The University of Hong Kong

Professional Development Programme From Reading to Writing: Promoting Language across the Curriculum in the Junior Secondary English Classroom



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Outline

- Language demand in secondary education
- Reading and Writing across the curriculum (RaC, WaC), and their connection
- Supporting students in LaC: Practical strategies and an example unit
- Designing meaningful activities in LaC

• An anecdote to share: I was having a conversation with a P5 student. The student was very interested in Science. He wanted to fix a toy train that involved programming, but he couldn't understand the English manual!

 Students encounter English language and texts in their daily lives, and these texts also appear in the curriculum,
 e.g., lab procedure, information reports, etc.

- When students enter junior secondary education, they also start to deal with academic language to perform rhetorical functions (e.g., to describe, to explain cause and effects, to compare and contrast), and the demand of academic **English** is greater than that of everyday English.
- E.g., to describe living things, a science text and an everyday
 English text has different demands.

Academic English Deman An extract from a text in Science in Language "...Within all living **Everyday English** organisms is a chemical reaction, which produces substances that have An extract from a text to be gotten rid of ... " in English Language "...A dog has a good Increase nose that is many times more sensitive than ours..."

(English Language Education Section, Curriculum Development Institute, Education Bureau, 2020, p.3)

- Reading texts for academic purposes could be challenging for students.
- Writing texts for academic purposes could be (even more) challenging.
- Are students prepared for these challenges across the secondary education?
- Let's take a look at what the end of senior secondary education is like (and consider how we need to get students prepared in the junior secondary).

- The language challenges are present in vocabulary, sentence, and text levels.
- Fung and Chung (2024) analysed the vocabulary demand in Biology and Geography in senior secondary levels (HKDSE papers), and revealed that students need to master __2398__ word families in Biology and __1640__ word families in Geography.
- Among these word families, some are low-frequency words, i.e., words that students are less likely to encounter in their daily lives.

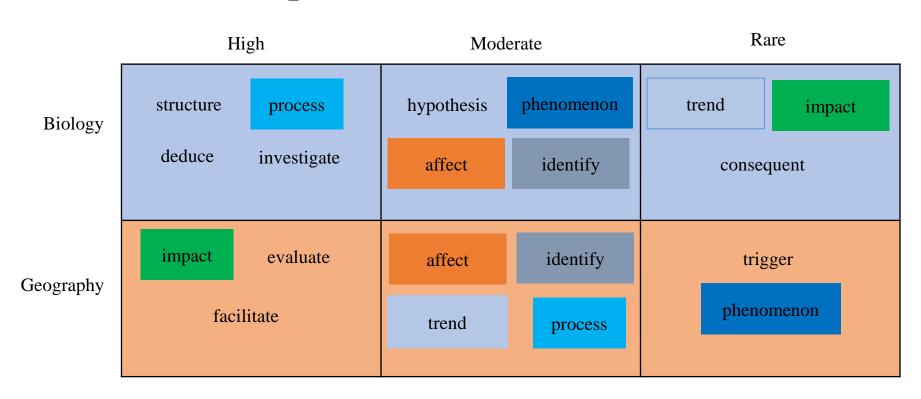
Around 25% of words are shared by two subjects.

	Biology	Geography	Appearing in both subjects (out of the total number of different word families in the subjects)
K1-K3	1,394	1,018	728 / 1,684 (43.23%)
K4-K8	477	281	64 / 694 (9.22%)
K9-K25	257	91	6 / 342 (1.75%)
Supp. lists	142	168	26 / 284 (9.15%)
Offlist	128	82	0 / 210 (0%)
Total number of word families	2,398	1,640	824 / 3,214 (25.64%)

• Students also need to master academic words. 45% of these words are shared across subjects.

	Biology	Geography	Appearing in both subjects (out of the total number of different word families in the subjects)
AWL	292	218	159 / 351 (45. 30%)
Examples	Deduce, evolve, hypothesis	Constrain, evaluate, facilitate	Affect, identify, method

• Some example academic words appearing with different frequencies.



- On the sentence and text level, students need to read and write sentences and short texts.
- In textbooks, students need to read e.g., description of flowering plants, explanation of the cause and effects of pollution, time sequence of a historical event, etc.
- Students also need to write e.g., lab reports, short essays comparing two different types of rocks, causes of a historical event.
- Lo and Fung (2020) analysed the language demand of Biology papers. The following example shows two typical questions in the HKDSE requiring comprehension and production of sentences and texts.

Excerpt 3. Questions from HKDSE Biology papers

7) Table I shows the number of deaths in Hong Kong caused by certain diseases. The deaths are categorised according to sex and age.

					Age group)		
Cause of death	Sex	All ages	0	1–4	5–14	15–44	45-64	≥65
Heart disease	Male	3352	1	2	2	104	679	2564
	Female	2981	2	2	0	20	146	2811
Diabetes mellitus	Male	213	0	0	0	2	43	168
	Female	246	0	0	0	10	19	217
Colon cancer	Male	725	0	0	0	16	177	532
	Female	627	0	0	0	8	131	488

Table II shows the relative proportions of males and females in the above table who had particular life styles.

Lifestyle	Male	Female
Smoking daily	78.9%	21.1%
Never smoked	36.9%	63.1%
≥4 servings of processed meat per week	57.7%	42.3%

For the following diseases, explain how these lifestyles of the males and females are related to the number of deaths in Table I.

- (i) Heart diseases
- (ii) Colon cancer

(HKEAA 2014 Biology Paper IB Q9c; HKDSE material is reproduced by permission of HKEAA)

Recently, some people have adopted a diet rich in lean meat in order to lose weight and build muscles. They may be able to achieve these aims but there are some health problems associated with this diet. Discuss the pros and cons of this controversial diet with regard to the nutritional needs of our body and protein metabolism.

(Lo & Fung, 2020)

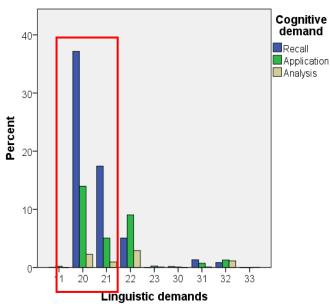
(HKEAA 2014 Biology Paper IB Q11; HKDSE material is reproduced by permission of HKEAA)

In these typical example HKDSE questions of non-language subjects, students are required to do explanation (no. 7) and discuss the pros and cons (no. 8) by applying their subject knowledge.

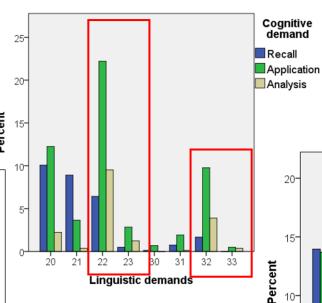
- While students are asked to write a short text (e.g., in explaining, discussing pros and cons, etc.), students may not be sufficiently prepared to fulfil this demand.
- For example, the language items they need to present their ideas in writing may or may not be covered in the texts that they read in their learning.
- Even when these items are presented in some texts in the textbook / other learning materials, are students aware of the need to learn (and teachers, to teach) these rhetorical functions and language items while reading?
- Suggestions on how to narrow this gap between reading and writing will come in later slides.

- These language demands are not only present in senior secondary education.
- In fact, in junior secondary education, students also encounter these vocabulary-, sentence-, and text-level demands.
- Lo and Fung (2020) also compared the demands when students transition from junior secondary to senior secondary, indicating a big leap required of students to not only read but also produce sentences and texts.

S1-S3 Science

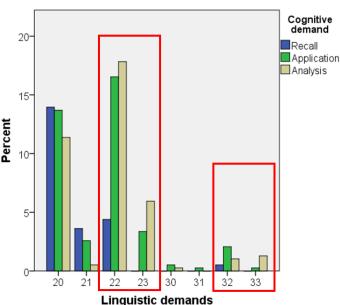


S4-S6 Biology



Are students prepared to tackle the language demand?





A big leap

Linguistic demands

- 11: Receptive vocabulary, productive vocabulary;
- 20: Receptive sentence, no productive demand;
- 21: Receptive sentence, productive vocabulary;
- 22: Receptive sentence, productive sentence;
- 23: Receptive sentence, productive text;
- 30: Receptive text, no productive demand;
- 31: Receptive text, productive vocabulary;
- 32: Receptive text, productive sentence;
- 33: Receptive text, productive text

(Lo & Fung, 2020)

Given the language demand across the curriculum, we can consider how to get students equipped with the necessary academic language through reading and writing across the curriculum starting from the junior secondary level.



(English Language Education Section, Curriculum Development Institute, Education Bureau, 2020, p.4)

The growing language demand between the junior secondary and senior secondary levels in the English Language curriculum

- The growing language demand does not only appear in nonlanguage subjects. It is also evident in the English language curriculum.
- Students may also come across texts with features of academic texts in the English classroom (e.g. academic vocabulary, text structures, rhetorical functions, knowledge structure). These text features can be found in the learning and teaching materials commonly found in the English classroom (e.g. newspaper articles or reading texts from the HKDSE papers).

Reading and writing across the curriculum (RaC, WaC)

• In the English language curriculum, we can promote students' RaC by having students read topics related to the content subjects that they take. (theme-based alignment) → support students in gaining academic content knowledge while facilitating their learning of the language involved

Discussion task

- Please form into groups of 3-4, and discuss
- (1) what texts you usually ask students to read in junior secondary
- (2) how related these texts are to the topics they learn in content subjects (e.g., Science, PSHE, Geography, History, etc.)
- (3) if you want to pick a text that is related to a content subject, what might that be?

Reading and writing across the curriculum (RaC, WaC)

 Having used texts (authentic context to learn language) in RaC, we can also promote WaC and allow students to use the content and language they learnt in producing texts.

Discussion task

- Please form into groups of 3-4, and discuss
- (1) what texts you usually ask students to write in junior secondary
- (2) how related these texts are to the topics they learn in content subjects (e.g., Science, PSHE, Geography, History, etc.)
- (3) if you want to set a writing task that is related to a content subject, what might that be?

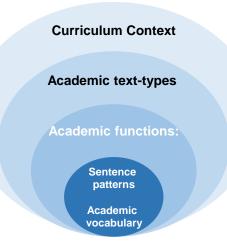
Reading and writing across the curriculum (RaC, WaC)

- Example from a frontline English teacher:
- (1) Students learn about lab safety rules in Science, and how to handle common lab accidents
- (2) Students in English lessons write a blog entry about an accident in the science laboratory (students will need to demonstrate their use of academic language, e.g., the nouns to describe items involved, adjectives and verbs) (e.g., gas leakage, Bunsen burner; toxic, flammable; inhale, sweep the floor)

Some practical strategies that can be used to support students in LaC

- (1) Deconstruction of text structures
- (2) Raising students' awareness of the connection between text structures, academic functions, and language items
- (3) Use of visual representation
- (4) Learning strategies

- (1) Deconstruction of text structures
 - We can support students in deconstructing the text structures, e.g., an information report involves an introduction, followed by description, and then a conclusion.
- (2) Raising students' awareness of the connection between text structures, academic functions, and language items
 - An information report has the purpose to classify and describe things, and this purpose is linked to the text structure, the academic / rhetorical functions, and the language use.





Birds

Title

Introduction

General classification and definition

Birds are vertebrates. Like all vertebrates, birds have a backbone. Birds breathe with lungs and are warm-blooded. They come in different colours, shapes and sizes. In the world, more than 9000 different species of birds are known.



Genre: **Purpose: Stages:**

Description

groups of information

written in related

Description written in related groups of information

Appearance

Birds are different from other vertebrates as their bodies are covered with feathers. Different birds are in different shapes. They differ in the size, colours and shape of the beak, and in the length of the legs. and neck.



written in related groups of information

Movement

Birds have wings and they use wings to fly. Their bones are hollow and so this makes them lighter to fly.



Description

Food

Conclusion

Different types of birds feed on different foods. Many birds live on insects or fish. Some eat small reptiles and mice. Some live on seeds and fruit. Some live on the nectar or honey in flowers.



Description written in related groups of information

Habitat



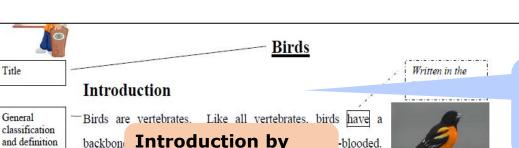
Birds are found on every continent of the world. Some birds can live in a freezing cold environment, while others can live in hot deserts. They can live anywhere such as in forests, in grasslands, on cliff faces, in river banks and many other places.



Summarizing the descriptions in the report.

Birds are vertebrates which have a beak to feed, wings to fly, and feathers to keep warm. With their colourful wings and a body covered by feathers, birds are considered to be one of the most beautiful vertebrates in the world.





Genre: Descriptive Report

Food

Conclusion

Purpose: describing different aspects of birds

Stages: Introduction → Description → Conclusion



Appearance

more than

Birds are different from other vertebrates as their bodies are Describing birds are in

different shapes. Chey differ in the size, colours

classification

appearance in the legs. and shape o of birds and neck.

Written in the 3rd

groups of person: they, it information

Describing the movement of birds oones are hollow and so this makes them lighter to fly.



Description written in related

Description

groups of

information

written in related

Different types of birds feed on different foods. Many birds live on insects of fish. Some eat small reptiles the food of and fruit. Some live on the nebit of Sey in flowers.



Description written in related groups of information





Birds are found on every continent of the world. Some Describing the environment, while others habitat of birds

he world,

can live in hot deserts. They can live

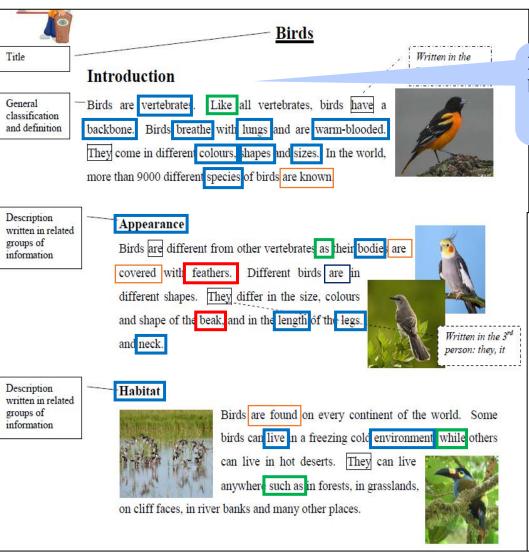
anywhere such as in forests, in grasslands,

on cliff faces, in river banks and many other places.



Birds at ngs to **Conclusion by** vings summarizing the to be one of descriptions





Raising awareness of language used to describe birds

Movement

Birds have wings and they use wings to fly. Their bones are hollow and so this makes them lighter to fly.



Description written in related groups of information

Description

groups of information

written in related

Food

Different types of birds feed on different foods. Many birds live on insects or fish. Some eat small reptiles and mice. Some live on seeds and fruit. Some live on the nectar or honey in flowers.



Summarizing the descriptions in the report.

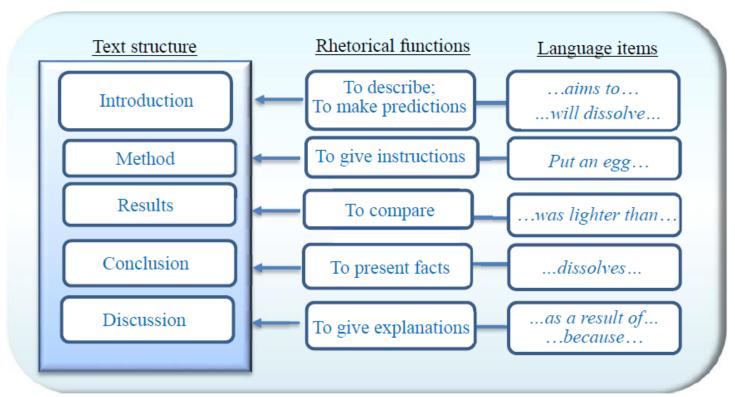
Conclusion

Birds are vertebrates which have a beak to feed, wings to fly, and feathers to keep warm. With their colourful wings and a body covered by feathers, birds are considered to be one of the most beautiful vertebrates in the world.



• (2) Raising students' awareness of the connection between text structures, academic functions, and language items

Figure 7: An Example of a More Complex Academic Text (e.g. a report on an experiment)



Introduction

(Aim)

This experiment aims to find out the effects of vinegar on eggshells...

(Hypothesis)

The eggshell will dissolve...

Method

(Materials/Apparatus)

- 2 raw eggs
- 2 beakers
- Some vinegar

:

(Procedures)

- 1. Put an egg in each of the beakers.
- 2. Pour some vinegar into one of the beakers until the egg (Egg A) is covered.
- 3. Add nothing to the other beaker (Egg B, the control).
- 4. Record the observation for Eggs A and B after 48 hours.

:

Results

Some bubbles came out from the surface of the eggshell. The colour of the eggshell of Egg A was lighter than that of Egg B. Part of the eggshell disappeared...

Conclusion

Vinegar dissolves the eggshell...

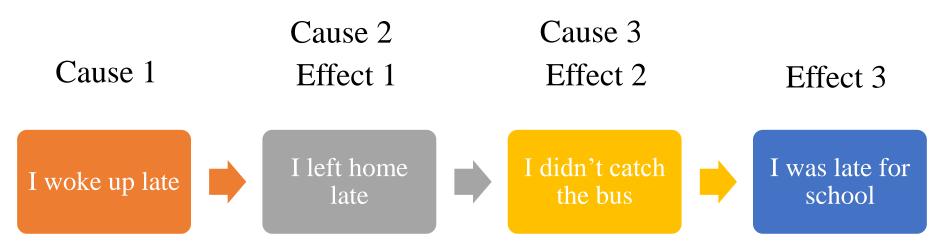
Discussion

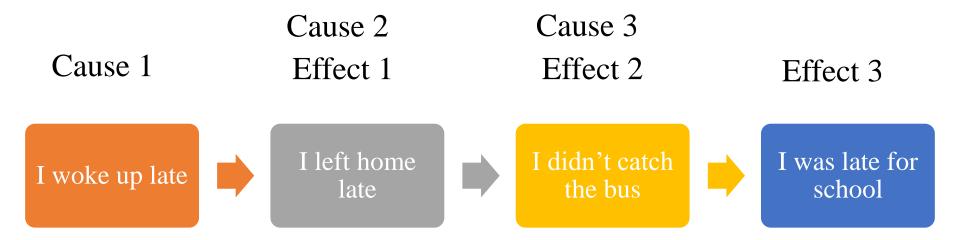
Eggshells contain calcium carbonate, which reacts with the acetic acid in vinegar. The eggshell is dissolved because the acetic acid breaks up the calcium and carbonate in the eggshell. The bubbles on the eggshell are carbon dioxide generated as a result of the reaction between the carbonate and the acetic acid...

The experiment can be improved by...

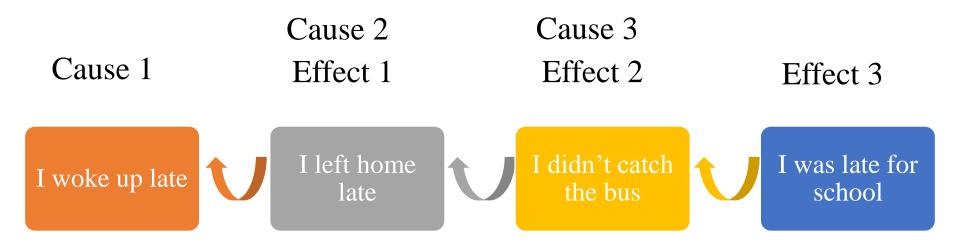
(English Language Education Section, Curriculum Development Institute, Education Bureau, 2020, p.18)

- (3) Use of visual representation
 - When reading texts, students can be asked to deconstruct the text into main ideas and visually represent the relationship among them.
 - E.g., in representing a sequence of cause and effects:





- Cause / so / thus / lead to / therefore / result in / have a consequence of...
- I woke up late and so I left home late. Therefore, I didn't catch the bus. This leads to my lateness for school.



Because / due to / caused by ...

• I was late for school because I didn't catch the bus.

This was due to the fact that I left home late, caused by my lateness in waking up.

To compare/ To present similarities venn Diagram • "Both".	Rhetorical Function (Examples)	Language Item (Examples)	Visual R	epresentation	(Examples)
"like", "likewise", "resemble", "similarly", "the same as" Differences - "Different from", "however", "but", "while", "despite", "despite", "more, less/fewer, taller than, the tallest" (the use of comparatives/ superlatives) Differences Similarities Differences Table Information/ Events/Ideas Similarities Differences	To compare/	"Both", "like", "likewise", "resemble", "similarly", "the same as" To present differences "Different from", "however", "but", "while", "despite", "more, less/fewer, taller than, the tallest" (the use of comparatives/	Differences Table Information/		

(English Language Education Section, Curriculum Development Institute, Education Bureau, 2020, p.28)

To sequence

"Before",

"after",

Flow Chart

- (4) Learning strategies
 - Students can be explicitly taught and guided to practice reading strategies when performing reading in the English classroom. They can then apply these strategies when reading texts in content subjects. For example,
 - Skimming a text by taking note of headings and identifying topic sentences
 - Scanning for specific information
 - Making inferences to guess unfamiliar language items based on context and parts of speech (e.g., where the word appears and knowledge of word formation, and the frequent occurrence of nominalization).
 - These strategies can serve as a bridge from reading to writing (e.g., using topic sentences, repeating specific words key to the passage, changing word forms)

S1 Language across the Curriculum (LAC) Programme Example unit

Endangered Species

LAC S1 Student worksheet Endangered Species example unit.doc

Endangered Species

Activities	Skills involved
Activity 1: What's an endangered species? •Read a manga story •Discuss the meaning of endangered species	Getting to know the topic
Activity 2: Why are some animals in danger? •Read an explanation text •Extract key information with a graphic organiser	Reading an explanation text Discussion
 Activity 3: Reading a report Understand structure of information reports Read about some endangered species and prepare for a mini-presentation 	Reading information reports Organising information with a graphic organizer
Activity 4: •Give a mini-presentation on endangered animals	Delivering a presentation
Extended activity: Ways of conserving wildlife •Design and create a poster on conserving wildlife	Designing posters

In the exemplar unit, what are some ways / strategies used to facilitate students' learning in LaC?

Designing meaningful activities in LaC

- (1) Cross-curricular mapping between English and other subjects
- (2) Consider diverse activities to create opportunities for students to read and write in LaC

Designing meaningful activities in LaC

- (1) Cross-curricular mapping between English and other subjects
- Discussion task
- Please form into groups of 3-4, and
- (1) read the following topics in English and other subjects (the topics have been mapped to some extent already)
- (2) consider the common topics that can be used for crosscurricular writing tasks.
- (3) design a writing task for students (i.e., what do you want students to write about? What text type?)

Junior Form Content Curriculum Mapping

Form	Term	English	Geography	History	Int. Science	Cross-Curricular Writing
F1	1 st	Chp 1 A Fresh start Chp 5 Out and about	IChn 1 Using urhan snace	Introduction to history study	Scientists (Nobel Prize winners)	
F.1	2 nd	Chp 6 Hong Kong Stories	Chp 9 Taming the sand	Topic 2 Traditional rural life of HK	Food labeling	
F2	1 st	Chp 2 Arts for all Chp 4 Incredible people	Chp 3 The trouble with water Chp 4 Scramble for energy		Air pollution index	
	2 nd	Chp 8 Going green Chp 7 Extreme nature	Chp 5 Living with Natural hazard	Topic 5 Growth and development of HK up to the early 20 th century	Acids and alkalis	
F3	1 st	Chp 2 Healthy body, healthy mind Chp 3 The best jobs in the world	Chp 2 Food problem Chp 11 Changing climate, changing environment	Topic 2 HK in the 20 th century	Food (Bio) Digestion (Bio)	
FS	2 nd	Chp 7 Our beautiful planet Chp 8 The world of the future	Chp 5 Living with natural hazard	Topic 1 Major achievement in the 20 th century		

Junior Form Content Curriculum Mapping

Form	Term	English	Geography	History	Int. Science	Cross-Curricular Writing
	1 st	Chp 1 A Fresh start	Chp 1 Using urban space	I troduction to history	Scientists	Geog + English
	_	Chp 5 Out and about	wisely	s udy	(Nobel Prize winners)	Common topic: Urban land use
F1	2 nd	Chp 6 Hong Kong Stories	Chp 9 Taming the sand	Topic 2 Traditional rural life of HK	Food labeling	History + English Common topic: Traditional rural life of HK
		Chp 2 Arts for all	Chp 3 The trouble with	Topic 1 The		History + English
F2		Chp 4 Incredible people	water Chp 4 Scramble for energy	Renaissance	Air pollution index	<u>Common topic:</u> the Renaissance
	7 nd	Chp 8 Going green Chp 7 Extreme nature	Chp 5 Living with Natural hazard	Topic 5 Growth and development of HK up to the early 20 th century	Acids and alkalis	Geog + English Common topic: Energy resources
3	1 st	Chp 2 Healthy body, healthy mind Chp 3 The best jobs in the world	Chp 2 Food problem Chp 11 Changing climate, changing environment	Topic 2 HK in the 20 th century	Food (Bio) Digestion (Bio)	Bio + English Common topic: Food & nutrition
F3	2 nd	Chp 7 <i>Our beautiful</i> planet Chp 8 The world of the future	Chp 5 Living with natural hazard	Topic 1 Major achievement in the 20 th century		Geog + English Common topic: Global warming

F1 English & Geography: Cross-curricular Writing example

Situation

Topic in Geo:
Using Urban Space
Wisely

Your cousin, Chris, has just won one million Hong Kong dollars after taking part in the "One Minute Challenge to Win". He would like to run a snack shop and is now considering the shop location. Finally, he comes up with two choices (please refer to the information given below). He would like to ask you for advice. Write an email of advice to Chris in no less than 200 words.

English Writing
Text type

Comparison Table

		Pacific Place	
Rent			
A a agasibility	High		
Accessibility	E.g. Bus and minibus	E.g. MTR, bus and minibus	
Potential customers	Public housing estates	Private housing	
	Lower income	Higher income	
Purchasing power of customers	Lower	Higher	

Reading 1

How to Start a Snack Bar By Melinda Gaines, eHow Contributor

Snack bars are found in many types of businesses, and they can be an attractive operation to start for prospective entrepreneurs. Not only do snack bars come with a built-in customer base, but the cost to lease the retail space for one is typically much lower than that of a traditional food business. If you want to open a snack bar, you will need to do a bit of research before starting your venture.

Instructions

1. Find a location for your snack bar. Good places to consider include airports, bus and train stations, fitness centers and gyms, university and college campuses, and inside of laundromats.

https://www.ehow.co.uk/how_6459523_start-snack-bar.html

Designing meaningful activities in LaC

- (2) Consider diverse activities to create opportunities for students to read and write in LaC
- Various activities can also contribute to LaC within the classroom, e.g., the examplar unit we just experienced, and Part 3 of the resource book on RaC and WaC:
- https://www.edb.gov.hk/attachment/en/curriculumdevelopment/kla/eng-edu/referencesresources/RWaC/RWaC_JS.pdf

Designing meaningful activities in LaC

- Co-curricular activities outside the formal classroom can also be considered, e.g., STEM activities, project-based learning, visits to museums.
- Discussion task
- In your group, discuss the following questions.
- (1) What co-curricular activities do your school organises for students?
- (2) Are the activities happening at a time when students are learning something relevant in their English and/or content subject classes?
- (3) How can RaC and WaC be promoted through these activities? Has something already been done or is there something else you think you could do to help promote the use of academic language?

Summary

- Language demand in secondary education could be challenging for students, particularly when students transition from junior secondary to senior secondary start getting students gradually prepared from junior secondary.
- Recognising the importance of RaC, and its relationship with WaC, it's
 helpful to consider the alignment among English and other content
 subjects in terms of what students read and write.
- When trying to facilitate students' learning in LaC, some practical strategies include deconstructing texts, raising students' awareness of language use / rhetorical functions, using visuals / graphic organisers, and teaching learning strategies.
- It is also important to consider curriculum-mapping across subjects when designing cross-curricular writing and offering co-curricular activities for students.

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