The Influence of English Interdisciplinary Teaching to the Results of English Study in Primary School

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Abstract. Nowadays, the demand for comprehensive talents is more and more urgent in recent society, while traditional subject teaching narrows the way to cultivate multiple talents. Separate subject teaching ignores the integrity of knowledge, making students learn scattered knowledge and not think from different points. One subject teaching, which means teachers only master the knowledge and skills in his or her subject field, is not conducive to the complete development of students. This study takes 500 fourth-grade primary school students in Linyi Dongxing Experimental School as the research objects, conducts a case study through a questionnaire method to explore the relevance between English interdisciplinary teaching and the results of English study as well as how the implementation of English interdisciplinary subject teaching influences English learning outcomes in the process of second language acquisition for fourth-grade primary school students. Descriptive analysis and Chi-square test are involved in this study to collect the data. The research shows that interdisciplinary English teaching in primary schools has a positive influence on English learning outcomes. Students improve their different English abilities during the implementation of interdisciplinary English teaching, such as abilities in reading, speaking, listening and writing as well as other abilities, such as painting, music, etc. This study is conducive to the development and implementation of English interdisciplinary teaching in primary school education and the improvement of students' core literacy and can provide other authors with some help and suggestions to promote the future development of this field.

Keywords: Primary English teaching, English interdisciplinary teaching, interdisciplinary teaching.

1. Introduction

Nowadays, the degree of scientific society is increasing day by day. Synthesis and differentiation cross and interact with each other, and the trend of comprehensive development is becoming more and more dominant. In many high-tech fields, Synthesis has played a huge role, such as China's Chang 'e-3 successful moon landing, which is the comprehensive results of multi-disciplinary and multi-field collaboration [1]. In addition, many major practical problems in current society cannot be solved by a single disciplinary knowledge, because they are highly comprehensive, such as population problems, environmental problems, etc. Therefore, modern society needs to train comprehensive talents with comprehensive problem-solving abilities. However, the traditional subject teaching cannot meet the new trend. Schools must meet the challenges to foster students' ability to solve complex problems and broaden students' views and thinking with integration to flexibly adapt to the new situation. This requires teachers to change the traditional teaching mode, implement interdisciplinary theme teaching, and create all-round communication forms and situations with multi-faceted, multi-angle, multi-problem, interdisciplinary to train learners' interdisciplinary thinking.

The research on the English interdisciplinary subject teaching is an effective way to facilitate teachers and students to get improved in teaching and studying. Interdisciplinary subject teaching, focusing on the knowledge of multiple disciplines and aspects, enables students to grasp the links between things through the main clue, cultivates students' all-round and multi-level perspectives and thinking, helps them to constantly master the ability to solve comprehensive and complex problems, which is adapted to the needs of the development of the society.

Interdisciplinary theme teaching connects the courses of related subjects organically and systematically through the theme, which makes the courses more optimized, the curriculum structure

more abundant and perfect. That is closely related to the actual life of students, which is consistent with the new curriculum concept advocated by the nation and conducive to the implication of integration in the new curriculum.

Students, as living individuals, live in a complex and diverse society. Only by constantly penetrating a complete world view to students can they understand that the world is a universally connected whole. That helps them to establish a comprehensive vision from an early age, and cultivate their ability to think and solve problems. Therefore, their complete development will be facilitated [2].

Interdisciplinary subject teaching puts forward higher requirements for teachers. Not only should they be proficient in their professional field, but also dabble in other disciplines [3]. They must strive to become a knowledgeable person. In the participation of interdisciplinary subject teaching, the teacher will continue to progress, continue to study, and eventually transform into a proficient teacher in various subject areas.

The purpose of this study is to deeply explore how schools implement the requirements of basic education reform, and comprehensively probe into the actual situation of English interdisciplinary subject teaching in schools. It also aims to explore what kind of relevance is between English interdisciplinary subject teaching and English learning outcomes, and how the implementation of English interdisciplinary subject teaching influences English learning outcomes in the teaching process of second language acquisition for fourth-grade students in primary school.

2. Literature Review

The research of interdisciplinary teaching in China started relatively late, mainly in recent years, and the number of that is not large. The research of interdisciplinary teaching in foreign countries is earlier than that in China, and the number of literature review reviews is relatively large, reaching a peak in recent years. According to the research topic, it is found that most of the domestic research is about theoretical research and academic research, but practical research is not enough. Teachers from primary and secondary schools only do relatively simple exploration in their teaching practice, which lacks professional guidance.

Most of the research on college English interdisciplinary teaching focuses on teaching methods and teaching models. The School of Foreign Languages of Nanchang University, which takes students majoring in News English as the research object, has carried out practical research on the interdisciplinary cooperative teaching of ESP transformation for college students, and finally achieved certain results [4]. Because students are very supportive of this kind of teaching, they believe that English teachers use advanced teaching methods and rich teaching languages in interdisciplinary teaching so that the classroom atmosphere becomes active and students' interest in learning continues to grow. Due to the shortage of qualified medical English teachers, Liu Minghe and Li Hong of Higher Vocational College of Medical University decided to make English teachers and medical teachers cooperate in order to achieve a win-win effect [5]. However, it is currently in the conceptual stage and needs to be improved in implementation. Nali proposes a new method of lead-in that prolongs students' learning attention, which breaks through the drawbacks of the traditional lead-in method in *An Exploration of Interdisciplinary Approach in College Students' English Teaching* [6]. This new method covers several disciplines, such as philosophy, mathematics, linguistics and geometry, which not only cultivates students' interdisciplinary and diversified thinking, but also improves their ability to solve comprehensive and complex problems.

The research on English interdisciplinary teaching in primary and secondary schools is mainly a record of teachers' exploration in classroom teaching or accidental use of interdisciplinary content in teaching. Wang Wencai lists four examples of English class, which is involved with Chinese, mathematics, and art respectively in *An Analysis of English Interdisciplinary Teaching in Junior High School* [7]. He unilaterally believes that English interdisciplinary teaching in junior high school is effective, but he doesn't discuss it systematically. In *A Brief Introduction to English Interdisciplinary*

Teaching under the *New Curriculum Standard*, Zhang Feng only lists the ideas of infiltrating history, politics, sports and aesthetic education into the English classroom, but stays at the frontline level of discussion [8]. Fan Hua points out in *Highlights of Foreign Language Teaching in the New Curriculum: Interdisciplinary Teaching* that under the new curriculum reform concept, book knowledge has been unable to meet the real needs of teachers and students, who need to understand the aspects of social life and natural science related to the teaching content, and make each subject a part of the construction of their macro knowledge system [9]. He just gives a simple statement in the theory that concerns the goal of quality-oriented education and ability cultivation through comprehensive study in various disciplines.

Foreign countries do practical research by combining projects with teaching cases [10]. From this point of view, China should learn more about foreign research models, do research from practice and form theory by practicing [11]. At the same time, there are few researchers on English interdisciplinary subject teaching, which are mainly concentrated in universities. There are even fewer researchers on English interdisciplinary subject teaching in primary schools. Primary school, as the basic stage of education, should be paid more attention to in the implementation of English interdisciplinary subject teaching. As a primary school English teacher, the author hopes to contribute to the English interdisciplinary teaching of primary school.

3. Research Method

3.1. Research Objects

The participants in this questionnaire research are 500 fourth grade students from Dongxing Experimental School in Linyi, in which English interdisciplinary teaching is carried out.

3.2. Measures

The questionnaire on English Interdisciplinary subject teaching is a research tool for this study [12]. The author selects the first two questions of the first part of the questionnaire, and choose questions (5, 7, 11, 12, 14) in the second part of the questionnaire.

3.3. Data Analysis

SPSS was used to analyze the effective data that was gathered to examine twhat kind of relevance is between English interdisciplinary subject teaching and English learning outcomes, and to how does the implementation of English interdisciplinary subject teaching influences English learning outcomes in the teaching process of second language acquisition for fourth grade students in primary school. Descriptive analysis and Chi-Square analysis are used to specifically analyze the collected information.

4. Results and Discussion

In this part, the author presents the results of different test and gives a detailed discussion of these results. First of all, data are collected through two methods, descriptive analysis and Chi-square test, which clearly shows the analysis of the study. Thus a comprehensive discussion will be given by discussing those results together. The following are different results conducted by descriptive analysis and Chi-square test.

4.1. Descriptive Analysis of Basic Information of Respondents

Basic information of the objects is displayed in Table1. According to the results shown in Table 1, the proportion of boys and girls in the research is respectively 44.7% and 55.3%. 43.4% of them are in grade A, 48.0 % are in grade B, and only 8.6% are in grade C.

Table 1. Descriptive analysis of basic information of survey sample

Variables	Category	Number	Percentage
Gender	boy	224	44.7%
	girl	276	55.3%
Grade	A	217	43.4%
	B	240	48.0 %
	C	43	8.6%

4.2. Descriptive Analysis of the Degree of the Implementation of English Interdisciplinary Teachings

Table 2. Descriptive analysis of the degree of the implementation of English interdisciplinary teaching

	Number	Maximum	Minimum	Average	Standard deviation
The degree of the implementation of English interdisciplinary teaching	500	4.6	2.6	4.15	0.48

According to the results shown in Table 2, the maximum value is 4.6, the minimum value is 2.6 and the average value is 4.15, which are calculated through question 1 “Your English teacher often cooperates with teachers from other disciplines to carry out English interdisciplinary teaching activities?” and question 2 “To what extent can your English teacher meet your English learning needs when they carrying out cooperative teaching with other disciplines?” in the second section of the questionnaire. The data analyzed through descriptive analysis proves that English teachers usually carry out English interdisciplinary teaching, cooperating with different discipline teachers, for example, music, science, Chinese, maths and etc, which can better meet the needs of students in the process of English learning.

4.3. Chi Square Analysis between the Implementation of English Interdisciplinary Teaching and the Results of English Study in Primary School

Table 3. Chi Square Analysis between the implementation of English interdisciplinary teaching and the results of English study

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The results of English study	.015

Based on the question 2 “To what extent can your English teacher meet your English learning needs when carrying out cooperative teaching with other disciplines?” in second section of the questionnaire, Table 3 presents the positive influence of the implementation of English interdisciplinary teaching to the results of English study in primary school. That means the results of English study is positively influenced by the method of interdisciplinary teaching.

4.4. Descriptive Analysis of the Effects of Implementation of English Interdisciplinary Teaching

Table 4. Descriptive analysis of the effects of implementation of English interdisciplinary teaching

	Number	Maximum	Minimum	Average	Standard deviation
The effects of implementation of English interdisciplinary teaching	500	4.98	2.56	4.57	.62

According to the results shown in Table 4, the maximum value is 4.98, the minimum value is 2.56 and the average value is 4.57, which are analyzed through the question 3 “To what extent does the English interdisciplinary teaching help you in your improvement in the English usage” and question4 “How much will the English interdisciplinary teaching help you improve your ability, for example,

the abilities in music, painting and dance?" in the second section of the questionnaire. Data shown in Table 4 proves that English interdisciplinary teaching activities play a greater role in improving students' English abilities, and also play a greater role in improving their abilities in music, dance, painting, scientific exploration, social and cultural understanding, etc. That means English interdisciplinary teaching does not only prompt the students' study of English but also improves their learning in another discipline, which meets the national strategy of quality-oriented education. The implementation of interdisciplinary teaching involves different disciplines, which broaden students' thinking patterns.

4.5. Analysis of the English Improvement in Different Aspects after the Implementation of English Interdisciplinary Teaching

Table 5. Analysis of the English improvement in different aspects after the implementation of English interdisciplinary teaching

		Number	Percentage
Improvements	Listening	352	28.7%
	Speaking	321	26.2%
	Reading	390	31.8%
	Writing	162	13.2%
Total		1225	100 %

The data collected in Table 5 shows that 31.8% of students think that their reading ability are improved after English interdisciplinary teaching. Moreover, 28.7% of students' listening ability is enhanced as well and 26.2% of students' speaking ability are both facilitated, while only 13.2% of students think their writing ability are improved.

This clearly probes that English interdisciplinary teaching does influence the results of English study in primary school. Furthermore, the implementation of English interdisciplinary teaching helps students improve their different English abilities positively. Compared with one subject teaching, it benefits students a lot in English learning, including abilities of listening, speaking, reading and writing.

5. Conclusion

This study utilized questionnaires to investigate the relevance between English interdisciplinary teaching and the results of English study in primary school as well as how does the implementation of English interdisciplinary subject teaching influences English learning results in the process of second language acquisition for fourth grade primary school students. Compared with former studies, most of which were carried out in universities, this study focused on interdisciplinary English teaching in primary school. That will attract more researchers and teachers to explore more in the implementation of interdisciplinary English teaching in primary school.

English interdisciplinary teaching can not only positively affect students' English results and ability, but also can expand students' knowledge in different disciplines. For example, integrating the English curriculum and Chinese curriculum facilitates students' understanding of different culture, languages, traditions and etc. Thus it helps their abilities of intercultural communication in this global village. This research can assist teachers better integrate the curriculum and integrate the knowledge that are conducive to students' growth and learning in English class. The integration of English discipline and other disciplines can improve the quality of English teaching as well as the quality of other discipline. English interdisciplinary teaching contributes to the implementation of quality-oriented education and the formation of students' core qualities in second language acquisition.

The results of recent researches on English interdisciplininary teaching will provide researchers and teachers more reasons to pay attention on renewaling their curriculum theories for increased effectiveness. The findings of this study also help students better understand that different disciplines can be integrated, and they are not taught alone. The English interdisciplinary teaching is a good way

to prompt themselves by improving their different English abilities, such as, the abilities of speaking, listening, writing, reading and etc. Also, it helps them booster their abilities in other disciplines while taking English interdisciplinary teaching class.

English interdisciplinary teaching conforms to the development requirements of today's society, which is benefical to the cultivation of comprehensive talents, the integration and optimization of the new curriculum, Moreover, it meets the requirements of new curriculum reform that is conducive to the complete development of students, and can help teachers update their teaching concepts and curriculum theories.

As a new teaching form, English interdisciplinary subject teaching is bound to encounter difficulties in the implementation process. Since interdisciplinary subject teaching involves more than two subjects, it means that teachers must cooperate, and there will be problems and differences in teamwork. Another big problem is how to establish the theme, which is a crucial step in interdisciplinary subject teaching, which is close to life and related to teaching materials. It can stimulate students' learning motivation, cultivate their creativity, and form interdisciplinary thinking, all of which should be considered in the selection of topics. At the same time, interdisciplinary topic teaching is different from traditional teaching, and the natural teaching evaluation method should also be different. The evaluation should be diversified, multi-subject and all-round, and students should be evaluated comprehensively from all aspects, not only their grades. Therefore, further researches and studies are required for those problems.

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