Interdisciplinary Thematic Learning in Geography-Integrated English Teaching

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Abstract: Take a unit in the first volume of the eighth-grade English textbook of Foreign Language Teaching and Research Press as an example. We try to explore how the interdisciplinary thematic learning of "English + Geography can be implemented in junior high school. The research is based on the design method, and there are so many points in the specific operation: first, we analyze the whole text, find out the point where the text content and geography can be naturally integrated into one, and then extract the core concepts and sub-concepts of the unit; second, we have to design a driven task, put the ' problem chain ' together, and then organize some collaborative activities, so that we can build a unitized teaching framework with internal relations. Third, the principle of " integration of teaching, learning, and evaluation " runs through the whole teaching process to ensure that learning objectives can be achieved. From the results of the study, it can be seen that by engaging in this interdisciplinary thematic learning, students will integrate language knowledge and geographical knowledge into a real task, so that the core literacy and geographical literacy of the English subject can be coordinated. Development; therefore, our research can provide a model for interdisciplinary teaching in junior high school English classrooms, and also provide a practical path for how to deepen curriculum integration.

Keywords: Junior High School English; Interdisciplinary Thematic Learning; Unit-based Holistic Teaching

1. Introduction

According to the *Compulsory Education Curriculum Plan (2022 Edition)*, "interdisciplinary thematic learning shall be implemented to strengthen the curriculum's educational function," and "each subject shall allocate no less than 10% of class hours to interdisciplinary thematic learning design" (Ministry of Education of the People's Republic of China). T*he Compulsory Education English Curriculum Standards (2022 Edition)* advocates interdisciplinary thematic learning in English education, emphasizing that students should be guided to carry out comprehensive English practical activities driven by real-world problems or tasks around specific themes by drawing on personal life experiences and social needs, to promote the all-round development of students' core competencies (Ministry of Education). Interdisciplinary thematic learning is not only a prescribed action of curriculum standards but also a core pathway for the transition from "subject knowledge transmission" to "subject practice education," as Mei [1] said.

Lin [2] said interdisciplinary teaching is not a simple patchwork of disciplinary content but makes full use of the aggregating effect of thematic cores. As Beane [3] pointed out, genuine interdisciplinary curriculum integration should center on "real-world problems," enabling meaning construction through the connection between students' life experiences and disciplinary knowledge to achieve in-depth interdisciplinary integration. Its core lies in transcending the boundaries of a single subject and conducting systematic design and implementation around specific themes. Taking a single-subject theme as the core to carry out multidisciplinary integrated design can not only improve students' ability to solve practical problems comprehensively but also help foster their interdisciplinary literacy.

Since the revised *Curriculum Plan* and *Curriculum Standards* were implemented to fulfill the fundamental task of fostering virtue through education, front-line teachers have increasingly attempted interdisciplinary teaching. In practical instruction, interdisciplinary learning can indeed help students establish integration

and connection among different subjects, knowledge domains, and between learning and daily life. Nevertheless, restricted by class hour arrangements, some interdisciplinary teaching remains merely theoretical or text-based without embedding authentic tasks and experiential activities. Besides, the fusion of English and geography, a subject that is an independent natural science discipline, presents significant challenges. Moreover, the incongruity between students' language competence and their cognitive capacity, coupled with the absence of subject-specific vocabulary, frequently results in problems such as the disconnection of linguistic knowledge from disciplinary content and the lack of real-world learning contexts. Zhang [4] research points out that the deep integration of geographical images and English discourses can significantly reduce the cognitive load of students and help them to form scientific meanings in complex contexts. Therefore, this paper takes Module 10, The Weather in Grade 8 Volume 1 (FLTRP Edition) as a case study to explore the holistic unit instructional design pathways for integrating English and geography in junior high schools. Once more, the disconnects between students' language skills and cognitive capacity, and the lack of discipline-specific vocabulary, often result in challenges such as the disconnection between linguistic knowledge and disciplinary content and the limited number of authentic learning contexts. Zhang's research [4] shows that the deep integration of geographical images and English discourses can effectively reduce students' cognitive load and help them build scientific meaning in complex contexts. Therefore, this paper takes Module 10, The Weather in Grade 8 Volume 1 (FLTRP Edition) as a case to explore the holistic unit instructional design pathways for integrating English and geography in junior high schools.

2. Analyzing the Texts and Extracting the Unit's Big and Small Ideas

Before carrying out instructional activities, the teacher should conduct a holistic analysis of the textual content, clarify the thematic significance of the curriculum, extract the subordinate thematic ideas in advance, and find the possible points of interdisciplinary integration. Module 10 The Weather, unit theme "Weather", thematic category "Humanity and Nature", sub-theme "the geographical locations of major countries in the world, ecological characteristics of different regions, and natural landscapes", theme cluster "natural ecology". Geography lends itself naturally to integration with this theme. The thematic unit can not only help students understand the impact of climate diversity on human activities, but also helps them plan travel from a scientific perspective and better understand and communicate the ecological values of China.

The analysis of the textual content is not only useful for building teaching content but also provides a basis for determining "what to teach" and "what to assess". The teachers should discern the underlying 'core idea' and the expected 'learning outcomes' for each text, so that they can formulate operational and observable teaching objectives and assessment criteria accordingly. The integrated analysis of the texts is provided below (See Table 1).

An analysis of structural relationships among the texts reveals that the logic of their organization is a progression from broader to narrower geographical scales, namely "world → country → region. From this structure, the teacher draws the following three subordinate thematic ideas: * Texts 1 & 2: With a focus on the global scale, students perceive the weather characteristics of different countries and regions simultaneously, so that they develop a global perspective. * Text 3: Through the national perspective, students learn about the variations in weather found in various parts of a country and consequently enhance their comprehension of national geography. Focusing on a specific area, students investigate the causes of the local weather and assess its ecological value, thus increasing the practical awareness of the area.

Finally, the teacher summarises and extracts the big idea of the unit based on the above analysis. However, the formation of a unit big idea. However, the generation of a unit's big idea requires the support of driving tasks. Well-crafted tasks are better able to support the process of transforming knowledge into competencies and literacy. The quality of driving tasks can be evaluated in terms of communicative authenticity, cognitive challenge, and the suitability of output objectives as Wen [5] outputs. Thus, the teacher constructs the following conceptual framework (Table 2) for the integration of the unit content.

Table 1. Synthesis of Unit Thematic Content

Text (Title)	Text Type	Text Content	Geographic Interdisciplinary Connections
Weather report	Listening (News Report)	Weather forecasts across China.	Differences in geographical environments and their underlying causes across various regions of China.
It might snow.	Listening (Dialogue)	Weather characteristics in December across China (Beijing, Hainan), the UK, the USA, and Australia.	Differences in geographical environments and their underlying causes across various regions of China.
The weather is fine all year round.	Reading	Optimal travel seasons, weather characteristics, and travel recommendations for various regions in the USA.	
The Amazon rainforest: a natural treasure	Extended Reading	Weather characteristics, tourism resources, optimal travel seasons, and travel recommendations for the Amazon rainforest, as well as its ecological value as the "Lungs of the Earth."	Analysis of the formation of weather hotspots in a specific geographical region.

Table 2. Thinking Structure Diagram

Unit Big Idea	"Be a Little China Travel Guide: Choose the Best Travel Time According to Weather Conditions, Form Common Travel Knowledge; Promote China's Rich Tourism Resources to the World, Cultivate Cultural Self-confidence and National Pride"		
Unit Small Ideas		Texts	Task Step Breakdown
	1. Preliminary perception of weather characteristics in different countries/regions around the world at the same time (World level)	Weather report It might snow.	Draw a weather forecast map of China and attach written explanations in the travel handbook.
	2. In-depth understanding of weather characteristics in different regions of the same country (National level)	The weather is fine all year round.	Imitate and write an article introducing the best travel time in China in the travel handbook.
	3. Analyze the weather characteristics of a specific region (Regional level)	The Amazon rainforest: a natural treasure	Draw a poster and imitate writing an article introducing the tropical rainforest of Xishuangbanna, Yunnan, China, in the travel handbook.
Unit Grand Task	Invited by international friendly schools, formulate a travel strategy for "Cloud Travel in China" in the form of a travel handbook for them		

3. Establishing Instructional Objectives Based on the Unit Ideas (Table 3)

Li [6] points out that the objectives of unit-based holistic teaching should aim at the integrated development of students' core competencies and reflect their growth and development throughout the unit learning process. Teachers should further refine the instructional objectives based on the overall big idea and subordinate thematic ideas of the unit to embody the integration of English and other disciplines at the knowledge, abilities, and literacy levels. Thus, support can be provided for interdisciplinary thematic learning activities in an objective-oriented manner.

Table 3. Module 10 the Weather Curriculum Teaching Objectives

Core Competencies	Teaching Objectives
Language Proficiency	1. Master vocabulary and phrases related to the unit theme. 2. Be able to accurately use weather descriptors and cause-and-effect sentence structures. 3. Be able to identify authorial attitude words and master evaluative language.
Cultural Awareness	1. Recognize the impact of the geographical environment on human activities. 2. Perceive the diversity of global weather and respect natural differences. 3. Gain an in-depth understanding of China's natural landscapes and foster national pride.
Thinking	1. Be able to compare and analyze the climatic characteristics of different regions.

Qualities	2. Derive the causes of climate based on geographical evidence and cultivate reasoning ability. 3. Be able to integrate climate, tourism, and ecological elements to construct a complete manual framework.
Learning Ability	1. Be able to transform geographical knowledge into English expressions. 2. Be able to analyze the author's intention, evaluate writing methods, and express personal viewpoints.

The lesson objectives are not a decomposition of the objectives of the unit, but an enrichment of the theme of the unit from multiple perspectives. For the achievement of the overall teaching objectives of the unit. This is where teachers can successfully carry out interdisciplinary thematic learning activities, guide students to learn specific content related to "weather characteristics", improve students' English core competencies, and increase students' awareness of interdisciplinary application. Teachers can develop thematic interdisciplinary learning activities well, and can guide students to learn specific content related to "weather characteristics" in this way, improve their English core competencies, and strengthen their awareness of interdisciplinary application.

4. Designing Questions to Explore Thematic Knowledge

Unit-based holistic teaching lessons should be interconnected and mutually supportive. It is therefore recommended that teachers prepare a chain of questions for each lesson of the unit. Instead, this kind of design enables students to build a deeper understanding of the textual knowledge and to construct an overall understanding of the unit's content through the interrelated questions. On the other hand, Feng [7] stated that the process of dealing with these issues greatly promotes the development of students' ability to analyse and solve problems. According to the teaching content of four lessons in this unit, the teacher designs the following question chain:

- Level 1: Basic Level

What's the weather like in London in December? (information storage and retrieval)

This question is a starting point for further reasoning, stimulating students' prior knowledge, developing their sensitivity to climate data, and helping them to create connections between data and climatic phenomena

- Level 2: Inferential Level.

Christmas in Sydney is hot, Christmas in London is cold. Why? (geographic attributions)

The question prompts students to notice the counter-intuitive phenomenon of a 'hot Christmas in Sydney' and to apply geographical knowledge, including the idea of the Southern Hemisphere and latitude, in developing explanations. Thus, students move from observation of phenomena to the internalisation of scientific principles and develop the ability to combine linguistic interpretation and scientific reasoning.

- Level 3: Critical Level

Is it a factual description of the Amazon rainforest? How can you improve it? (text scoring)

This question challenges students to utilise their ability to analyse climatic causes as a tool for critical thinking. Students use geographic reasoning to evaluate the scientific accuracy of phrases from the text, such as "rainy all year round" about the Amazon rainforest. The question leads to a transition from passive consumption of information to critical reconstruction. The students create a dual perspective of pragmatic and empirical criticism while reflecting on how to describe natural resources in a scientific and responsible manner

- Level 4: Innovative Level

How to promote Xishuangbanna to be the "Eastern Amazon" for international tourists? (cultural comm.)

The question prompts students to apply the expression of ecological values, such as the Amazon being called the "lungs of the Earth", to create cultural symbols, such as the "Eastern Green Jewel" for Xishuangbanna. Students move from deconstructing meaning to constructing meaning. They are encouraged to apply the knowledge learned from the units to real problems and to communicate China's ecological values in English.

The question chain itself is also the core axis of instructional assessment, helping students to complete a spiral of meaning construction through the processes of "recognising differences → inferring causes → reflecting on texts → expressing values", so that the unit theme of "communicating China's ecological values from a scientific perspective" changes

from an abstract concept to a concrete action. Therefore, the unit theme of "communicating China's ecological values from a scientific perspective" is a concrete action rather than an abstract concept. Teachers can make dynamic assessment possible by using observation checklists, classroom records, student presentations, and other forms of evaluation to achieve the aims of 'promoting thinking through assessment' and 'encouraging action through assessment'.

5. Organizing Cooperative Activities to Enhance Collaborative Competence

In unit-based thematic teaching, teachers should use diversified collaborative tasks to train students' thinking ability and effectively cultivate their teamwork skills, which are both essential for interdisciplinary thematic learning. The analysis in Tables 1 and 2, using Lessons 2 and 3 as examples, indicates that the instructional task requires students to work in groups as "Chinese and American Tourism Promotion Ambassadors." Students will need to investigate climatic causes and create a travel guide about China, using their deconstruction of a travel guide text on the United States as a basis. Firstly, the teacher assists students to comprehend the unit text When Is the Best Time to Visit the US? The teacher provides geography resource packages with maps and topographic maps of North America. The students are split into eastern and western United States groups. They identify and mark the regions mentioned in the text, analyse the organisational sequence of the author and his/her communicative intentions, and summarise factual information about the best seasons for travelling to different regions of the United States. Then, students translate the geographical evidence into English explanatory discourse, which constitutes structured knowledge and prepares them linguistically and conceptually for the introduction of the best travel seasons in China.

Next, the teacher designs application-oriented practice activities. Students work in pairs to analyse differences in the weather between regions and discuss the reasons for them, using climate distribution maps, topographic maps, and information cards with geographical terminology. They also examine the author's intention in writing, assess the effectiveness of the writing style, and suggest possible improvements. This process develops students' awareness and ability to solve problems by integrating knowledge of different disciplines.

Finally, each cooperative group writes an imitative expository text to introduce the best time to visit China, to share the learning results, and to show its success in cooperation. Students are encouraged to transfer and apply their acquired knowledge to project the best times to travel to China; appreciate the magnificence of China's landscapes and rich cultural heritage, and hence develop cultural confidence and national pride.

6. Emphasizing Application to Promote Transfer and Innovation

Thematic teaching based on the unit should be guided by teachers to help students transfer and innovatively apply the knowledge they have learned so as to deepen their understanding. As Cheng[8] said that this process ensures that English serves as a functional tool to integrate multi-disciplinary knowledge for solving real-world problems, moving beyond superficial combination to achieve deep cognitive integration. For example, the analyses in Tables 1 and 2 for Lesson 4 demonstrate that the instructional task is based on the extended text, The Amazon Rainforest, and relevant geographical materials. Students need to complete a tourism promotion project based on the theme of "Eastern Rainforest" - Xishuangbanna, so that the language learning and ecological knowledge can be integrated and formed into an integrated output.

First, the teacher helps students understand the extended unit text, The Amazon Rainforest. Students use geography resource packages to locate and label the Amazon rainforest on a map, learn about the climate of tropical rainforests, and learn more about the tourism resources and ecological value of the rainforest. This conceptually and linguistically prepares students for the introduction of the tropical rainforest of Xishuangbanna in Yunnan Province.

Then the teacher guides the students to compare the natural conditions of the Amazon rainforest and the tropical rainforest in Xishuangbanna, China, and thus forms the cultural metaphor of "ecological twins". The comparison provides a conceptual basis for the design of mini-posters and promotional scripts.

Finally, students do a "virtual tour of China" project, working in groups to produce travel brochures for international visitors. They play

the roles of Chinese student representatives invited by an international sister school to complete the culminating task of the unit.

During the presentation, students must be able to explain their design concepts and justify their language choices, which will show the thinking processes behind their linguistic production. The performance-based tasks enhance students' comprehensive English communication competence and promote the cultivation of ecological consciousness and cultural confidence.

7. Conducting Instructional Assessment through Activities

In order to achieve the systematic objectives of interdisciplinary teaching and to promote the development of students' core competencies effectively, this unit-based holistic teaching design constructs constructive alignment between instructional objectives, teaching processes, and assessment systems. Assessment is embedded in three interrelated levels throughout the instructional process, specifically (see Table 4).

Table 4. Classroom Assessment System

Dimension	Performance Tasks	Formative Assessment	Summative Assessment
Language Proficiency	Weather expression, use of cause-and-effect sentence structures	In-class oral expression, group discussion records	Imitative travel expository writing, promotional manuscripts
Subject Integration	Analysis of climate causes, application of geographical icons	Comparative analysis sheets, group presentations	Complete travel brochures, ecological promotional posters
Thinking Qualities	Question chain responses, textual critique	Classroom temperature observation, learning journal reflections	Design of Xishuangbanna cultural symbols
Cooperative Awareness	Group division of labor and cooperation, outcome presentation	Peer assessment forms, writing observation records	Final group outcome evaluation

In terms of classroom practice, the "instruction–learning–assessment integration" can be achieved by guiding students to reach instructional objectives by means of "performance-based outcomes", continuously improving and optimising their thinking processes through "formative feedback", and actively promoting their participation and engagement by means of "multi-source evaluation". This enables real change to be made to "instruction-learning-assessment integration" in classroom practice. Moreover, Wang and Li [9] state that, in the context of digital tools and performance-based assessment, teachers can record students' 'thinking footprints' in interdisciplinary inquiry more accurately. Yao and Wang [10] point out that in the process of learning the English language, students should not only learn English language knowledge itself but also use English as a tool to explore and construct knowledge in other disciplines.

8. Conclusion

The interdisciplinary theme learning of "English + Geography" in junior high school is not only a concrete embodiment of the integration of the curriculum, but also an effective embodiment of the unity of instrumentality and humanity of English education. Students are no longer passive recipients of language knowledge; they use English actively to comprehend, explore, and express geographical knowledge within authentic thematic contexts, so as to achieve the coordinated development of language learning and disciplinary understanding. Teachers should plan interdisciplinary instruction in a holistic, unit-based manner. Teachers should guide students through different pedagogical approaches such as "analyzing texts to create meaning," "integrating content to generate concepts," "defining goals based on concepts," "designing questions to deepen inquiry," and "organizing collaboration to develop competencies. Such integrated language practice can effectively improve students' thinking quality and comprehensive abilities.

This approach not only fosters students' overall learning awareness and cross-disciplinary literacy but also offers new ideas and methods for English classroom teaching. The junior secondary stage is important in the formation of students' thinking patterns and learning habits. Therefore, the effective implementation of the interdisciplinary curriculum teaching of "English + Geography" is expected to be an important lever to promote curriculum integration and competency development, and inject sustained

momentum into English curriculum reform.

References

[1] Mei, D. M. Interpretation of compulsory education English curriculum standards (2022 edition): Core literacy-oriented curriculum reform. Curriculum, Teaching Material and Method, 2023, 43(01), 74–81. (In Chinese)

[2] Lin, L. J. Research on thematic unit reading teaching in senior high school English from an interdisciplinary perspective. English Teachers, 2020, 20(24), 11–14. (In Chinese)

[3] Beane, J. A. Curriculum Integration: Designing the Core of Democratic Education. Teachers College Press, 1997.

[4] Zhang, J. X. Value orientation and practical pathways of interdisciplinary thematic learning in junior high school English. Secondary School Foreign Languages Teaching (Middle School Edition), 2024, 47(02), 1–7. (In Chinese)

[5] Wen, Q. F. The "production-oriented approach" and teaching Chinese as a foreign language. Language Teaching and Linguistic Studies, 2018, 32(03), 387–400. (In Chinese)

[6] Li, B. R. English unit holistic instructional design based on thematic significance. English Language Learning, 2020, (03), 41–45. (In Chinese)

[7] Feng, J. Practice of interdisciplinary unit holistic teaching in senior high school English from the perspective of thematic significance. Teaching and Examination, 2022, (48), 8–10. (In Chinese)

[8] Cheng, X. T. Key issues and strategies in the implementation of English interdisciplinary thematic learning. Foreign Language Teaching in Schools, 2023, 46(05), 1–6. (In Chinese)

[9] Wang, Q., & Li, L. Promoting the practice of unit-based holistic instructional design in junior high school English: Problems, principles, and pathways. English Language Learning, 2023, (01), 4–11. (In Chinese)

[10] Yao, C. H., & Wang, S. R. Literacy-based English curriculum teaching in basic education. Foreign Language Learning Theory and Practice, 2023, (06), 42–50+98. (In Chinese)

