

Youth Think Tank Competition for the EAA Flyway



Youth Think Tank Competition for EAA Flyway Final Report

Instructions: Please complete all fields, and respond to all questions below before 1st October, 2022.

1. Project background information

<i>Project Title: Evaluate the effect of PBL in Environment education of rural students in China by 2- MEV</i>
<i>Country of project implementation: China</i>
<i>Project Location: The East Dongting Lake National Nature Reserve, Yueyang City, Hunan Province, China</i>
<i>Is it an EAAFP Flyway Network Site (check here)? No. Yes, Name of the Flyway Network Site: No</i>
<i>Actual Project Start Date: 2022-01-01</i>
<i>Actual Project End Date: 2022-08-01</i>
<i>Project summary (max. 250 words, including background, project objectives and deliverables)</i> <i>On the basis of a comprehensive survey of Dongting Lake's environmental education resources, we developed and designed the Dongting Lake localization curriculum with wetland cognition, bird cognition and protection as the main contents by using PBL teaching method, a new method of environmental education, and combining the characteristics of wetland and bird-based environmental education resources in Dongting Lake area. We have designed the supporting textbook "Dongting Lake Nature Education Knowledge Manual" and the knowledge folding book "Dongting Home Nature Sharing" to assist the development and implementation of the course. We developed an evaluation system of environmental education curriculum effect, which includes environmental knowledge, environmental attitude and environmental behavior measurement, and scientifically and reasonably evaluated the effect of activities. We contacted two primary schools in the nature reserve to organize environmental education activities, which included indoor bird class and outdoor games. During the activity, students are generally interested in the curriculum. No matter whether it is indoor classroom or campus activities, children show great interest, which successfully inspires their love for birds, wetlands and nature, leaving unforgettable memories for children and achieving good teaching results.</i>

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2. Project Rationale:

Project purpose:

2.1. What was your identified 'Project purpose' in your proposal (i.e. what is the problem(s) you want to solve, what was the overall change you aimed to achieve in the project) (Max. 200 words)

1. Explore new ways of environmental education in Dongting Lake community rural primary schools.

The Chinese government has carried out many environmental education activities in East Dongting Lake N. All these missionary activities have adopted the teacher-centered lecture teaching method without exception. In outdoor teaching activities, this method has its defects. Whether PBL teaching method can be popularized in Dongting Lake District requires exploratory experiments.

2. Demonstrate the application effect of PBL environmental education method on Chinese primary school students' environmental education

As the most populous country, China has the largest number of students, and China's education system is unique in the world. Whether PBL can play a good role in China's environmental education still needs case study.

3. Verify the application effect of 2-MEV scale in environmental education effect evaluation in China.

2-MEV (double-type environmental value) is a two-dimensional model of ecological value developed and verified in Western Europe. As the largest developing country, China's NEP (new ecological paradigm) has been verified and applied, while 2-MEV, as the latest evaluation scale about environmental value, has not been applied in practice in China, and its application effect has not been reflected, which needs examples to prove.

2.2. Describe the new situation (and the change you achieved) you created through your project. What did you achieve in the context of Science, Society, Education, and awareness-raising (Max. 150 words)

We carried out environmental education activities in two primary schools, and about 120 students participated in the activities. At the end of the activity, we have developed a set of natural education demonstration curriculum plan, a natural education teaching operation manual and a natural education curriculum effect evaluation system, which can promote environmental education activities based on PBL teaching method in Dongting Lake area.

We verified the effect of PBL teaching method in the environmental education course for rural students in Dongting Lake. The activity was very successful, and the children were very interested in the course and devoted to the activity. The results show that PBL teaching method can be popularized in environmental education in China. But we should pay attention to the guidance of students and the reasonable arrangement of activity time.

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Project objectives:

2.3 List your 'SMART objectives' again as included in your proposal: (Max. 150 words)

Objective 1: Evaluation system of environmental education curriculum effect

Develop the evaluation system of environmental education curriculum effect.

Objective 2: Demonstration course scheme of environmental education based on PBL teaching method

Using PBL teaching method to develop local environmental education curriculum in Dongting Lake.

Objective 3: Implementation of environmental activities

Carry out environmental education activities in primary schools in Dongting Lake area.

Objective 4: Effect evaluation

Summarize and improve environmental education activities, and form a general curriculum.

2.4 Did you achieve these objectives? Use your project indicators to describe the progress. (Max. 150 words for each objective)

Objective 1: Evaluation system of environmental education curriculum effect

On the basis of referring to other papers, we have designed a targeted evaluation table of environmental education curriculum effect, including 2-MEV environmental attitude scale, PEB pro-environmental behavior scale and environmental knowledge measurement questions.

Objective 2: Demonstration course scheme of environmental education based on PBL teaching method

According to the characteristics of wetland and bird-based natural education resources in Dongting Lake area, a course with wetland cognition, bird cognition and protection as the main content is designed. The classroom design is divided into two parts: indoor bird classroom and campus situational games. The course content includes five links: discovering wetlands, understanding waterfowl, wetland and waterfowl, wading bird beak competition, migratory bird migration and nature notes. Among them, the courses about wetlands include the definition, function, classification, threats and protection of wetlands. What are the courses about waterfowl, the classification of birds, the understanding of common waterfowl and how to protect waterfowl? Campus situational games mainly focus on the ecological habits of birds. We designed a game of waterfowl migration and foraging.

Objective 3: Implementation of environmental education activities

We came to Mingde Primary School and Matang Central Primary School in Dongting Lake to carry out "I am an ornithologist" environmental education activities. In the indoor class, we carefully explain the popular science knowledge

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of birds to children, show pictures and videos explaining birds, and show the identification of bird specimens, so that children can observe different kinds of bird specimens more closely. In the scene games on campus, children play the role of waterfowl, completing the challenges of foraging and migration. Through games, children can learn about the adaptation of wading birds' body shape to the surrounding environment and the migratory habits of migratory birds.

Objective 4: Effect evaluation

During the course of teaching, we found that students are generally interested in the course, and their classroom performance is very positive, and the discussion is enthusiastic. It is difficult for students to adapt to the PBL teaching mode of group discussion and self-exploration, and they need to guide and answer the discussion questions. After the course, the students were paid a return visit. Most of the students said that compared with the previous courses, this group discussion teaching mode had a better sense of interaction, experience and knowledge acceptance, and many students expressed their willingness to participate again.

Project activities and deliverables:

2.5 List your activities from your proposal. date, target audiences, number of participants respectively, etc. You can include photos or links of videos. (Max. 150 words for each activity)

Activity 1. Investigation of environmental education resources

On January 5 -12, 2022, We went to East Dongting Lake National Nature Reserve to investigate the environmental education resources in Caisang Lake Bird Watching Boardwalk, Panhu New Village Fisherman Community, Liuzhenzha Ecological Fishing Village and so on, and got a comprehensive grasp of the environmental education resources in East Dongting Lake National Nature Reserve.



Conduct investigation and interview in the reserve administration

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Dongting Lake's environmental education facilities, bird watching house and missionary board

Activity 2. Design environmental education curriculum

In order to ensure the characteristics of environmental education, embody the style and highlight innovation; In terms of teaching methods, teaching means, etc., we have held many discussions, studied PBL teaching method, and prepared lessons collectively for many times. During the discussion, we communicate with each other, learn from each other, improve our own quality, learn from other people's teaching ideas and methods, and learn from each other's strong points. This discussion focused on everyone's intelligence, experience and achievements, fully mobilized the initiative of all members, and developed an environmental education course with the theme of "I am an ornithologist".



Members are meeting to discuss.

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Practice and try out the course.



Practice and try out the scenario game

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Materials for the event: bird specimens and drawing paper.



Environmental education courseware PPT



Environmental Education Materials Knowledge Manual

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中小學生綜合環境教育效果評估表(附1)

評定方法：
評定員根據評定員的評定結果，將評定員的評定結果進行總結，以本表為基礎進行評定。評定員根據評定員的評定結果，將評定員的評定結果進行總結，以本表為基礎進行評定。

一、基本情況

1. 活動名稱： 日期：
 2. 活動地點： 評定員：
 3. 活動時間： 評定員：
 4. 活動內容：
 5. 活動目的：
 6. 活動效果：

二、實施情況

1. 活動內容：
 2. 活動地點：
 3. 活動時間：
 4. 活動目的：
 5. 活動效果：

三、實施效果

1. 活動內容：
 2. 活動地點：
 3. 活動時間：
 4. 活動目的：
 5. 活動效果：

項目	評定員	評定員	評定員	評定員	評定員	評定員
1. 活動內容						
2. 活動地點						
3. 活動時間						
4. 活動目的						
5. 活動效果						

四、實施建議

1. 活動內容：
 2. 活動地點：
 3. 活動時間：
 4. 活動目的：
 5. 活動效果：

Environmental Education Effectiveness Evaluation Form
 Activity 3. Implementation of environmental activities
 From June 5 to 12, 2022, We contacted two primary schools in the nature reserve to organize environmental education activities, which included indoor bird class and outdoor games.



Students are watching a video about wetlands.

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Students are actively raising their hands to answer questions.



Students report on their group work.

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The students are discussing their topic.



Students who listen carefully in class.

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Students are listening to the rules and disciplines of outdoor activities.



Choose the right beak to catch fish and shrimp.

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Play migratory birds for migration games



Nature notes completed by students after class

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2.6 List and describe the project deliverables, such as publications, materials developed, and multi-media materials such as photos and videos, you can submit the digital materials as attachments in session 5.

1. An environmental education curriculum effectiveness evaluation system consisting of the Nature Education Knowledge Scale, the 2-MEV scale, and the Pro-Environmental Behavior (PEB) scale.

2. A set of PBL-based environmental education demonstration courses

3. An operating manual of environmental education and teaching

4. A companion course textbook

3. Lessons learned

3.1 Describe what worked well in your project (Max. 150 words)

1. Good teamwork

This team is a graduate student of Tourism College of Central South University of Forestry and Technology and an international graduate student of the college, and has rich experience in team practice. We have clearly defined the division of labor, and determined various kinds of division of labor, such as project leader, financial leader, material purchasing leader and publicity leader. Through cooperation and exchange, after repeated discussions, the activity plan was determined, and the activity was successfully completed.

2. Innovative curriculum design

Different from the previous forms of environmental education activities such as lectures on environmental knowledge, publicity of environmental protection materials and thematic exhibitions. This activity carries out environmental education with new teaching methods, and realizes the comprehensive upgrade of interaction, experience and depth of knowledge. In the design of environmental education activities, the internationally popular PBL teaching method and the mature curriculum scheme of HKBWS in Hong Kong were introduced, and the 2-MEV scale and PEB scale were used for the first time in the evaluation of teaching effect.

3. Good activity organization and arrangement

This activity has been carefully prepared by the team, including the tutor's consultation and suggestion, the purchase of activity materials, the exercise of the activity, the contact and layout of the activity venue, etc., and the activity cycle is complete. In addition, the strong support of the local government and the enthusiastic participation of the school ensured the smooth implementation of the activities.

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3.2 Describe what didn't go so well in your project, and how you addressed the challenges you encountered. (Max. 150 words)

1. Course implementation takes too long

Because the design of environmental education activities is very rich, it takes us a long time to implement the activities, which affects the normal teaching order of the school.

2. Lack of activity control ability

As the team members are students of non-professional teachers, our experience in teaching skills, discipline control, rhythm control and student communication is limited, which affects the final effect of teaching.

3. No field bird watching

The theme of this activity is waterfowl. Because the school is concerned about students' safety, it does not organize students to watch birds in wetlands, but prepares bird specimens, which affects students' cognition of waterfowl.

3.3 If you have a chance to improve your project, what would you do? (Max. 150 words)

1. Adjust the activity time

Adjust the content of the activity, shorten the activity time or carry out the activity in several courses.

2. Improve teaching skills

Take part in more exchange activities and learn the teaching skills of other environmental educators, including curriculum design, activity organization, site preparation, teaching skills and other aspects.

3. Start with small-scale outdoor bird watching activities.

Try to organize some small-scale outdoor bird-watching activities, and accumulate experience in environmental education, including activity scheme design, activity flow arrangement, activity risk control, etc., and then try to organize large-scale bird-watching activities step by step.

3.4 Do you have any future plan developed from this project? If yes, please briefly tell us how you would sustain the project. (Max. 150 words)

1. Organize activities in more schools

At present, we have only carried out activities in two schools. There are more than one hundred primary and secondary schools and tens of thousands of primary and secondary school students around Dongting Lake. We plan to hold environmental education activities in more schools.

2. Organize periodic and sustainable activities

We only held one activity, which lasted only 3 hours. We can develop periodic courses, and carry out activities in a school at a fixed time, once a week or once every two weeks. This normal teaching is very beneficial to the formation and improvement of students' environmental awareness.

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4. Financial report

4.1 Fill in the form of table to show the actual project expenses

	Items	Unit	Amount (USD)
1. Transportation	rent cars	25 \$ /day	$25 * 14 = 350$
	petrol	1.27\$/L	$1.27 * 121 = 153.67$
2. Equipment	food	15.63\$/ person /day	$15.63 * 14 * 4 = 875.28$
	accommodation	25\$/room/night	$25 * 12 * 2 = 600$
3 Activity materials	course textbook	5.94\$/book	$5.94 * 120 = 712.5$
	printing		
	stationery	2.66 \$	$2.66 * 120 = 319.2$
4. Venue booking	-	-	-
	-	-	-
5. Deliverable production	-	-	-
6. Others – specify	-	-	-
		Total (USD)	3010.65

4.2. Did you get funding of financial resources to continue this project?

Yes

No

5. Attachments

Links of a shared folder of your project's digital deliverables (photos and videos could be shared as zip files)

See attached compressed file.

Link of project video in mp4 format (3-5 mins, this video will be shared publicly)

See attached compressed file.

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6. Declaration

Click the boxes below if you agree:

- Consent to disclosure of personal information: The project team's personal information (such as contact information) will not be publicly disclosed, but will be disclosed to the judging panel for review.
- Consent to the permission of the use of project-related materials to EAAFP: The project team agreed to grant the EAAFP Secretariat free access to any project materials developed under the Youth Think Tank Competition for the EAA Flyway. Ownership of the materials still belongs to the project team.
- I confirm the truth of all statements made by me in this report, and agree to all the terms, conditions, responsibilities, and obligations as set out above.

(Signature)

Name of Team leader: Xianglong

Name of Team: 41

Date: 2022.10.08

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