



Combining Piaget's Theory of Cognitive Development: Analysis of the Using of Tesol in Exam-oriented English Education of Junior High School in China

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Abstract. In China, exam-oriented education has a long history. Although this education system provides a large number of knowledge-based talents for society, there are also obvious drawbacks. So far, the reform of traditional exam-oriented education is urgent. The thesis combines Piaget's cognitive development theory to analyze the psychological characteristics of junior high school adolescents at the formal operational period from several perspectives and provides a brief analysis of the problems and their causes of English teaching in current junior high school. In response to these issues, this paper proposes to combine Tesol theory with teaching. By adjusting teaching materials and teaching methods, English teaching can develop students' independent learning ability and cooperative consciousness, and promote their critical thinking skills. This teaching method is suitable for the cultivation of adolescents in this stage of Piaget's theory. This study provides new ideas for the teaching reform of other subjects in junior high school, laying a solid foundation for national education and cultivating well-rounded talents.

Keywords: Tesol, Exam-oriented education, Piaget, cognitive development.

1 Introduction

Exam-oriented education is a unique educational model derived from the influence of “diploma trumps everything”, “scores equal abilities”, Gaokao and other academic entrance exams (Ro, 2019[1]). The most typical cases are Asian countries with large populations, such as China, Japan and South Korea (Tan & Yang, 2021[2]). Simply, exam-oriented education is a traditional educational model that deviates from the actual needs of social and human development, which violates educational laws (Hu & West, 2015[3]). Its purpose is only to cope with exams and send students to higher-level schools. Although there were also drawbacks of this system at that time, it did provide a path to promotion for students who came from the common class in history.

Under such historical influence, English teaching in exam oriented education tends to focus more on exam results (Zhao, 2023[4]). And this method runs against the original intention of English education, causing students to spend a lot of time learn-

ing English to become dummy English learners with high marks but poor ability (Shen & Chiu, 2011[5]).

Although exam-oriented education has a long history and has provided a large number of elites for the current society, its limitations are still very obvious (Meng et al., 2021 [6]). With people's increasing desire for self realization, the current cultivation model is facing urgent changes. However, the rigid exam-oriented education model cannot meet the needs of cultivating people with multi-talents.

The negative impacts of an exam-oriented education system on students' cognitive, affective, and psychomotor (CAP) competencies have been a growing concern (Yasmin et al., 2023 [7]). The exam-oriented system places a heavy emphasis on rote memorization and regurgitation of information, leading to limited development for critical thinking, creativity, and the holistic development of students' competencies. From the perspective of students, this shallow learning approach not only reduces their enthusiasm for learning, but also inhibits the development of their cognitive skills and the ability to connect knowledge across different fields.

Although there is a growing call for education reform, based on China's special national conditions, China's classroom management model, especially in the basic education section, has three prominent features (Liu, 2023, [8]). The first is the large size of classes, teacher-led classroom under the condition of high-density curriculum. Secondly, the exam-oriented evaluation mechanism, and the last is regional differences. For the changes in junior high school English classrooms, we cannot simply apply methods from other countries or regions, but should consider the above characteristics and take effective training measures.

This paper is divided into four parts. The first part introduces the research background, significance and structure of this thesis. The second part is a literature review, which includes an introduction to Piaget's cognitive development theory, existing problems and their causes of middle school English teaching in China, as well as research on the Tesol theory. The third part is the theme of the thesis, mainly focusing on the integration of the Tesol theory in exam-oriented education. The fourth part is the final part of the paper, which summarizes the main content of this study, analyzes the shortcomings of this study, and introduces the future research directions of Tesol theory in English teaching.

2 Literature Review

2.1 Piaget's Theory of Cognitive Development

Piaget divides children's cognitive development into four stages (Feldman, 2004 [9]).

The first stage is the sensorimotor stage (birth to 2 years), during which the infant focuses on physical sensations and learning to coordinate its body. The second stage of intellectual development is the preoperational stage. It takes place between 2 and 7 years. By the beginning of the third stage called concrete operational stage, the child can use some logical rules, so they can conserve quantities, realize that people see the world in a different way. The formal operational period begins at about age 11. As adolescents enter this stage, they gain the ability to think in an abstract manner, the

ability to combine and classify items in a more sophisticated way, which means they can start reasoning and have critical thinking to view the rules proposed by adults.

From the theory of cognitive development, it can be seen that children's cognitive development has stages, and teaching needs to consider the cognitive level of learners.

Most middle school students in exam oriented education are between the ages of 12 and 15, which means they are in the formal operational period of cognitive development and have some abstract thinking abilities. Effective English learning during this period should rely on learners' active understanding and autonomous construction of knowledge structures. She proposed that teaching should attract students' interest and encourage them to connect language knowledge with their existing knowledge background.

2.2 The Issues and Reasons of Current Exam-oriented Education

With the development of globalization and cultural integration, the traditional exam oriented middle school English classroom cannot meet the learning needs of current students.

Firstly, students lack opportunities for knowledge expansion. In junior high school English classrooms, textbooks are often used as the sole carrier of knowledge transmission, and students do not have other ways to obtain information.

Secondly, the teacher's explanation of the textbook content is rigid and mechanical. They prefer to use memorization to help students achieve high scores in exams. Such teaching content cannot meet the daily communication needs of students, making it difficult for them to use classroom skills.

In addition, teachers in middle school English classrooms prefer to transmit basic theoretical knowledge to students in a one-way manner. Insufficient interaction between teachers and students leads to low classroom activity and poor learning motivation among students (Sert & Walsh, 2013 [10]).

More importantly, oral English teaching is highly neglected in middle school English teaching, and most students regard speaking English as a major challenge in external communication ([11] Zhang, 2022[11]).

According to the British Council's official IELTS data, in 2019's Academic Mean Performance by Nationality Survey, Chinese examinees averaged 6.2 in reading, 5.9 in listening, 5.5 in writing, and 5.4 in speaking. In a sense, this result showcases the Chinese students' lack of basic English communicative competence, leading to a deepening concern for the vicious cycle of exam-oriented education.

For the reasons of these issues, the first is the high demand for teaching results in the exam-oriented education system. Teachers and students spend plenty of time and energy memorizing vocabulary and grammar in order to get a higher score, thus neglecting the mastery of language skills. This also leads to students with high English scores facing many obstacles in communication with native English speakers.

From other perspectives, the teaching concepts in exam oriented education are outdated, and there is a lack of innovation in textbooks and teaching aids (Ke& Liang, 2023 [12]). Teachers rarely use extracurricular resources to enhance students' knowledge. The most commonly used training method is the tactic of endless exercises

or the filling-up teaching. However, these methods have caused many negative impacts, such as increasing the learning burden on students but not significantly improving their language abilities, which may undermine their learning confidence.

At the same time, Chinese teachers are often faced with large classes, which mean it is difficult for them to fully understand each teaching object and then grasp each student's personal situation. So they are unable to develop targeted teaching content and clear curriculum text, and cannot teach students according to their aptitude, which is one of the reasons for low student motivation.

2.3 The Definition and Guiding Principles of Tesol

The full name of Tesol is Teaching English to Speakers of Other Languages, its function is to enhance the teaching level of English teachers and improve teaching theories and methods according to different educational situations (Richards, 2023 [13]).

For Tesol teachers, the mother tongue and cultural background of learners play very important roles in English learning. By combining these factors, learning plans that are more conducive to learners can be made.

By exercising students' language abilities through practice activities, teachers should put students at the core, building a creative, free and cooperative class. However, the teaching mode should be flexible, encouraging students to explore knowledge and think independently.

Based on decades of research, TESOL International association has proposed the "Six Principles" of English teaching as the general guiding principles for English teaching and learning. According to TESOL International Association, the principles are as follows:

1. Understand your learners;
2. Create conditions for language learning;
3. Design high-quality lessons for language development;
4. Adapt lesson delivery as needed;
5. Monitor and assess student language development;
6. Engage and collaborate within a community of practice.

It is undeniable that these six principles are indeed the solid foundation of English teaching, more scientific and effective. Considering China's national conditions, many of them are actually difficult to practice. Their implementation needs to consider the specific situation of junior high school English curriculum.

3 The Integration of Tesol Theory in Exam-oriented Education

3.1 Flexible Teaching Materials

The teaching of junior high school English adopts the unified textbooks in the nine-year education system. Although such textbooks have their rationality and popularize basic English vocabulary and grammar, they lack specificity. The unified assessment model is also quite rigid, limiting students' language creativity.

According to Piaget's theory of cognitive development, education should accord with the cognitive structure of students based on their behavioral patterns at different stages (Hanfstingl et al., 2019 [14]). In other words, everyone's cognitive level has periods and varies greatly, and teachers should choose differentiated teaching materials based on these factors. Schools can introduce non-fixed teaching materials or encourage teachers to write their own books based on the situation of the students they teach. Such teaching materials are more conducive to the formation and development of logical thinking in students at the formal operational period.

Middle school English classes should avoid using the same textbooks consistently. Teachers need to choose different materials based on students' mastery and weakness of English knowledge. In addition, teachers can also provide explanations based on the relevant experience of middle school students, aiming to enhance their interest in language learning.

Some courses with cognitive challenges not only to enhance students' knowledge of specific social studies and literary topics, but also advance their ability to effectively use English as a communication tool.

3.2 Vivid Teaching Modes

In order to adapt to the psychological characteristics of abstract thinking development in students at the formal operational period, teachers should adopt more diverse teaching modes. The traditional teaching model in Chinese middle school mainly involves the process of teachers giving and students receiving lectures. This type of education does not conform to Piaget's analysis of the psychological characteristics of adolescents in this period, and may cause some negative impacts on the growth of students.

To change this phenomenon, Tesol's teaching theory provides some brand-new ideas (Shelestyuk, 2020 [15]). Teachers can use multimedia tools and physical teaching aids, or add more diverse activities in the teaching process, such as presentations and role-playing, to make the teaching process more vivid and interesting. Furthermore, schools can use more methods to assess students' work, rather than being limited to score-based exams, which can also help students accept learning content more happily and actively.

Piaget's cognitive development theory emphasizes the importance of students actively building knowledge structures. Only when students absorb actively, she said, can the learning content truly assimilate into their cognitive structure, which is known as effective learning.

3.3 Collaborative and Independent Learning Methods

The problem of low activity among junior high school students in English classrooms can also be solved through Tesol's theory.

The task-based teaching model can reduce tedious grammar teaching, design specific and operable learning tasks, promote communication between teachers and stu-

dents, and encourage students to think independently and express themselves confidently.

The process of collective discussion and sharing learning outcomes can involve as many students as possible in teaching. This effectively solves some of the drawbacks brought about by the large class teaching system. Appropriate competition among students and encouragement from teachers after completing tasks can stimulate students' enthusiasm to English learning.

Tesol's theory advocates the combination of cooperative study and self-learning (Chen et al., 2023 [16]). This approach can guide students to actively participate in discussions, improve their ability to independently obtain and process information in English, and also train them in problem-solving and communication skills.

Tesol's theory also draws on psychologist Howard Gardner's Multiple Intelligence Theory (Morgan, 2021 [17]), which suggests that each student's intelligence type has its own characteristics, and teachers should adopt different teaching strategies for different individuals. For intrapersonal type students, they have strong introspection abilities but lack the ability to communicate with others. Teachers should provide them with more opportunities for group activities, improve their English communication skills through cooperation with others, and also build social confidence.

3.4 Critical Thinking Logic

Critical thinking has been studied extensively all over the world (Alsaleh, 2020 [18]). Today it is strongly believed that using language and knowing the meaning don't lead the learners to be proficient. They need to display creative and critical thinking through the language to express and support their ideas creatively and critically. However, critical thinking skills should not be taught separately but incorporated in the curriculum.

Tesol encourages students to engage in self reflection and critical thinking during the cognitive stage, which is beneficial for the development of higher-order thinking. Incorporating critical thinking training into language learning courses in junior high school is feasible. At this stage, debate courses are very helpful for students' cognitive development. Tesol teachers can incorporate critical activities into junior high school English teaching, considering students' interests and attitudes, while imparting language knowledge, allowing students to participate in discussions and gain their ideas. After receiving their sharing, teachers should give them positive feedback to encourage them to participate more actively in the discussion next time. This method can improve their academic abilities at the formal operational period.

4 Conclusions

Nowadays, the junior high school English teaching model in China is deeply influenced by nine-year compulsory education and is an important part of exam-oriented education. The result orientation of this type of education has some adverse effects on the physical and mental development of adolescents at this age. Based on Piaget's

cognitive development theory, there are some factors in the teaching methods of junior high school that are not conducive to the healthy development of students at the formal operational period. And in recent years, more and more educators and parents have realized the urgency and importance of the reform of exam oriented-education. Students in school also have higher requirements of language acquisition.

Combining the above phenomenons, integrating Tesol theory into exam-oriented education can provide new ideas for basic education and English teaching. It can not only meet the psychological development needs of students at this stage, but also alleviate the conflicts between teachers and students caused by heavy academic pressure.

There are still some limitations in this thesis. The integration of Tesol theory requires detailed understanding and proficient use of the theory to English teachers, which puts high demands on the teaching level of teachers. However, the lack of qualified English teachers is a common problem in Chinese English education. These teachers not only need to have innovative awareness and be willing to introduce new teaching methods into the classroom, but also need to have empathy, truly understand the developmental psychological stages of students, explore their learning and emotional needs, and select targeted educational methods for different individuals.

Through existing analysis, it can be seen that with the support of Piaget's cognitive development theory, the integration of Tesol theory into exam-oriented education can solve some problems in current English teaching of junior high school. This can also provide some inspiration for the reform of other subjects in exam-oriented education and broaden the future research in the field of education.

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