School-based Thematic Teaching Module

A school-based teaching module creates greater flexibility for schools to select a suitable theme and teaching mode for their students. Schools can make full use of the geographical advantages of their campus and available resources, as well as aligning with their curriculum goals to develop their own teaching modules. These carefully curated materials are also designed to provide students with a unique and tailored learning experience.

Let's explore the initiatives implemented by two schools that were awarded with the Outstanding Award in the "Best Green Education Initiative Award" under the 2021 and 2022 Hong Kong Awards for Environmental Excellence (Schools Sector) respectively to gain inspiration for developing and implementing school-based thematic teaching module.

Education Initiative 1: Butterfly x STEM

(Stewards Pooi Kei Primary School)

Theme:	**A butterfly-themed STEM inquiry activity**
Learning objectives:	• Learn to nurture butterflies, observe and record their growth process • Assist in the daily management of the butterfly gardens • Enhance students' scientific research abilities through participation in various study and STEM inquiry activities • Encourage students to take actions to cherish and protect the environment and ecology • Develop sense of responsibility, perseverance and commitment • Nurture the spirit of collaboration, respect for others and compassion
Target audience:	All students and parents
Subject(s):	Science
Year of implementation:	2022
Content:	**1. Learning about butterflies** • A school-based butterfly-themed teaching module was incorporated into the science curriculum to teach students about the life cycle and characteristics of butterflies. • After gaining an understanding of the growing conditions of butterflies, students conducted independent research to design a container for raising butterflies.

Students recorded the growth process of butterflies (left) and designed a container for raising butterflies (right) in the booklet.

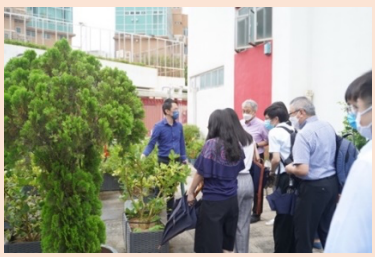
2. **Butterfly raising and experience exchange**

Student Butterfly Ambassadors	Nurtured butterfly caterpillars, recorded data, managed and cultivated plants in the butterfly garden.
Students	Raised butterflies in classrooms in coordination with the science curriculum, with Butterfly Ambassadors assisted in managing and providing interpretations.
Parents and children	Arranged grade 4 students to bring butterfly caterpillars home for raising, as a parent-child learning activity.
Teachers and students	Teachers and school staff raised butterfly caterpillars and shared their experiences with students.

Growing of butterfly caterpillars in the STEM activity room

3. **Cultivation of host plants and nectar plants**
   - A butterfly garden was established on campus in collaboration with Ocean Park, where students planted host plants and nectar plants to enhance biodiversity.
   - Butterfly Ambassadors brought seedlings or seeds of different host plants home for cultivation.

4. **Achievements showcase and experience sharing**
   - Butterflies were placed at the school entrance and in the STEM activity room for school members to observe and learn from.
   - Teaching experience was shared with other schools through school visits and Education Bureau's online training course.



Highlights:

- The school designed and implemented an original school-based initiative within the science curriculum, which incorporated explorative activities with STEM elements. This learning experience allowed students to gain in-depth and comprehensive understanding of butterflies.
- The plan involved a prolonged engagement that covers the entire academic year, providing students with the opportunity to participate in the complete life cycle of butterflies and gain a more impactful learning experience.
- In addition to the aspect of acquiring knowledge, the experience of taking care of butterflies can enhance students' sense of responsibility and curiosity about nature. It also fostered positive values such as cherishing life and raised environmental awareness.
- By allowing students to bring butterfly caterpillars home to care for, students' parents and family members could get involved in the journey of raising butterflies, thereby expanding the reach and impact of the initiative.
- According to the observations from teachers and parents, students became more attentive to the animals and plants they encounter in their daily lives after participating in the butterfly raising activity. They also demonstrated positive changes in their perception of the nature and ecology.

Education Initiative 2:

Learning Together with Children（再·童行）

(CUHKFAA Thomas Cheung Kindergarten)

Theme:	**Energy conservation, Waste reduction, Environmental protection**
Learning objectives:	• Understand the impacts of global warming on animals • Discover ways to conserve and reduce energy consumption • Learn about renewable energy, with solar power as an example • Develop students' attitudes towards protecting the environment
Target audience:	All students and parents
Year of implementation:	2020-21
Content:	**1. Production of school-based environmental story education packs** • The school designed two sets of original STEAM education packs - "Earth Village Adventure" 《地球村遊歷記》and "Solar and Wind-powered Boats" 《太陽能風力船》in collaboration with an external company. Each pack includes a storybook, an activity book and mission cards.

"Earth Village Adventure" Education Pack

"Solar and Wind-powered Boats" Education Pack

2. Implementation of environmental education curriculum with "whole-school approach"

- The curriculum consists of six modules, including food cherishing, greening, waste reduction and recycling, and renewable energy. The content was designed according to the needs of students from different levels, with the aim to develop students' interest and habits on environmental protection since they entered the school.
- Upper grades students explored environmental issues through storytelling in their lessons and conducted different experiments and activities to understand science principles.
- "Earth Village Adventure" – Students learnt about the impacts of heavy rain, natural hazards and environmental problems on human lives. They also discovered the properties of different materials and attempted to create an umbrella.

Students tested the waterproof abilities of different materials in lesson

- "Solar and Wind-powered Boats" – Students acquired knowledge about renewable energy, specifically solar power, and collaborated with their families to create solar and wind-powered boats by using environmentally-friendly materials. They also brainstormed energy conservation and waste reduction practices.

An achievement sharing exhibition of solar and wind-powered boats created by students was held on campus

- During class suspension due to the pandemic, teachers filmed and produced education videos to deliver environmental stories in an interactive format, and guided students in completing the assigned textbook exercises and creating the solar and wind-powered boats.

Highlights:

- Two sets of teaching kits were creatively designed with visually appealing content. The story revolved around the cartoon character STEAM Bear, allowing students to learn through storytelling, which effectively enhanced their motivation to learn and deepened their impression.
- The curriculum supplemented with practical STEAM activities, allowing students to apply the knowledge and skills they have learnt to create unique products.
- Environmental knowledge was promoted to parents through parent-child collaboration, which could further enhance the relationship between students and their parents.
- The school conducted systematic teaching evaluations. Teachers were required to review the teaching content and evaluate students' performance on a weekly basis. In addition, teachers observed the performance of each student and filled out their learning progress files individually, allowing the school to follow up and reflect accordingly.

Conclusion

Similarities of the two initiatives:

- ✓ Both schools designed a series of exquisite and unique teaching materials and fun activities, and revised the content and implementation details according to the evaluation results to provide an environmental education curriculum that better suits students' interest and learning needs.
- ✓ Inquiry and creation activities with STEAM elements were incorporated into learning and teaching, which helped stimulate students' creativity, and enabled them to learn from their peers' works and appreciate each other.
- ✓ Through parent-child cooperation or family involvement, parents' knowledge and awareness on the environment and ecology were also enhanced.
- ✓ The schools actively shared lesson plans and teaching experiences with the education sector and the public, which fostered a culture of knowledge exchange and collaboration.