



International Journal of Multidisciplinary Research and Growth Evaluation.

Outdoor teaching aims to enhance the positive learning attitude of 6th-grade students in biology at Tuyen Quang School for excellence

Quan Thi Dung

Faculty of Basic Sciences, Tan Trao University, Vietnam

* Corresponding Author: **Quan Thi Dung**

Article Info

ISSN (online): 2582-7138

Volume: 05

Issue: 01

January-February 2024

Received: 11-12-2023

Accepted: 13-01-2024

Page No: 644-648

Abstract

The article is based on theories and practices of positive teaching, outdoor teaching, and the practical need for innovative teaching methods at Tuyen Quang School for Excellence (TSE). It proposes several measures to enhance the positive learning attitude of 6th-grade biology students at TSE. These measures include identifying lessons suitable for outdoor activities and organizing such activities as part of the teaching process. Research results confirm the effectiveness of employing innovative outdoor teaching methods with highly useful, crucial, and curriculum-aligned content in biology. Students directly engage with the subject matter and demonstrate improved retention compared to indirect learning through traditional teaching methods. The students, being in close proximity to nature, develop an understanding of environmental protection. Simultaneously, these methods cultivate observation skills and specific cognitive abilities.

DOI: <https://doi.org/10.54660/IJMARGE.2024.5.1.644-648>

Keywords: Outdoor teaching, positive attitude, biology, students, Tuyen Quang School for Excellence

1. Introduction

A.J. Comenius - the pioneer of modern education, emphasized the integration of classroom learning and extracurricular activities, highlighting: "Learning is not just about acquiring knowledge from books but also gaining knowledge from the sky, the earth, from oak trees, and nut trees" [3].

In Vietnam, the concept of "Classroom without Walls", "Outdoor Teaching", and "Classroom Outside of School" has become widespread, with many schools nationwide adopting this approach. However, during implementation, teachers often emphasize experiential activities and nature exploration to reinforce the theoretical knowledge learned. True to its name, the "*Outdoor Classroom*" is a type of learning environment that moves beyond the traditional classroom space, breaking free from blackboards, white chalk, desks, and chairs. It brings students to spaces suitable for the curriculum's objectives and knowledge. In these spaces, teachers organize learning activities.

This article is based on theories and practical experiences related to positive teaching and outdoor education in teaching 6th-grade Biology. The goal is to implement outdoor teaching to enhance the positive learning attitude of 6th-grade students in biology at Tuyen Quang School for Excellence (TSE).

2. Content

2.1. Some Theoretical and practical issues about the form of organizing outdoor teaching

2.1.1. Theoretical basis of outdoor teaching organization

Outdoor teaching is an instructional method in which teachers organize and guide students' learning activities outside the classroom to help them grasp and expand their knowledge through various activities [1, 3].

Outdoor teaching is considered a crucial instructional method, serving as one of the paths to innovate teaching methods with a focus on enhancing students' proactive, creative, and positive learning attitudes. It aligns with the age characteristics of the

subject, fosters self-learning methods, hones the application of knowledge in practical scenarios, and positively influences students' emotions, bringing joy and enthusiasm to the learning process [8].

2.1.2. Practical basis of outdoor teaching organization

In line with the Development Strategy of Tan Trao University for the 2018 - 2025 period, with a vision towards 2030 [4], Tan Trao University has devised a plan to establish an Inter-level high school directly under Tan Trao University. The plan outlines solutions for the activities of TSE regarding organizational management, educational programs, faculty, infrastructure, and service activities. A survey of parents' needs revealed a desire for an educational environment that goes beyond pure academic knowledge, emphasizing participation in experiential activities to develop skills and international integration.

The establishment plan TSE was approved by the Standing Committee of the Tuyen Quang Provincial Party Committee on January 16, 2019. The Chairman of the Provincial People's Committee signed the decision to establish Tuyen Quang School for Excellence under Tan Trao University. On April 2, 2019, the Department of Education and Training of Tuyen Quang Province issued the decision granting an educational operation license to TSE [10].

The first and significant difference of TSE lies in its educational program. While other high schools focus mainly on teaching fundamental knowledge and subjects, TSE optimizes the curriculum and textbooks provided by the Ministry of Education and Training (MOET). Additionally, it implements expanded and enhanced educational programs. To foster comprehensive development, TSE has created after-school activities and flexible life skills programs suitable for different age groups. The small class model with few students at TSE is a favorable condition for classes outside of school.

In addition to having an appropriate educational program, good infrastructure to support the teaching of biology, there is a need for methods to increase students' interest and passion for the subject.

2.2. Some Measures for outdoor teaching to enhance the positive learning attitude of biology for 6th-grade students at Tuyen Quang School of excellence

2.2.1. Identifying possible lessons for students to be active in nature

At the beginning of the academic year, upon receiving the task of teaching biology to two 6th-grade classes (6A and 6B) and adjusting the distribution of the secondary school biology curriculum for the 2020 – 2021 academic year to fit TSE School, I observed that the 6th-grade biology curriculum consists of 70 periods each with different content, requiring varied teaching methods. I conducted research and identified lessons suitable for outdoor teaching. Specifically:


- Period 12: External structure of the stem (under the Topic “Stem”).
- Period 20: External characteristics of leaves (under the Topic “Leaves”).
- Period 21: Creative activities with leaves (under the Topic “Leaves”).
- Periods 68, 69 and 70: Nature exploration.

Due to the complex development of the COVID-19 pandemic, students started learning online earlier than

expected. Consequently, during periods 68, 69 and 70, students were guided to independently carry out activities in their residential areas.

2.2.2. Organizing activities in nature through teaching.

A. session 20: external characteristics of leaves (under the Topic “Leaves”)

	TOPIC “LEAVES”	
	Period 20: EXTERNAL CHARACTERISTICS OF LEAVES	
Date of preparation:	Periods: From to	
Date of teaching: From to	The number of class periods: 1	
Class: 6A, 6B		

I. Lesson Objectives

1. Knowledge

- Students can identify the external characteristics of leaves, including the stem, leaf base, and leaf blade.
- Students can differentiate between types of leaves, whether they are simple or compound, various leaf arrangements on stems and branches, and different vein patterns on leaf blades.

2. Skills

- Practice observation skills, compare and identify the parts of leaves on paintings and real specimens for students.
- Practice drawing skills for students.

3. Attitude

- Educate plant protection awareness for students.

4. Competencies

- The ability to read, understand and process information, and the ability to apply knowledge.
- Self-study ability and problem-solving ability.
- Creative thinking ability.

II. Lesson Preparation

1. Teacher's Preparation

- Prints the table on page 63 of the textbook.
 Members' names in the group:
 Class:

Study Sheet

Observe the specimens, and please complete the following table:

No.	The name of the plant	Type of arrangement leaf on the plant	
		How many leaves grow from one node of the stem?	Type of arrangement leaf
1			
2			
3			

2. Students' Preparation

- Study the content of the lesson before coming to class.
- Draw and fully annotate Figure 19.1. Parts of leaves in notebook
- Bring notebooks and pens.

III. Lesson Process

1. Warm-up (7 minutes)

The teacher gathers students on the school's grass field and instructs each student to pick a leaf, then sit in an orderly manner. The teacher briefly explains the class rules and guides students on the lesson content.

The class is divided into two groups. Each group will sing a song containing the word "leaf".

Teacher: Observations, commendations, and guidance into the lesson: Which organ of the plant does the leaf belong to? What is the function of the leaf? What characteristics of the leaf are suitable for its function?

2. Knowledge Formation (30 minutes)

Activities of Teachers and Students	Content on the board
<p>Activity 1: External Characteristics of Leaves Teacher requests students to observe Picture 19.1 that the students have created at home.</p> <ul style="list-style-type: none"> + <i>Identify the parts of the leaf.</i> + <i>What is the most important function of the leaf?</i> - Students observe the picture and answer the questions: -> The leaf consists of leaf stalk, leaf blade, and leaf veins. -> Photosynthesis creates nutrients to nourish the plant. <p>a. Blade Leaf</p> <ul style="list-style-type: none"> - The teacher guides students to observe real plants that the students have brought in and those within the library premises. - The teacher asks students to point out the leaf blades of each plant. - The teacher instructs students to provide comments on the characteristics of color, shape, and size of those leaf blades. - Students: observe and respond. <p>Teacher: Guides to continue questioning:</p> <ul style="list-style-type: none"> + <i>Why do leaves of plants usually have a green color?</i> + <i>Do red, purple, yellow... leaves contain chlorophyll? Can these leaves photosynthesize?</i> <p>Students: Respond Teacher: Provides corrections and summarizes the information.</p> <p>b. Leaf Veins</p> <ul style="list-style-type: none"> - Teacher: Picks three leaves with different types of veins for students to observe the underside of the leaves. - The teacher calls students one by one to observe and identify each type of leaf vein. - Students, who have studied in advance from the textbook, observe the underside of the leaves and distinguish all three types of leaf veins. <p>Note: Food crops often have parallel leaf veins.</p> <p>c. Distinguishing Simple and Compound Leaves</p> <ul style="list-style-type: none"> - Teacher asks students to observe the prepared samples. - Teacher: + According to you, which one between the Malabar Spinach leaf and the rose leaf is a simple leaf? Which one is a compound leaf? + Why is the malabar spinach leaf considered a simple leaf, and the rose leaf a compound leaf? - Students: respond. - The teacher adjusts it to types of plants and asks students to identify simple and compound leaves. Explain why. - Teacher will give points to those who answer correctly. <p>Activity 2: Arrangement of Leaves on Stems and Branches</p> <ul style="list-style-type: none"> - Teacher: + Prepares three types of plants corresponding to three ways of leaf arrangement. + Divides the class into several groups, instructs groups to observe and complete study sheets. - Students in each group observe three branches and complete their study sheets. - Teacher has students self-observe and answer the question: What advantage does the arrangement of leaves on the node for receiving sunlight? - Students discuss and provide opinions: Leaf arrangement helps the leaves receive more sunlight. - Teacher comments and provides the correct answer correct. - Teacher has students draw conclusions. - Teacher points to different 	<p>1. External Characteristics of Leaves</p> <p>The leaf consists of leaf stalk, leaf blade, and leaf veins.</p> <p>a. Blade Leaf</p> <ul style="list-style-type: none"> - The leaf blade has a flat shape, being the widest part of the leaf, helping to capture a lot of light; it exhibits various colors, shapes, and sizes. <p>b. Leaf vein:</p> <p>There are 3 main types of leaf veins: network-shaped veins, parallel veins, and arc-shaped veins</p> <p>c. Distinguishing Single and Compound Leaves</p> <ul style="list-style-type: none"> - Simple leaf: The petiole is located right below the leaf axil, each petiole carries a single blade. Both the petiole and the blade fall off simultaneously. - Compound leaf: The main petiole branches into several secondary petioles, each carrying a leaflet. Usually, the leaflets fall off first, followed by the main petiole. <p>2. Types of leaf arrangements on stems and branches</p> <ul style="list-style-type: none"> - There are 3 types of leaf arrangements on a plant: alternate, opposite, whorled. - Leaves arranged alternately on the node of the stem help each leaf receive more sunlight

3. Reinforcement Practice (3 minutes)

The teacher calls on each student based on the available specimens to summarize the entire lesson.

4. Application and Extension (2 minutes)

Teacher: Presents multiple-choice questions to expand students' understanding.

4.1. Among the following leaves, which ones have parallel veins?

- A. Onion leaves, longan leaves, pomelo leaves
- B. Water spinach leaves, cabbage leaves
- C. Rice leaves, malabar spinach leaves, pumpkin leaves
- D. Bamboo leaves, rice leaves, grass leaves.

4.2. Among the following leaves, which groups belong to simple leaves?


- A. Hibiscus leaves, phoenix leaves, strawberry leaves
- B. Oleander leaves, Rose leaves, Piper lotot leaves
- C. Guava leaves, Strawberry leaves, Mock lemon leaves.
- D. Rose leaves, Phoenix leaves, Indochina dragonplum leaves.

5. Assignment (1 minute)

Teacher assigns students:

- Study the lesson and answer textbook questions.
- Read the section "Do You Know."

b. Period 21: Creativity with Leaves (part of the Topic "Leaves")



TOPIC "LEAVES" (continued)
Period 21: CREATIVITY WITH LEAVES

Date of preparation: _____

Date of Teaching: From to

Class: 6A, 6B

Periods: From to

The number of class periods: 1

I. Lesson Objectives

1. Knowledge

- Students review the external characteristics of leaves.
- Students review types of simple and compound leaves, various arrangements of leaves on stems and branches, and different vein patterns on leaf blades.

2. Skills

- Develop observational skills and the ability to compare and identify leaf parts to create beautiful drawings for students.

3. Attitude

- Educate a love for nature and an appreciation of beauty for students.

4. Competencies

- Information processing ability and knowledge application ability
- Self-study ability and problem-solving ability
- Creative thinking ability

II. Lesson Preparation

1. Teacher's Preparation

- Prepares flashcards for a game to help students review the lesson content.
- Instructs students to bring necessary materials to class.

2. Students' Preparation

- Prepare A4 paper, glue, pen, scissors...
- Review the previous lesson content before coming to class.

III. Lesson Process

1. Warm-up (5 minutes)

- Teacher gathers students in front of the school's cafeteria and quickly explains the class rules and guides students on the topics of the lesson.
- Teacher divides the class into 2 groups and play a card game.
- Teacher: Observes, commends, and leads into the lesson.

2. Knowledge Formation (35 minutes)

Activities of Teachers and Students.	Content
- The teacher guides students to independently choose a theme for their painting, then select a suitable leaf. - Students choose a leaf and begin working. - The teacher observes, reminds some students who are not focused, provide additional guidance on certain areas of the students' paintings to make them more suitable. - Students complete their drawings. - Teacher provides feedback, suggestions, takes pictures for assessment.	- Creative painting with leaves by students

3. Assignment, Clean-Up (5 minutes)

- At home, you can continue to create more drawings using leaves.
- Teacher requests students to clean up their own areas and the entire cafeteria to keep it clean.

2.3. Effectiveness Evaluation

The form of learning outside of the classroom is not new; many schools across the country have adopted this method. However, schools use this approach for entire field trips, allowing students to test their acquired knowledge. At TSE in particular and Tuyen Quang province in general, the outdoor teaching method was applied for the first time and helped students acquire new knowledge. The research results will be used for 6th-grade students' exploration, serve as reference material for Biology teachers in grade 6, and be intended for students majoring in Biology Pedagogy.

Through research and practical application, students have learned to express their observations and perceptions by creating vivid paintings. Moreover, they have understood the benefits of plants and the actions needed to protect the Earth's green lungs. Having an outdoor class like this is an intriguing experience for students. They actively absorb knowledge in a gentle, unrestricted manner, fostering essential skills such as observation, collaboration, communication, problem-solving, and promoting the positive aspects of students.

3. Conclusion

Through the research on outdoor teaching to enhance the positive learning attitude in Biology for the 6th-grade students at Tuyen Quang School for Excellence, the following affirmations are made: 1/ Innovating teaching methods with highly useful, important, and relevant content to the Biology curriculum is crucial. Creating conditions for

students to observe nature through vibrant visual methods, bringing students closer to the natural environment, stimulates creativity, maximizes students' skills, generating interest, and fostering a positive learning environment. Knowledge "seeps" into students from their own initiative and positivity, so it will "stay" with students for the longest time. 2/ Organizing outdoor classes aids students in direct perception and better memorization, as opposed to indirect perception through teaching aids. Students become intimately acquainted with and understand nature, leading to an awareness of environmental protection. This approach not only hones observation skills but also develops specific thinking. Additionally, outdoor learning fosters students' emotional connection with nature.

In conclusion, implementing outdoor learning in 6th-grade Biology classes not only revitalizes teaching methods but also contributes significantly to students' direct engagement with nature. This approach enriches their understanding, promotes active learning, and cultivates a deep appreciation for the natural world.

4. Acknowledgement

This research is funded by Tan Trao University in Tuyen Quang, Viet Nam.

5. References

1. Nguyen LB, Do HT, Nguyen PH, Cao TT. Active Teaching and Learning. Some Teaching Methods and Techniques. Hanoi: University of Education Publishing House; c2010.
2. Ministry of Education and Training. Biology 6. Hanoi: Vietnam Education Publishing House; c2018.
3. Pham KC. A.J. Comenxki - The Founder of Modern Education. Hanoi: Vietnam Education Publishing House; c1997.
4. Tan Trao University. Resolution on the Approval of the Development Strategy of Tan Trao University for the period 2018 - 2025, with orientation towards 2030, No. 03/NQ-HĐT, Tuyen Quang; c2018.
5. Nguyen K. The Model of Active Teaching, with the Learner as the Center. Hanoi: Institute for Educational Management Staff I; c1996.
6. Luu TH. Experience in organizing games in the 6th-grade Biology class at Nga Yen Secondary School - Nga Son district. Thanh Hoa: Experience Innovation, Department of Education and Training of Nga Son; c2018.
7. FPT Edu. Explore 6++ practical learning experiences for students. <https://fpt.edu.vn/tin-tuc/trai-nghiem-fpt-edu/hoc-tap-trai-nghiem-thuc-te-cho-hoc-sinh>. 2022.
8. National Assembly. Education Law of the National Assembly of the Socialist Republic of Vietnam, No. 38/2005/QH11, dated; c2005.
9. Nguyen VT. Current situation and solutions to improve the quality of teaching and learning of 6th grade Biology new textbooks in secondary schools in An Giang province. An Giang: Scientific Research Project, An Giang University; c2004.
10. Tuyen Quang School for Excellence. <http://tse.daihoctantrao.edu>.