

Design and Implementation of Integrated Teaching for Middle School English Units Guided by Core Literacy

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ABSTRACT

English is the main language of international communication, and its teaching method and teaching effect have always been concerned by the educational community. The traditional English teaching mode is limited to the improvement of the language precision of students, while the teaching mode of unit integration has the potential to improve the learning level and language ability of students. The research methods in this paper include the four procedures of the principle establishment of integrated teaching design, data collection and pre-treatment, teaching content selection and integration, and teaching means innovation. Through the comparative experiment, this paper quantified the teaching strategies to students' core English literacy, and evaluated students' oral expression speed, vocabulary and dictation ability. The research results show that the students' oral speed, vocabulary and dictation ability in the process of integrated unit teaching are significantly improved. Especially, the oral fluency of students was generally improved, and the highest was 9.7, and vocabulary of students also achieved a positive increase. The highest vocabulary of students has reached 1423, and the highest dictation accuracy was significantly improved. These test results illustrate the feasibility of integrated teaching of teaching model. The integrated teaching model can effectively promote students' language learning, and improve the overall quality of English core literacy. Through integrated teaching and innovation of teaching mode, it can better meet the needs of students' learning, and give full play to the potential of students' learning.

Keywords: Unit integration, English teaching, Fluency in spoken language, Dictation accuracy.

1. INTRODUCTION

In the field of middle school English teaching, the traditional teaching model that focuses on knowledge transmission is no longer able to meet the comprehensive development needs of students. This article aims to explore the design and implementation of integrated teaching for middle school English units guided by core competencies, and evaluate the effectiveness of this teaching model in improving students' English core competencies through empirical research. The contribution of this article lies in not only summarizing the theoretical foundation and practical strategies of integrated teaching, but also verifying the application effect of this teaching model in practical teaching through comparative experiments, providing a new perspective and method for middle school English teaching.

The article first introduces the research background, elaborates on the challenges faced by middle school English teaching and the importance of core competencies; secondly, this article outlines the research purpose and main contributions of this article; next, this article introduces research methods, including teaching design principles, data collection and preprocessing, selection and integration of teaching content, and innovation of teaching methods; then, this article presents and analyzes the results of comparative experiments, discussing the effectiveness of the unit integration teaching model in improving students' core English literacy; finally, this article summarizes the research findings, proposes teaching suggestions, and looks forward to future research directions.

2. RELATED WORKS

Many scholars have conducted research on the integration of teaching, learning, and evaluation in middle school English teaching. Hu Shijin analyzed the background of the proposal and its application significance in English teaching. He combined teaching practice and proposed a strategy for conducting overall teaching of high school English units around the integration of teaching, learning, and evaluation. This included using mind maps, conducting self dialogue, and stimulating students' interest in participation [1]. Dai Huifang focused on the design and implementation of middle school English writing teaching based on the integration of "teaching learning evaluation", and explored the basic concept and application value of "teaching learning evaluation" integration. Moreover, she combined the main characteristics and problems of middle school English writing teaching to construct a design and implementation strategy for middle school English writing teaching based on the integration of "teaching learning evaluation", thereby providing valuable reference for the improvement of middle school English writing teaching [2]. On the basis of the high school English curriculum system, Zhang Hongxiang explored the design and implementation strategy of integrating teaching, learning, and evaluation in unit teaching from the aspects of studying textbook content, focusing on real learning situations, initiating practical activities, and creating dialogue scenes based on real cases. This enables students to establish a holistic concept, comprehensively improve their listening, speaking, reading, and writing abilities under the drive of reverse thinking, and accurately recognize their own learning abilities and real learning situations[3]. During the entire process of English teaching, Sun Ming reorganized and integrated various language materials to make them suitable for the actual situation of students, thereby better handling relevant problems that arise in the English classroom. In the complete unit theme background, it sparked a strong interest in the text and improved the comprehensive literacy of middle school students [4]. Lou Yutao took Unit 5 My Clothes, Grade 4 (Part 2) of the People's Education Press Primary School English textbook, as an example to demonstrate the design concept and specific implementation strategies of "teaching learning evaluation" integration through the implementation of "teaching learning evaluation" integration in the overall teaching of the unit [5].

In addition, Yaqoob Mohammed Al Jabri F played an important role in healthcare transformation, innovation, and role integration based on the cross disciplinary core competencies of healthcare professionals, describing the characteristics and psychometric characteristics of existing tools used to evaluate the core competencies of healthcare professionals in clinical settings [6]. Ferrucci P utilized disruptive innovation theory to strive for a better understanding of how self-identified digital journalists conceptualize innovation, and described the impact of core competencies on practice [7]. Kuo F I utilized a resource-based perspective and resource dependence theory to explore proactive environmental strategies being implemented in the hotel industry, in order to help businesses achieve ecological innovation, green core competencies, and green competitive advantages [8]. Jokiniemi K used eigenvalue Monte Carlo simulation and parallel analysis of the gravel plot to determine the number of factors to be extracted, evaluate the psychological measurement characteristics of the scale, and modify the tool using subjective interpretation based on statistical analysis. Finally, based on analysis and subjective interpretation, he developed a clinical nurse expert core competency scale consisting of 47 items [9]. Traga Philippakos Z A used a design based approach to collect qualitative and quantitative data to study the impact of teaching interventions and their professional development on the opinions and argumentative writing of middle school students, as well as teacher teaching delivery [10]. Although the above-mentioned research on integrated teaching provides necessary theoretical support, there is a lack of in-depth exploration in the specific implementation details and operability. The purpose of this study is to explore in depth the design and implementation of integrated teaching for middle school English units guided by core competencies.

3. METHODS

3.1 Principles of Integrated Teaching Design

The design of the middle school English teaching under the guidance of the core competency is the key to whether the teaching can effectively promote the overall development of students [11-12]. Based on this key point, the teaching design highlights students' needs and interests, respects their individual differences, and encourages their interests and initiative. In this process, the teacher

should be a guide and builder of the environment for the students to learn actively. He or she is responsible for helping students build knowledge, develop skills, and be able to learn independently. In the design of formative evaluation, the students' learning is not only on the test scores, the completion of the work, but also more emphasis on the learners to explore, experience and on the process of learning. By combining formative evaluation and summative evaluation, the teacher can better understand the learning situation of the students and give the feedback to the students in time. Performance improvement: In terms of performance improvement, the use of instructional design can better combine language learning with skill learning, and achieve better learning results. At the same time, in order to cultivate students' teamwork and good communication skills, teachers should teach students to exchange ideas with people of different cultural backgrounds, in order to enhance their cross-cultural understanding and global awareness, and so on. Teaching design also combines language learning with content learning, so that students while learning English language skills, also learn knowledge and cultural

background of other subjects. This kind of learning basically embodies the characteristics of integrated learning. Through the acquisition of such knowledge, students can understand the use of English and apply for it correctly, and further improve their practical language skills.

3.2 Data Collection and Preprocessing

First of all, in the design and implementation of middle school English learning unit integrated teaching guided by core competencies, teachers should collect student learning data through various channels, such as standardized test scores, credit for classroom participation, credit for homework and project submission, self-evaluation scores, peer evaluation scores and the teacher's teaching logs and records of classroom observations and students' feedback [13-14]. These data can help teachers to comprehensively understand the current situation of student's learning, objectively assess the effect of teaching method, and provide a reference for the refinement, optimization or modification of teaching strategies, as shown in "Table 1".

Table 1. Student learning data

Student ID	Standardized Test Score	Classroom Participation Score (1-5)	Homework Submission Rate (0-100%)	Project Completion (Excellent/Good/Fair/Poor)	Self-Evaluation (1-10)	Peer Evaluation (1-10)
S001	85	4	95	Good	8	7
S002	78	3	80	Fair	6	8
S003	92	5	90	Excellent	9	9
S004	88	2	85	Fair	7	6
S005	90	4	92	Excellent	8	8

"Table 1" presents a set of student learning data to record and analyze their performance in English courses. "Table 1" contains five main data categories, each of which is of great significance for understanding students' learning situation and teaching effectiveness.

Ensuring the accuracy and availability of data requires data processing. Data preprocessing includes cleaning incomplete or erroneous data, converting qualitative data into quantitative data, encoding categorical variables, integrating data from different sources, and identifying and handling outliers. The unique hot coding formula is:

$$Excellent = \begin{cases} 1 & \text{if the student's project is excellent} \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

Excellent is an independent variable used to indicate whether the student project has been completed "excellently"; ¹ refers to a variable value of 1 if the student's project completion is "excellent"; ⁰ refers to a variable value of 0 if the student's project completion is not "excellent".

Among them, the average provides the center point of the dataset, which is the average level of the data. It can help understand the approximate positions of most values in the dataset:

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n} \quad (2)$$

\bar{x} is the average value, which represents the sum of all numerical values divided by the number of numerical values, and is the center point of the dataset; x_i is the standardized test score for each student, where i represents the number of students, ranging from 1 to n ; n is the total number of students, which refers to how many independent values there are in the dataset. By averaging, the standard deviation of the data can be obtained:

$$s = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}} \quad (3)$$

s is the standard deviation, indicating the degree of dispersion or variability of values in the dataset.

Only data that has been cleaned and organized can provide accurate and valuable information for teachers in English teaching, helping them better understand students' learning progress, design personalized learning plans, and ultimately promote the development of students' core competencies [15-16].

3.3 Selection and Integration of Teaching Content

The teaching content should be closely related to the cultivation of core abilities such as critical thinking, innovation, communication, and teamwork, and combined with language learning to form a complete curriculum system. The teaching content also needs to be supplemented by cross-cultural communication themes, guiding students to explore the characteristics of various cultures, in order to increase their sensitivity and international perspective in the language learning process. Teachers can introduce various ethnic festivals, traditional cuisine, customs, and customs of different countries to students through language practice in English classrooms, improving their knowledge and understanding of multiculturalism. In addition, teachers can also guide students to discuss various issues, such as the environment, judiciary, technology, etc., so that students not only learn relevant English knowledge, but also exercise their critical thinking ability and problem-solving ability. Teachers can also engage in a series of group discussions or debates, which not only cultivate students' sense of social responsibility and

independent thinking ability, but also exercise their communication skills, teamwork skills, and innovative qualities [17-18]. The teaching content should also pay attention to the personal interests and comprehensive development of students. Based on the actual interests or self-development needs of students, design content closely related to their personal development and aesthetic education, help students cultivate self-confidence, develop personality, and cultivate aesthetic and moral qualities. In the integration process, teachers should have a clear curriculum logic, smooth connections between various parts of teaching, and help students understand core themes and core abilities through the development of each stage of the curriculum [19-20].

3.4 Innovation of Teaching Methods

Adopting diverse teaching methods, such as task-based teaching and project-based learning, can not only stimulate students' interest in learning, but also improve their participation and practical abilities. Task based teaching allows students to learn and use English while completing specific tasks that are closely related to their daily lives. This type of task is both challenging and can arouse students' interest, and is closely related to their life experience and practical needs. During the implementation process, teachers should encourage students to independently seek information and solve problems, cultivate their self-learning ability, and complete tasks through group cooperation, promoting student teamwork and communication skills.

Project based learning enables students to acquire knowledge and skills through long-term exploration of projects. In this method, students conduct in-depth research around a core issue or theme and ultimately produce a specific outcome, such as a report, demonstration, model, etc. Teachers need to identify a topic with exploratory value, such as environmental protection, cultural exchange, etc., and guide students in problem decomposition, developing research plans and timelines. At the same time, students are encouraged to use a variety of resources and tools for research, such as libraries, the Internet, field trips, etc., and finally organize students to display and exchange their achievements, so as to develop their expression ability and critical thinking.

Teachers can effectively promote the comprehensive development of students' core competencies, help them apply the English

knowledge and skills they have learned to practical life, and improve their language proficiency and overall quality.

4. RESULTS AND DISCUSSIONS

Comparative experiments are an effective research method. By comparing the performance of students before and after unit teaching, this study can quantitatively evaluate the impact of teaching strategies on students' English proficiency. In this comparative experiment, this study will focus on three key indicators: fluency in oral expression, mastery of vocabulary, and accuracy in dictation. These indicators not only reflect the language skills of students, but also an important manifestation of language application ability in core competencies.

At the beginning of the experiment, it is necessary to first determine the research subjects and select 11 students as the experimental group. Then, a pre-test will be conducted to test the oral expression, vocabulary, and dictation abilities of the experimental group students under traditional teaching methods. Standardized testing tools will be

designed or adopted to ensure the effectiveness and reliability of the test, and the test results will be collected and recorded. Then, teaching will be carried out according to the designed unit integration teaching plan, during which student participation, teacher's teaching adjustments, and student feedback information will be recorded. After the teaching is completed, the experimental group students will be tested again in the same way as the pre-test to ensure that the testing conditions for the post test are consistent with the pre-test. Afterwards, collecting the post test results and compare them with the pre-test results.

4.1 Oral Fluency

Fluency in oral expression is one of the key indicators to measure students' English speaking ability. It not only reflects their mastery of English pronunciation, intonation, and rhythm, but also serves as the foundation for effective communication and interaction. This study measured it using standardized oral test scores, as shown in "Figure 1":

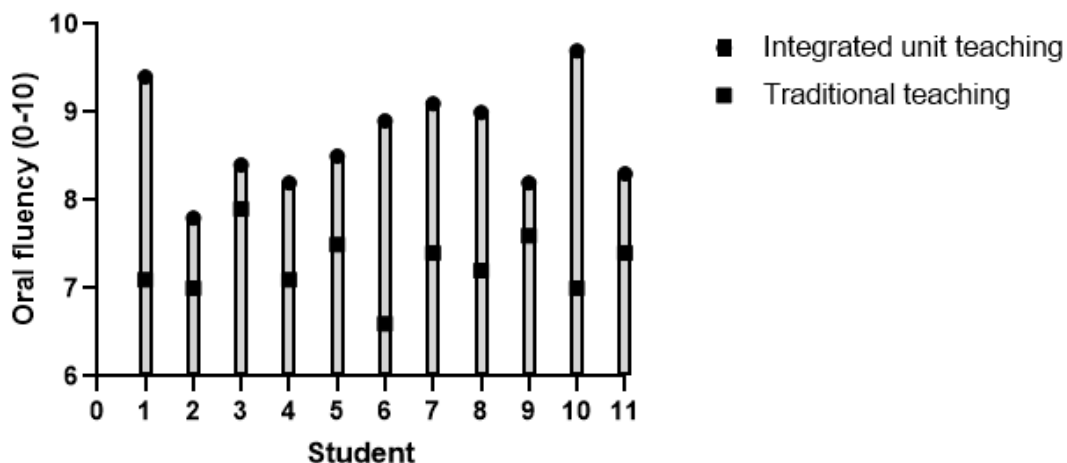


Figure 1 Comparison of fluency in oral expression.

The data in "Figure 1" clearly indicates that the oral fluency scores of all students are higher in the integrated unit teaching mode than in the traditional teaching mode. The 10th student scored the highest, reaching 9.7, but under the traditional teaching mode, their score was only 7. This leap reveals that unit integrated teaching can better meet the learning needs of students and stimulate their potential in oral expression.

4.2 Vocabulary

Vocabulary is an important indicator for measuring the language ability of English learners, which directly affects the development of students' listening, speaking, reading, and writing skills. Therefore, the significance of its comparative experiment is crucial. In this study, a vocabulary test was used to evaluate it, as shown in "Figure 2":

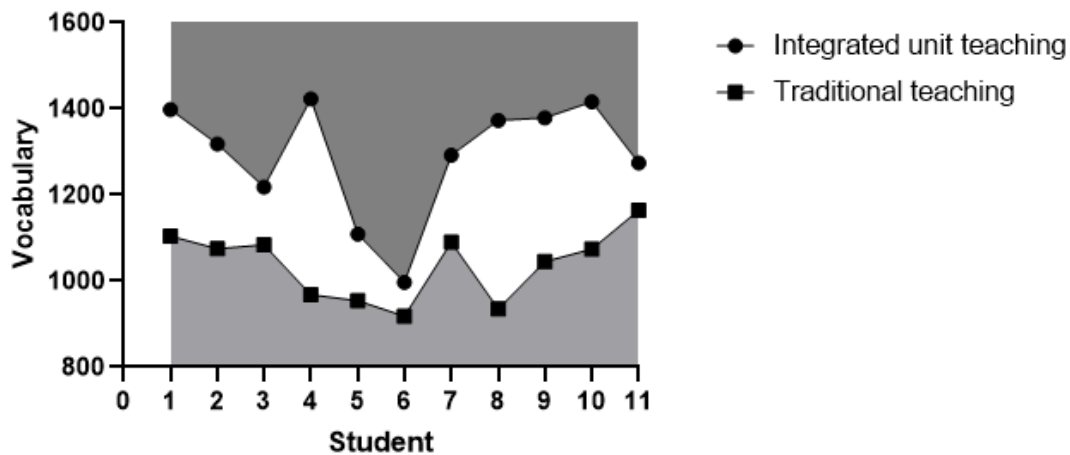


Figure 2 Vocabulary comparison.

As shown in “Figure 2”, the vocabulary of students in the integrated unit teaching mode has increased in various sizes, with the maximum vocabulary reaching 1423 and the lowest reaching 997. The growth of students' vocabulary shows a positive trend. This indicates that the unit integration teaching model creates a coherent and efficient learning environment for students by integrating course content, teaching methods, and evaluation systems. In such an environment,

students can better absorb and remember new vocabulary, thus improving their language abilities.

4.3 Dictation Accuracy

The comparative experiment on dictation accuracy aims to find the best way to improve students' language learning efficiency by comparing the effects of two teaching methods on their dictation performance, as shown in “Figure 3”:

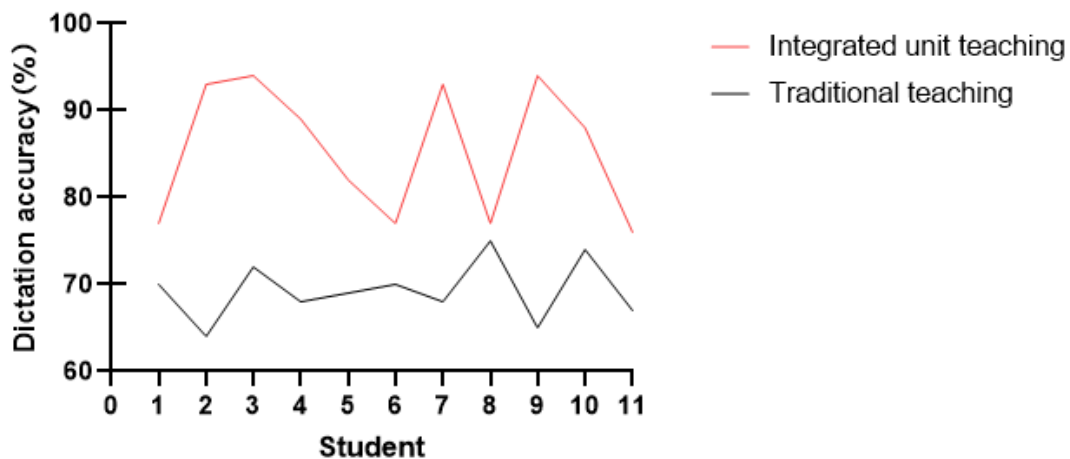


Figure 3 Comparison of dictation accuracy.

The data in “Figure 3” clearly indicates that the highest dictation accuracy of students under traditional teaching mode is only 75%, but under integrated unit teaching, it reaches the highest of 94% and the lowest of 76%. This significant improvement reveals the effectiveness of the integrated unit teaching model in enhancing students' language abilities.

5. CONCLUSION

This article draws important conclusions about middle school English teaching through detailed analysis and practical teaching experiments. These conclusions not only have guiding significance for current teaching practices, but also provide new directions for future educational theory research.

Firstly, this study finds that when teaching aims to cultivate students' core competencies, their English proficiency is comprehensively improved. This teaching model integrates various teaching resources and methods, not only deepening students' understanding and memory of English knowledge, but also significantly improving their skills in listening, speaking, reading, and writing. Especially in terms of fluency in oral expression, accumulation of vocabulary, and accuracy in dictation, students have made significant progress.

This study further confirms the importance of the integrated unit teaching model in promoting the comprehensive development of students. Under this teaching model, students have not only made progress in English learning, but also significantly improved their critical thinking, innovation ability, and cross-cultural communication skills. The cultivation of these abilities is crucial for students to establish themselves in the ever-changing social and work environment in the future.

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