

Supporting Students in the Literacy of Geography

**Dr Caroline Ho, English Language Institute of Singapore
Mdm Ang Siew Hong, Curriculum Planning & Development Division
Mr Lim Kwan Shen and Ms Ong Hwee Zhen, Tampines Sec Sch**



Overview

- Professional support from ELIS in Subject Literacy (Humanities) with CPDD collaboration
- Rationale, content & structure of Literacy Guide (Section 6.1 of TLG)
- Reading and writing skills required in Geography
- Interpretation of visual data in Geographical Investigations

Reading geographical texts

- Types of geographical texts

Description

Explanation

Information report

- Overview of language features and text structure

Writing geographical texts

- Types of geographical texts

Explanation based on maps

Summary

Evaluative response

Individual reflection on Geographical

Investigation

Overview of language features for specific functions

- Language for expressing cause and effect
- Language for expressing definitions
- Language for expressing comparison, contrast

Language for expressing comparison, contrast

Compare	Contrast	Compare and Contrast
There are several ways in which and ... could be said to be similar.	A and are different in a number of ways.	In some ways, and are alike.
The first way they are alike is that they are both.....	First of all, but	For instance, they are both.....
Another similarity is that they	Another difference is that, while	Another feature they have in common is that
A further feature they have in common is	Thirdly, in contrast to which	Furthermore, they both....
Finally, they both.....	Finally,, but	However, they also differ in some ways. For example, while

Teaching interpretation of data in GI

- Types of geographical data

Graphs

Line graphs

Bar graphs

Climographs

- Language to describe graph trends
- Language to describe proportions of data
- Language to show variation or change
- Language for expressing approximation
- Language for expressing data relationships
- Language features for describing frequencies

Language to describe graph trends

Word	Part of Speech	Example
decline	<i>noun: decline</i> <i>verb: declined, declining</i>	<p>Past global temperatures have indicate a decline over the years.</p> <p>Global temperatures declined from 1945 through 1979.</p> <p>Before that, temperatures had been stable or declining for about 40 years.</p>
fall	<i>verb: to fall, is falling, has fallen, fell</i>	Total rainfall fell from 22.2m to 21.5m from 2011 to 2012.
drop	<i>verb: to drop, is dropping, has dropped, dropped</i>	Total rainfall dropped from 22.2m to 21.5m from 2011 to

Language to describe data variation or change

Upward trend	Downward trend	Terminating point
<i>gradually increasing</i> <i>kept rising</i> <i>increased sharply</i> <i>increased at a steady rate</i> <i>reached a peak</i>	<i>a slight fall</i> <i>fell</i> <i>a low of</i>	<i>finish at</i> <i>finishing the period at</i> <i>stood at</i>

Glossary

Term	Specific use (where relevant)	Explanation with example
<i>Explanation text</i>		Factual text that informs how and/or why a geographical phenomenon occurs
<i>Prepositional phrase</i>	Describing location	Prepositional phrase (e.g. <i>on the Solomon Islands, up to 400 metres high, above the core</i>) specifying particular location, direction
<i>Qualifier</i>	Describing comparative degree or extent	Modifying feature of noun, adjective or adverb (e.g. <i>more, higher</i>)

Trialling Materials for Summary Writing

At the end of my sharing for this component, I hope to answer the following key questions:

- 1) Why is there a need for summary writing in teaching Geography?
- 2) How do we ensure that effective learning takes place through summary writing?
- 3) How can the summary writing task be “scalable” for us in the teaching of Geography?

My profile of students

Firstly, every school is a good school! 😊

- I have trialled the summary writing with **four Sec 2E classes** in Term 3

Diverse learning needs and abilities

(a) Students who are weak in reading and writing (in other words, they don't like to read or write....)

(b) Students who are unmotivated in learning (in other words, they don't like to “study”!)

(c) Students with special needs (dyslexia, ADHD)

(d) Students who can memorise content with little understanding

(e) Students who are motivated and can be “stretched”

Why Summary Writing?

Based on my experience (about 6 weeks)

- 1) Initially, many students are sceptical and some may think it is a chore, a few may be confused about the task and ask why are we doing this
- 2) There is a need to be strategic in using summary writing – it is best used for “content-heavy” sub-topics or with reference to a case study
- 3) The “effects” will be seen more evidently after the 2nd or 3rd round
- 4) It is effective for students who struggle to read by giving them more directed instructions and focus on “mastering the content”

First Trial (“Test the water” ...)

2.2 Writing Summary

Summary writing of geographical issues could involve constructing an overview response to a geographical issue as reported in the media or a condensed version of a geographical topic that is presented.

Task

Imagine that you are a writer working on a school publication and are required to write a response to a geographical issue that had recently taken place. The issue is reported in the news article below.

Creating Ecological Links for Enhanced Biodiversity

Today, the Bukit Timah Expressway divides the Bukit Timah Nature Reserve and the Central Catchment Nature Reserve, preventing a healthy exchange of wildlife between the two reserves. The movement of plant and animal species is necessary for the long-term sustainability of biodiversity in the nature reserves, in particular the smaller Bukit Timah Nature Reserve. NParks has been studying various ways to bridge the two reserves and provide an ecological connection between them. We explored the options of building overhead or underground ecological links between the two reserves, as well as the possibilities of re-routing the BKE as a flyover or underpass.

I am pleased to announce that NParks will be developing an Eco-Link across the BKE, in the form of an overhead bridge, to connect the Bukit Timah and Central Catchment Nature Reserves. With a width of 50-metres at its narrowest point, this hourglass-shaped bridge will be densely planted with vegetation to encourage animal crossings between the two nature reserves. Not only will the Eco-Link benefit the wildlife, people will also be able to enjoy extended hikes between the two nature reserves via trails on the new link. The first of its kind in Southeast Asia, this overhead Eco-Link affirms the Government's commitment to the long-term conservation of Singapore's biodiversity.

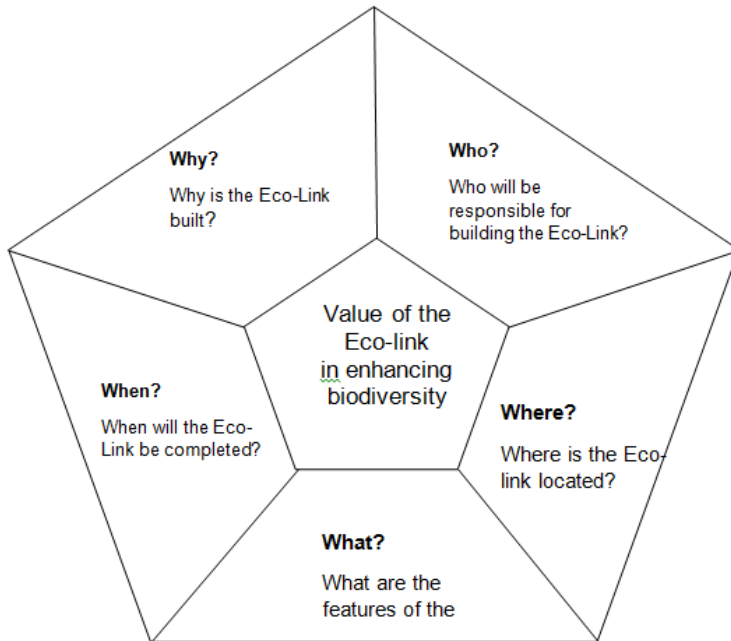
Adapted from: Speech by Mr Mah Bow Tan, Minister for National Development at the opening of Dairy Farm Nature Park (5 September 2009).

- I selected the top 10 students in my sec 2E1 class to try out the passage and writing task provided by ELIS

(a) Summary

Write a summary of 50-80 words to explain the geographical issue that is discussed in the news article. You may make use of the *5-W questioning framework* below to help you in your summary.

First Trial (“Test the water” ...)



Procedure

Read the news article carefully to find the answers to the 5-Ws. Based on how the geographical issue is presented in the news article, you can use the following reporting verbs to summarize the issue:

Strong argument	Neutral	Counter-argument	Suggestion	Criticism
argue	state	refute the claim	suggest	criticize
claim	report	argue against	recommend	

Good response!

All students were able to complete the task quite effectively within 15-20minutes.

A few students went slightly over the word limit, which is fine.

A student commented “this is nothing new to us” and another said “this is quite straightforward”

Student Sample 1

Task

Imagine that you are a writer working on a school publication and are required to write a response to a geographical issue that had recently taken place. The issue is reported in the news article below.

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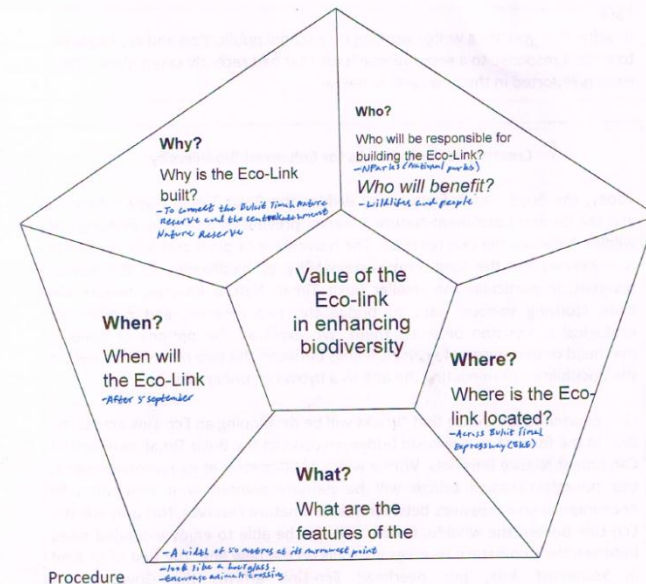
Adapted from: Speech by Mr Mah Bow Tan, Minister for National Development at the opening of Dairy Farm Nature Park (5 September 2009).

(a) Summary

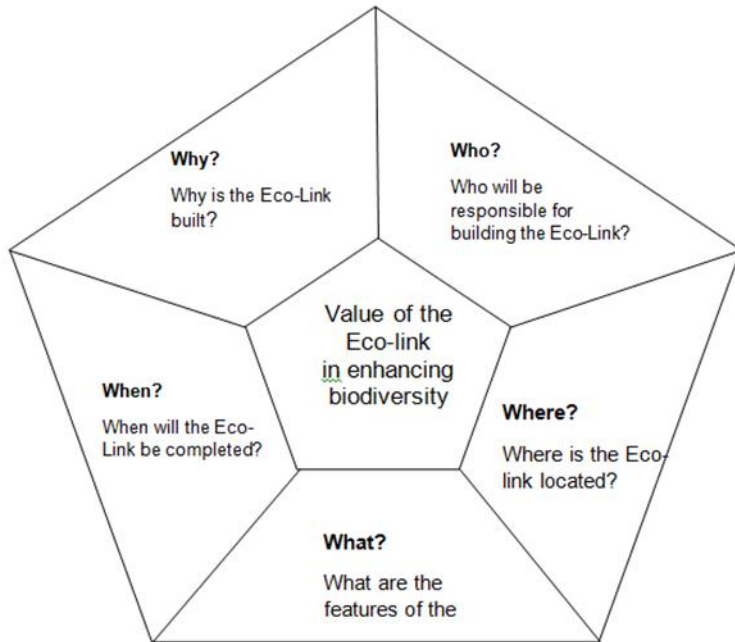
Write a summary of 50-80 words to explain the geographical issue that is discussed in the news article. You may make use of the 5-W questioning framework below to help you in your summary.

The National Parks (NParks) will be building an Eco-link to connect the Bukit Timah Nature Reserve and the Central Catchment Nature Reserve. This Eco-link will be built across the Bukit Timah Expressway (BKE) after the 5th of September 2009. The Eco-link is a bridge which will be 50 metres at its narrowest point and will look like an hour-glass. It will be densely planted to encourage animals to cross. It is believed to benefit both the wildlives and humans.

50 words



Second Try (Test the LIMITS!)



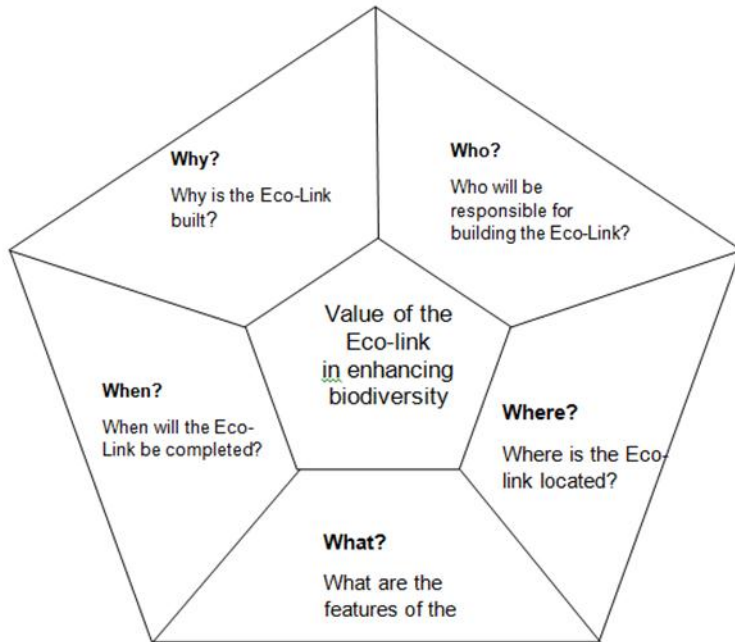
Procedure

Read the news article carefully to find the answers to the 5-Whs. Based on how the geographical issue is presented in the news article, you can use the following reporting verbs to summarize the issue:

Strong argument	Neutral	Counter-argument	Suggestion	Criticism
argue	state	refute the claim	suggest	criticize
claim	report	argue against	recommend	

- After the initial success with the “top band” of my students, I decided to try the same materials with a “lower band” of 10 students.
- Do you think it will work the same way? Why or why not?

Second Try (Test the LIMITS!)



Procedure

Read the news article carefully to find the answers to the 5-Whs. Based on how the geographical issue is presented in the news article, you can use the following reporting verbs to summarize the issue:

Strong argument	Neutral	Counter-argument	Suggestion	Criticism
argue	state	refute the claim	suggest	criticize
claim	report	argue against	recommend	

• Results:

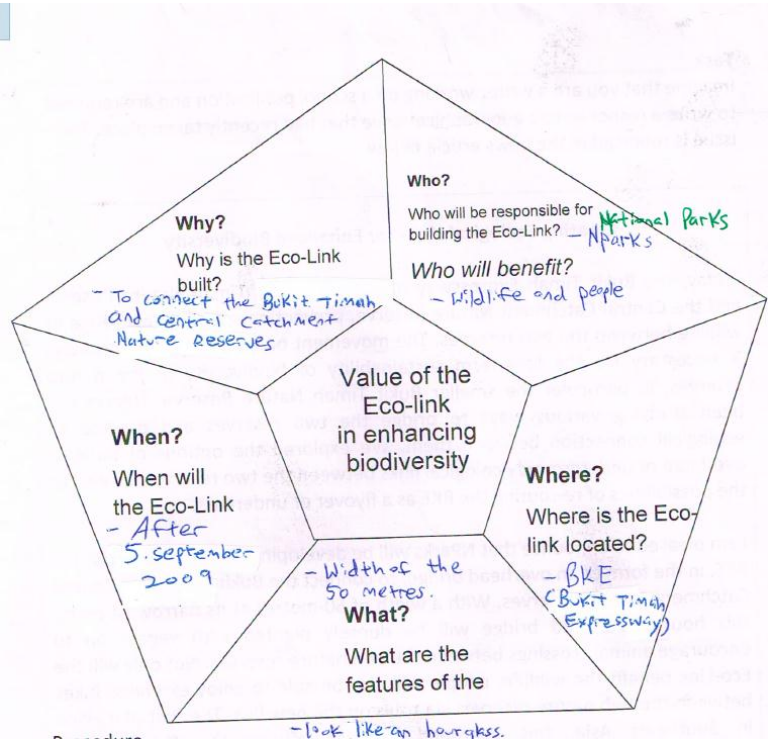
Not too bad....

All students are able to complete the task. Some answers are more 'slip-shod' so slightly more time needed to steer them into the right direction.

However, students in this group either went way below the word limit or exceeded the word limit by too much.

More guidance needed for students not to lift the entire paragraph and to be more selective.

Student Sample 2



The National Parks have decided to build an Eco-Link across the BKE to connect the Bukit Timah and Central Catchment Nature Reserves. It will be built in the form of an overhead bridge shaped like an hourglass. The bridge is built so that there will be a healthy exchange of wildlife between the two reserves. It is necessary for the long term sustainability of biodiversity in both the nature reserves.

69 words

However....

Procedure

Read the news article carefully to find the answers to the 5-Ws. Based on how the geographical issue is presented in the news article, you can use the following reporting verbs to summarize the issue:

Strong argument	Neutral	Counter-argument	Suggestion	Criticism
argue	state	refute the claim	suggest	criticize
claim	report	argue against	recommend	

- Even the “best” students can get a little confused with the “Procedure” section – “reporting verbs”.
- For higher ability students, you can challenge them to find synonyms of the words (reporting verbs) in the boxes through the use of a thesaurus.
- More scaffolding needed for lower ability students in this area.

Translating the materials into actual Teaching and Learning during curriculum time

Where can this summary writing fit in and, more importantly, how can this translate to assessment tasks later on?

1) It can be utilised for many case-studies which are covered in the sec 2 textbook (Earth – Our Home 2nd Editon), for example:

- (i) Chapter 4:** Case Study of Singapore as a Transport and Communications Hub
- (ii) Chapter 7:** Case Study of Water Supply in Singapore
- (iii) Chapter 9:** Case Study of Environmental Protection in Singapore

it can be a take-home task!

Translating the materials into actual Teaching and Learning during curriculum time

Firms deny using fire to clear land

By JONATHAN KWOK
and FENG ZENGKUN

PALM oil companies listed here have denied that they are using slash-and-burn practices on their plantations in Indonesia.

The land-clearing technique is seen as a key cause of the haze crisis now engulfing Singapore and Malaysia, but the companies say they opt for a mechanical approach that includes using excavators and bulldozers.

Some companies added that they monitor contractors and subcontractors to ensure they comply with the no-burn policy as well.

Singapore-listed First Resources, which has over 158,000ha of oil palm plantations, said yesterday that it adopts a zero-burning policy for new plantings and uses mechanical methods to clear land.

Its plantations are mostly in Riau, as well as East and West Kalimantan. "We are supported by contractors who are contractually bound to comply with the group's zero-burning policy," said a spokesman.

Indofood Agri Resources, with more than 230,000ha of oil palm plantations, mostly in Sumatra, and over 20,000ha of rubber trees, said sustainable agriculture is at the core of all its operations.

"I can confirm that IndoAgri has a zero-burning policy," chief executive Mark Wakeford said yesterday.

Wilmar International and Golden Agri-Resources, the two largest palm oil companies listed here by market value, also emphasised their zero-burning policies in



statements to The Straits Times on Tuesday. Wilmar's plantations are in Sumatra, West Kalimantan and Central Kalimantan.

Golden Agri, with a planted area of about 464,000ha across Indonesia, added yesterday that it monitors its processes stringently to ensure its contractors comply.

United States commodities giant Cargill, which is privately held, said it has a no-burn policy, and added that there are no hot spots or fires at its oil palm plantations in South Sumatra and West Kalimantan, which together cover close to 55,000ha.

It added that it uses heavy equipment like excavators to clear the land, with Cargill employees overseeing the entire process.

Environmental groups noted that while companies may have no-burn policies, they also buy palm oil from third-party suppliers. "What they need to do is check whether the third-party suppliers are involved in the burning or not," said Mr Bustar Maitar, head of Greenpeace's forest campaign in Indonesia.

Dr John Payne, executive director of the Borneo Rhino Alliance, said palm oil companies and those in other sectors need to know how their raw material suppliers are behaving.

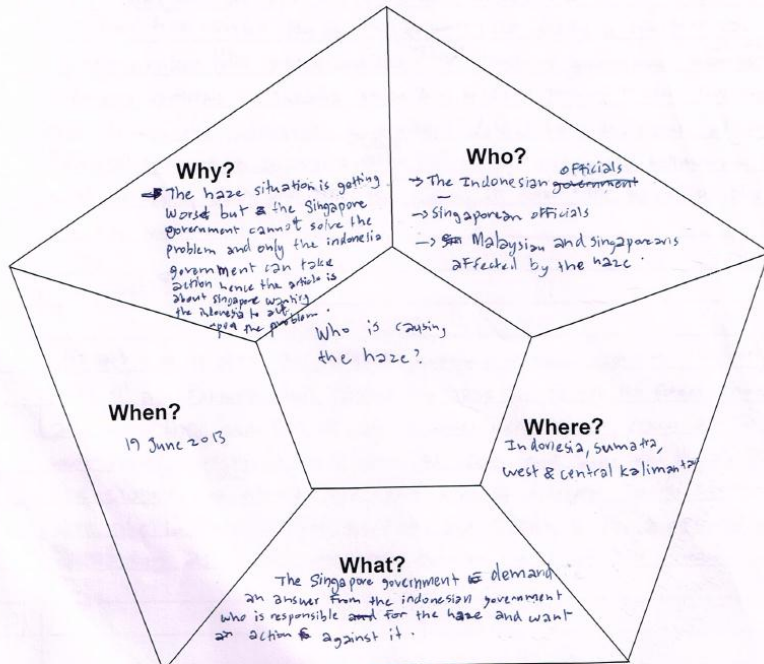
jonkwok@sph.com.sg
zengkun@sph.com.sg

2) It can be utilised as a **tool for further reading for higher ability students** (enrichment group or talent group, etc)

For example, case studies on the trans-boundary air pollution/ **Haze issues in Singapore in June 2013**

Extension Activity – Sample 1

Who's to blame?



Summary

Article: "Who is to blame?"
 Firms deny using fire to clear land.
 The haze situation in Singapore has ~~start~~ not improve but instead worsen the condition. On 19 June 2013 at 10pm, the PSI level increase to an all time high of 321. This has caused the people to worry as daily activities can not carry on. Who is to blame? The Singapore government will meet the Indonesia officials in Jakarta on 20 June to discuss how to stem the haze together even though the Indonesian government denies being the cause of the haze. Palm oil farmers in Sumatra, west Kalimantan and central Kalimantan has been noted for using slash and burn for clearing of forest. The haze has also blanket the Riau provinces as well.

Impacts:

This article is about the ~~affected~~ economic industry of palm oil as farmers used caused the haze by clearing the forest through slash and burn. Their production of resources were ~~stop~~ pause as the government went through investigated the situation as slash and burn is illegal. ~~But~~ ^{from} the economy of Indonesia agriculture has ~~be~~ decrease. Besides economy, politics were also in the article as talks and meeting by the 2 officials were made. ~~The~~ as tension was ~~more~~ between the 2 countries increase.

Extension Activity Sample 2

RECORD PSI AT 10PM
321
Plans in place if haze worsens

By FENG ZENGKUN
 ENVIRONMENT CORRESPONDENT
 and BRYNA SINGH

SINGAPORE endured its worst day of haze yesterday as air quality surged into hazardous territory for the first time, prompting government agencies to reach for contingency measures.

At 10pm last night, the Pollutant Standards Index stood at 321 – the highest in the country's history – as fires continued to rage in neighbouring Sumatra. The previous record was 226, in 1997.

Air becomes "very unhealthy" past the PSI's 200 mark and "hazardous" when it crosses at 300.

In response to questions at an 11:40pm press conference last night, Environment Minister Vivian Balakrishnan said the Manpower Ministry may issue a general stop-work order – but only if the haze situation worsens severely.

A decision will also have to be made on whether to close childcare centres and schools.

The Ministry of Manpower will provide an update to employers today about what to do, while the Ministry of Health has also alerted hospitals to cope with a potential increase in patients with respiratory problems.

Dr Balakrishnan said the National Environment Agency's (NEA's) chief executive, Mr Andrew Tan, will lead a delegation to Indonesia today to an emergency haze meeting convened by the Indonesian Foreign Ministry.

"We are now at the stage where nobody anywhere in the world should believe that they have a right to pollute, to take short cuts and to make money at the expense of people's health," Dr Balakrishnan said.

In Singapore, a 23-agency haze task force met on Tuesday to coordinate plans to reduce the haze's pact on people.

In a Facebook posting after

1. From this morning, Prime Minister Lee Hsien Loong said he was dismayed to see the PSI cross the 300 mark last night.

The Cabinet had discussed the haze situation fully yesterday but given the worsening situation, he will meet the relevant ministers first thing today, he said.

Urging people to stay indoors where possible and avoid heavy outdoor activity if the PSI stays high, he said: "Look out for one another – we will get through this together."

Raging fires in Indonesia – some started by companies to clear the land of vegetation – have led to the haze here.

The NEA has published high-resolution satellite photos of hot spots or fires in the region and will update this daily.

The hope is that it will help identify some of the firms responsible for starting the blazes.

While Indonesia will attempt cloud-seeding – a method used to artificially create rain – to combat fires there, Dr Balakrishnan said Singapore would not follow suit to reduce the smog here.

"For cloud-seeding to work, we need the clouds. Our meteorological service says we don't have enough cloud cover for that at the moment, but we will keep that option open," he said.

Meanwhile, the Singapore Armed Forces (SAF) has stopped all outfield training indefinitely and all soldiers on duty have been given protective N95 face masks.

Girl, 16, 'tricked' into prostitution

A 16-YEAR-OLD girl was "tricked" into prostitution, then attacked and drugged by her pimp when she did not want to serve clients, a court heard yesterday.

The shocking details were revealed as two men were each jailed for 12 weeks for having paid sex with the minor. ■ TOP OF THE NEWS A3



A resident trying to put out the fires in an oil palm plantation in v struggling to extinguish the fires that have been smouldering under

Breathe

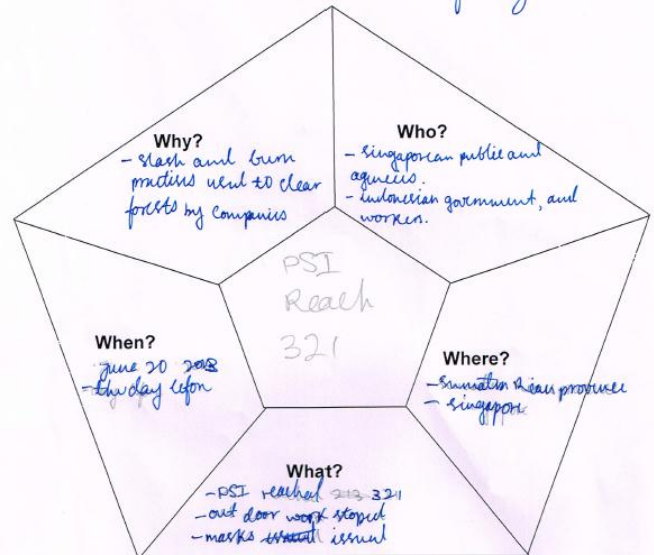


By JOYCE LIM IN DUMAI (RIAU)

FLYING into P...
 mal of Riau p...
 morning, I th...
 pared for gr...
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 I had eno...
 league eve...
 tank along...
 out, I was...
 With t...
 Index (P...

Xavier Wong
 201

Record PSI at 10 pm
 321
 Plans in place if haze worsen.



Procedure

Read the news article carefully to find the answers to the 5-Ws. Based on how the geographical issue is presented in the news article, you can use the following reporting verbs to summarize the issue:

Strong argument	Neutral	Counter-argument	Suggestion	Criticism
argue	Report	argues	reminded	criticized
claim	state	right	advise	

2 Xavier

Extension Activity – Going Beyond

The Haze, in Singapore has worsened, causing people and agencies to be unable to carry out their ~~activities~~ normal activities. On Wednesday June 19 2013, the PSI (Pollution Standard Index) has reached a high of 321, ~~causing~~ increasing worries. Due to this, agencies in Singapore, such as the Singapore armed forces and civil defence force has suspended all out field training as well as issuing masks to personnel on guard duties, and reducing outdoor physical training respectively.

The manpower ~~industries~~ ministry has thought of issuing a general stop work order if situation worse child care centers and schools may be affected. The haze is caused by companies using the slash and burn method to clear forests, as it ~~saves~~ cuts costs.

Impact:

The haze has caused social disruption, as the ~~deleterious~~ deteriorating air quality stops people from carrying out daily activities, it can also cause economical disruptions as if the general stop work order was issued all work would have been stopped and money would have been lost.

~~Due to~~ Due the use of slash and burn, the fauna and flora local to Indonesia will also be affected because habitats and food sources would be lost in the fire.

Further writing tasks after summarising:

- 1) Get students to think about the theme of the reading article – is it about causes or impacts
- 2) Set a task for students to classify the different impacts of the “haze in Singapore” into “economic”, “social” or “environmental” dimensions

Translating the summary materials into actual Teaching and Learning during curriculum time

3) It can be translated into an elaborated written assignment such as essay writing

Sample Essay Question:

- 1) How far do you agree that the our 4 National Taps are able to meet the future demands and needs of water in Singapore?
- 2) Evaluate the effectiveness of key environmental efforts in environmental protection in Singapore.

Trialling Materials for Interpretation of Geographical Data

At the end of my sharing for this section, I hope to answer the following questions:

- 1) How can highlighting the language features in a written text help to level up students' responses to geographical data?**
- 2) Is teaching language features demanding for teachers who are not EL-trained?**

Sample Task:

Task: Refer to Figure 4. What are the differences in rainfall pattern between Singapore and Bangladesh?

Figure

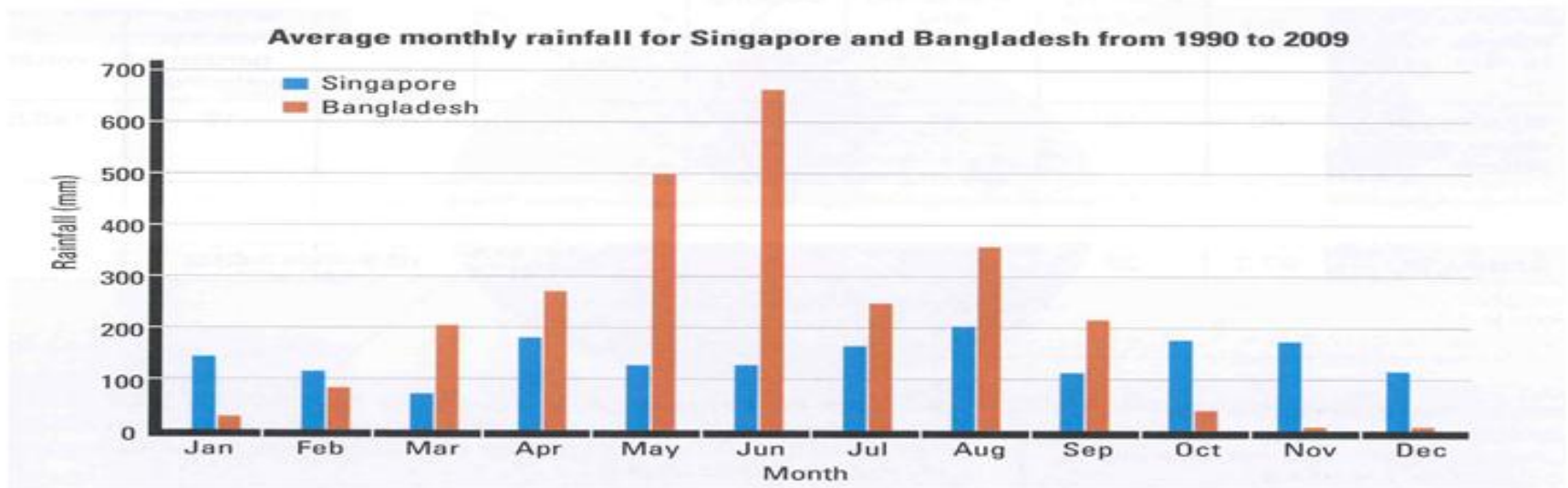


Figure 4. Comparative bar graph showing average monthly rainfall for Singapore and Bangladesh. Adapted from: *The World Bank Group (2012)*. (Brown et al, a in press, p. 53)

Some common “frustrations” over students’ responses

- 1) The increase is very much.....much more faster [sic]
- 2) From Jan it increases a little then drops a bit then remains the same. Some months it goes very high then some months drop until zero [sic]
- 3) The rainfall is the not the same over the many months [sic]
- 4) Blank (students chose to leave the question blank)

How do language features help students in their description of Geographical data?

Focus	Text	Language features
Comparison of 'Distribution of rainfall'	Singapore's rainfall ¹ <i>is evenly distributed</i> throughout the year ² <i>whereas</i> <u>Bangladesh</u> experiences months with ³ <i>extremely high</i> rainfall and months with <i>extremely low</i> rainfall.	¹ Verb phrase (describe nature of distribution) ² Connectors (for contrast) ³ Adjective phrase (superlative)
Comparison of 'Range in rainfall amount'	Singapore has a ¹ <i>smaller</i> range in the amount of rainfall throughout the year ² <i>as compared to</i> Bangladesh. The range of rainfall in Singapore is 132.6 mm ³ <i>whereas</i> Bangladesh's range of rainfall is 659.9 mm.	¹ Comparative adjective

- The analysis of text and the language features highlighted helped to ensure *clarity, coherence* as well as *relevance* in responding to the geographical data.

Scaffolding the language

Scaffolding the language

How does the language in the text highlight the *distribution of rainfall* ?

Verb phrase (e.g. *evenly / unevenly distributed*) is used to describe the nature of data distribution

What is the language needed to show that one country *differs* from the other?

Connectors (e.g. *whereas, while*) that show contrast make comparative differences clear.

What language do you need to show that the difference is *significant* ?

Adjective phrase (e.g. *extremely high/low*) which indicates superlative degree/extent for contrast

What language will help you to highlight the *differences in the range* in rainfall?

Comparative adjective (e.g. *smaller*) is used to highlight the range in data amount

What changes/amendments were made in the use of the materials?

- Instructions for students to identify and take note of what the axes represent and to take note of any geographical terms/concepts given in the data
- Included a few other data response types such as climograph and population pyramid to assess students' writing ability
- Addition of questions in the interpretation of data, i.e., describe and account for, instead of direct comparison
- Include appropriate geographical terms/vocabulary where necessary in the description or explanation

Thank you

caroline_ho@moe.gov.sg

ang_siew_hong@moe.gov.sg

lim_kwan_shen@moe.edu.sg