Higher Education and Practice Vol. 2 No. 3, 2025

Design of Bilingual Research Travel Course from the Perspective of Green Development-a Case Study of Pearl River Source Scenic Spot in Qujing, Yunnan China

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Abstract: in order to improve the cognitive level of middle school students on green development, taking the Pearl River source scenic spot in Qujing, Yunnan Province as the research destination, English and Chinese bilingual teaching is adopted to infiltrate the concept of green development into the research travel, and improve students' geographical core literacy, so as to provide an example for the infiltration of the concept of green development in middle school geography teaching.

Keywords: Green Development; Study Trip; Bilingual Education

As an important practice content of middle school students' geography teaching, research travel is an important carrier to cultivate students' core quality of geography and implement the concept of green development. Carrying out research travel in a green and low-carbon way can cultivate middle school students' awareness of green development. On the other hand, research travel is an interdisciplinary comprehensive education and teaching course, and the use of English Chinese bilingual teaching can more comprehensively improve the comprehensive quality of students [1]. Therefore, taking the Pearl River source scenic spot in Qujing, Yunnan Province as the carrier, this paper uses English and Chinese to carry out research travel, and cultivate students' core quality of geography.

1. Research Content Design

1.1 Overview of Research Sites and Analysis of Academic Conditions

The the Pearl River Source Scenic Spot is located in Yanfang Township, Zhanyi District, Qujing City, Yunnan Province. It is named after the source of the Pearl River, with an altitude of 2158 meters and a scenic spot of 12 square kilometers; The forest is lush and diverse, with a wide variety of wild animals and plants, among which azaleas are the most famous. The scenic area is mainly composed of sedimentary rocks and developed karst landforms. The participants of this examination are high school students who have completed high school geography knowledge and possess certain regional analysis and English communication skills. Based on the actual situation of the research area, the course content is designed according to the geographical knowledge of Chapter 4 Terrain and Chapter 5 Vegetation in the compulsory high school geography textbook 1, as well as the ecological protection content in elective course 3. The Pearl River Source Scenic Spot is located in Yanfang Township, Zhanyi District, Qujing City, Yunnan Province. It is named for the source of the the Pearl River, with an altitude of 2158 meters and a scenic area of 12 square kilometers; The forest is lush and there are numerous species of wild animals and plants, with azaleas being the most famous. The scenic area is mainly composed of sedimentary rocks and has well-developed karst landforms. The participants of this study tour are high school students who have completed their high school geography knowledge and possess certain regional analysis and English communication skills. Based on the actual situation of the study area, the course content is designed according to the geography knowledge of Chapter 4 Landforms and Chapter 5 Vegetation in the compulsory

high school geography textbook 1, as well as the content of ecological protection in elective 3.

1.2 Set Research Objectives in Combination with the Theme and Actual Situation

According to the connotation of green development, the project team takes the historical story, development status and future path of green development of the the Pearl River Source Scenic Spot as the research idea, and combines the geographical characteristics of the the Pearl River Source and the core quality of the geography discipline to determine the teaching objectives of research travel as follows:

Ideological and political goals: through immersive appreciation of the beautiful scenery of the the Pearl River source, understand the tortuous process and ecological status of the discovery of the the Pearl River source, feel Xu Xiake's spirit of seeking truth, and stimulate students' patriotic feelings.

Research objective 1: master the cause and vulnerability of karst landform by observing the geological landform and vegetation of the source of the Pearl River, and recognize the importance of protecting the source of the Pearl River (regional cognition and geographical practice);

Research goal 2: through the understanding and analysis of the development history of the the Pearl River Source Scenic Spot, analyze the advantages and disadvantages of tourism development, and explore the green development model of the the Pearl River Source (human land relationship and geographical practice);

Research objective 3: Master the concept of carbon footprint and low-carbon travel methods, summarize the carbon emissions of this research trip, and calculate personal carbon footprint (geographical practicality).

1.3 Preparation for English Chinese Bilingual Teaching

The barrier vocabulary students encounter in Geography Bilingual teaching can be divided into two categories: active vocabulary which can be used correctly, some difficult words and some non professional words which belong to passive vocabulary which may not be used [2]. In order to minimize the negative vocabulary hindering students' understanding of the course knowledge, the Chinese and English versions of the professional vocabulary of geography and green development involved in this research trip will be sent to students as preview materials before class; At the same time, the Chinese and English pronunciation of professional words will be recorded into a short video and sent to the students, so that the students can be familiar with the teacher's pronunciation of professional terms before the research trip.

1.4. Highlight the Theme of Green Development and Carry Out Course Content Design

Research content 1: when visiting Zhengyuan of the Pearl River, introduce the brief situation of the Pearl River and the tortuous process of the discovery of the source of the Pearl River. Then move freely and choose a theme from the following topics ① the ecological status of the Pearl River ② the beauty and feelings of the source of the Pearl River ③ Xu Xiake's deeds, consult materials, and report and communicate in English in groups.

Teacher：珠江全长 2320 千米，是中国境内第三长河流，流经滇、黔、桂、粤、赣及粤六省区及越南北部，最后汇入南海。珠江发源于曲靖马雄山这个洞口直径仅为 6 米的山洞。明代地理学家徐霞客从 22 岁启程，到 54 岁辞世，人生绝大部分时间都在旅行考察中度过。徐霞客曾三访曲靖，寻访珠江的源头，他在游记中记述“南盘之源，北自炎方、交水、曲靖之东”，为后人最终确定源头提供了参考依据。（With a total length of 2320 kilometers, the Pearl River is the third longest river in China, flowing through six provinces in China, and finally flowing into the South Sea. The Pearl River originates from the cave of Maxiong Mountain in Qujing city, Yunnan province, and the cave is only 6 meters in diameter. Xu Xiake, a geographer in the Ming Dynasty, started his journey at the age of 22 and died at the age of 54, spending most of his life in travel and inspection. Xu Xiake visited Qujing three times to look for the source of the Pearl River. In his travel notes, he described that "the source of Nanpan River locates in Yanfang and Jiaoshui, the east of Qujing", providing a reference for future generations to finally determine the source）

Study content 2: after overlooking the beautiful

scenery at the Sanjiang Pavilion on the top of Maxiong mountain, discuss the causes of karst landforms in groups; ② Through field investigation, the vertical distribution characteristics of vegetation in the Pearl River source scenic area were analyzed Consult relevant data and discuss the relationship between the landform and vegetation distribution in the source of the Pearl River and the flow of the Pearl River;

Teacher：珠江源景区是典型的喀斯特地貌，请大家通过游览分小组讨论回答，珠江源景区的喀斯特地貌有哪些类型？分布在哪些位置？珠江源景区的植被分布情况？地貌与植被分布的关系？植被的分布是否对珠江的流量有影响？（The Pearl River Source Scenic Area is a typical karst landform. Please discuss in groups the following questions. What types of karst landform are there in the Pearl River Source Scenic Area? Where are they distributed? What is the vegetation distribution of the Pearl River Source Scenic Area? What is the relationship between landform and vegetation distribution? Does the distribution of vegetation affect the flow of the Pearl River）

Research content 3: during the visit to the abandoned villa area next to Dishui Lake Wetland and the first waterfall of Zhuyuan, discuss the advantages and disadvantages of the tourism development of the villa area in the Pearl River source scenic area? Interview the staff of the scenic spot to understand the impact of the development of tourism on karst landforms, discuss the green development mode of the scenic spot, and design the feasible scheme;

Teacher：这里是以前为了发展旅游修建的别墅区，因保护珠江源的需要，现已废弃。景区因无住宿条件，游客以一日游为主；同时景区知名度不高，因此经济效益低。分小组讨论景区提供住宿的必要性？是否会影响景区地貌和珠江的水质？分析珠江源景区绿色发展的路径并设计一个方案。（This is a villa area built for tourism development. It was abandoned for the purpose of protecting the source of the Pearl River. Due to the lack of accommodation in the scenic spot, most tourists are one-day tourists; At the same time, the scenic spot is not well-known, so the economic benefit is low. Discuss in groups the necessity of accommodation in the scenic area and its influence on the landscape of the scenic spot and the water quality of the Pearl River.Analyze the green development path of the Pearl River source scenic spot and design a plan）

Research content 4: in the export collection, introduce the concept of carbon footprint and ways to reduce carbon emissions, summarize the behavior of carbon emissions in this trip and calculate personal carbon footprint.

Teacher：个人碳足迹，是指个人通过交通运输、食品生产和消费以及各类生产过程等引起的温室气体排放的集合。减少碳足迹的方式包括：选择公共交通工具；少购买使用一次性用品和过度包装商品，外出自带购物袋、水杯等。查找资料，计算研学旅行的个人碳足迹。（Personal carbon footprint refers to the collection of greenhouse gas emissions caused by individuals through transportation, food production and consumption, and various production processes. The ways to reduce carbon footprint are as follows: choose public transport; buy less disposable goods and over-packaged goods; take shopping bags and water cups when you go out. Search for information and calculate the personal carbon footprint of research travel）

1.5 Implement Curriculum Evaluation Design Around the Cultivation of Students' Ability

Taking the group as the unit, the evaluation method of combining self-evaluation, mutual evaluation and teacher evaluation is adopted.

Table1.The evaluation criteria

Evaluation	Specific evaluation criteria	score value	Evaluation score
Ideological and political goals	Be able to explain in English ① the ecological status of the Pearl River ② the beautiful scenery of the source of the Pearl River ③ Xu Xiake's deeds; It is required to be emotional and well grounded, and the participation of team members is high.	10	

Research Objectives 1	Be able to introduce in English ① the types, formation process and characteristics of karst landforms in the source of the Pearl River ② the vertical distribution characteristics of vegetation in the source of the Pearl River ③ the relationship between landform and vegetation distribution, vegetation and flow in the source of the Pearl River; Be able to recognize the fragility and difficulty of restoration of karst landforms; The requirements are well grounded and the participation of team members is high	30	
Research Objectives 2	Be able to discuss the advantages and disadvantages of building tourist villas in the Pearl River source scenic area in English, and be able to formulate the green development plan of scenic area tourism, which is highly feasible;	30	
Research Objectives 3	Be able to discuss the construction of tourism in the Pearl River source scenic spot in English, be able to discuss the carbon emissions of this research trip in English, and correctly calculate the personal carbon footprint of the research trip. The advantages and disadvantages of villa area can make the green development plan of scenic spot tourism, which is feasible;	30	
Total score		100	

2. Teaching Reflection

After the bilingual research and study travel has designed the research and study plan, it can be sent to students for preparation before class. Professional terms can be introduced by recording micro class before class to prevent students from understanding professional terms and affecting the teaching effect; For the links that need students' participation, let students collect information and be familiar with pronunciation in advance, which will help improve the quality of students' participation. Teachers' timely summary and encouragement can improve students' self-confidence and participation.

Acknowledgments

This paper is supported by The 14th Five Year Plan Project of Education Science in Gansu Province: "Research on the Performance and Intervention of Psychological Contracts between Teachers and Students in Blended Classrooms in the Post Pandemic Era: Based on a Survey of Teachers and Students in the College of Grassland Science, Gansu Agricultural University" (GS [2022] GHB1753); 2.Qujing Normal University Education and Teaching Reform Project: Research on the Training Model of Teaching and Research oriented Teacher Education Students under the Background of Professional Certification(Project Batch Number: 2023JG12)

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