

# PROGRESS UPDATE: EMPOWERING PRE-SCHOOL TEACHERS KNOWLEDGE ATTITUDE AND PRACTICES OF SYSTEMS THINKING

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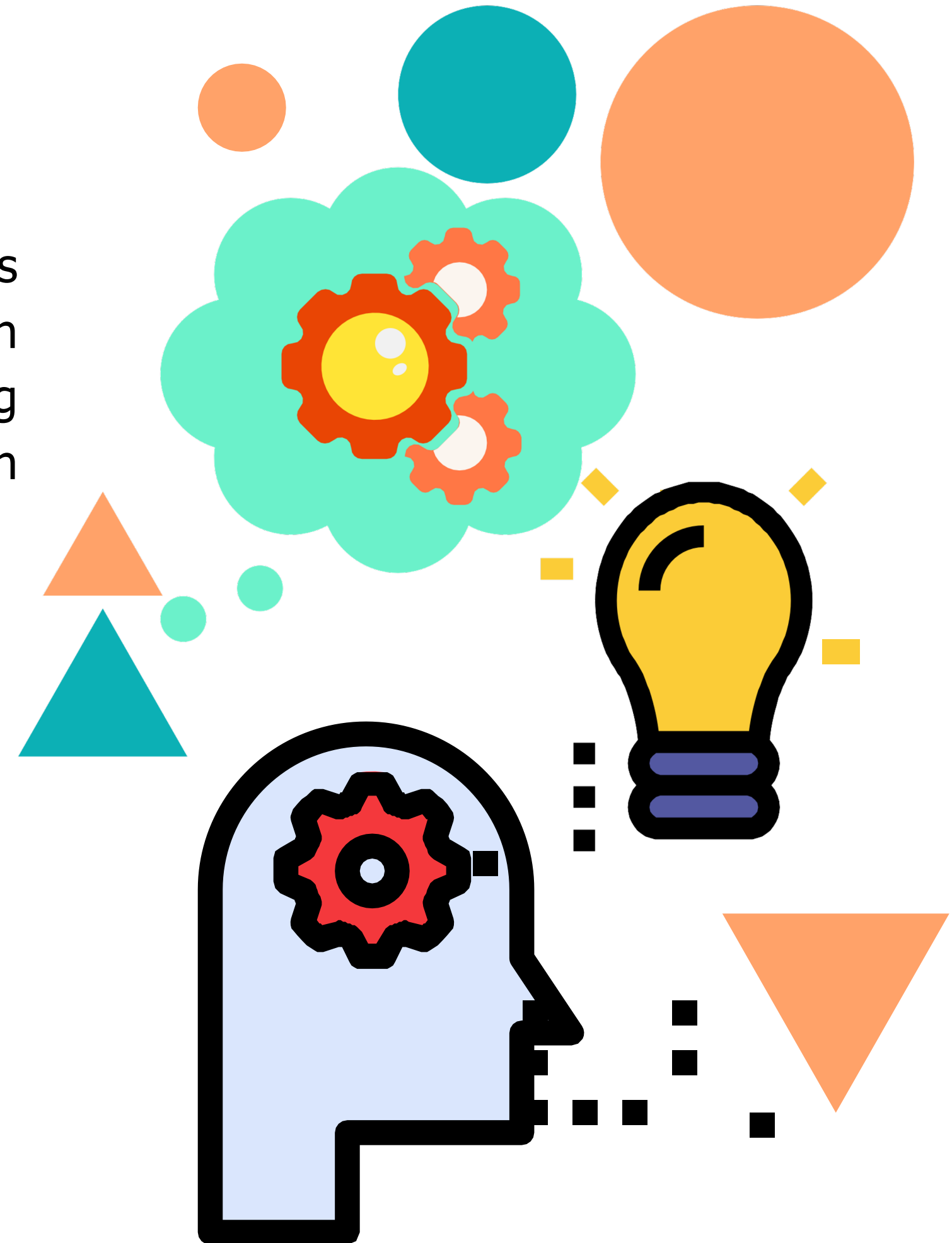


# Project Overview

This project aims to empowering pre-school teacher's knowledge attitude and practices on systems thinking through strategic partnership between RCE Penang CGSS, Penang Institutes, Penang Education Council and Pre-school Unit Jabatan Nazir Negeri Pulau Pinang.

A series of activities involves all parties were schedule as the following:

- Knowledge sharing through workshop
- Knowledge transfer through classroom practice module development
- Facilitating and monitoring, living lab school initiative
- Knowledge distribution through Competition and show case



# Objectives



**To impart systems thinking knowledge and practices among pre-school teachers**



**To develop appropriate mindset and behavior on ESD among pre-school teachers**

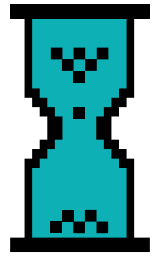


**To create systematic modules as teaching and learning tools through partnership approaches**



**To empower teachers and pre-school students to be enablers of ESD**





# Project Timeline

**MAY-JULY**  
Collaboration  
with Penang  
State  
Education  
Department.  
Nomination  
and selection  
of preschool  
teachers.

**JULY**

Workshop on  
Empowering Pre-  
School Teachers  
Knowledge  
Attitude and  
Practices of  
Systems  
Thinking 23 July  
2022

**AUGUST**

Workshop on  
Knowledge  
Transfer  
through  
Classroom  
Practice:  
Module  
Development

**SEPTEMBER-  
DECEMBER**

Facilitating and  
monitoring,  
living lab school  
initiative



**23 July 2022**— Organized workshop with preschool teachers on Systems Thinking.

**School Visit :-**





# Budget

BIL	COMPONENT	TOTAL (RM)
1	Budget application	11950
2	Budget Received	5975
3	Expenditure : workshop food	1000
4	Expenditure : Honorarium for 4 school project SJKC KAMPUNG BERAPIT SK KEPALA BATAS SK TANJUNG BUNGA SJKT PALANIANDY (REPORT NOT SUBMITTED)	2000
5	Expenditure Module construction) [not commit yet because module is still in progress]	1500
6	Future plan	500 (copyright)

# MODULE

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graph TD; MODULE[MODULE] --> SJKC[SJKC PERKAMPUNGAN BERAPIT]; MODULE --> SKKB[SK KEPALA BATAS]; MODULE --> SKTB[SK TANJUNG BUNGA];
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**SJKC  
PERKAMPUNGAN  
BERAPIT**

**Responsible Consumption and Production (SDG 12) integrated with Sustainable Cities and Communities (SDG 11) and Climate Change (SDG 15)**

**SK KEPALA  
BATAS**

**Kelaparan Sifar (SDG 2)**

**SK TANJUNG  
BUNGA**

**Responsible Consumption and production (SDG 12) integrated with Good Health and well-being (SDG 3) Climate action (SDG 13)**



# SK Tanjung Bunga

Teacher	Nur Sobirin
Student	
Project	Aerobic Composting
Project's duration	8 weeks
SDGs Goals	<b>Responsible Consumption and production (SDG 12) integrated with Good Health and well-being (SDG 3) and Climate action (SDG 13)</b>



# Project's flow and System Thinking

## Week 1



### Activity :-

Identifying components of a system and processes within the system

### System Thinking :-

Understanding system mechanism (S4)

## Week 2



### Activity :-

Student share about the way they eat at home.

### System Thinking :-

Understanding dynamic behaviour (S7)

## Week 3



### Activity :-

Student predict food waste's weight after 2 week period.

### System Thinking :-

Future prediction (S6)

## Week 4



### Activity :-

Student listen to the teacher's explanation on how to produce compost from food waste.

### System Thinking :-

Identifying and understanding feedback (S5)

# Project's flow and System Thinking

## Week 5



### Activity :-

Student sift compost with soil.  
Student put compost mixed with soil into the bottle.

### System Thinking :-

Understanding system mechanism (S4)

## Week 6



### Activity :-

Student see the development of seedlings.

### System Thinking :-

Recognition of causality (S3)

## Week 7



### Activity :-

Storytelling by students about flower trees planted with compost and normal soil.

### System Thinking :-

Seeing the whole (S2)

## Week 8



### Activity :-

Student can understand that the use of compost can makes the vegetable plants flourish.

### System Thinking :-

Hidden dimension (S1)



# Reflection

- Teacher discover new methodology of teaching.
- Student experience real life activity such as sift compost with soil and put compost mixed with soil into the bottle.
- Student able to have clearer idea about how aerobic composting can contribute in climate change action.



# SK Kepala Batas

**23 July 2022–** Organized workshop with preschool teachers on Systems Thinking.

**SCHOOL**

**SK Kepala Batas**

**TEACHER**

- 1. Nur Halawati Jannat Binti Saad**
- 2. Norhasliza Binti Mohd Khodin**

**PROJECT**

**Bread Production System**

**PROJECT'S DURATION**

**8 Weeks**

**SDGs GOAL**

**ZERO HUNGER (SDG 2)**

# Project's Flow and System Thinking

## WEEK 1

### ACTIVITIES:

- 1) Ask the students about the poor and those who have no food and their favorite food.

### System Thinking

- Understanding dynamic behavior (S7)



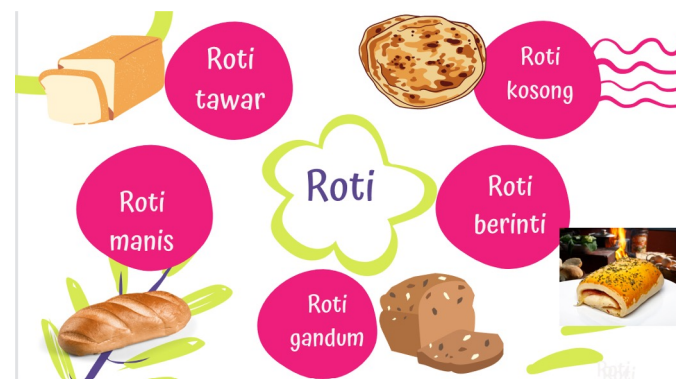
## WEEK 2

### ACTIVITIES:

- 1) Pupils are required to name the different types of bread that are commonly eaten.

### System Thinking

- Identifying Intervention Points (S8)



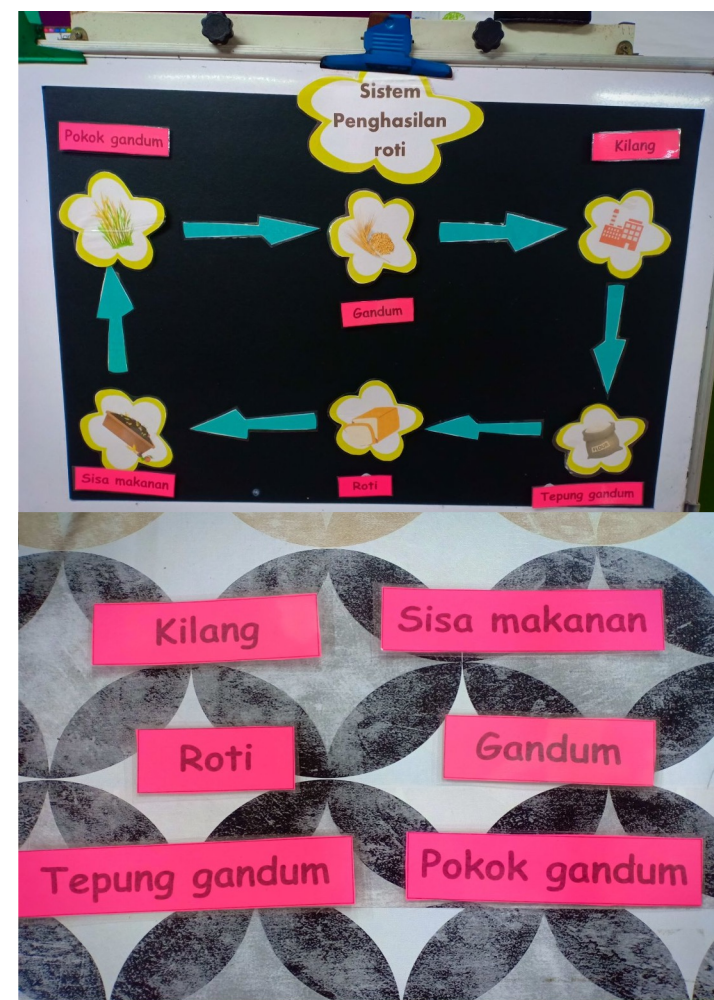
## WEEK 3

### ACTIVITIES:

- 1) Explain about the bread production system flow chart.

### System Thinking

- Understanding systems mechanism (S4)



## WEEK 4

### ACTIVITIES:

- 1) Pupils are required to mention the steps of planting wheat trees.

### System Thinking

- Understanding systems mechanism (S4)



# Project's Flow and System Thinking

## WEEK 5

### ACTIVITIES:

- 1) Teacher explains how wheat flour is produced.

### System Thinking

- Identifying and understanding feedback (S5)

## WEEK 6

### ACTIVITIES:

- 1) Pupils are required to carry out the activity of picking and pasting the wheat production process based on the explanation given by the teacher.

### System Thinking

- Identifying and understanding feedback (S5)

## WEEK 7

### ACTIVITIES:

- 1) Teacher explains the steps of making donuts.

### System Thinking

- Identifying intervention points (S8)

## WEEK 4

### ACTIVITIES:

- 1) Students are required to wrap the donuts produced.
- 2) Carrying out selling activities among preschool students.

### System Thinking

- Understanding dynamic behavior (S7)





# REFLECTION

- As a result of the findings, it was found that all students were able to relate the activities carried out by giving a good response and cooperation.
- Educators should first be exposed to various sustainability activities to help students accept them.
- The readiness of teachers in terms of the knowledge of sustainability activities will help improve students' sustainability attitudes and behaviors at the beginning of formal education.
- The school management plays an important role in supporting the planning and implementation of the planned programs.

# SJKC P Berapit

Teacher	Chong Mew Im
Assistant	Yuhana Binti Yusoff
Student	25 pupils at age 5 years old
Project	Recycling
Project's Duration	8 Weeks
SDGs goal	The Main Sustainable Development Goals (SDG) choosen for this project is Responsible Consumption and Production (SDG 12), beside Sustainable Cities and Communities (SDG 11) and Climate Change (SDG 15) will be integrated



# Project's Flow

## Week 1

### Getting to know recycling

- Teacher presents a slide show about "Save the Earth"
- Pupils watch documentary about global warming effects and human activities effects
- Storytelling "Monttainai Grandma" and "The Little House"

**System Thinking** - Hidden dimension (S1)



## Week 2

### Learn how to separate recycle items

- Watch a documentary about the challenges of sustainable food packing
- Teacher teaches a recycling song
- Pupils manage to identify recyclable items with teacher's guidance
- Pupils learn how separate items with teacher's guidance

**System Thinking** - Seeing the whole (S2)



## Week 3

### Zero waste management

- Pupils watch again documentary about global warming effects and human activities effects
- Storytelling "Monttainai Grandma" and "The Little House"
- Pupils practise zero waste during their mealtime
- Teacher guides pupils to do compost

**System Thinking** - Recognition of causality (S3)



## Week 4

### Selling recycle items

- Pupils get involve in school monthly recycling program by bring recyclable items from home

**System thinking** - Understanding systems mechanism (S4)



# Project Flow

Week 5

## Support secondhand stall in school

- Pupils bring along their parents to buy second hand goods
- System Thinking** - Identifying and understanding feedback (S5)



Week 6

## Predict how long does it take for garbage to decompose

- Pupils set up an aquarium to observe how long does it take for garbage to decompose

**System Thinking** - Future prediction (S6)



Week 7

## Visit to Kilang Cendawan

- Visiting and learning

**System Thinking** - Understanding dynamic behavior (S7)



Week 8

## Routine practice in the class

- Composting
- Use eco-friendly bag
- Buy second hand goods
- Reduce plastic usage
- Recycling
- Eat more vegetable
- Use handkerchief
- Save water/electricity

**System Thinking** - Identifying intervention points (S8)



# Reflection

- Students are learning sustainable lifestyle and practicing it in school and at home. They also are learning how to save the earth at the same time and implement in their daily routine.
- This project given a good start to instill teachers, students and parents' knowledge attitude and practices of systems thinking to empower them as enabler on Education for Sustainable Development agenda. It should be continuously practicing after this project and extended it to other sustainable development goals as well.



**Thank  
You**