

CAPACITY BUILDING VOLUNTEERS

IN ENVIRONMENTAL CONSERVATION INITIATIVES



A Guidebook for Environmental Educators

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Preface

There are many environmental volunteering programs in Malaysia, but school students' involvement in these programs is still low. One of the reasons is that many of these programs lack relevance to school students as the programs are often developed for tertiary students and adults. Hence, school students' needs and expectations as a volunteer for environmental conservation programs are not fully explored and understood.

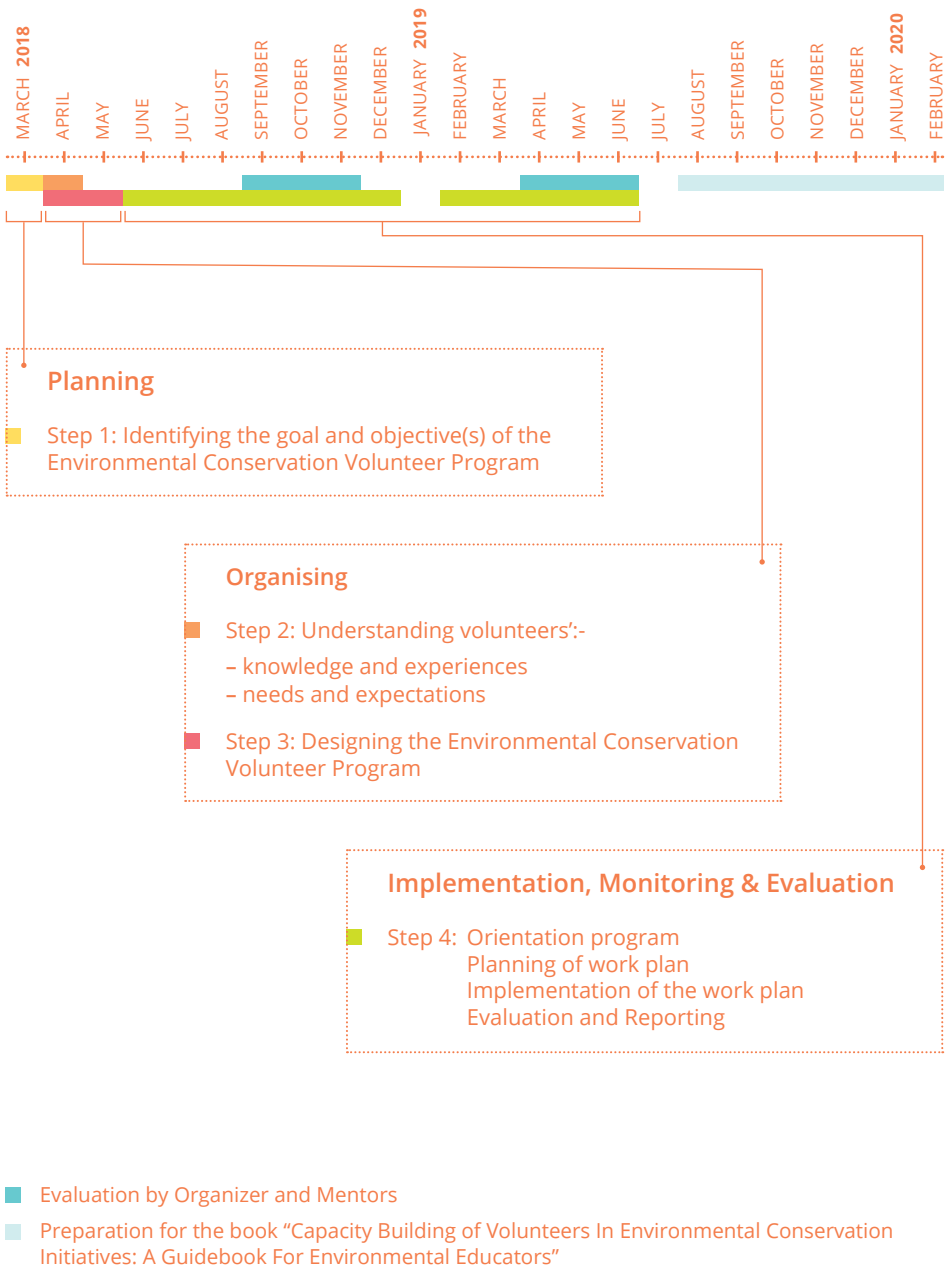
This guidebook provides a step-by-step guide to the development and implementation of an environmental conservation volunteer program for secondary school students. It documents the experiences as shared by 45 secondary school students who had been involved in an Environmental Conservation Volunteer Program in the state of Perak. Observations by school teachers and Mentors were also documented to share their experiences on the program.

The program was developed to advocate for students' active participation in the planning, implementation, evaluation and reporting processes. These processes provided a rich and meaningful learning experience that instilled a sense of responsibility and ownership for the program, which is a critical motivation for long-term volunteering commitment.

We hope this guidebook would be a useful reference to environmental educators in developing an environmental conservation volunteer program that capacity builds them to be effective volunteers. More importantly, the processes here have been proven to be effective in influencing students to volunteer in conservation initiatives on the long term.

May we continue working towards building armies of volunteers that are concerned and actively involved in the conservation of their local environment.

DEVELOPMENT OF THE ENVIRONMENTAL CONSERVATION VOLUNTEER PROGRAM



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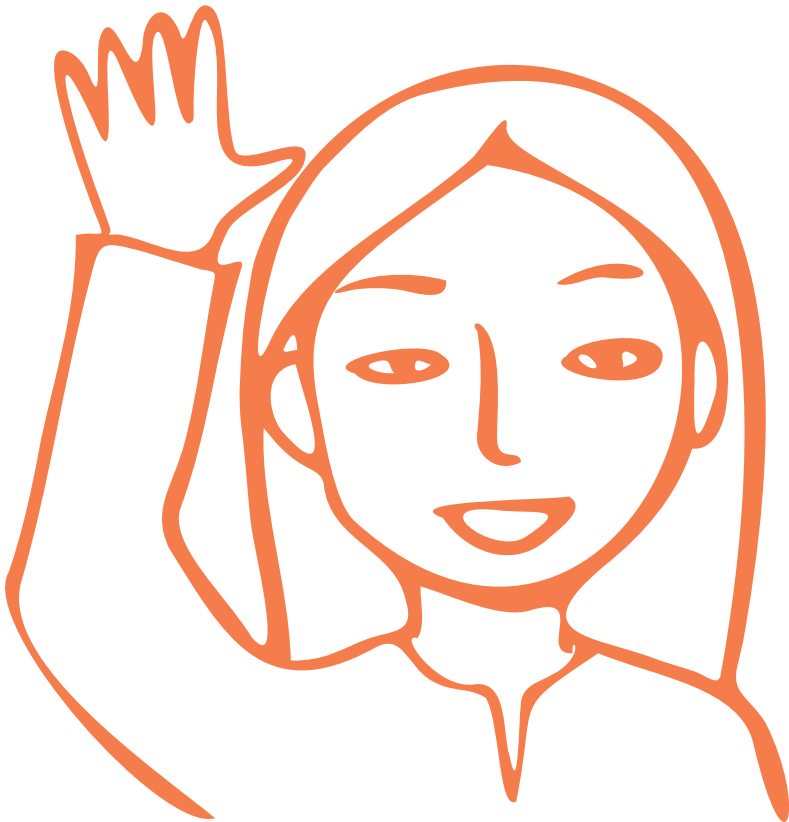
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WHO IS A VOLUNTEER?

We often think of a volunteer as someone rich, has plenty of free time, most likely an adult or a retiree.

The truth is anyone can be a volunteer.

In fact, we ourselves may have been a volunteer —teaching underprivileged children during school holidays, assisting schoolteachers with data input and stock checking, arranging slippers in a mosque, cleaning religious institutions, or visiting patients in the hospital.



Who are they, exactly?

Studies (Wilson 2000; Kemp 2002; Penner 2004; Snyder & Omoto 2008; Holmes & Smith 2009; World Association of Girl Guides and Scouts 2012; Stukas et al. 2014; Jasmin et al. 2015) have characterized volunteers as individuals:-

- a who voluntarily take on a task or responsibility without being assigned or told to do so
- b who work on an unpaid basis and does not expect any monetary reward
- c whose service benefits other individuals, groups of people, and organizations (who are usually strangers)
- d who deliberated and made careful decisions before becoming a volunteer
- e who volunteer continuously over time rather than as a one-off volunteering behavior
- f whose act of volunteering can be an informal effort taken out of their initiative or undertaken through formal efforts such as government agencies, corporate sectors, non-governmental organizations, and local communities

THE VARIOUS FORMS OF VOLUNTEERING



According to Veerasamy, Sambasivan and Kumar (2013), volunteerism can be divided into several categories:

- a **Skill-based volunteering:** an individual's specialized skills and talents are sought and used to assist in the execution of the volunteering program initiatives (e.g. website designers, building contractor, landscape architect, counselor, evaluators)
- b **Corporate volunteering:** a group of employees participating in an effort on a voluntarily basis (e.g. employees involved in beach cleaning activities in conjunction with Clean up the World event, or employees plant trees to commemorate World Forestry Day)
- c **Volunteering in developing and underdeveloped countries:** an increasingly popular form of volunteering, especially among young people, where they travel to communities in the developing countries to work on projects with local organizations (Lecomte 2014)
- d **Environmental volunteering:** volunteers engage in environmental projects to achieve ecological gains (e.g. wildlife monitoring, setting up of mangrove nursery, facilitating environment program)

- e **Virtual volunteering:** engagement in volunteering efforts without the need to be physically present at the site but through online volunteering
- f **Micro-volunteering:** refers to easy, no-commitment, cost-free actions that take less than 30 minutes to complete. There is usually little or no formal agreement needed before a volunteer can get started and no expectation that the volunteer will return. It is a great way to involve those who cannot afford or are not able to commit to something long term (Patton 2019)
- g **Volunteering in an emergency:** engagement in recovery efforts following natural disasters, such as floods, and earthquakes (e.g. search and rescue initiatives, transporting and distribution of relief supplies, providing food and drinks to victims and emergency workers)
- h **Volunteering in schools:** students' engagement in school community activities (e.g. fundraising, assisting with excursions, providing tuition classes to students from non-achieving classes)
- i **Community volunteering:** a group of individuals working to improve the local community, often through local governments and non-government organizations efforts (e.g. providing solar panels to the aborigine communities; building mini dams for the rural communities)
- j **International work camps:** a place where people of any nationality and religion, live and volunteer together for two to three weeks on a non-profit project organized by local organizations (e.g. volunteering at wildlife centers, education centers, staying with the local community to learn their culture)

WHY BECOME AN ENVIRONMENTAL VOLUNTEER?

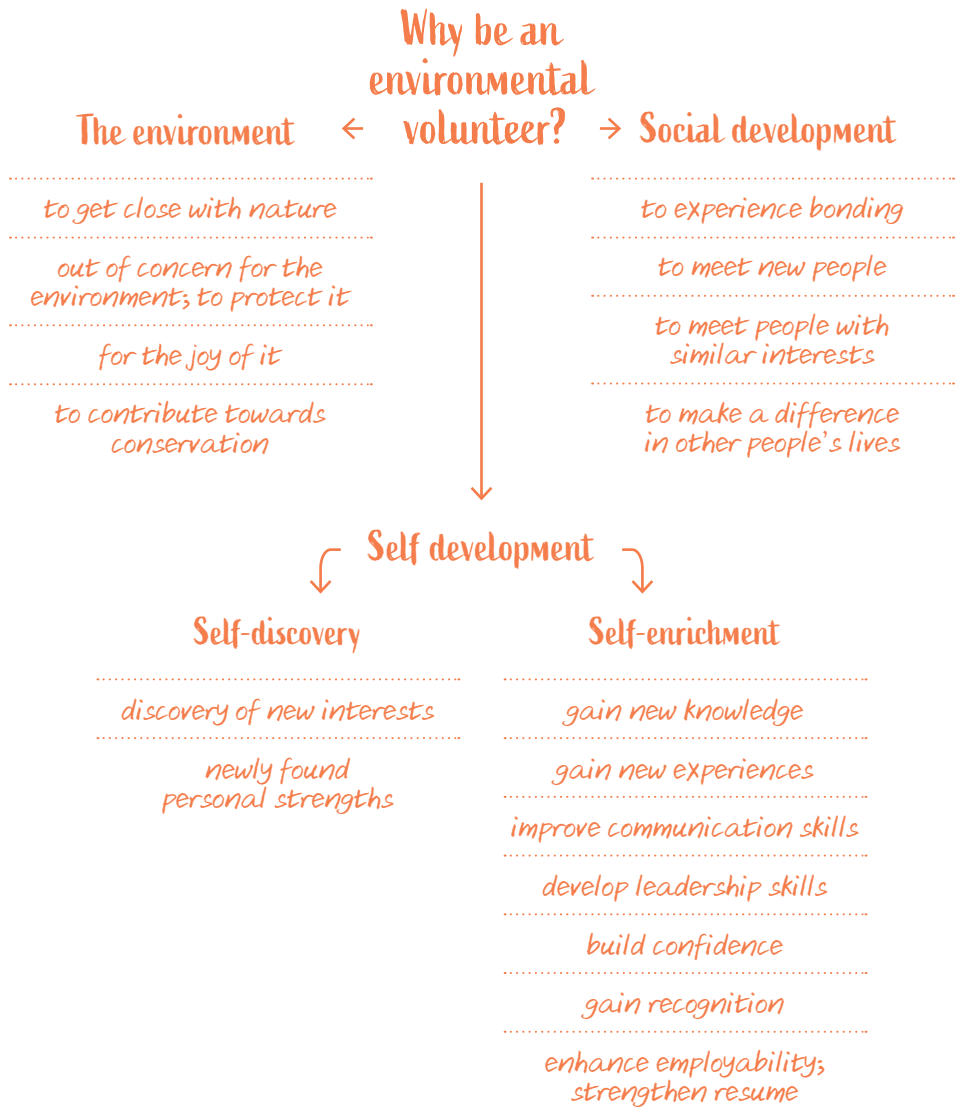


We volunteer for various reasons. Most times, volunteers participate in programs that provide experiences unattainable in their daily activities.

Some of the reasons individuals volunteer in environmental conservation programs are shown in Figure 1.

FIGURE 1

**KEY REASONS INDIVIDUALS VOLUNTEER IN
AN ENVIRONMENTAL CONSERVATION PROGRAM**

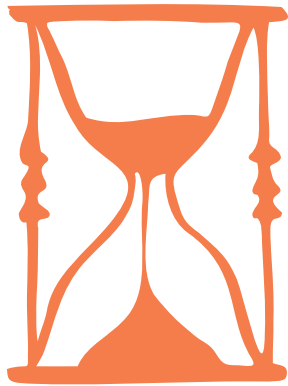


Considerations

In developing an environmental conservation volunteer program, it is essential to understand the reasons for their volunteering behavior and in retaining their behavior.

The volunteer program must not only fulfill the organization's goal and program's objectives, it should also match volunteers' interests and meet their needs and expectations.

WHY ARE VOLUNTEERS NEEDED?



Volunteers are particularly important to newly established and smaller organizations that are limited by funding and human resources.

They play a crucial role in running these organizations, handling day-to-day tasks and fundraising. More importantly, they form the bridge between the organization and the local community. Without them, these organizations might not be able to function.

These volunteers are critical to the survival of organizations and communities.

A LACK OF INTEREST?



Do school students lack the interest to volunteer in environmental conservation activities?

Environmental volunteering is one of the many forms of education programs that promotes active learning and offers direct involvement in environmental conservation activities.

Many initiatives have been created to attract and encourage students to volunteer, but their level of participation remains low.

Why?

Interest vs. willpower

Lim (1999) states that although Malaysian secondary school students have strong emotions towards environmental issues, they were reserved for committing themselves to environmental matters.

In 2006, WWF et al. reports that only 30–45% of primary and secondary school students spend their time in environmental conservation activities. Arba'at et al. (2010) reported that students are highly aware of their responsibility towards the environment. Yet, less than 40% had ever carried out sustainable practises such as the exchange of environmental information, reduction in the use of plastics, and composting.

Not much has changed over the years.

Neo et al. (2016) still find Malaysians lacking the willpower to translate their concern for the environment into actual behavior. Aini et al. (2007) revealed that students were more inclined to indoor-based environment activities as opposed to participating in on-site activities.

Similarly, Abdul Latif et al. (2012) found that students were more willing to participate in environmental activities using social media platforms such as YouTube, Facebook, and Twitter because these are popular forms of information search and sharing among the younger generation.



Not their cup of tea

Although there are many environmental conservation volunteer programs in Malaysia—at the wildlife centres, nature education centres, zoos, and environmental non-governmental organizations—many are developed for tertiary students and adults.

These programs may not have catered to the expectations and needs of school students.

As a result, many school students are not keen to volunteer in these programs, as they believe that these are “just a waste of time”, “not relevant to me”, and “I do not see the benefits I can gain from these experiences” (Vanson et al. 2019; pp.6).

One-off vs. long term

Besides, many environmental volunteering programs are developed based on a set of pre-defined tasks (Stepenuck & Green 2015) that merely provide volunteering opportunities.

These kinds of opportunities are limiting—students are not actively involved in the implementation of the initiatives and are unable to contribute to the program objectives and organizational goals. Many such programs are one-off or short-term.

Studies have shown that a one-time program is not enough to encourage and sustain students to participate in conservation initiatives in the long run.

Can we do better?

Marcinkowski (2013) stated that one or several environment programs could not do it all—to develop skills, knowledge, disposition, and competency to evaluate complex issues.

The capability to achieve these requires “scope and sequence planning” (pp.71).

Studies (Leeuw et al. 2015; Chase & Levine 2017) have shown that one’s attitudes to care and preserve nature increase with time through direct participation in the environment.

Loubser et al. (2014) recommends that follow-up activities are necessary to ensure the sustainability of the School Nature Club program.

Similarly, Lim (2014) and Lim et al. (2016) proposed post-intervention programs to sustain and increase students’ behavior intention to participate in environmental initiatives.

Working together

To encourage school students' long-term participation in on-site environmental volunteering programs, we need to create opportunities and develop programs that instill a greater sense of connectedness, caring, and responsibility for the environment.

This can be done through programs that actively involve school students in the implementation stage, ensuring their needs and expectations are met.

Volunteers should be 'involved' rather than 'used' to establish a two-way and healthy relationship (Gregorová et al. 2018).

Developing an environmental volunteer program for school students

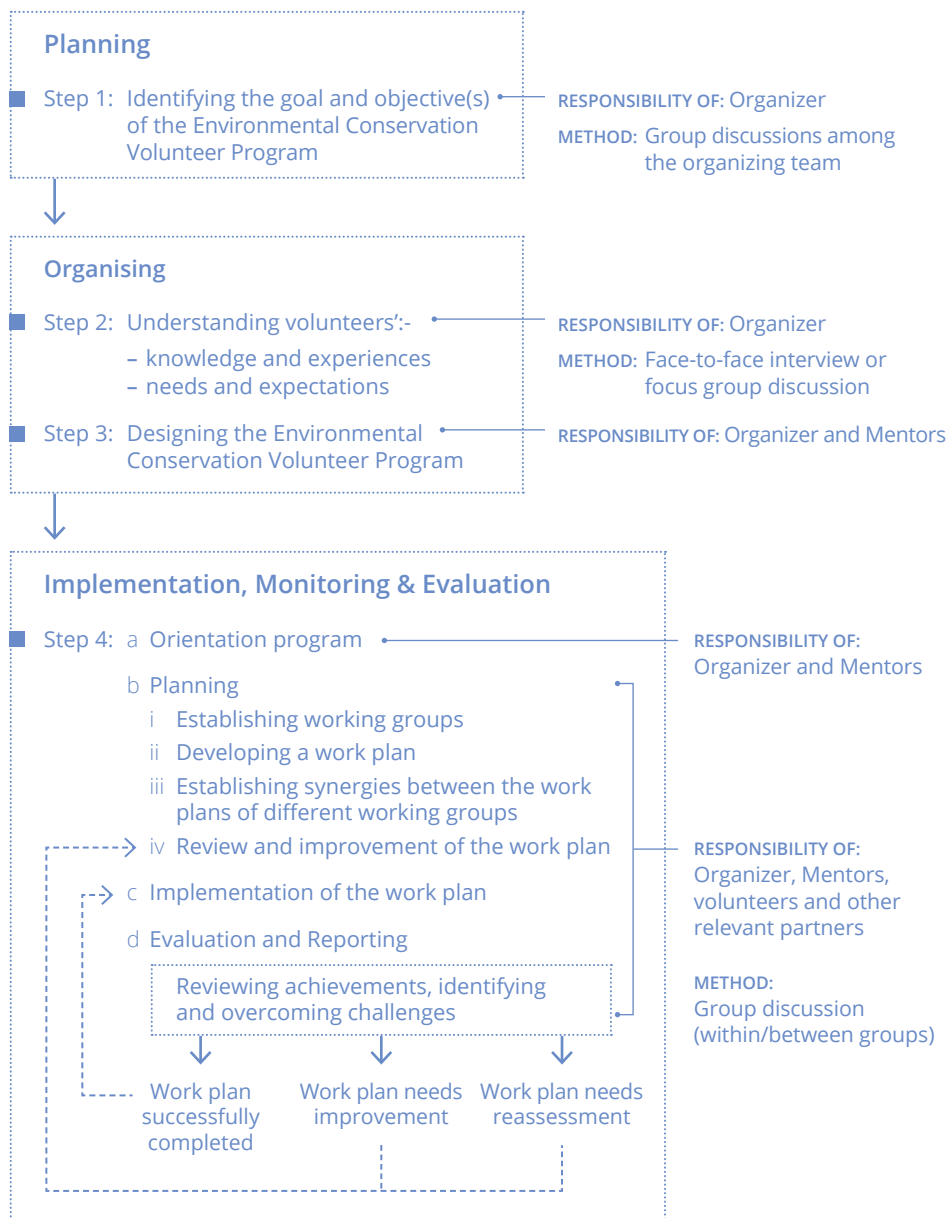


A STEP-BY-STEP GUIDE

The section provides a detailed guide to developing an Environmental Conservation Volunteer Program for school students based on a program with secondary school students and conducted in collaboration with the local communities.

FIGURE 2

ENVIRONMENTAL VOLUNTEER PROGRAM DEVELOPMENT PROCESSES



PLANNING

Step 1: Identifying the goal and objectives of the program



There are many reasons an Environmental Conservation Volunteer Program is developed.

The Organizer play an important role in identifying the goal and objectives of the program, guided by the Organization's vision and mission.

ORGANIZING

Step 2: Understanding the volunteers

Gather information on their level of knowledge and past experiences as a volunteer in environmental conservation initiatives.

Identify their expectations and needs as a volunteer in the Environmental Conservation Volunteer Program.

Ascertain whether there are misconceptions about being a volunteer and on the environmental conservation initiative at the site.

Gathering information



Conduct face-to-face interviews or focus group discussions with the following questions.

~ SECTION 1 ~

Do you have any volunteering experiences?

Where did you volunteer?

What did you do when you were a volunteer?

How long have you been a volunteer?

How were your volunteering experiences?
(Please share your experiences)

What was your most memorable experience?
(Please share your experiences)

~ SECTION 2 ~

The natural environment at the conservation site

Have you been to the conservation site?

What do you usually do there?

Which natural environment do you like best at the conservation site?

How do you feel when you are there?

The environmental conservation project

Have you heard of the local environmental conservation initiatives at the site?

What do you know about the local environmental
conservation initiatives at the site?

What are the advantages or disadvantages of being a volunteer
in the environmental conservation program?

~ SECTION 3 ~

Expectations and needs as a volunteer

Please list individuals (or groups of people) who are important to you.

From that list, who do you think would encourage or discourage you
from volunteering in the environmental conservation initiatives at the site?

If you are given the opportunity to be involved in the program,
would you be a volunteer for the environmental conservation
initiatives at the site? Please elaborate.

What are your expectations and needs from volunteering
in the environmental conservation program?

These questions were developed based on the Theory of Planned Behavior (Ajzen, 1991)
and Motivation-Opportunity-Ability model by Ölander and Thøgersen (1995).

Step 3: Designing the Program

The Organizer and Mentors can now proceed to design the Environmental Conservation Volunteer Program based on the findings in Step 2.

Take into consideration the volunteers' level of knowledge and experiences on:

being an environmental volunteer

the environmental conservation initiatives at the site

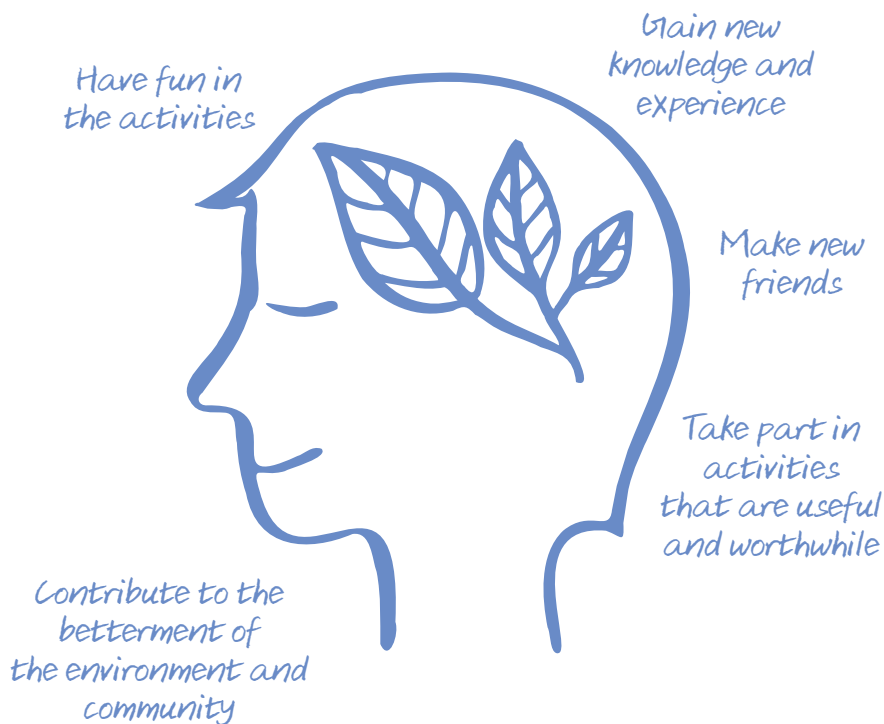
and

the volunteers' expectations and needs

The idea is to minimize barriers and make it easy for them to be a volunteer and retain as a volunteer.

See Tables 3.1 and 3.2 for the common responses that we received.

Common expectations of a volunteer in an environmental conservation program



Some important factors that strengthen and retain students' volunteering behavior

- Clear program goal and objectives
- Activities that match volunteers' interest and capabilities
- Having the right knowledge regarding the volunteer program and tasks at hand
- Skills needed to perform the tasks
- Strong leadership among the volunteers
- Clear communication between the volunteers
- Support from people important to volunteer (e.g. parents, teachers, siblings, friends, local community)
- Cooperative team members
- The level of difficulty of the tasks assigned matches the volunteers' ability. Guidance and assistance are provided if the task is beyond their capability.
- Free time and the willingness to 'make time' despite busy schedule
- Reward
(non-monetary reward such as awards, food and drinks, training opportunities, etc.)

IMPLEMENTATION, MONITORING & EVALUATION

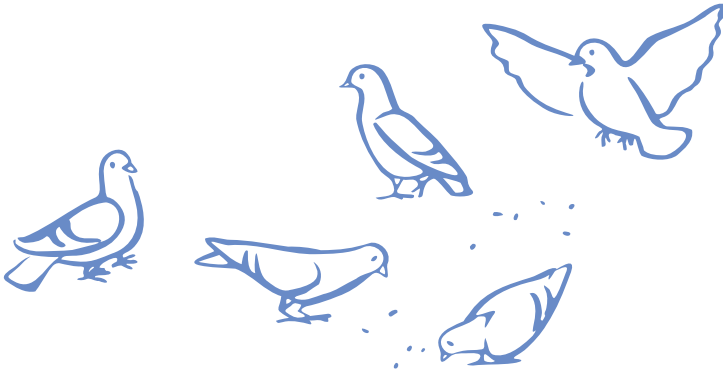
Step 4: Environmental Conservation Volunteer Program

Volunteers are encouraged to actively participate in the implementation, monitoring, and evaluation processes.

They plan, implement, evaluate, and report the program activities at every meeting session under the guidance of Mentors.

At the same time, the Organizer and Mentors monitor and evaluate the progress of the program activities to ensure that the goal and objectives of the program are achieved.

a. ORIENTATION PROGRAM



The implementation of the Environmental Conservation Volunteer Program begins with an orientation program.

Volunteers are introduced to the Environmental Conservation Volunteer Program. They learn about the natural environment at the conservation site and its initiatives. These are to offer useful information and rectify misconceptions, if any.

Volunteers get to know the surroundings through experiential learning, for them to connect emotionally and develop a sense of responsibility towards the conservation site.

These learning processes and experiences are pertinent to determining whether volunteers support the initiatives and would continue to participate in the long term.

b. PLANNING

After the orientation program, volunteers proceed to plan their program activities in 4 phases.

(i) Establishing working groups

A Mentor facilitates the big group through a brainstorming session. Volunteers are encouraged to list as many environment conservation activities as they can, especially those they are interested to carry out at the site.



The Mentor guides the volunteers to shortlist the activities according to their interest and abilities, in line with the objectives of the program.

Volunteers choose the activity that they like—
e.g. social media, photography, publication, games
—and proceed to form a working group.

A special note for Mentors

The Mentor's role during the brainstorming session is to provoke volunteers to explore ideas on possible activities for the program.

Volunteers tend to give conventional ideas due to their limited knowledge and experiences.

Activities such as 'gotong-royong', cleaning up, recycling, and replanting are often suggested because these are the more common environmental conservation activities. But these may not be what they would like to do.

Hence, the Mentor is encouraged to probe and guide students to suggest environmental conservation activities suited to the program.



(iii) Developing work plans

Once the working groups are formed, a Mentor is assigned to each group. The Mentor facilitates and helps them to identify their deliverables and tasks. See example below.

WORK PLAN	
Working group	Photography
Mentor	PNG
Members	1 May 2 Ahmad 3 Sunil 4 Kong 5 Hamisah
Deliverables	1 Collection of flora and fauna photos 2 Collecting photos of human activities at the conservation site 3 Create a folder that contains the collection of flora and fauna at the conservation site
Specific tasks	Meeting 1 Training: Photography Meeting 2 <ul style="list-style-type: none"> · Research on the list of flora and fauna · Based on the list of flora and fauna, rank the list according to:- <ul style="list-style-type: none"> a important-moderately important-least important pictures b how easy or difficult it is to find them Meeting 3 <ul style="list-style-type: none"> · Fieldwork—Take photos of flora and fauna at the site with an emphasis on:- <ul style="list-style-type: none"> a important-moderately important-least important pictures b how easy or difficult it is to find them

(III) Establishing synergy among the work plans of different working groups

Once each working group has developed a work plan, they gather to share their plans to:

ensure that the groups' activities fit well into the program goal and objectives
establish links and synergies between the groups' deliverables and to avoid redundancy
enhance cooperation between groups (e.g. sharing of information, resources, and expertise)

The SWOT analysis can be used by each working group to identify their strength, weaknesses, opportunity, and threats to their needs, and their ability to implement the specific tasks. See example below.

SWOT ANALYSIS	
Strength Members are very keen on nature photography <ul style="list-style-type: none">• Members often take photos of nature (e.g. scenery and natural elements) using their handphone cameras	Opportunity Beautiful natural resources (flora and fauna) and sceneries are available at the conservation site
Weaknesses Lack of knowledge and skill to take good photos using a camera/ handphone camera	Threats No camera <ul style="list-style-type: none">• No knowledge or skills on photo-editing software

(iv) Reviewing and improving on the work plan



Once the work plans have been synergized among the working groups, each group gathers to review and improve on their work plan based on the feedback and comments received.

Specific tasks are then assigned to the respective group members.

Note for Mentors

Take time to go through the 4 planning stages to brainstorm and discuss in detail the deliverables and tasks. Make sure the work plans have clear and achievable deliverables and specific tasks.

Although it is much easier to dictate the deliverables and tasks, Mentors should facilitate the discussion sessions.

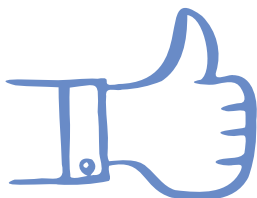
The 4 planning stages provide volunteers with the opportunity to participate actively in the program.

This will allow volunteers to better understand their work plan, and take responsibility and ownership of the program activities.



c. IMPLEMENTATION OF THE WORK PLAN

Each working group implements their respective work plan with Mentors facilitating the process.



d. EVALUATION AND REPORTING

At the end of the volunteer session, each working group identifies their own achievements and challenges.

Then, they seek solutions for them.

The Mentor in each working group facilitates the discussion by asking the following questions:

Based on the work plan for the current volunteering session, what have you achieved?

What were the challenges in the implementation of the work plan?

How did you overcome the challenges?

What is your work plan for the next session?

After that, all the working groups gather to share their achievements, challenges, and solutions.

Groups that are unable to find solutions can seek suggestions from other working groups.

Finally, Mentors guide each group to revise and synergize again their work plan with those from other groups.

The Organizer and Mentors take note of the discussion details to monitor and evaluate the overall progress of the volunteers.

Note for Mentors

Oftentimes some of the work plans do not go as planned because of the various external and internal factors.

Mentors need to guide students to identify the factors and find solutions to overcome them.

Adjustments to the deliverables and specific tasks are usually required to ensure better implementation of the plan.



A cyclical process

The planning, implementation, evaluation and reporting of the work plans in the Environmental Conservation Volunteer Program is both a cyclical and adaptive process.

If the work plan for the session is successfully completed, the working groups would proceed to implement the next work plan. However, if the work plan is partially or not successfully executed, volunteers would review and improve on their work plan before proceeding to the next work plan.



Putting theory into practice—a case study

The chapter shares the experiences of secondary school student volunteers who had participated in the Environmental Conservation Volunteer Program in the state of Perak.

Background

The program was initiated in 2018 to establish groups of student volunteers for Vale Eco Centre and Pangkor Nature Guides to support the local conservation initiatives at the conservation sites.

The volunteers consisted of 45 secondary school students from SMK Seri Manjung and SMK Pangkor who had participated actively throughout the 18 months of the Environmental Conservation Volunteer Program.

They were guided and facilitated by a team of 8 Mentors consisting of Vale Eco Centre staff, Pangkor Nature Guides members, and a team of researchers and students from the Faculty of Forestry, Universiti Putra Malaysia. The students also received the support of their schools.

The volunteers met every month to implement their work plan on dates and times agreed by the students, teachers, and Mentors.

Their experiences are detailed in this chapter according to the program development process described in Figure 2.

PLANNING

Step 1: Identifying the goal and objectives of the program

The Organizer and Mentors identify the goal and objectives of the program based on the Organizations' goal and objectives.



THE VOLUNTEER TEAMS

School	SMK SERI MANJUNG	SMK PANGKOR
Location	Vale Eco Centre, Teluk Batik, Lumut, Perak	Pusat Ko-kurikulum Negeri Perak, Pasir Bogak, Pangkor
Mentors	Vale Eco Centre staff	Pangkor Nature Guide members
Background	<p>Vale Eco Centre (VEC) was established in 2015. It is one of the commitments of Vale Mineral Malaysia Sdn. Bhd. towards environmental conservation.</p> <p>Managed by Ecotourism and Conservation Society Malaysia (ECOMY), the center aimed to serve as an educational platform for the local community and the public at large to discover and appreciate biodiversity in the Teluk Rubiah Forest Reserve.</p>	<p>Formed in 2018, the Pangkor Nature Guides (PNG) consists of Pangkor island enthusiasts who organize tourism and recreation activities on the island.</p> <p>Prior to the formation of PNG, the members completed a 3-year capacity building training program under the Ecotourism and Conservation Society Malaysia (ECOMY).</p> <p>Under the tutelage of various esteemed nature guides in the country, each PNG member was guided in the journey to establishing the first ecotourism business entity on the island.</p>
Goal	Establish a group of volunteers for Vale Eco Centre.	Establish a team of junior nature guides for Pangkor Nature Guides.
Objectives	<p>Establish a team of volunteers to:</p> <ul style="list-style-type: none"> Assist in the organizing of environmental education programs at the center to promote awareness on the importance of conserving Teluk Rubiah Forest Reserve among the local communities. Capacity build the schoolgoing generation in environmental conservation through various environmental programs. 	<p>Establish a group of school students that are:</p> <ul style="list-style-type: none"> Environmentally aware and concerned about their natural environment. Develop a team of junior nature guides. Provide job opportunities for local students in nature guiding on the island.

ORGANIZING

Step 2: Understanding the volunteers

The Organizer held focus group discussions with the students from both schools to:

understand their knowledge and experiences on being a volunteer and on the environmental conservation initiative at the site

and

identify their needs and expectations as a volunteer for the environmental conservation initiatives at the site

A summary of the focus group discussion findings is shown on the following page.

FOCUS GROUP DISCUSSION FINDINGS

~ SECTION 1 ~

Students' experiences and knowledge on volunteering in an environmental conservation program

- Do you have any volunteering experiences?
 - Where did you volunteer?
- What did you do when you were a volunteer?
 - How long have you been a volunteer?
- How were your volunteering experiences?
(Please share your experiences.)
- What was your most memorable experience?
(Please share your experiences.)

- All students stated that they had no prior volunteering experience in any environmental conservation volunteer program.
- Students stated that they have not volunteered in the environmental conservation programs because:
 - They had “not thought about it”
 - They were “not aware of the activities at the site”
 - They were “not aware of the need for volunteers”

~ SECTION 2 ~

Students' experiences and knowledge on the environmental conservation initiatives at the site

The natural environment at the conservation site

Have you been to the conservation site?

- Most volunteers have visited the conservation sites.
Majority students from SMK Manjung have visited the Teluk Rubiah Forest Reserve through a school program.
- For SMK Pangkor students, the site is located next to their school. Hence, they were very familiar with the conservation site, specifically the beach environment of Pantai Pasir Bogak. However, many were unfamiliar with the hill dipterocarp forest located behind their school.

What do you usually do there?

Leisure activities such as trekking in the forest and swimming, exercising, picnicking and spending time with family and friends at the beach.

Which natural environment do you like best at the conservation site?

- The lush green hill dipterocarp forest
- The sunset scenery

How do you feel when you are there?

- Close to nature
- Calm and peaceful
- No feelings

The environmental conservation project

Have you heard of the local environmental conservation initiatives at the site?

Many of the students from both sites have heard of the local environmental conservation initiatives.

What do you know about the local environmental conservation initiatives at the site?

Most have limited knowledge about the environmental conservation initiatives.

SMK SERI MANJUNG

The center is open to all and entrance is free.

It organizes programs for different groups of people (e.g. kindergarten, school students, university students, government and corporate sectors)

The staff provides guided forest and beach walk.

SMK PANGKOR

There is a small group of local community that do guided walks in the island. They conduct activities such as forest walks, rock pool walks, birdwatching and hornbill watching.

What are the advantages of being a volunteer in the environmental conservation program?

- Doing something good for the local environment and community.
 - Contribute towards the conservation of the activity site.
- Gain more knowledge on the natural resources at the conservation sites
 - Gain new experiences
 - Gain self-confidence
 - Be a role model to their friends

~ SECTION 3 ~

Students' expectations and needs as a volunteer of the Environmental Conservation Volunteer Program

Please list individuals (or groups of people) who are important to you. Whom among them do you think would encourage or discourage you from volunteering in the environmental conservation initiatives at the site?

All students stated their parents, teachers and friends as important people in their lives and that these individuals would influence their decision to volunteer in environment conservation programs.

If you are given the opportunity to be involved in the program, would you be a volunteer for the environmental conservation initiatives at the site? Please elaborate.

· Yes (50%)

· Unsure (45%)

· No (5%)

What are your expectations and needs from volunteering in the environmental conservation program?

EXPECTATIONS

- The program is enjoyable.
- Gain new experience and knowledge
 - Able to do something 'good' and contribute to the conservation of the project site

NEEDS

- The schedule of the program takes into consideration the important school dates (e.g examination) and school events
- Guidance and training are provided when knowledge, experience and skills are lacking
- There is enough work for everyone
- The tasks given matches students' interest
 - Transportation to the conservation site is provided
- Rewards such as food, goodie bags, meeting new people, certificate

Summary

Students were positive towards the idea of being a volunteer in the program.

They believed that being a volunteer enables them to “do something good”.

They explained that they “do something good” when the activities they conduct contribute to the the conservation of the site and bring benefits the local community.

The Muslim students believe that they will attain *pahala di akhirat* or gain spiritual reward.

Step 3: Designing the Program



(I) Orientation Program

The orientation program introduced the student volunteers to the Environmental Conservation Volunteer Program and the environment of the conservation site through experiential learning.

The learning approach

The Orientation Program was designed to introduce the student volunteers to the conservation site and its initiatives through experiential learning.

The learning approach was used as the majority of the student volunteers—especially those from the island of Pangkor—had not fully explored the conservation site, specifically the hill dipterocarp forest.

Student volunteers stated that hiking in the forest is an activity that they are less likely to do because they “dislike strenuous outdoor activities” and getting themselves “dirty”, “sweaty” and “burnt under the hot sun”.

They felt that the forest is a “route less travelled”, “unsafe” and “dangerous”.

Hence, the program emphasized the experiential learning approach to rectify these negative beliefs and misconceptions.

The Orientation Program also highlighted the unique flora and fauna found in the hill dipterocarp forests at both sites.

Species such as *Trachypitechus obscurus* (Dusky leaf monkey), *Ratufa bicolor* (Black giant squirrel), *Anthracoceros albirostris* (Oriental pied hornbill), *Haliaeetus leucogaster* (White-bellied sea eagle), *Sindora sp.* (Sepetir), *Selaginella sp.* (Peacock fern) and *Ficus sp.* (Ficus) were among the unique flora and fauna explained.

Shorea lumutensis (Balau putih) that is endemic to the hill dipterocarp forests on the island of Pangkor and Teluk Rubiah, Lumut was highlighted to inculcate a sense of awe and pride.

Exploring the activities of the local communities helped them to understand the interdependency between the local communities and the conservation site.

Through these experiences, the student volunteers felt emotionally connected with the conservation site.

EXAMPLE OF THE ORIENTATION PROGRAM

TIME	DESCRIPTION	
0830	Registration Breakfast	
0900	Briefing	Student volunteers were briefed on the orientation program and the do's and don'ts at the center.
0930	Icebreaking	Student volunteers got to know each other through icebreaker games.
1010	Activity I Introduction to Vale Eco Centre	The staff of Vale Eco Center gave an overview of the center and its conservation initiatives at the site.
	Activity II Forest walk and Beach combing	At the site, the student volunteers learned about the natural environment (hill dipterocarp forest and beachfront) and its unique flora and fauna. They also observed the activities of the local communities.
	Activity III From Teluk Rubiah Forest to the Straits of Melaka: Its relationship and interconnectedness	Student volunteers learned about the social, economic and ecological role of the conservation site through simulation activities. They gained an understanding of the interdependency between the local communities and the conservation site.
1300	Lunch	
1400	Planning Environmental Conservation Volunteer Program	Mentors introduced the Environmental Conservation Volunteer Program, its goal and objectives before proceeding to establish the working groups.
1630	Dismiss	



(II) Ensuring student volunteers' expectations and needs are met



The Organizer and Mentors played an important role in motivating the student volunteers' to actively participate in the Environmental Conservation Volunteer Program on the long term.

Based on the findings of the focus group discussions (Step 2), the Organizer ensured that the student volunteers' expectations and needs were met.

Meeting the expectations of volunteers in the Environmental Conservation Volunteer Program



Student volunteers' expectations and needs



Measures taken by the Organizer and Mentors



Want to contribute towards the conservation of the site



- Student volunteers were attached to the center and the local communities that are actively involved in the conservation activities at the site.



Gain more knowledge on the natural resources at the conservation sites



- The Orientation Program was organized to provide student volunteers with more knowledge about the environment at the conservation site.
- A Mentor was assigned to each working group to provide guidance. Trainers and experts were engaged when needed.
- Student volunteers were taught how to search for information (either in the field or through online and printed sources) and select information relevant to their tasks.



Gain new experiences



- Student volunteers were given the opportunity to volunteer in the environmental conservation program, which in itself was a new experience to them.
- Student volunteers got to plan, implement, report and evaluate their working group activities instead of receiving instructions from the Mentors.
- Mentors infused 'surprise' elements into the program to enrich student volunteers' learning experiences.



Gain self-confidence



- Student volunteers were encouraged to share their thoughts and ideas through group discussions.
- Student volunteers were pushed to develop their public speaking and presentation skills.



Be a role model for their friends



- Student volunteers were tasked to share their volunteer initiatives with their school mates, visitors at the conservation site, and at conservation events.
- Organizer, Mentors, teachers and the local communities gave recognition for the student volunteers' initiatives.
- Certificates of appreciation were awarded by the Organizer.

Managing student volunteers' needs to be involved as a volunteer

IMPORTANT INFLUENCERS TO STUDENTS



Parents' permission and support



- Consent forms were distributed to obtain parents' approval for their child to be involved in the program. Brief information on the program was also provided.



Blessing and support from the school community



- Approvals from the Ministry of Education and the state Education Department were obtained prior to the schools' involvement in the program.
- Schools were approached to seek their willingness to participate in the program.
- Teachers were involved in the overall planning and implementation of the program and became the primary contact liaison between Mentors, schools, student volunteers, and their parents.



Support and encouragement from friends



- Student volunteers were encouraged by their school teachers to share their experiences in school.

BARRIERS AND FACILITATORS



Scheduling of the volunteering sessions



- The schedule for the volunteering sessions were agreed upon among the Mentors, teachers, and students to avoid overlaps with examination dates and school events.



Lack of knowledge, experience, skills and equipment



- Students identified and chose their own working groups.
- Mentors were assigned to each working group to guide them through the planning, implementation, evaluation and reporting processes.
- Experts were engaged to provide training to enhance their ability to implement the tasks in the work plan.
- The Organizer and Mentors provided additional tools when materials were insufficient.



Choosing activities that match their interest



- Students brainstormed to identify and plan their working group activities. Each member in the working group was given tasks that matched their interest and strengths.



Provision of transportation



- Buses were provided to ferry students from the school to the conservation site as the school was 10km away.



Rewarding student volunteers



- Certificates of appreciation to acknowledge their active involvement and contribution were given out.
- Food and snacks were provided as a form of encouragement for their commitment.

Note

The Organizer and Mentors considered the expectations and needs of the volunteers at all times.

However, not all expectations and needs were catered for. When that happened, explanations were provided to gain their understanding.

For example, the Organizer and Mentors regarded goodie bags and T-shirts as non-essential for the implementation of the program.

Instead, small gifts were given every now and then.

IMPLEMENTATION, MONITORING & EVALUATION



Step 4: Environmental Conservation Volunteer Program

a. ORIENTATION PROGRAM

The Vale Eco Centre staff and Pangkor Nature Guide members organized a one-day Orientation Program at the respective conservation sites.

b. PLANNING

(i) Establishing working groups

One of the Mentors facilitated the big group discussion through a brainstorming session. At the end of the session, the following working groups were formed:

Social media
Arts and craft
Research
Multimedia and video
e-bulletin
Herb garden
Mural and painting

The purpose of forming these groups is to use various platforms for the sharing of conservation messages to gain the support of the local communities in enhancing the conservation initiatives that are already in place.

(II) Developing work plans

A Mentor were assigned to each of the newly formed working groups to guide student volunteers in developing their work plans. A summary of the work plans from both schools are shown on Table 1A and 1B respectively.

(III) Establishing synergy among the work plans of different working groups

Once the work plan of each group has been developed, all groups gathered to share their plans, and to form synergies between the plans and avoid redundancies.

(IV) Reviewing and improving on the work plan

Based on the feedback and comments from the various groups and Mentors, each working group returned to their respective groups to revise and improve on their work plan.

TABLE 1A**SUMMARY OF THE SMK SERI MANJUNG VOLUNTEER PROGRAM
WORK PLANS**

Working group	Video	
Group members	7 students*	
Deliverables	Produce 3 videos: <ul style="list-style-type: none">· Introduction to Vale Eco Centre· Introduction to the Stars of Vale Eco Centre: Unique flora and fauna· Environmental Conservation Volunteer Program	
Specific tasks	Session 1	Develop the work plan
	Session 2	Training: 'Making videos using video maker'
	Sessions 3–5	Produce the video 'Introduction to Vale Eco Centre': <ul style="list-style-type: none">· Collect information for the video· Develop the content for the video· Shoot and edit video
	Sessions 6–7	Produce the video 'Introduction to the Stars of Vale Eco Centre'
	Sessions 8–9	Produce the video 'Environmental Conservation Volunteer Program'
* Names are not included for privacy reasons		



TABLE 1A (CONTINUED)

Working group	Social Media	
Group members	7 students*	
Deliverables	Create a Facebook page and upload information on: <ul style="list-style-type: none"> · Vale Eco Centre · Stars of Vale Eco Centre: Unique flora and fauna · Environmental Conservation Volunteer Program 	
Specific tasks	Session 1	Develop the work plan
	Session 2	Training: 'Making videos using video maker'
	Session 3	Set up a Facebook page
	Sessions 3–5	Promote Vale Eco Centre <ul style="list-style-type: none"> · Develop content · Gather and upload information on the center
		Provide activity updates on social media after each session
	Sessions 6–7	Promote the Stars of Vale Eco Centre
	Sessions 8–9	Promote the Environmental Conservation Volunteer Program



TABLE 1A (CONTINUED)

Working group	e-Bulletin
Group members	5 students*
Deliverables	Produce: <ul style="list-style-type: none"> · Vale Eco Centre brochure · “Potential of Pantai Teluk Batik as a Recreation Site” article · Environmental Conservation Volunteer Program poster
Specific tasks	<p>Session 1 Develop the work plan</p> <hr/> <p>Sessions 2–6 Produce Vale Eco Centre brochure</p> <ul style="list-style-type: none"> · Gather information and materials · Develop the content · Design the brochure · Gather feedback from other working groups · Finalize the design and print the brochure · Distribute the brochures to the local communities <hr/> <p>Sessions 4–6 Prepare the article “Potential of Pantai Teluk Batik as a Recreation Site”</p> <ul style="list-style-type: none"> · Interview visitors at the beach · Write the article and prepare the layout <hr/> <p>Sessions 7–9 Produce the Environmental Conservation Volunteer Program poster</p> <hr/>



TABLE 1A (CONTINUED)

Working group	Research	
Group members	10 students*	
Deliverables	Collect data from the conservation site through: <ul style="list-style-type: none"> · Quadrat sampling (flora and fauna biodiversity in the forest) · Beach profiling (Teluk Rubiah beach) · Water quality test (streams at the site) 	
Specific tasks	Session 1	Develop the work plan
	Sessions 2, 5, 7	Beach profiling <ul style="list-style-type: none"> · Identify beach profile and patterns · Identify the flora and fauna along the beach · Prepare the report
	Sessions 3, 4, 7	Quadrat sampling <ul style="list-style-type: none"> · Establish the quadrat · Identify the flora and fauna in the quadrat
	Session 8&9	Prepare final report



TABLE 1A (CONTINUED)

Working group Arts and Craft

Group members 9 students*

Deliverables Create materials for games and activities:

- Puzzle (flora and fauna at Vale Eco Centre)
- Animal cubes (animal movements and animal sounds)
- Footprints (floor-painting at the center)

Specific tasks **Session 1** Develop the work plan

Sessions 2–4 Create the puzzle

- Gather information and materials for the puzzle
- Take photographs of flora and fauna at the site
- Create the puzzle

Sessions 4–8 Create the Animal cubes

- Develop the idea for the animal cubes activity
- Gather information and materials for the cubes
- Draw and paint animals on the cubes
- Assemble the cubes

Session 8–9 Paint the Footprints

- Prepare the masking
- Position the footprints
- Draw the outlines and paint the footprints



TABLE 1B**SUMMARY OF THE SMK PANGKOR VOLUNTEER PROGRAM
WORK PLANS**

Working group Video

Group members 7 students*

Deliverables Produce 3 videos:

- Introduction to Pangkor Island
- Introduction to Pantai Pasir Bogak: Unique flora and fauna
- Environmental Conservation Volunteer Program

Specific tasks	Session 1	Develop the work plan
	Session 2–3	<ul style="list-style-type: none">· Explore Pangkor Island· Training: ‘Making videos using video maker’
	Sessions 3–5	Produce the video ‘Introduction to Pangkor Island’: <ul style="list-style-type: none">· Collect information for the video· Develop the content for the video· Shoot and edit video
	Sessions 6–7	Produce the video ‘Introduction to Pantai Pasir Bogak: Unique flora and fauna’
	Sessions 8–9	Produce the video ‘Environmental Conservation Volunteer Program’

* Names are not included for privacy reasons



TABLE 1B (CONTINUED)

Working group	Mural Painting	
Group members	8 students*	
Deliverables	Paint murals at the conservation site focusing on: <ul style="list-style-type: none"> · Hornbills of Pangkor Island · Marine life of Pantai Pasir Bogak 	
Specific tasks	Session 1	Develop the work plan
	Session 2–6	Create the Hornbills mural: <ul style="list-style-type: none"> · Prepare the template · Sketch the outline · Paint the mural
	Session 5–9	Create the Marine life mural: <ul style="list-style-type: none"> · Prepare the template · Sketch the outline · Paint the mural



TABLE 1B (CONTINUED)

Working group	Research								
Group members	8 students*								
Deliverables	Forming a team of young nature guides by: <ul style="list-style-type: none"> · Establishing the forest trail · Labelling of forest species along the trail · Training the student volunteers as nature guides 								
Specific tasks	<table> <tr> <td>Session 1</td><td>Develop the work plan</td></tr> <tr> <td>Sessions 2-5</td><td> Establishing the forest trail: <ul style="list-style-type: none"> · Explore Sungai Pinang forest to learn about its flora and fauna · Identify unique species along the trails · Gather information on these unique species · Return to Sungai Pinang forest to reconfirm the species location </td></tr> <tr> <td>Session 5-7</td><td>Labelling of forest species along the trail</td></tr> <tr> <td>Session 7-9</td><td>Training the student volunteers as nature guides</td></tr> </table>	Session 1	Develop the work plan	Sessions 2-5	Establishing the forest trail: <ul style="list-style-type: none"> · Explore Sungai Pinang forest to learn about its flora and fauna · Identify unique species along the trails · Gather information on these unique species · Return to Sungai Pinang forest to reconfirm the species location 	Session 5-7	Labelling of forest species along the trail	Session 7-9	Training the student volunteers as nature guides
Session 1	Develop the work plan								
Sessions 2-5	Establishing the forest trail: <ul style="list-style-type: none"> · Explore Sungai Pinang forest to learn about its flora and fauna · Identify unique species along the trails · Gather information on these unique species · Return to Sungai Pinang forest to reconfirm the species location 								
Session 5-7	Labelling of forest species along the trail								
Session 7-9	Training the student volunteers as nature guides								



TABLE 1B (CONTINUED)

Working group	Herb Garden	
Group members	9 students*	
Deliverables	Create a herb garden at the conservation site: <ul style="list-style-type: none"> · Setting up the herb garden · Labelling of the herb garden · Training the student volunteers as nature guides 	
Specific tasks	Session 1	Develop the work plan
	Session 2&3	<ul style="list-style-type: none"> · Develop the concept for the herb garden · Design the herb garden · Gather feedback from other working groups · Improve on the design
	Session 4-7	<ul style="list-style-type: none"> · Prepare the planting area (clearing and cleaning) · Erect and paint the greenhouse · Source for and purchase the herbs for planting
	Session 7-9	<ul style="list-style-type: none"> · Prepare labels · Training the student volunteers as nature guides



c. IMPLEMENTATION OF THE WORK PLAN

Each working group implemented their work plan based on the deliverables and specific tasks identified for every session under the guidance of the group Mentor (Tables 1A & 1B).

d. EVALUATION AND REPORTING

Each working group evaluated and reported their progress, achievements and challenges in the implementation of the plan. They also shared the actions taken to overcome them.

Mentors guided student volunteers to identify and find solutions for the challenges faced.

They also provided morale support and encouragement to the student volunteers to continue their conservation initiatives.

Responding to challenges



The implementation, monitoring, evaluation and reporting of the Environmental Conservation Volunteer Program were not without challenges. This section shares the challenges we faced and the actions taken to overcome them.

CHALLENGES FACED BY STUDENT VOLUNTEERS AND ACTIONS TAKEN BY MENTORS

Challenge #1: Getting out of their comfort zone –The outdoors

Many student volunteers had not been actively involved in outdoor activities prior to the program. They disliked “strenuous outdoor activities” and getting themselves “dirty”, “sweaty” and “burnt under the hot sun”.

While the majority of the student volunteers were familiar with the beach environment, the hill dipterocarp forest environment was a “route less travelled” because it was perceived as “unsafe” and “dangerous”.

They were afraid of encountering wildlife such as wild boars and snakes that might harm them.

Students also believed that the forests are home to “supernatural beings”. They feared entering the forest may “disturb the beings”.

Many were reluctant to choose outdoor-related activities as part of their conservation activities.

Actions taken by Mentors



The Mentors exposed the student volunteers to the environment at the conservation site through experiential learning to:

- familiarize with the great outdoors
- dispel fear for wildlife and the unknown
- establish emotional connection to the conservation site
- foster respect for the existence and function of the natural environment

The student volunteers were encouraged to spend more time carrying out their activities at the conservation site.

They were also given the freedom to identify and choose their preferred activities.

Challenge #2: Lack of confidence—Fear of sharing ideas and speaking in front of friends

During the initial sessions, student volunteers were fearful of sharing their thoughts and speaking in front of their friends.

Most students remained quiet, and the same student volunteers shared on behalf of their group.

The concern was that their ideas would be ridiculed and rejected. Some were so nervous that they were unable to put their thoughts or experiences into words.



Actions taken by Mentors



The Mentors encouraged the student volunteers by:

- encouraging them to take turns to share their thoughts and experiences
- demonstrating supportive behavior (e.g. listening attentively to student volunteers when they spoke, establishing eye contact with student volunteers, nodding their heads in agreement and providing constructive comments)

The Mentors encouraged the student volunteers to support their friends by:

- being more open to one another's ideas and opinions
- explaining to them that it is normal to have different views because of the differences in an individual's understanding and experiences

Challenge #3: Fear of making the wrong decision

Student volunteers were responsible for planning, implementing, evaluating and reporting their activities of the Environmental Conservation Volunteer Program.

But they sometimes lacked the confidence in decision-making. They were afraid of making the “wrong decisions.” They were unsure whether they had the knowledge, experience, and skills to make sound decisions.

Student volunteers were disappointed when “things did not go as planned” as they felt they had “failed to deliver their tasks,” while some felt they had “let their Mentors down.”

They also felt “uncomfortable and embarrassed” to share the group’s shortcomings.

Actions taken by Mentors



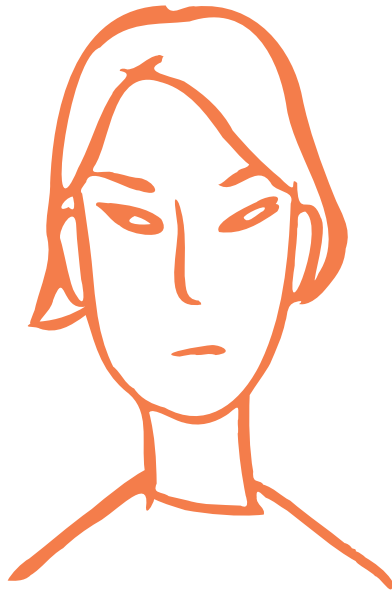
The Mentors emphasized that it is “alright to make mistakes” and highlighted the importance of learning from mistakes by:

- being “accepting of the outcomes” as it is part of the learning process
- helping them to examine and understand what went wrong
- seeking solutions together to achieve better results

Challenge #4: Lack of cooperation among group members

There were incidences where group members were uncooperative. The lack of cooperation was because of differences in opinions and lack of communication. These led to misunderstandings and a delay in the completion of tasks.

Weak leadership among the student volunteers also prevented the bridging of differences in opinions.



Actions taken by Mentors



The Mentors helped student volunteers understand the reasons for the lack of cooperation, and allowed them to resolve the problems on their own by:

- having open discussions with the member(s) involved
- allowing the member(s) to step back when the discussion failed, and return when they were ready to address the issues and work together again

When needed, the Mentors served as the mediator to enable the group to resolve the misunderstandings and problems.

Challenge #5: Learning to manage the work plan

Mentors had occasionally injected the 'surprise' element into the program to enrich their learning experiences.

The Mentors organized several activities that were not in the student volunteers' original work plan. For example, they were required to collaborate with university students. Together, they cleaned up forest trails, put up wall gardens and played nature games.

Student volunteers were also involved in the regional workshop where they shared their experiences through an oral presentation and exhibition.

They shared that some of these 'surprise' elements had affected their work plan, and delayed the completion of some deliverables.

Actions taken by Mentors



The Mentors allowed flexibility in the implementation of the work plan by:

- allowing the student volunteers to make adjustments to the tasks in their work plan and reschedule the timeline
- arranging additional sessions to enable the student volunteers to complete their tasks
- reaching out to the student volunteers to help them complete the tasks during their free time in school

CHALLENGES FACED BY THE MENTORS AND THE ACTIONS TAKEN

Challenge #1:

Gauging the extent of guidance to be given to student volunteers

At the early stages, the Mentors were uncertain of the extend of guidance to provide. This was especially so when the implementation of the work plan did not go as planned.

Actions



The Organizer encouraged Mentors to:

- allow the student volunteers to learn through the process of decision-making and from the mistakes
 - guide the learning process rather than taking the easier route of giving instructions and solving their problems

Challenge #2: Getting the students to take responsibility and ownership of the volunteer program

Initially, the student volunteers were dependent on the Mentors for the planning, implementing, evaluation and reporting of their group's deliverables and specific tasks.

Student volunteers were more keen to receive instructions than to come up with the actual work plan and be responsible for the decisions made.

Thus, the brainstorming and planning process took longer to complete.

Actions



The Mentors guided the student volunteers through the entire process where they were responsible for making decisions at every step of the way.

Challenge #3: Relevant knowledge and skills

Mentors needed to keep themselves well informed on the subject matter as the student volunteers were dependent on their guidance.

Since many of the Mentors were from the local communities with limited training on the scientific and technical aspects of conservation, they found it challenging at times to assist students in the activities.

Actions



The Organizer:

- provided Mentors with the freedom to choose which working group to guide
- held the student volunteers' brainstorming sessions to allow Mentors to align their knowledge and make the necessary preparations

The Mentors assisted one another throughout the program. Trainers and experts were engaged when needed.

Challenge #4: Rapport between Mentors and student volunteers

Mentors found it a challenge to communicate with student volunteers who were shy and introverted.

Actions



Mentors established a good rapport with the student volunteers to build trust and encourage open communication of ideas and opinions.

Mentors were able to work closely with the student volunteers because:

- they were from the local community who were friends with many of the student volunteers' family or the student volunteers themselves prior to the program
- they were experienced environmental educators with vast experiences working with school students

Challenge #5: Lack of support from the local communities

There were isolated cases of local communities unsupportive of the student volunteers' environmental conservation efforts at the site although the necessary approvals had been obtained. Student volunteers' morale was affected by these experiences.

Actions



The Organizer, Mentors, and teacher advisors kept the student volunteers' morales high throughout the program by providing the much needed encouragement and support. They also worked hand-in-hand to resolve any conflict.

Learnings



The student volunteers, Organizer and Mentors of the Environmental Conservation Volunteer Program found the experiences meaningful and enriching.

STUDENT VOLUNTEERS



Details on the student volunteers' developmental gains from the volunteering experiences are described in Table 2.

NOTE

The following abbreviations represent the names of the working groups:

C = Arts and craft; E = eBulletin; H = Herb garden; M = Mural; R = Research;
S = Social media; V = Video

TABLE 2

STUDENT VOLUNTEERS' DEVELOPMENTAL GAINS

Outcome 1: Gained new and in-depth knowledge

SPECIFIC GAINS

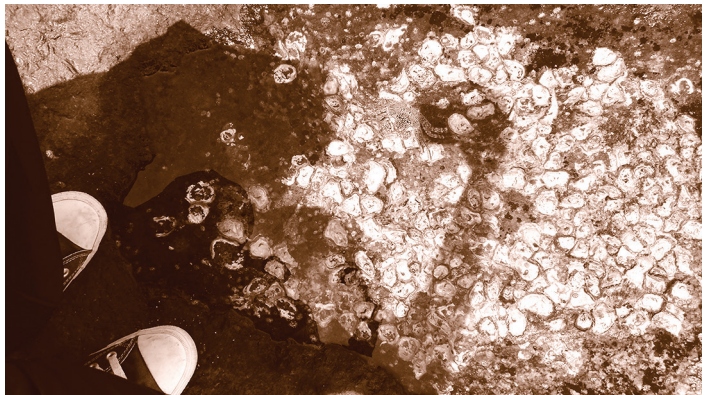
Grasped the basic concept of ecology: the connection and interrelationship between the various components in the environment; and the dependency of human to its environment.

NARRATION FROM STUDENTS

Informant (R1): I never knew that I should not collect dead corals or shells on the beach as they are important nutrients for other organisms on the beach.

Informant (R2): I was never interested to learn about the local flora and fauna even though I see them every day. Through the research activities, I learned the names and identified the interesting flora and fauna found in the forest. The knowledge gained is important to prepare us as junior nature guides.

Informant (R6): I never knew that even dead organisms are still part of the ecological system. This is amazing! That's why we must protect our environment especially its flora and fauna to ensure ecological stability of the environment and prevent extinction.



SPECIFIC GAINS

Learned more about the local flora and fauna especially those with unique characteristics, functions and uses.

NARRATION FROM STUDENTS

Informant (R5): Now I realize that there is an endemic species on the island of Pangkor and Lumut that is Balau Putih (*Shorea lumutensis*). It is so important to protect the species and the Teluk Rubiah Forest Reserve as it represents our identity.

Informant (R6): Before this, I thought that the Black Giant Squirrel (*Ratufa bicolor*) was small, just like a squirrel. I was shocked when I saw that it was as big as a cat!

Informant (H4): I now know the names and uses for some of the herb plants that are commonly found on the island. This is especially so for serai wangi (*Cymbopogon nardus*) and serai makan (*Cymbopogon citratus*) because I never knew there was a difference between them. They look the same! The serai wangi or fragrant lemongrass is used to make insect repellent while the commonly found lemongrass is often used for cooking.



SPECIFIC GAINS

Learned how to conduct scientific research.

NARRATION FROM STUDENTS

Informant (R3): I have learned how to look up for information either through the online or printed mediums. Sometimes, when we are conducting the quadrat sampling, we are unable to identify the plant species on-site. To assist in the identification process, photographs are taken, and the pictures are referred to reference books and online sources. Sometimes references are made with the relevant experts.

Informant (R6): Despite the wealth of information in the online medium, we also learned to extract relevant and important information to complete our task.

Informant (R5): I think documentation is very important. I am glad that I learned how to arrange information and turn it into a proper scientific document. This is an especially useful skill when I study at university.



Outcome 2: Improved personal skills

SPECIFIC GAINS	Gained new skills (e.g. video editing skills, planting skills, sketching and painting skills, depending on the working group they are in).
NARRATION FROM STUDENTS	<p>Informant (M2): I now know how to sketch and draw a life-size Hornbill.</p> <p>Informant (M5): Before this, I would just simply paint using plain colors. But through the program, I learned how to mix the different colors and use contouring techniques to make my painting more beautiful and attractive.</p> <p>Informant (V3): I now know how to use the video editing software. In the process of developing the video, I learned how to edit video, add subtitles, insert background music and so on.</p> <p>Informant (V6): I am not good at editing video because I am not familiar with the software used, but I am good at directing my friends to choose the best angle and lighting for video recording.</p> <p>Informant (H1): I realized that I have been using the wrong planting technique all these while. I learned that to ensure my herb garden grows well, it is important to prepare the planting bed well, specifically using different planting materials to prepare the different layers of the soil.</p>
SPECIFIC GAINS	Being responsible for the decisions made.
NARRATION FROM STUDENTS	<p>Informant (C2): We are responsible for completing the tasks since we were the ones who decided to create the arts and craft group and its activities. So, there should be no excuses for not completing it.</p> <p>Informant (V4): ... because we have committed; therefore, we have the responsibility to complete it.</p>

SPECIFIC GAINS

Better communication skills—ready to share ideas and more confident when speaking in front of many people.

NARRATION FROM STUDENTS

Informant (R3): For me, I learned that communication is important. The process of discussing our tasks with group members and the Mentors, all contribute to the development of my communication skills.

Informant (V3): We must constantly communicate to each other to prevent misunderstanding and ensure that the activities proceed as planned. If any misunderstandings occur, we will discuss among ourselves to reach a consensus on how to solve the problems.

Informant (S2): I was initially very afraid to speak in front of everyone! I was very nervous so much so I couldn't say what I wanted to say. But now, I think I am getting better at it.

Informant (M3): In school, I will never share anything even if my teacher asked me. But in this program, I had no choice. I hated the sharing sessions initially, but now I feel that I have enough confidence to speak in front of many people.

SPECIFIC GAINS

Working as a team.

NARRATION FROM STUDENTS

Informant (R4): I have learned how to work as a team. You know, everyone has their strengths and weaknesses. What you can't do doesn't mean others can't do it.

Research Group members: We divided our tasks and each of us took charge to complete different tasks of our research activities. If not, I don't think we could manage to get it completed.

Arts and Craft Group members: All of these cannot be done alone. We must work together—discussing and making decisions together, cooperating and working with the group members.

Outcome 3: Improved well-being

SPECIFIC GAINS	Physical abilities (e.g. activities required students to be physically active to complete their tasks).
NARRATION FROM STUDENTS	<p>Informant (R4): I find that I am healthier than before. This program gives me a very good reason to be active. Or else I end up doing nothing at home.</p> <p>Informant (C5): The program is great for us because we are not confined indoors. We can go into the forest and use materials for our arts and craft activities. This provides us the opportunity to be physically active, or we would most likely be playing with our phones, watching TV or sleeping, if at home.</p>
SPECIFIC GAINS	Positive mental health (e.g. excited, happy, calm and close to nature).
NARRATION FROM STUDENTS	<p>Informant (C3): Before joining the program, I rarely explore nature due to lack of opportunity as my parents are busy at work and lack interest in nature activities. After joining the volunteer program, I enjoy exploring nature at the conservation site because it keeps my mind calm and peaceful.</p> <p>Informant (R1): ... although the program activities can be tiring at times, but I feel relaxed and it helps me to release stress.</p>
SPECIFIC GAINS	New friendship and social support.
NARRATION FROM STUDENTS	<p>Informant (E3): I am happy to form new friendships and work with my friends. Although we are from the same school, we never greeted or spoken to each other because there are over 1,000 students in school, making it impossible to know everyone. I am not from a high-achieving class, and I feel shy to mix with schoolmates from those classes. But the volunteer program involved students from all classes, and everyone was treated equally. We were encouraged to get to know each other and work as a group. We became friends, we understand each other better, and share similar memories of the program.</p>

Outcome 4: Pro-environmental behavior

SPECIFIC GAINS

Behavior change.

NARRATION FROM STUDENTS

Informants (E2) and (V5): After joining the program, I am more careful with my actions. For example, now I will switch off the lights and turn off the tap after using.

Informant (E3): In the past when I see garbage, I would hesitate to pick it up. But now I just pick them up.

SPECIFIC GAINS

Stronger emotions towards the non-environmental behavior.

NARRATION FROM STUDENTS

Informant (V1): I feel angry when I see anyone littering.

Informant (C2): I feel ashamed because I used to litter. But I do not litter anymore.



A shift in priorities

A simple survey was conducted at the beginning and towards the end of the Environmental Conservation Volunteer Program to map any changes in the needs of the student volunteers.

Findings show that during the initial implementation of the program, the student volunteers were strongly motivated by external needs.

The external needs (e.g. certificate, transportation and friends) were important considerations in their decision to participate and stay as volunteers.

However, as the program progressed, their needs shifted from external to internal. The personal development gained from the volunteering experiences meant more to them than the fulfilment of the external needs. (See Figure 3.)



FIGURE 3**CHANGES IN STUDENT VOLUNTEERS' PRIORITIES**

Before the program

Very important	Important	Doesn't matter at all
A certificate for credential purposes	Food and beverage	Guidance by Mentors
Friends' invitation	Time and date	Training
Transportation		
Type of activities		

After the program

Very important	Important	Doesn't matter at all
Guidance by Mentors	Food and beverage	A certificate for credential purposes
Training	Time and date	Friends' invitation
Type of activities		Transportation

ORGANIZER AND MENTORS



The Organizer and Mentors of the Environmental Conservation Volunteer Program found the experience of organizing and mentoring process meaningful. The following pages offer the gist of what we learned.

#1: ONE SIZE FITS ALL?



Not quite.

A program developed to meet the expectations and needs of one group does not necessarily work for another.

We encourage organizers and mentors to actively review and adjust the program to cater for each group's unique expectations and needs.

Do so as you go along, without deviating from the program goals and objectives. Bear in mind that the planning, organizing, implementation, monitoring and evaluation processes form the backbone of this project and have been found to be effective in getting school students to volunteer in conservation initiatives on the long term.

#2: OPPORTUNITY IS GOLDEN

Offer someone
the chance
to get involved.
They may find
the idea too good
to miss!

YES Yes YES YES

Yes Yes Yes

yea YES Yes Yes

yes yes Yes

Yes YES Yes Yes

yes please YES

yes yes YES Yes

YES YES Yes

“Perhaps I should”

Student volunteers do respond to the opportunities offered to them, but they can only say ‘Yes’ to a program that they are aware of.

Some of their volunteering experiences were limited to arranging shoes and folding the prayer mats in the mosque, and picking up rubbish in the school compound during ‘gotong-royong’ activities.

Volunteering in a conservation program was not something that had crossed their minds. They did not know, for instance, that volunteers were needed at the site.

When the opportunity to do so was offered through the school, they began to consider volunteering and “getting involved”.

#3: REPEATED EXPOSURES

Help student volunteers find their footing.

The more secure they feel, the more committed they become. The many sessions that we carried out allowed the student volunteers to familiarize with the processes involved in completing the tasks.

Through repeated exposures, they gained confidence executing the work plan, and volunteered more regularly.

#4: THE INFLUENCERS

A student's decision to volunteer is often influenced by the key people in their lives: parents, teachers and friends.



Receptivity & commitment

The school communities' willingness to embrace the project gave the students the opportunity to flourish as volunteers.

The teacher advisors were instrumental in bringing together mentors, students, and parents.

Their commitment had a direct and positive impact on the student volunteers' attendance and participation—prior to each volunteering session, relentless preparation was made to ensure they received the support and motivation they needed.

Conclusion

This guidebook provides a detailed process that engages both the organizers and volunteers actively throughout the planning, organizing, implementation, monitoring, evaluation and reporting of the Environmental Conservation Volunteer Program to provide meaningful learning experiences for everyone.

Student volunteers gained many forms of personal and social development skills (e.g. new knowledge and experiences, improved interpersonal skills) from the learning experiences.

The program has also reinforced the importance of organizer and mentors to understand the volunteers' knowledge and past experiences prior to developing the program as well as taking into consideration their expectations and needs.

Sustaining the spirit of volunteerism can only be materialized through opportunities given and through familiarization of the learning process and tasks.

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This guidebook provides a step-by-step guide to the development and implementation of an environmental conservation volunteering program.

It documents the journey of secondary school students, teachers and Mentors involved in an Environmental Conservation Volunteering Program in Perak, Malaysia.

We hope the processes detailed in this book will be valuable to environmental educators in developing environmental conservation volunteer programs that cater to the needs and expectation of volunteers, and capacity building them into top notch volunteers. These processes have proven to be effective in keeping volunteers engaged in the long term.

Together let us build armies of volunteers that are concerned and actively involved in the conservation of their local environment.

