

The Application of PACE Model on Teaching English Grammar in Middle School—A Case Study of Present Progressive Tense

Shixia Li*, Hongyan Tuo

School of Foreign Languages, Qinghai Normal University, Xining, Qinghai, China.

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Corresponding author: Shixia Li, School of Foreign Languages, Qinghai Normal University, Xining, Qinghai, China.

Abstract

Grammar teaching is of a great importance in middle school. Grammar translation teaching method pays more attention to the forms and rules of language than to the meaning of language, while the communicative approach pays more attention to the meaning of language. The author applies PACE model to the teaching of Present Progressive Tense to explore the effect of teaching and learning under PACE model and PPP model, also to observe students' learning attitudes in the teaching of two models. This study selected 42 students from Tianjiashai Middle School in Xining as the research subjects, 42 students were randomly selected from four parallel classes and they were divided into Control Class (Hereinafter referred as CC) and Experimental Class (Hereinafter referred as EC). PPP model and PACE model were used in these two classes respectively. Content of study is from People's Education Press English Grade 7 Second Book. After the experiment, the data from Testing, Classroom observation and Questionnaire was collected by SPSS26. After students finishing post-test, students' scores of two classes were compared, which showed that the average score of EC is 9.67 higher than CC. It means that under the premise of the same teaching content, students can get higher scores in PACE model. In the process of using PACE model, we get the following enlightenments: teachers should create certain situations, choose moderate materials and adopt various methods and alternative activities.

Keywords

Middle school, English grammar, PACE model, The present progressive tense

1. Introduction

1.1 Background of the study

1.1.1 The requirements of the *New English Curriculum* for the English teaching method

Since the Reform and Opening-up, China has communicated with other countries more and more closely, and English has become a bridge between China and other countries. Therefore, English occupies a very important position in middle school courses, and English grammar is becoming more and more important because it is the first step to learn English well. However, in the process of teaching English grammar, some teachers adopt the grammar translation method to pay attention to mechanical memory of grammar points but ignore the rules of students' physical and mental development, which leads to a great discount in students' understanding of grammar and students cannot apply grammar to practical communication. Besides, some teachers use the communicative teaching method to teach grammar, focusing on cultivating students' oral communication ability and ignoring the form and rules of grammar, which results in

that students do not know the structure of grammar.

Many people think that grammar is not important and may not be used in the future. In order to reverse this situation, the State Education Commission issued the *Compulsory Education English Curriculum Standards (2022 Edition)* "(Hereinafter referred as *Standards*)." Standards aim to cultivate students' ability to comprehensively use language knowledge, emphasizing the process of learning and the practicality of language knowledge. It also emphasizes that the form, meaning and usage of grammar knowledge in different contexts, which coincides with the purpose of PACE Model.

Standards (2022) advocates changing the fragmented teaching methods that are out of context, but innovating teaching methods, and practicing English by different activities. Therefore, teachers should keep pace with the times and continuously update their educational ideas. Grammar teaching is no longer persistent in rote memorization, teaching objectives are no longer persistent in exam-oriented education. Instead, teachers should design more learning activities and give students more opportunities to communicate, also teachers should connect knowledge in the book with the knowledge in real life, to cultivate students' interest in learning and use grammar flexibly.

1.1.2 The Current Problems of English Grammar Teaching in Middle School

(1) Teachers weaken the teaching of grammar.

Learning grammar is the first step to learn English well and it is the basis of listening, speaking, reading and writing. It is so important in middle school, but most English teachers weaken the teaching of grammar in English for several reasons. Firstly, teaching grammar knowledge is boring, but in order to maintain a lively atmosphere, English teachers overemphasize the exercise of students' language communication ability and neglect the systematic learning of language knowledge, so that students do not understand the language structure or have a firm grasp of the basic knowledge of grammar, thus it is difficult to get learning goals. Secondly, when teachers take English lessons, they mainly focus on the content of books, and they will not pay too much attention to grammar points in order to keep the whole speed in teaching, which results in a situation where students have no opportunities to learn grammar while teachers do not teach grammar patiently. Thirdly, most English teachers in middle school learned grammar through grammar translation method, and they didn't have a firm grasp of grammar knowledge, so they cannot adopt flexible grammar teaching methods and sufficient grammar knowledge to teach students well.

(2) Teachers' teaching methods are fossilized.

Standards (2022) points out that the design and implementation of English courses should optimize English learning method, let students participant different activities to reach their full potential in learning, to form effective learning strategies and to improve the ability of autonomous learning. But contemporary teachers' teaching methods are fossilized. Firstly, most teachers use grammar translation method to teach grammar. The teaching process is that teacher explains the grammatical structures at first, then the students memorize the grammatical structures through mechanical exercises. This teaching process does not pay attention to students' interest in learning or stimulate students' curiosity in learning, which eventually leads to students hate learning grammar. Secondly, Teachers lack the ability to innovate teaching methods. Influenced by exam-oriented education, teachers do not pay more attention to students' interest in learning, but only transmit grammar knowledge points to students, so they have fixed teaching minds. Thirdly, in the teaching process, teachers are transmitters rather than facilitators for students' learning, teachers pay more attention to whether students have memorized grammar points than to the development of the students' language abilities.

(3) English teachers pay less attention to English grammar evaluation.

English grammar evaluation is the most effective way to check the learning effects and teaching levels of students and teachers. Scientific evaluation can promote the common progress of teachers and students, but English teachers pay less attention to English grammar evaluation. Firstly, for diagnostic test, teachers will take diagnostic tests before class to test students' basic English ability, and the content of the tests is mostly related to the content of textbooks, involving less grammar knowledge, so they do not know how grammatical ability students are. Secondly, for formative assessment, the teacher will design a review session before each lesson, and the content of the review is from text book which is learned in last lesson instead of grammar.

Thirdly, for summative assessment, in the English exam from primary school to college, there are few opportunities to take grammar points as a single exam content. In the English exam, they mainly focus on reading and words, so that teachers cannot clearly grasp students' mastery of English grammar. Furthermore, for exam-oriented education, teachers do not spend external time teaching grammar, so students do not pay attention to grammar.

1.2 Purpose and Significance of the Study

This study focuses on a teaching model that combines the grammar form, meaning and application of language to

avoid the drawbacks of grammar translation method and communicative method. Standards (2022) advocates that grammar is an important part of English learning, which requires teachers to design different activities to teach grammar in the process of communication and to pay attention to the learning of grammar meaning. PACE teaching model focuses on meaning and form of language, and it is student-centered in teaching, which can not only stimulate students' learning motivation but also improve students' communicative competence. Therefore, the purpose of this study is to explore the effect of the PACE model teaching and observe students' learning attitudes in grammar class. Moreover, teachers should have a clear understanding of the concept of PACE.

From now on, teachers have been committed to find proper methods for teaching grammar, but teachers have found either the grammar translation method that only focuses on the language form but ignores communication, or the communication teaching method that only pays attention to communication without knowing the language structure. These two methods make the form and application of grammar in opposition. This study aims to discuss the learning attitudes and learning effect of students under the grammar content of Present Progressive Tense, and expects PACE to contribute to the future teaching of tense. The significance of this study is to help teachers understand the effect of students and students' attitude of learning Present Progressive Tense in the PACE model, so that teachers can compare with their own teaching effect to make corresponding changes and improve the teaching effect.

1.3 Mind Mapping of the Research

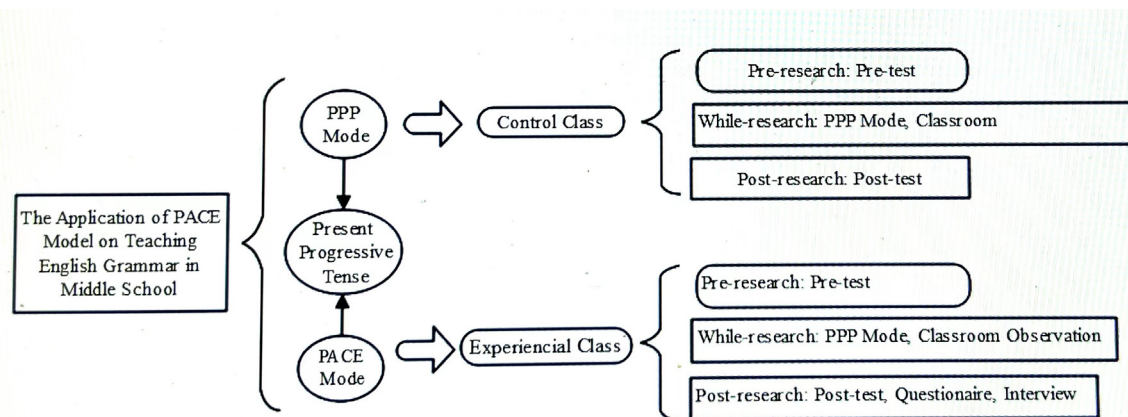


Figure 1. The mind mapping of research in EC and CC.

The mind mapping can well summarize the entire experimental process of this study. This study adopts CC and an EC for experiments. The teaching content of two classes is a paragraph containing the present progressive tense, with the teaching purpose of learning the structure of the present progressive tense. CC adopts the PPP model, and EC adopts PACE model. The two classes were tested before the experiment. During class, taking classroom observations in both classes. After class, students of two classes were tested again, while the experimental class conducted questionnaires and interviews.

2. Literature Review

2.1 Introduction to PACE Model

The concept of PACE model was first proposed by American linguists Adair-Hauck, B and Donato, R. (1994). The PACE model focuses on the process of constructing knowledge between teachers and students in the process of grammar teaching in different natural situations. Linguists Adair-Hauck, B and Donato, R. applied this model into the grammar teaching to achieve the combination of grammar form, meaning and use.

The four letters of "PACE" presents Presentation: teacher presents meaningful language material. Attention: teachers turn their students' attention to language forms. Co-construction: teachers need to work with students to construct grammar rules, it means that teachers sum up grammar rules with students by communicating, analyzing and explaining. Extension: teachers provide expansion materials to help students consolidate the grammar rules that they have learned (Tian Xiaoxia, 2012).

2.2 Previous Studies on PACE Model Abroad

Bonnie Adair-Hauck and Richard Donato (2002a) try to use PACE model to teach French. The teaching process is that teacher sets up the real situation, student contact it to stimulate student's curiosity and the interest. Next, show the grammar points for the students, draw the grammatical rules in the way of marking, and attract the attention of the students. Then, through group cooperation or communication between teachers and students, students are inspired to construct grammatical rules together. Finally, teachers design a variety of activities, such as doing exercises, role-playing and other activities to help students consolidate grammar rules. Finally, they have achieved the ideal results.

Haight (2008) applies PACE model to university grammar class and takes 101 French students as the research subject. The results show that PACE model is a guiding induction method and plays a positive role in students' learning grammar structure.

Groeneveld (2011), in the application of PACE model and English teaching, senior high school students in French class and students in Dutch class were taken as the research subjects. After the study was completed, the students' learning effect was examined by means of test. The results showed that the students using PACE model had significantly improved their academic performance.

Chamet (2014) also applied the PACE model to his foreign language teaching, taking the students of the foreign language department as the research subjects, and found that the PACE model can create interesting language situations for students, which stimulates students' interest in learning and improve students' performance.

2.3 Previous Studies on PACE Model at Home

Guo Xiaodong (2011) used the PPP model and the PACE model in his class that Chinese as a foreign language and compared the differences between these two models. Through his research, steps of PPP model were from form to meaning while steps of PACE model were from meaning to form. From the study, we found that for difficult grammar knowledge points, PACE is student-centered and supported by constructivism theory, which shows more advantages than PPP model. The result is that PACE grammar teaching model is better than PPP grammar teaching model in long-term teaching, but there is no significant difference between the two models in short-term teaching.

Yang Li (2013) believes that it is particularly important to cultivate students' communicative competence in English, because China as the country with the largest number of English speakers in the world, has few people who can communicate in English fluently. English teaching in China has become a deaf-mute English teaching, it means English input is not equal to output, so people's communicative abilities are very weak, so Yang Li believes that the evaluation of a student's English ability should not be based on the scores but on student's communicative ability. Yang Li found that the PACE model of teaching focuses on cultivating students' communicative competence, so he introduced PACE model into his own teaching. After teaching for a period, he found that students' performance was generally improved, students' expression ability was generally improved, and students' mastery of grammar knowledge was more profound than ever before. And in the practical process, it is also proposed that the first link of the PACE model is the process of presenting the materials to choose the right materials, the materials should be interesting and meaningful. And teachers should present the materials in a variety of ways, which can promote students' understanding of grammar knowledge better.

Zhai Chengmin (2017) introduced the PACE model into English grammar teaching in senior high school. The content chosen was the usage of relative adverbs in attributive clauses, finally he achieved ideal results. He strictly followed the four stages of the PACE model in teaching attributive clauses. In the stage of presenting materials, he used interesting stories to attract students' attention and stimulated students' curiosity. In the second stage, teachers drew sentences with grammatical rules in the story by marking lines to arouse their thinking. In the third stage, students constructed the usage of relative adverbs of attributive clauses with the way of questions. According to the underlined sentences, students could easily understand the grammar points. Finally, the teacher asked the students to work in groups, let students use the attributive clause just learned to make up a story, and then shared it with their peers. The students learned the knowledge of the attributive clause inadvertently.

To conclude, according to the above views of foreign and domestic scholars, it is found that they have applied the PACE model to their own teaching and have achieved good results. Everyone pays attention to the practice of PACE model but ignores the research on the characteristics and nature of PACE model and the relationship with traditional teaching. In addition, most scholars apply PACE model to short-term teaching, and it is doubtful whether PACE model teaching is effective in long-term teaching. On the other hand, most scholars apply PACE model to foreign language teaching or grammar teaching in high schools and universities, while hardly apply it in middle school. This study will explore how to apply the PACE model in middle school to teach Present Progressive Tense to improve students' Eng-

lish performance and cultivate students' interest in learning.

3. Theoretical Framework of PACE Model

3.1 Krashen's Input Hypothesis

Krashen put forward five hypothesis theories in the 1980s, they are acquisition learning hypothesis, the natural order hypotheses, the monitor hypothesis, the input hypothesis and the effective filter hypothesis. The input hypothesis is the core of the five hypotheses. And it is consistent with the first part of PACE, that is, the presentation of materials. Language input means that people acquire knowledge by receiving comprehensible knowledge, or by receiving knowledge that people can understand. Krashen's idea of comprehensible input has aroused different opinions among scholars in the field of education. Some people support it and some people oppose it. Although input is the most crucial step in second language acquisition, the public expressed their different views when he decided the theory of second language acquisition. The concept of "comprehensible input" suggests that the teacher should choose the language input according to the cognitive ability of the students.

The similarity between Krashen's input hypothesis and Ausubel's meaningful learning theory is that "i" is the learner's current level, and the learning content is that if there is a "1" added into the learner's current level is the best, and the "1" is the new content, so that progress can be made. The learning content is always controlled within the scope of "i + 1", so that learners continue to expand their "i." Krashen puts forward three conditions for language input: the input language is comprehensible, interesting, and can attract students' attention (Krashen, 1985). The language difficulty of the input is moderate and in line with the current cognitive level of the students. The input language is meaningful and meets the requirements for educational purposes. Based on this hypothesis, in the teaching of PACE model, teachers should choose real and meaningful and interesting materials, such as stories, videos, pictures, games and other ways to introduce materials to attract students' attention and stimulate students' curiosity. Then, after these activities, the teacher guided the students to focus on the grammar points from the video, story, picture and other activities, and establish a connection with the content of this lesson.

3.2 Schmidt's Noticing Hypothesis

Schmidt's noticing hypothesis was proposed by Schmidt and Frota in 1986. The Attentional Hypothesis (Schmidt, 1990, 1993, 1994, 1995) holds that there can be no language acquisition without attention, and that only the noted language form can be learned by learners. The process of learning can be summarized as the process of teacher or material input, student absorption, student output. The process of attention takes place in the stage of input to absorption, so attention plays a very important role in the learning process. The original meaning of attention is that people focus on one aspect and ignore other aspects. Attention is related to people's consciousness, when people notice something, consciousness naturally feels that thing. Attention is divided into conscious attention and unconscious attention, conscious attention refers to that we consciously to find a way to reach the goal, unconscious attention refers to something can attract people's attention which exits in our mind unconsciously.

Characteristics of attention. Firstly, there are certain limitations to the resources of attention. The scope of attention consists of multiple classes of resources, the more classes, the lower the efficiency of attention. For example, the scope of resources includes singing, dancing, and talking, and people only pay attention to singing, dancing, or only pay attention to talking, because singing and dancing are different types of attention resources, but they can't sing and talk, because they are the same kind of attention resources. Therefore, the more things that pay attention to the same nature, the lower the efficiency of attention. Secondly, pay attention selectively. The limited resources of attention make attention selective. For example, in the process of skimming the passage, in order to get the main idea of the passage in a short time, the learner should pay attention to the gerund of the passage, and neglect to pay attention to other words. Thirdly, Pay attention autonomously. People's attention can be controlled autonomously. In class, when the teacher shows the students with some boring grammar knowledge points, let students pay attention to the grammar forms, then the students are not interested in the grammar points, but suddenly a bird flies outside the window, the students will immediately focus on the small bird outside the window.

It is clear that the attention hypothesis is closely related to the second stage of the PACE model, attention. Attention in PACE refers to that the teacher guides the students to pay attention to the grammatical knowledge forms on the basis of presenting the grammatical knowledge points in the first step. So according to Schmidt's Attention Hypothesis, the process of students' attention should follow the characteristics of attention, such as the limitation of attention resources, that is, to distinguish the categories of attention materials; the selectivity of attention, that is, the pertinence of attention materials, and the autonomy of attention, that is, whether the selection of materials makes students interested.

3.3 Constructivism Theory

The constructivist theory believes that learning is a process in which the learner constructs meaning based on his/her own experiences and what he/she already knows. John Dewey believed that teaching should be built based on what learners already knew and engage learners in learning activities. Teachers need to design environments and interact with learners to foster inventive, creative, critical learners (Wang Qiang, 2006). The core of constructivism theory is student-centered, emphasizing the students' exploration of new knowledge, active discovery and active construction of the meaning of knowledge. Teachers act as instructors rather than transmitters in the teaching of constructivism theory. They should respect students' physical and mental development and interest needs in teaching, and they should not stifle students' innovative spirit. Constructivism teaching also emphasizes cooperative learning, through the cooperation between students, they can create information gaps and listen to each other's opinions and views so as to make their own knowledge system more perfect. Constructivism advocates situational teaching, and constructivism believes that teachers should create real language situations according to students' interest needs and provide students with opportunities for communication and learning, students' potential will be easily stimulated. Only by applying theoretical knowledge to real situations can students achieve the purpose of applying what they have learned.

The first and the third stage of PACE are based on the constructivism theory, emphasizing the creation of situations for students' learning, paying attention to the Co-construction of grammar rules between teachers and students, and cultivating students' initiative and creativity. In this process, teachers are the assistants of students' learning. In addition, the Co-construction of grammar rules by teachers and students and the fourth stage of PACE that named the stage of expanding materials, all reflect the idea of cooperative learning. In the step of expanding materials, we should pay attention to the application of the learned knowledge in real situations. Teachers should design a variety of activities for students to consolidate what they have learned in this lesson. For example, time-limited exercises, group cooperation to complete tasks, role playing, students as teachers and other activities can effectively exercise students' output ability.

The above three theories explain the PACE pattern very well, and the following are the details:

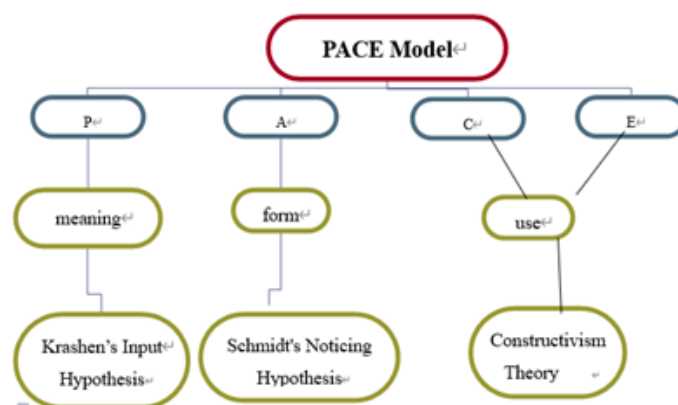


Figure 2. The relationship between PACE MODE and THREE Theories (Boyue Mao, 2021).

4. Research Questions

Based on the guidance of previous theories, this study is to explore the application of PACE model in middle school English grammar teaching. It is hoped that the research can find out the effect of PACE model in teaching and the students' attitudes towards learning.

For research purposes, language addresses the following two questions:

- (1) How to apply PACE model to middle school grammar teaching class?
- (2) Which is more effective in teaching grammar, PACE or PPP?

5. Research Methods

5.1 Participants

The subjects of the study were 42 students randomly selected from four parallel classes of Grade 7 in Tianjiazhai Middle School. The class is divided into CC and EC, with 21 students in each class. Through a diagnostic test, 42 students were in the middle level of English. The 42 students all started learning English from Grade 3, and the textbook is

the starting point of Grade 3. Through the questionnaire, it is found that in the past grammar classes, teachers teach grammar rules by induction or deduction. As a result, they still do not know the structure and usage of English tenses. In the research, CC used the PPP model for teaching, and EC used the PACE model for teaching.

5.2 Instrument

5.2.1 Tests

Before the experiment, the same pre-test questions were distributed to students in both classes. The content is selected from the teaching materials of the first semester of the seventh grade, which are based on the basic grammar knowledge points. The questions are Multiple Choice, Close, Reading 1, Vocabulary, Translation, Paraphrase, Reading 2, Writing are managed to check whether the students in the two classes have the same English level according to the average score of students, so as to avoid the phenomenon of unfair performance in the two classes.

After the experiment, the same post-test questions were distributed to the students of two classes. The content was selected from the Present Progressive Tense taught in class. Finally, according to the average score of students, we can compare which kind of teaching is more effective under the two models.

5.2.2 Classroom observation

The purpose of classroom observation is to collect and analyze the performances and attitudes of students in class. In the process of observation, the method of note recording was used. The names of all the students in the class were placed in the column of the table. The students' faces, the number of hands raised, whether their attitude towards learning was serious, the number of cars driven, and the number of times they spoke with their partners were recorded in detail.

5.2.3 Questionnaire

The questionnaire was designed to investigate two aspects of student learning. On the one hand, it is to see the students' familiarity with the grammar knowledge points and whether they like the grammar classes of the teachers before. On the other hand, it is to investigate the students' feelings about PACE model after finishing learning. There are 10 questions in this questionnaire. Questions 1 and 2 investigate the students' views on previous classes and their familiarity with previous knowledge points. Questions 3 and 8 were designed to investigate the students' opinions about PACE model and their mastery of the present situation after using the PACE model. Questions 9 and 10 investigated whether students would use the knowledge points of the Present Progressive Tense in their future lives. The subjects of the questionnaire are 21 students in the experimental class.

6. Research Procedure

The research process includes pre-research, while-research and post-research.

In the previous research stage, the teacher distributed the diagnostic test questions to 42 students in two classes. After the students completed, teachers collected students' test questions to analyze students' English proficiency in the two classes to ensure that the students in two classes have the same English proficiency.

In the research stage, PPP model was used in the CC and PACE model was used in the EC, and the teaching time was 45 minutes. In the CC, PPP model is used to transmit the grammar knowledge of the present progressive tense to the students, then practice and consolidate the grammar knowledge constantly and researchers should collect classroom observations. In the experimental class, teachers transfer knowledge for students in strict accordance with the four stages of PACE. In the process of teaching in the experimental class, the researchers should enter the class to make a good record. When the course is over, the teacher distributes the test questions to the students in the two classes to check the students' mastery of the knowledge points in this lesson.

After the study, questionnaires were distributed to the students in EC. Then five students were randomly selected from the experimental class to investigate the students' feelings about the PACE model.

Finally, the effect of PACE model is analyzed from the Classroom Observation records, Questionnaire compared with PPP model.

7. Results and Analysis

7.1 Results and Analysis of Pre-test in EC and CC

Pre-test is to test whether the English level of the students in the CC is the same as that of the students in the EC. Through the analysis of the students' average scores, the following detailed information can be obtained.

Table 1. Group Statistics of Pre-test in EC and CC

Class	N	Mean	SD	Max	Min
EC	21	64.71	11.816	86	45
CC	21	64.81	11.374	84	46

We can see from Table 1, the average score of the EC is 64.71 and the average score of the CC is 64.82. Generally speaking, the English proficiency of the students in the two classes is the same.

7.2 Results and Analysis of Post-test in EC and CC

After two teachers in the CC and the EC explained the knowledge points, they distributed the prepared questions about the knowledge points in this class to every student. The degree of students' mastery of this class is judged by scores and we can find out which teaching model is more effective by comparing PACE model with PPP model. The follow are detailed data:

Table 2. Group Statistics of Post-test in EC and CC

Class	N	Mean	SD	Max	Min
EC	21	74.95	9.238	90	58
CC	21	65.29	9.193	80	45

From the data, it can be seen that the average score of the experimental class is 74.95, in which the lowest score is 59 and the highest score is 90. The average score of the students in the CC was 65.28, in which the lowest score was 45 and the highest score was 80. From the above data, we can see that the average score of the EC is 9.67 points higher than that of the students in the CC, which shows that the teaching under the PACE model is more effective than the teaching under the PPP model.

7.3 Results and Analysis of classroom observation

Classroom observation is a form that researcher should enter to the classroom to examine the reactions and attitudes of students in the CC and the EC in the corresponding teaching model. Researcher recorded the students' expressions, the number of hands raised, the seriousness of learning attitude, the number of inattentions, and the number of times they spoke to their friends in class. The following data is detail.

Table 3. Results of Classroom Observation in EC and CC

Class (%)	Expression (%) Notice: 1-Good, 2-Not Good, 3-Bad	Attitude (%)	Times of Raising Hands (Mean)	Times of Absent-Minded (Mean)	Times of Chat- ting (Mean)
EC	1-71.4%	1-56.5%	2.71	2.0	3.62
	2-25.2%	2-30.4%			
	3-3.4%	3-4.3%			
CC	1-20.8%	1-12.5%	2.00	2.24	2.05
	2-33.3%	2-41.7%			
	3-33.35	3-33.3%			

From the above data, it can be concluded into following results. Firstly, the percentage of students' good expressions and good attitudes are higher than the percentage in CC respectively. Secondly, students in EC raised their hands 0.71 times more than students in CC class on average. Thirdly, in EC, the number of times students are distracted during class and chat with their partners is 0.24 and 1.57 times lower on average than in CC class respectively. In a short, compared with the two classes, the students in the EC are better than the students in the CC in five aspects, so PACE teaching is effective.

7.4 Results and Analysis of Questionnaire

After the experiment, 21 students in the EC were given questionnaires, mainly to investigate the students' familiarity with previous knowledge points and their feelings after learning under the PACE model. The questionnaire is designed with 10 questions, which are divided into three categories: familiarity with past knowledge points, mastery of knowledge points under PACE model, and whether the Present Progressive Tense will be used in the future life. The five options of ABCDE follow the order from Complete agreement, agreement, uncertainty, disagreement and Complete disagreement, the following detailed data is shown.

Table 4. Results of Classroom Observation in EC and CC

Question	Opt A	Opt B	Opt C	Opt D	Opt E
Q1	13.3%	16%	15.5%	25.2%	30%
Q2	13.3%	14.3%	9.7%	41.7%	21%
Q3	48.1%	21.2%	13%	7.6%	10.1%
Q4	70.6%	21.2%	4.6%	2.1%	1.5%
Q5	50.4%	30.1%	11.4%	4.6%	3.5%
Q6	56.2%	20.2%	7.1%	11.2%	5.3%
Q7	43%	23.4%	15.9%	10.3%	7.4%
Q8	90.1%	5.1%	4.8%	0%	0%
Q9	40.5%	16.1%	19.9%	14.4%	9.1%
Q10	43.2%	21.6%	14.5%	13.3%	7.4%

From the percentage of students' answers from question 1 to 2, only 13.3% of students are familiar with the knowledge points they have learned before while 25.5% of students are completely unfamiliar. According to the percentage of students answering questions 3 to 7, 53.66% of students can fully master and use the Present Progressive Tense through the teaching of PACE model, and only 5.56% of students can't master or use the Present Progressive Tense at all. According to the percentage of students answering questions 8 to 10, 57.9% of the students can fully use the knowledge points of the Present Progressive Tense in their future life, and only 5.5% of the students can't.

Discussion

We investigated the learning effects and learning attitudes of 42 Grade 7 students in Tianjiazhai Middle School with PACE model and PPP model respectively. Our first research question is how to apply PACE model in middle school grammar teaching. The four letters of PACE represent four stages of PACE teaching. The first stage is Presentation, teachers need to adopt interesting classroom measures in order to effectively carry out the next three stages. The second stage is Attention, teachers draw students' attention to grammar points by marking lines or using gestures. The third stage is Co-construction, which requires teachers to lead students to construct grammar rules. The last stage is Extension, which requires teachers to design different activities to help students consolidate grammar knowledge. In the research, teacher strictly adopted the four stages of teaching the present progressive tense, and the final result showed that the average grade of the students in the class was increased.

Our second research question is: which is more effective in teaching grammar, PACE or PPP? Firstly, according to the comparison of the pre-test scores of the two classes, the average score of the EC is 9.67 points higher than that of the CC. It can be seen that the PACE model can significantly improve the students' grammar scores. Secondly, through questionnaires, classroom records and interviews, we can conclude that PACE teaching is more effective than previous teaching. The specific performance is as follows: In PACE teaching, students' interests in learning is more stimulated and classroom atmosphere is more active; Teachers lead students to construct grammar knowledge together, which let students no longer feel grammar lessons are boring or they refuse to learn grammar as before. Students are active in grammar classes and are able to speak and participate actively in discussions.

Conclusion and Implications

The ultimate goal of grammar teaching is to use grammar in different contexts. The grammar translation teaching method pays attention to the inflexible transmission and the mechanical rigidity of the explanation of knowledge points. But firstly, the PACE teaching pays more attention to the use of grammar knowledge, not only the form of grammar, but also the meaning and function of grammar. Secondly, the PACE model advocates the holistic learning of language. Teachers should not list grammar points in isolation just like teaching formulas to students, but the teacher should design appropriate situations, choose appropriate materials, and use effective methods to integrate grammar rules into meaningful language materials. Now, PACE is the pursuit in English grammar teaching in the middle school.

Through experiment, this article compares the PACE model with the traditional PPP model, and the results show that under the PACE model of teaching, students' performance is significantly improved, and compared to PPP model of teaching, it can stimulate students' learning motivation. This study provides a detailed explanation of the theoretical framework and application of the PACE model, providing a reference for middle school English teachers in teaching the knowledge of the Present Progressive Tense. In the process of applying this model, the following enlightenments were obtained:

Firstly, creating interesting situations. Situational teaching is currently the most suitable method for middle school students' psychology. The teaching method refers to that if it is used in the teaching process, it should be fit students' psychology. The knowledge points in middle school English textbooks are restored to teaching situations, so that students can absorb them as soon as possible. "Interest is the first teacher," students learn something which they are often interested will be more effective. Therefore, it is necessary to create interesting situations in teaching.

Secondly, selecting correct language materials. The material should be interesting. It can attract students and cultivate students' interest in learning English. Then, the material should be authentic and surrounded by life. Middle school students have a certain perceptual understanding of the surrounding environment and things. Teachers choose the materials that students are familiar with, and which closes to students' life, students will take the initiative to enter the subjects they feel, such as the things and environments they have come into contact with, forming the psychological state of inquiry. Thirdly, the difficulty of materials should be in line with the students' cognitive level. Too high or too low level of materials will frustrate students' self-confidence, which is not conducive to students' learning.

Thirdly, adopting flexible teaching methods. In the stage of presenting language materials, teachers should use more videos and pictures to introduce knowledge points that can attract students' attention and stimulate students' interest. In the attention stage, teachers should mark the target grammar by marking lines or using different symbols. In the co-construction stage, teachers lead students to construct grammar knowledge through discussion. In the extension stage, teachers should set up suitable exercises to consolidate knowledge points.

Fourthly, setting up a variety of activities. Teachers design activities to check the students' grasp of grammar knowledge points and combine the grammar knowledge points with practice. Through extended practice, students' knowledge can be consolidated better, and their language ability can be improved.

Limitations

Although PACE model can effectively improve students' language performance, it still has many limitations. First of all, PACE model teaching is student-centered, giving full play to students' initiative. However, most grammar classes are teacher-centered, and it is difficult to change teacher-centered class into student-centered class suddenly, and it takes some time for students to accept this model of class. Second, the sample size is too small, 42 students can not represent the entire middle school students. Finally, PACE model is effective for short-term grammar teaching, but not for long-term grammar teaching.

Data Availability Statement

The detailed data in this article is included in the supplementary material. If you have more questions, please contact the author.

Author Contributions

The authors designed test questions, questionnaires, interviews and conducted classroom records.

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