basic knowledge of the course ahead through the Internet, and the classroom time is to carry out in-depth learning according to the students' self-learning achievements [32]. Compared with the traditional classroom, the core concept of the flipped classroom is "student-centered" and emphasizes students' independent inquiry learning. Secondly, flipped classroom can reduce the impact of the "one size fits all" teaching model on students of different levels and better meet the personalized learning needs [33]. In addition, a good language learning environment can be created by flipped classroom. The main research content of this paper is how to make good use of the flipped classroom to guide English reading teaching and design an English reading class through the advantages and characteristics of the flipped classroom.

With the rapid development of information technology, the creation and dissemination of knowledge and information have undergone tremendous changes. Flipped classroom is the product of science and technology. The new curriculum reform requires teachers to consciously integrate

information technology with English courses [34]. Especially after the outbreak of the COVID-19 epidemic in 2020, the explosive growth of online learning platforms has provided excellent conditions for the development of flipped classrooms. Under the background of the epidemic, the attention paid by schools to flipped classroom is on the rise. There is also a limit to flipped classroom. As an internet-based teaching model, there are certain requirements for the network and hardware facilities, but the educational equipment in some areas still does not meet the requirements. With the country constantly breaking through the barriers of science and technology, speeding up the development of high-quality education, implementing the measures of educational modernization, and flipped classroom, we can better break through the constraints and imprisonment of the traditional teaching methods and modes, and improve the efficiency of English teaching in senior high schools.

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