

**EFFECTIVE USE OF
DIFFERENTIATED INSTRUCTIONAL
STRATEGIES TO
NURTURE CREATIVITY AND EMPATHY**

Lam Tin Methodist Primary School

Details of the try-out project

- Member of GETN : Since 2017
- Try-out lesson :
- P.3 in 2022 (Simple Gifts)
- P.6 in 2023



Details of the try-out project

Level : P.6

Topic : Endangered Animals

Learning objectives

Knowledge	Skill	Attitude
<ul style="list-style-type: none">• To enable students to identify the features of a good poster for animal conservation	<ul style="list-style-type: none">• To develop students' problem-solving skills through suggesting ways to protect endangered animals• To cultivate students' creativity through designing posters of endangered animals	<ul style="list-style-type: none">• To let students develop caring attitudes towards the endangered animals

PRIOR KNOWLEDGE OF STUDENTS

Students have learned

- vocabulary of some endangered animals some threats that some endangered animals are facing

Students have attempted

- to think of actions regarding the animals' threats

DIFFERENTIATED INSTRUCTIONAL STRATEGIES DEPLOYED

- Tiered questioning
- Tiered learning tasks
- Flexible groupings (Homogeneous grouping)

IMPACT ON STUDENTS' LEARNING

1. Identifying threats of endangered animals from texts and suggesting solutions for the problems
2. Designing posters making use of the above information

TEXTS: WHICH ANIMALS SHOULD WE CHOOSE?

Things to consider:

- Do students have enough world knowledge of endangered animals?
- Are students familiar with that kind of endangered animals?
- Do they have a lot of room suggesting creative ways to save that kind of animals?
- Can the less able students also suggest ways to help that kind of animals?

AFTER CONSIDERATION.....

- Choose animals that are relatively familiar to students
- They have basic world knowledge
- Variety of threats (e.g. habitat loss, killed for body parts, stereotype...)
- More diversity and creativity when students thinking of ways to help them

① 9, 15, 7, 3 (Elephants)

② 12, 20, 29, 26 (tigers)

③ 19, 28, 1, 17 (elephants)

④ 2, 21, 22, 24 (tiger)

⑤ 4, 8, 5, 11 (tiger)

⑥ 23, 25, 27, 32 (shark)

⑦ 10, 13, 14, 30 (shark)

- 28 students in total
- Divided into 7 groups

***Heterogeneous

grouping?

Homogeneous grouping?

Before the lesson:

We designed texts of the 3 animals, allowing students to find out the threats the animals facing.....

Sharks

Sharks are one of the most fascinating and misunderstood creatures in the ocean. They come in many different shapes and sizes, from the tiny lanternshark to the massive whale shark. Although some people think that they are fierce, they are not dangerous to people. Unfortunately, they are now facing many threats.

(Overfishing) is one reason that causing a drop in the number of sharks. Many sharks are caught in fisheries for both leisure and money, which greatly reduces the number of sharks and some species of sharks are nearly extinct.

(Sharks are also losing their habitats.) Sharks depend on clean sea water. However, human activities like coastal development, pollution and global warming make sharks having less areas to live. 污染 全球暖化

Many sharks also die of bycatch. Sharks often get caught in fishing nets. The fishers do not want sharks but they swim into the net accidentally. When the fishermen found them, it is often too late since some of the sharks die because they cannot breathe in the nets.

Shark finning is the main reason for the drop in number of sharks. People catch sharks, remove their fins, and throw the rest of their bodies at sea. Shark fins are famous because it can be made into a popular Chinese cuisine. Without shark fins, sharks cannot swim and will eventually lose their lives.

Elephants

Elephants are large and clever animals. They live in Africa and Asia. They are the largest land animals and can weigh up to 6,000 kilograms! Elephants have a distinctive long trunk that they use for doing different things, such as breathing, smelling, drinking, and picking up objects. They are social animals and often live in groups. They only eat plants, such as grasses, leaves and fruits.

Unfortunately, elephants are facing many threats in the wild. First, they lose their habitats. People are cutting down trees or building things where elephants live, which makes it hard for them to find food and places to live.

Second, they are killed for their ivories. Some people kill elephants to take their long teeth, which they sell for money. This is wrong but it still happens! People use the ivories to make jewelries, sculptures, piano keys, billiard balls, and even mahjong!

Third, they may cause troubles to people. Some people live close to elephants' homes. Sometimes elephants damage their crops or property or people feel unsafe around them, which may affect their relationships. When people scare them, they may be angry or nervous. They may run wild and hurt or even kill people.

Fourth, global warming also affects them. The hotter weather makes them harder to find food and water. Some of them may die because they can hardly find food and water for themselves.

Tigers

Tigers are large, powerful cats that are found in Asia. They are beautiful animals with distinctive orange coat and black stripes. However, they face a lot of threats. Only about 4,000 tigers remain in the wild so much more work is needed to protect this species if we are to secure its future in the wild.

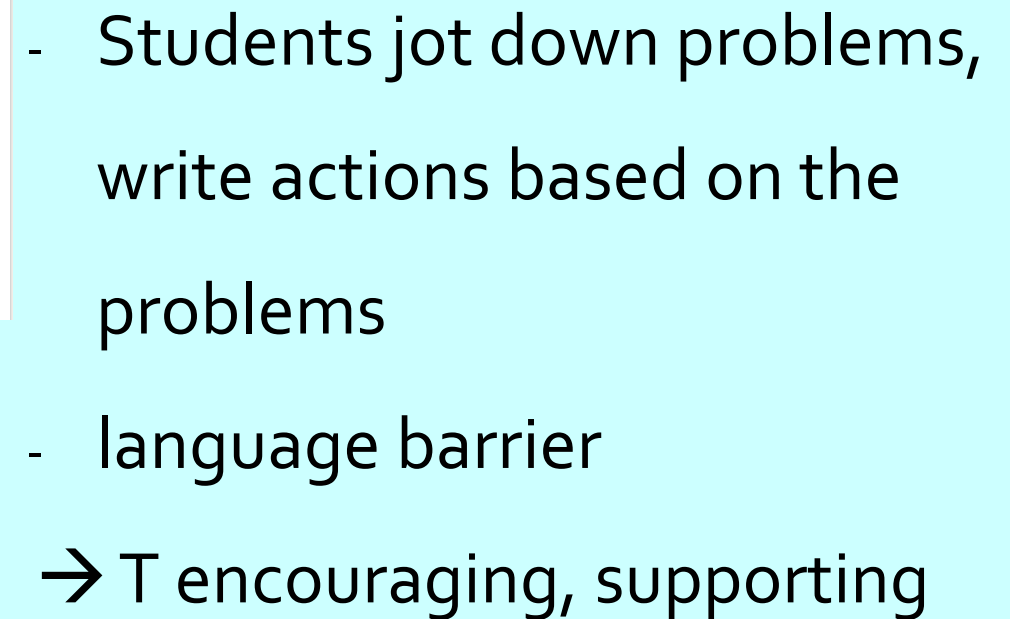
First, **they are losing their homes**. Their habitat has been destroyed by human activities. People are cutting down trees and building road networks where tigers live. Tigers need a lot of space to survive. Fewer tigers can survive in small, scattered islands of habitat as it is hard for them to find food and safe places to live.

Second, **people hunt them to make money**. Tigers are hunted for their skin, bones, teeth and claws. People think that their skin is beautiful and often uses as luxury rugs to indicate status and wealth. Tiger bones, teeth and claws are used in Chinese medicines. This makes a lot of tigers dead in recent years.

Third, **there is the human-tiger conflict**. People and tigers increasingly compete for space. As forests are becoming smaller, tigers are forced to leave protected areas to find food. This takes them into human living areas where they can hunt animals that people own. Tigers may hurt people too. Therefore, tigers are sometimes killed or captured. 'Conflict' tigers can end up for sale in black markets.

Fourth, **global warming also affects tigers**. Changes in temperature and rainfall patterns can affect tiger habitats and food sources, and may also increase the risk of disease outbreaks.

To help protect wild tigers, we can reduce the use of products derived from forests, such as wood and paper. We should also avoid buying products made from tiger parts. To prevent global warming, we should save energy in our daily life.



Students' work

Problems

1a they are losing their homes.

2a People hunt them to make money.

3a There is the human-tiger conflict.

4. Global warming also affects tigers.

1b- Their habitat has been destroyed by human activities.
2b- Tigers are hunted for their skin, bones, teeth and claws.

3b. People and tigers increasingly compete for space.

Result

- Only around 4000 tigers left in the wild

Actions

have legislation
Imposing laws

→ Can only cut trees if the government allows.

Set up

have other means
or organs

Set up some
protected areas

→ x cut trees, x
hurt fortresses
there

drink other wine
(what other wine can you
drink?)
is wine

Group 4

(2 , 21 , 22 , 24)

Problems

1. Overfishing
2. losing their habitats
3. die of bycatch
4. Shark finning
5. global warming
- 6.



Result

- Over 100 million of sharks are killed every year



auto-detecting machine

Actions

1. set some times people can not catch fish. (set a fishing moratorium)
2. ^{protected} protective areas
3. ^{de tap 馬群} auto-detecting machine
4. don't eat shark fins, don't go to the restaurant that sell sharks ^{fin} fins. make some ^{artificial} fake shark fins, eat another food.
5. turn down air-condition
- 6.

Group 7

(10 , 13 , 14 , 30)

when shark go into the fishing nets, the nets will let the sharks go.

Problems

- 1) They (tigers) are losing their homes.
→ People are cutting down trees and building road networks where tigers live.
- 2) People hunt them to make money.
→ For their skin, bones, teeth and claws. Often uses their skin to indicate status and wealth.
- 3) There is the human-tiger conflict.
→ Forests are becoming smaller, tigers can't find food.



Result

- Only around
4000 tigers
left in the
wild



Actions

- 1) People can build some protected areas for the tigers and we can set some laws.
→ The laws.
If people cut trees or hunt them in that areas that they will get catch.
- 2) People live next to the forest^{can provide}
food, raise pigs, cows. And the government will give the people money back for raise.
→ The food/animals
Peoples can go to the market and buy some meat for the tigers or kill the pigs or cows.
- 3) The government can build a tiger farm. If there is too many tigers in the farm then the government can let the people hunt the tigers so that there won't have too many tigers and people can get the died tiger's Valuable Organs.
→ In the farm.
Tigers can breed offspring in the farm.

Group 5

(4 , 5 , 8 , 11)

Tigers

Problems

1. Overfishing
2. Sharks are also losing their habitats.
3. Many sharks also die of bycatch.
4. Shark finning is the main reason for the drop in number of sharks.



Result

- Over 100 million of sharks are killed every year



Actions

- ~~Worldwide~~ global agreement: limit the catch of sharks
1. Make a ^{protected} protective areas to protect sharks. _{protected}
 2. Don't make many rubbish to pollution the ocean.
 3. Global agreement: limit the catch of sharks.
 4. Don't sell the sharks, make the shark fin soup but use another food to ^{replace} _{replace?}
 - ④. We can use ^(Konjac) jelly to make shark fin soap.
 - ③ We can use GPS to follow sharks. if they touch the fishing nets, we can use machine to make ultrasound to them.

Group 6

(23 , 25 , 27 , 32)

GPS follow sharks

ultrasound
超声波

vegetarian

if they touch the fishing nets

Problems

- People are cutting down trees or building things where elephants live.
- They are killed for their ivories. Some people kill elephant to take their long teeth.
- They may cause troubles to people because some people live close to elephant's homes.
- Global warming also affects them.



Result

- Over 20,000 of elephants are killed every year



Actions

- Set up some protective zones.
- not cut tree not hurt elephants there have legislation
- impose law. People who cut trees will be receive penalties
- use pepper, chilli and charcoal around them away
- turn down the air-con and reuse energy.
- people can use drones to monitor where the elephant are and the government can block the road.
- take materials from human teeth trying to make man-made ivories
- make a man-made elephants to replace the herd of elephants

- use drones to tracking if the elephants are in forbidden area then there will warning sent have a device to people.

Group 1
(3 , 7 , 9 , 15)

Elephant

- Put some pepper or chilli around the house

THEN...


1. Identifying threats of endangered animals from texts and suggesting solutions for the problems
2. Designing posters making use of the above information

LEAD-IN

The teacher → Noah

All students → sharks /
elephants/
tigers

Things to consider:

- Better not spending a lot of money
-  speak to people? OR make something to show to people
- People can get the message in a short time
- The message can stay in their mind for a long time

→ Allow students to think about the possibilities first

**Let's take a look at the two posters
from our friends - tortoises.**

titles, pictures, actions

- Which part(s) do you like more?
- Which part(s) better show we need help?

Do you want to see these?



Reduce carbon footprints



Protect tortoise habitats



NO more tortoise shell products

Sources of images:

1. https://commons.wikimedia.org/wiki/File:Olive_ridley_turtle_dead_at_Bheemunipatnam_beach_01.jpg
2. <https://www.publicdomainpictures.net/en/view-image.php?image=360148&picture=turtles-art-vintage-clipart>
3. <https://www.wallpaperflare.com/turtle-greek-tortoise-reptile-animal-armored-tortoise-shell-wallpaper-eotvk>

**We need to protect tortoises
because they are in danger!**



Wild tortoises are facing a lot of threats:

1. Loss of habitat: Tortoises need specific habitats to survive, but people are cutting down trees or building things where tortoises live, which makes it hard for them to find food and safe places to live.
2. Climate change: Changes in temperature and rainfall patterns can affect tortoise habitats and food sources, and may also increase the risk of disease outbreaks.
3. Poaching: Some people collect wild tortoises for pets or for their shells, which can lead to a significant decline in tortoise populations in some areas.
4. Pollution: Pollution from human activities can contaminate the environment and harm tortoises and their habitats.



To help protect wild tortoises, we can support conservation efforts that aim to protect their habitats, reduce our carbon footprint to address climate change, avoid buying products made from tortoise shells, and reduce our impact on the environment by properly disposing of waste and avoiding polluting activities.

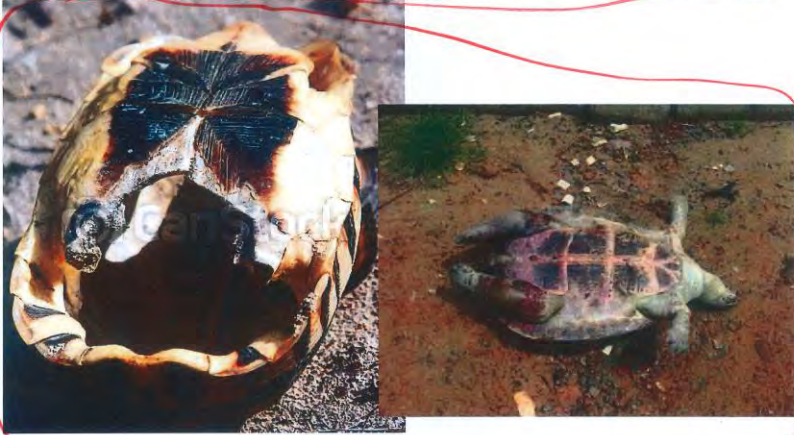
Sources of images:

1. <https://openclipart.org/detail/227476/cartoon-turtle>
2. <https://www.wannapik.com/vectors/1595>

Title
pictures
actions

Results are a bit surprising!

Do you want to see these?



Reduce carbon footprints

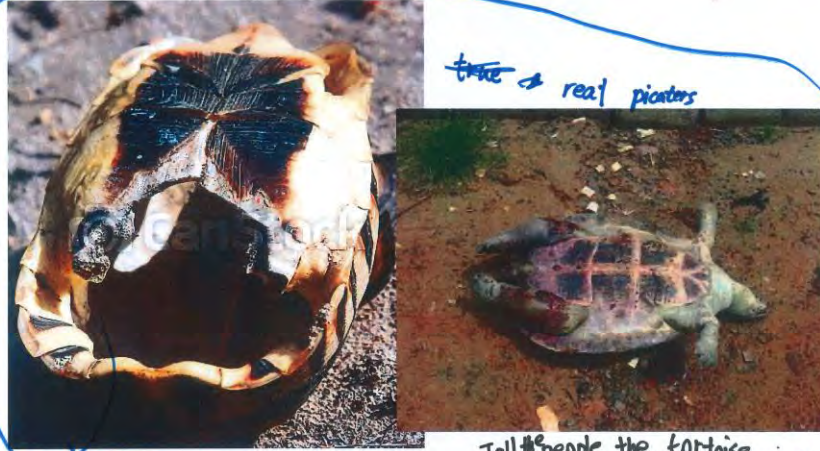


Protect tortoise habitats



NO more tortoise shell products

Eye catching colour
(Do you want to see these?)



these are real pictures

Tell people the tortoise ~~are~~ really die



(Reduce carbon footprints)

This is easy to ~~read~~ know



(Protect tortoise habitats)



NO more tortoise shell products

What we expected...

- * Clear title
- * Powerful images
- * Effective actions

- Get Ss back to the aim of making a poster :
To arouse people's awareness of animal protection
- Can this design show that the endangered animals really need people's help? Will you spend much time reading it?

Poster making stage

In each group:

1 animal: Write the title

2 animals: Write the actions

1 animal: Prepare images in the poster

Photos/ images of tigers, elephants and sharks

- Friendship
- Cuteness
- Cruelty of people

→ Students have to think how to arouse people's sympathy with their design



STUDENTS' WORK

We need to save Tigers!

① People hunt them to make money (bad)



← We can help them: teach people how to save tigers.
Use 3D printer make tigerskins.

② Global warming also affects tigers (bad)

We can help them: We should save energy in our daily life.



!! Respect To Tigers !!



Be friends with us!!

- Protect tiger habitats ✓
- STOP cutting trees ✗
- STOP hunting tigers to make money ✗

Be Tiger Friendly.

Save them!

✓ Can only cut trees if the government allows. ☺

✗ People cut the tigers skin and sell it. ☹



✓ Set up some protected areas to protect them. ☺

✗ Say No to tigers skin products. ☹



☹ Save us!



Save Sharks!



1. No more shark fins soup!
2. Set a fishing moratorium!
3. Set a protected areas!

After we
save them,
they will
be
Happy



No more
shark
fins!!!
Soup!!!



WHAT WE CAN HELP THE SHARKS ???



1. Make a protected area
to protect sharks.



2. Don't eat shark fin!!

3. We can use GPS to follow
sharks, if they touch the fishing nets,
we can use machine to make ultrasound
to them.



STOP IT!

GIVE SOME HELP!



Stop using our
ivories!!

Stop selling our ivories!

You can use 3D printing
to make ivories!

We are very
painful!

Stop cutting the trees!
Please be friendly to us!
Stop making so many
Smoke!

We don't have
a home to live!



Protecting elephants Starts with You & Me



People kill elephants to
take their long teeth!
How can we do? ↓

Take materials
from human teeth
trying to make
man-made ivories.

People are cutting down trees
or building things where elephants
live.

They may cause
troubles to people

Set up some
protect areas

use chili and
charcoal

people
can use drones



the monitor where
are the elephants are
and the government can block
the road. ♥



辣椒和木炭——这些都是大象不喜欢的
chili and charcoal -- the elephants
don't like it one bit



Don't kill or hunt
elephant! 😊



Peer evaluation check list - Poster

6E L22

Group (6)

Andy Li

Does the poster include:	Yes	No
1. powerful images	✓	
2. a clear message (title)	✓	
3. effective actions	✓	

Peer evaluation check list - Poster

Group (5)

Does the poster include:	Yes	No
1. powerful images	✓	
2. a clear message (title)	✓	
3. effective actions	✓	

Peer evaluation check list - Poster

Group (1)

Does the poster include:	Yes	No
1. powerful images	✓	
2. a clear message (title)	✓	
3. effective actions		✓

Peer evaluation check list - Poster

Eason Lau
(19)
6E

Group (6)

Does the poster include:	Yes	No
1. powerful images		✓
2. a clear message (title)	✓	
3. effective actions	✓	

Peer evaluation check list - Poster

Group (5)

Does the poster include:	Yes	No
1. powerful images	✓	
2. a clear message (title)	✓	
3. effective actions	✓	

Peer evaluation check list - Poster

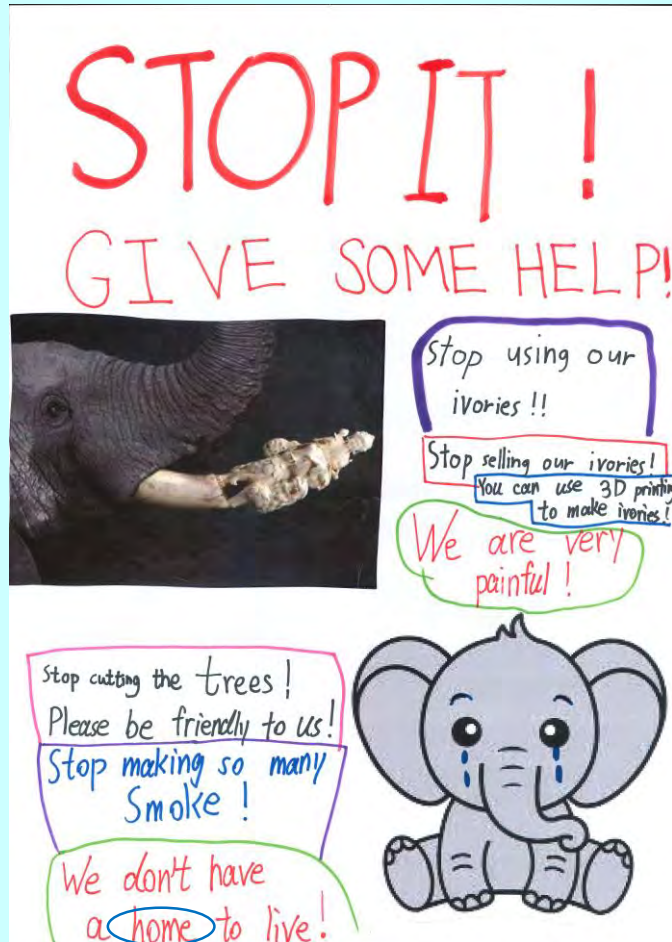
Group (1)

Does the poster include:	Yes	No
1. powerful images	✓	
2. a clear message (title)	✓	
3. effective actions	✓	

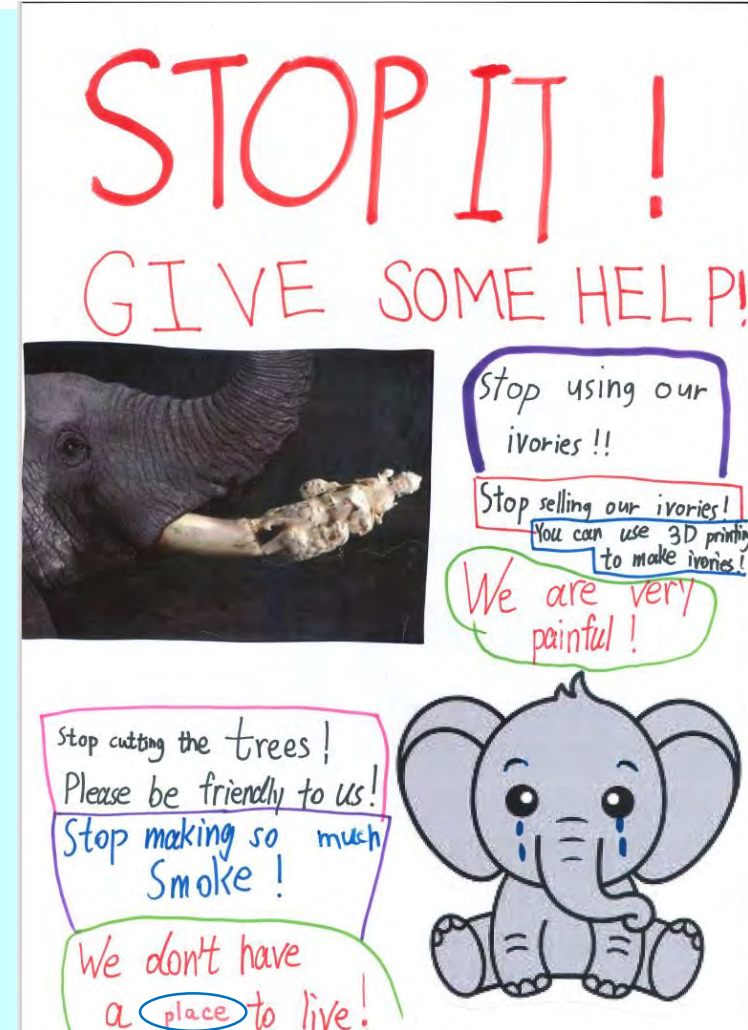
POST-LESSON

- Students were given time to revise their posters with reference to the comments they received from their peers

old



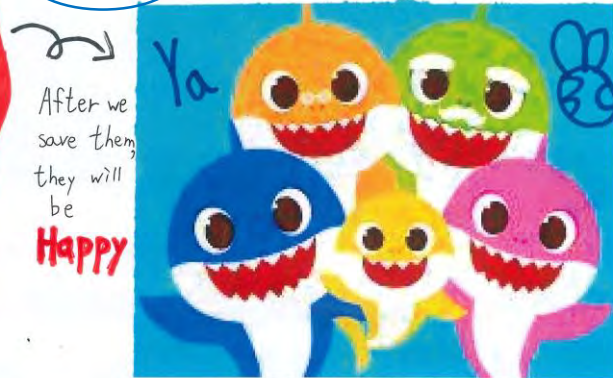
new



Save Sharks!



1. No more shark fins soup!
2. Set a fishing moratorium!
3. Set a protected areas!



After we
save them
they will
be
Happy



(No more
shark
fins!!!
Soup!!!)



new

Save Sharks!



1. No more shark fin soup!
2. Set a fishing moratorium!
3. Set up protected areas!



After we
save them
they will
be
Happy



(No more
shark
fins!!!
Soup!!!)



WHAT WE CAN HELP THE SHARKS ???



old 1. Make a protected area
to protect sharks.



2. Don't eat shark fin!!

3. We can use GPS to follow
sharks, if they touch the fishing nets,
we can use machine to make ultrasound
to them.



How WE CAN HELP THE SHARKS ???



new 1. Set up protected areas
to protect sharks.



2. Don't eat shark fin!!

3. Use ultrasound to scare
sharks away from fishing nets.



old

Respect To Tigers !!



- Be friends with us!!
- Protect tiger habitats ✓
- STOP cutting trees ✗
- STOP hunting tigers to make money ✗

new

Respect Tigers !!



- Be friends with us!!
- Protect tiger habitats ✓
- STOP cutting trees ✗
- STOP hunting tigers to make money ✗

old

Protecting elephants Starts with You & Me



People are cutting down trees or building things where elephants live.

They may cause troubles to people

Set up some protect areas



use chili and charcoal



people can use drones to monitor where the elephants are and the government can block the road. ❤️



Don't kill or hunt elephant! 😊



People kill elephants to take their long teeth! How can we do? 😞

Take materials from human teeth trying to make man-made ivories.

new

Protecting elephants Starts with You & Me



People can try to make man-made ivories



Set up some protect areas — Use chili and charcoal can make them go away



Use drones to monitor elephants.



Don't kill or hunt elephants! 😊

REFLECTIONS

1. Grouping

→ Ability grouping? Mixed Grouping?

→ Ability grouping , though some groups could be even brighter, some struggled a bit in coming up with actions to help animals

→ Some students can have more roles in their groups

REFLECTIONS

For improvement ...

- Assigning a more able student as the group leader
- Stimulating groupmates for more ideas
- Different roles assigned to students:
 - time manager
 - checklist manager
 - spelling / grammar manager

REFLECTIONS

For improvement ...

- Assigning a more able student as the group leader
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 - time manager
 - checklist manager
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For better Group dynamic: allowing students to form group by themselves (levels of texts are not apparent)

REFLECTIONS

2. Students' sharing time

- At last just 3 groups of students could share their posters in the lesson
- may spare more time / another lesson for students' sharing

3. Poster elements

- more elements apart from simple words and pictures?
- emojis? Props?

REFLECTIONS

4. Discussion time

- 2 more minutes for students to walk around to talk with other groups?
- peer checking & learning

5. Vocabulary

- animal protection related: poaching, harm, theft....
- adjectives of emotions

REFLECTIONS

6. Checklist

→ really show a big poster listing out features

vs.

stating features just in words on a board

7. Language across Curriculum

→ cooperating with other subjects (General Studies?
Library?)

→ enriching students' world knowledge of animals

→ better understand animals' situation

SUGGESTIONS TO OTHER TEACHERS

1. Passion & Mission

- what is Gifted Education
- why do students need Gifted Education
- how can the implementation of gifted education in the regular classroom help students?

2. Team Work

- Clear job allocation
- Good communication
- Support each other

WAY FORWARD

Gifted Education - Level one

- Modified Lessons we developed (P.3,P.6)
- Cross-curriculum Lessons (P.5,P.6)
- BYOD (P.4)
- Creativity (P.1-P.6)

WAY FORWARD

Gifted Education - Level two

- Presentation Skills
(LTMPS Alumni Association)
- Creative Writing
- English Musical

THANK
YOU!