

## Exemplar 13: Support Teaching and Learning of Content Subjects through English

### Overview



[Carmel Secondary School](#) (CSS) was one of 112 secondary schools permitted to use English as the medium of instruction in 1998. Since then it has implemented staff development programmes and cross-curricular collaborative tryouts, and has taught students study skills to help them learn through the medium of English.



Supporting the teaching and learning of content subjects through English is an essential but difficult task for EMI schools. What makes CSS's case distinctive is its [staff development programme](#). This programme instils in EMI teachers an understanding of content and language integration and equips them with practical classroom strategies.



EMI teachers are encouraged to work together in [cross-curricular initiatives](#). These initiatives foster a collaborative spirit, lay the groundwork for experimentation, and pave the way for subject integration.

Learning how to learn is actualised through [students' acquisition of study skills](#), which enables them to take responsibility for their own learning.

### **ESL in the mainstream**

In 2001/02, CSS participated in a QEF funded project entitled "Ensuring Enhancement of English Language Across the Curriculum through Professional Teacher Development". Utilising the experience gained from a five-day tutors' training course, Miss Maria Ng, the LAC coordinator, and Miss Lo Yuen-shan, the history panel chair, organised two identical courses for all EMI subject teachers in CSS.

The courses met with great success, and Miss Maria Ng attributed this to four key factors:

#### **a) Selection of tutors**

Language is often seen as the sole responsibility of language teachers, while subject teachers work on content. Hence English teachers are assigned the task of organising staff development programmes, regardless of whether they understand the needs of the subject teachers. CSS sent the LAC coordinator, who teaches English, and the history panel chair to attend the tutors' training course. Both tutors collaborated and took into consideration both the language and content in their course design.

#### **b) Training for all EMI subject teachers**

The decision to train all EMI content subject teachers in CSS conveyed a clear message of whole-school involvement.

The following are the details about the training programme in 2001/02:

Workshops: 2  
Workshops: 7 each  
Duration: 17 hrs each  
Participants: 28 EMI teachers, 4 English teachers.

#### **c) Adaptation of course materials to suit local needs**

The course materials used in the QEF funded project were from an Australian package called "ESL in the Mainstream". The two tutors selected and adapted materials from the original package to suit the Hong Kong context.

The tutors also developed new materials for the following:

- Vocabulary building
- Spelling
- Pronunciation

#### **d) Administrative support from the school**

Staff development programmes would not have been possible without support from the school, which included the following:

- The principal, Mrs Leung Li Po-ching, informed EMI teachers of the workshops well in advance.
- Soon after a briefing for the tutors to outline the content of the workshops to EMI teachers was arranged. Hence, by the time the courses commenced, teachers were psychologically prepared.

- The two tutors were relieved of all invigilation and summer duties during the school year in which the staff development programmes were implemented.

## Sample Course Material developed for ESL in the Mainstream Course

### Session 3

#### Vocabulary building

A. What does knowing a word mean?

*Do you ask your students to be aware of the following aspects when you teach vocabulary in your subject area?*

Put a tick in the box against the item you have drawn your students' attention to.

<i>Form</i>		
<i>Spoken</i>	How is the word pronounced?	
<i>Written</i>	<i>How is the word written and spelled?</i>	
<i>Position</i>		
<i>Grammatical patterns</i>	In what patterns must we use the word? (e.g. <u>let</u> the height <u>be</u> → infinitive after the word "let")	
<i>Collocations</i>	<i>What words or types of words must / can we use with this word? (e.g. "run" a firm )</i>	
<i>Meaning</i>		
<i>Concept</i>	<i>What does the word mean?</i>	

( adapted from Nation, I.S.P. (1990) Teaching & Learning Vocabulary. US: Heinle & Heinle Publishers. P. 31)

B. Correcting mistakes

*There is one word in each sentence below which cannot be used with the word in bold (i.e. a collocation mistake). Spot the mistake and correct it.*

1. *I'm afraid I'd like to do a serious complaint.*
2. If you want to be slim, you need to make a **diet**.
3. If you are too fat, you need to miss some **weight**.
4. To improve your health you need to do some **sacrifices**.

5. If you want to be really fit, you need to make more **exercise**.
6. We could not make a **consensus** in the meeting.
7. I was completely **disappointed** when I failed my exam.
8. The Second World **War** happened in 1939.
9. The strong **rain** brought traffic to a standstill.
10. The holiday I went on last year was a full **disaster**.

(from Hill, J., Lewis, M. and M. Lewis (2000) Classroom strategies, activities and exercises. In Lewis, M. (Ed.) Teaching Collocation. England: Language Teaching Publications. P.107)

### C. Different kinds of collocations

1. a difficult decision (*adjective + noun*)
2. submit a report (*verb + noun*) \*\*\*
3. radio station (*noun + noun*)
1. examine thoroughly (*verb + adverb*)
5. extremely inconvenient (*adverb + adjective*)
6. revise the original plan (*verb + adjective + noun*)
7. the fog closed in (*noun + verb*)
8. aware of (*adjective + preposition*)
9. On the other hand (*fixed phrase*)
10. turn in (*phrasal verb*)

\*\*\* *The Verb + Noun pattern is the most useful one.*

(from Hill, J., Lewis, M. and M. Lewis (2000) Classroom strategies, activities and exercises. In Lewis, M. (Ed.) Teaching Collocation. England: Language Teaching Publications. P.133)

### D. Think about this

“...every word has its own grammar...” (p. 8)

“Really ‘knowing a word’ involves knowing its grammar – the patterns in which it is regularly used.” (p.8)

-Lewis, M. (2000) *Teaching Collocation*. UK: Language Teaching Publications.

*If collocations play such an important role in vocabulary learning, what implications are there for your teaching?*

*Would you reconsider the way you select words for glossaries?*

*Would you reconsider the way you design worksheets?*



## Impact on Teachers' Understanding of EMI

The school-based "ESL in the Mainstream" workshops instilled the following beliefs in subject teachers:

1. Each content subject has its own language.
2. Content subject teachers are language teachers.
3. Students need language support to learn a content subject well.
4. Students learn content subjects by using language.

Mrs Leung Li Po Ching, the principal, came to realise that each subject has specific language requirements:



"I thought that if your Chinese or English was good, you could do well in other subjects too. Now I realise this is not true... to do well in a subject, you have to master its knowledge and acquire its 'language'."

Teachers' comments at the end-of-course evaluation also affirmed the effectiveness of the workshops. Some of them are listed below:

### **Teacher Efficacy**

- What I have learned in this course assures me that teaching my subject in English is possible.

### **Awareness of the Role of Language in Content Teaching**

- I've learned more about the importance of using English as a medium for content subjects - "Stop complaining and do something."
- I plan to teach specific word patterns and sentence structures in my subject.

### **Awareness of Teachers' Own language Use**

- I am more aware of the language structure that I use in my lessons.



### **Better Understanding of Students' Needs**

- I understand more about my students' abilities and how to teach them in a systematic way.

### **Collaboration in Panel**

- Panel members have more confidence to use English and sharing helps them to think of more teaching strategies.
- (Working) relationships have been strengthened. There's more discussion on the design of worksheets.

When asked to suggest essential factors for the successful implementation of EMI teaching, Miss Lo Yuen-shan, the history panel chair, mentioned staff development. She said:

"...staff development is important...especially for teachers who haven't graduated with an English degree. Training boosts teachers' confidence. It helps them teach successfully and systematically, and that benefits students."



## Cross-Subject Tryouts

All cross-curricular collaborative initiatives — particularly those conducted in 2001/02 — have had a positive impact on classroom teaching and learning.

### **Collaborative attempts from 2001**

Between 2001/02 and 2002/03 a total of three collaborative initiatives were attempted.

In each initiative the following occurred:

- The LAC coordinator worked with one subject teacher to select a topic and design learning tasks or activities that integrated content and language.
- Each initiative was kept small and could be completed in a single or double period.
- Teachers worked together to ensure that the topic was covered in full and that the initiative did not take up extra class time.

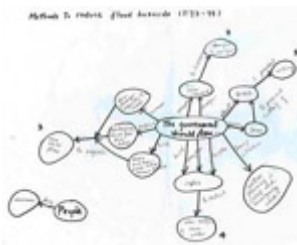
Here is an overview of an S.2 initiative:

<b>Subject:</b>	Geography
<b>Topic:</b>	Methods to reduce flood hazards ( <i>Exploring Geography 2A</i> , OUP p. 93-95)
<b>Teachers:</b>	Geography teacher of S2B and S2E, the LAC coordinator
<b>Classes:</b>	S2B & S2E
<b>No. of periods:</b>	1 period
<b>Content objective of tryout:</b>	Students learn to use a concept map to organise information about ways to reduce flood hazards
<b>Language objectives of tryout:</b>	Students learn by means of a concept map: 1. verb + noun collocation, e.g. regulate(v) the river flow(n); 2. sentence structure i.e. The government should/can + verb phrase + <i>to</i> -infinitive

The geography teacher and the LAC coordinator first identified a suitable topic - "Methods to reduce flood hazards". They discussed the essential points to cover on pages 93-95 of the textbook and agreed not to deviate too much from the content of the textbook. The LAC coordinator then worked out a draft concept map to achieve the content and language objectives. After further discussion and revision, the concept map was finalised.

### **Concept maps**

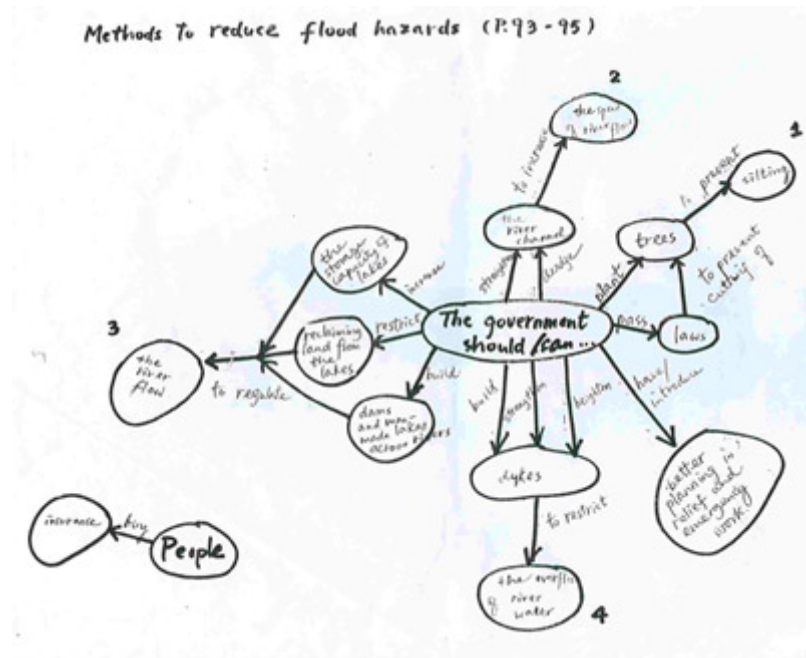
Concept maps are often used to organise information. In the concept map below, there is a language focus.





## The Tryout Findings

The teacher demonstrated the task, stressing verb + noun collocations and the target sentence structure in a geography period with S2B and S2E. Then students worked in groups to complete the concept map. The teacher went over the answers afterwards.



The concept map was used only in S2B and S2E, not in the other three S.2 classes. However, the geography teachers of those classes still covered the same topic and referred to the same pages in the textbook. In order to determine whether the concept map helped students learn, four S.2 classes (with the exception of the top class) were given a surprise quiz on this topic on the same day. These four classes were of comparable English ability.

Students were shown pictures of flooding and were then asked to write a short paragraph to the government suggesting ways to prevent the hazard shown in the pictures. Because students were not prepared for the quiz, they had to recall the information. Their scripts were marked for content and students having used the concept map performed much better than those in the other two classes.

To find out if students who participated in the tryout could write better English, sample scripts from students of above-average, average and below average were chosen. Teachers then compared and selected scripts written in comparatively better English from each batch. the selected scripts attested to the effectivenesses of the tryout.

In the above-average batch, which consisted of 22 scripts, four out of the five scripts chosen were written by students from S.2B or S.2E. There were 25 scripts in the batch of average English ability, and three out of the five scripts chosen were from S.2B and S.2E. All three scripts chosen from the below-average batch, which consisted of 15 scripts, were written by students from S.2B and S.2E. In sum, 10 out of the 15 scripts selected from all three batches were from S.2B and S.2E.

Write a short paragraph to the government suggesting ways to prevent the hazard shown in the figures? (9 marks)

A

They can plant more trees to prevent the river, they can make the river flow fast, they can building the dam to save the water, they can increase the river volume, they can make the river less silting, they can make the river straight, they can make more lack of lakes, they can build more dam.

B

The government can pass the laws to plant trees to prevent silting, build dydam to regulate the lakes. The government can support the people buy insurance, it's because they had money to rebuild their home after flooding. the government also can have better planning to prevent the flooding before flooding. They also can increase the lake's value.

C

The government should pass laws to prevent cutting of trees and plant trees to prevent silting. And it should dredge and straighten the river to increase the speed of river flow. Besides, it should increase the storage capacity of lakes and restrict the claiming from lakes and build dams and man-made lakes to decrease the river flow. Furthermore, the government should build, strengthen and heighten the dykes to prevent the river flow.

① The government suggesting to plant more trees to pull up the soil, so the river will not be too easy silting. And the government is building dykes ~~and~~ to make the lower will not too easy to flood and it can provide Hydro-power, so the electricity will be cheaper.

In addition to using better sentence patterns, students B and C (who used the concept map) were more aware of verb + noun collocation. They wrote "prevent silting" instead of "make the river less silting" (student A). Student C also wrote "dredge and straighten the river" and "build, strengthen and heighten the dykes". Student A, by contrast, only managed to write "make the river straight".

## Positive Outcomes of Cross-Curricular Collaboration

Cross-curricular collaboration benefits both subject and language teachers and fosters cooperation among panels in Carmel Secondary School.

Collaborative initiatives provide subject teachers with hands-on experience of integrating content and language in EMI teaching. Teachers realise the importance of equipping students with the subject-specific language necessary to master a content subject:

"...certain language features are unique to history and it's necessary for students to understand these features."

*(Miss Lo, History panel chair)*

English teachers' understanding of the language needs of content subjects helps them tailor their teaching. For example, the English panel decided to teach passive voice earlier, when members realised that there were a lot of passive structures in S.2's geography textbook.

In short, cross-curricular collaboration enhances communication among panels and impacts on teaching and learning:

"We put a lot of emphasis on voices and past tense. Since students had already learned these grammar items in English class we were able to build on their foundation knowledge."

*( Miss Lo, History panel chair)*

Carmel Secondary School's students have limited exposure to English outside of the classroom and find that learning in English is difficult. The school realised that students would learn more if they were taught how to learn, and decided to allocate one period per cycle - the Class Study Period (CSP) - to teach study skills in junior forms in 2002/03.

### **Class Study Period (CSP)**

The Class Study Period teaches study skills that students can apply to all subjects, not just EMI lessons. Mrs Ronica Chan (the English panel chair) took up all S.2 Class Study Periods in 2003/04, and explained the purpose of study skills for learning in English:

Mrs Chan's explanation



Among the topics covered in S.2's Class Study Periods, the following are relevant to EMI:



- concept maps
- word collocation
- EMI lesson preparation
- how to make notes
- how to keep vocabulary cards
- ways to spell words
- writing "subject" language in correct grammar in EMI

## Concept Maps

A concept map was used in the S.2 geography tryout. Students were taught how to draw concept maps that integrated content and language in CSP. The figure below is a concept map about Integrated Science drawn by an S.2 student. It is an attempt to build grammatical links between pieces of information.



The merits of a concept map are summed up by Rachel, an S.3 student:





## Word Collocation

In addition to concept maps, verb + noun collocation was introduced in CSP, with particular reference to vocabulary used in content subjects. Mrs Ronica Chan, the English panel chair, explained the purpose:



"If students can memorise a chunk of important information, then they can do well. Understanding the verb + noun collocation structure can help students do this."

Rachel, an S.3 student, recalled word collocation in her S.2 history class. When asked whether she still remembered any verb + noun collocations she had learned the previous year, Rachel answered:

R: In Ancient Egypt, the Nile floods every year. That bit of information helped me to remember the word 'flood'.

S: The Nile floods?

R: Yes. The Nile floods every year.

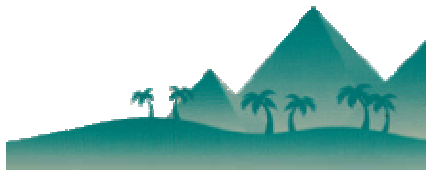
"The Nile floods every year" is the first item in a word collocation exercise Rachel did in preparation for the topic "Ancient Egypt".

Link to the [word collocation exercise](#)

## Preparation – Let's go surfing in Egypt!

### S2 History – Ancient Egypt

You will be learning about ancient Egypt on the Internet. Prepare yourself well in advance by doing the following:



- A. *Finding out more before we start*
- B. *Packing the Right Words in Your Brain*

### Now, let's start!

#### A. *Finding Out More Before We Start...*

Fill in the blanks below with suitable **verbs** from *Journey Through History*

*Book 1 p. 57 to 67.* You may need to change some verbs into the past tense.

The Nile (P. 57)	1.	in July every year.
Menes (P. 58)	2.	Egypt in about 3200 BC.
	3.	a double crown.
Ancient Egyptians (P. 58-66)	4.	the plough.
	5.	the shaduf.
	6.	hieroglyphics.
	7.	preserved dead bodies called mummies.
	8.	an early civilization in the Nile Valley.
	9.	pyramids.
	10.	the Great Sphinx.
	11.	big temples.
	12.	reed ships.
	The Assyrians (P. 67)	13.

**S2 History – Ancient Egypt**

Name: \_\_\_\_\_ Class: \_\_\_\_\_ ( )

**B. Packing the Right Words in Your Brain: Underline and learn these vocabulary items from the history textbook.**

1. Page 54 & 55: civilized people, protect, cradles of civilization, irrigate crops, fertile
2. Page 56 & 57: thick black mud, harvests
3. Page 58 & 59: outside attacks, pharaoh
4. Page 60 & 61: papyrus, holy carvings
5. Page 62 & 63: decay, tombs
6. Page 64 & 65: stone statue, worship
7. Page 66 & 67: the Mediterranean, trade, spread, conquests



## EMI Lesson Preparation

Lesson preparation is indispensable for learning EMI subjects, and students are aware of its importance:

"The preparation work helps us grasp the meaning of the text."  
(Cherry, an S.2 student)

Students reported having learned to underline points in a textbook and make margin notes:

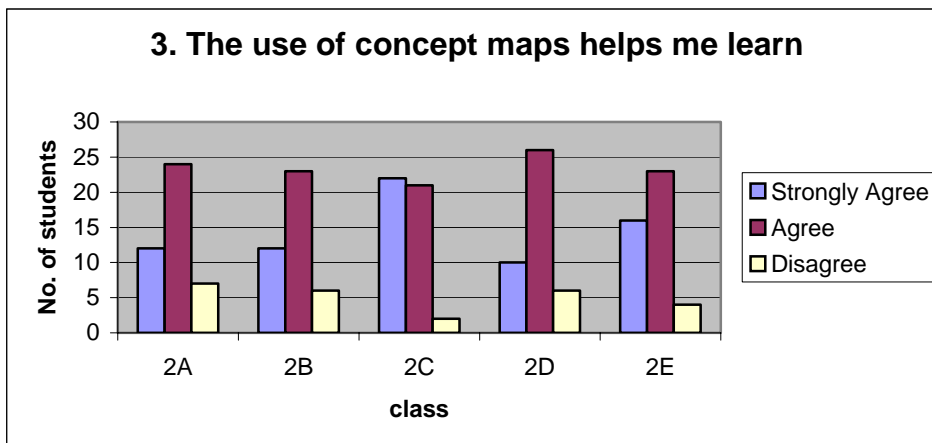
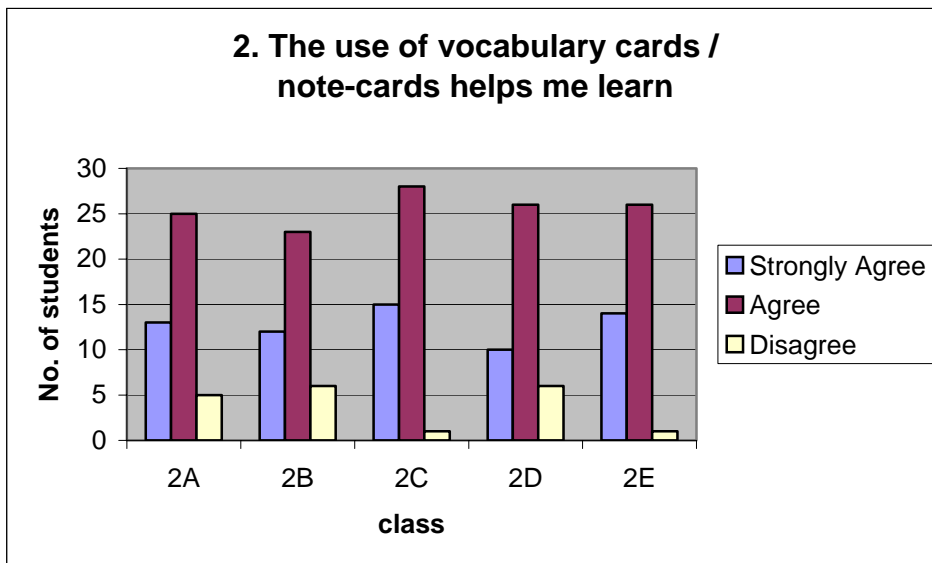
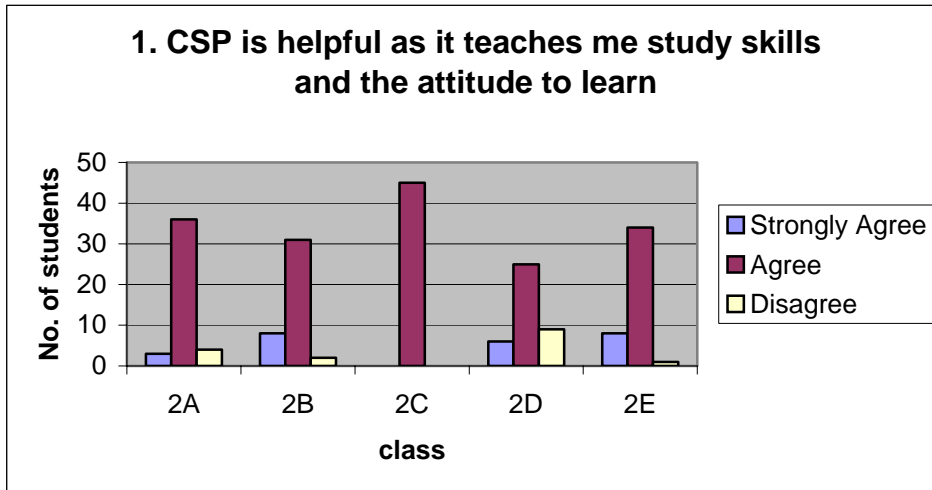
"In history, we read the passage once or twice, and then underline and highlight important words or phrases. Then we go over the important points again."  
(Perry, an S.2 student)

"She [the history teacher] asks us to make margin notes, and read what she's going to teach in the next lesson."  
(Annie, an S.3 student)

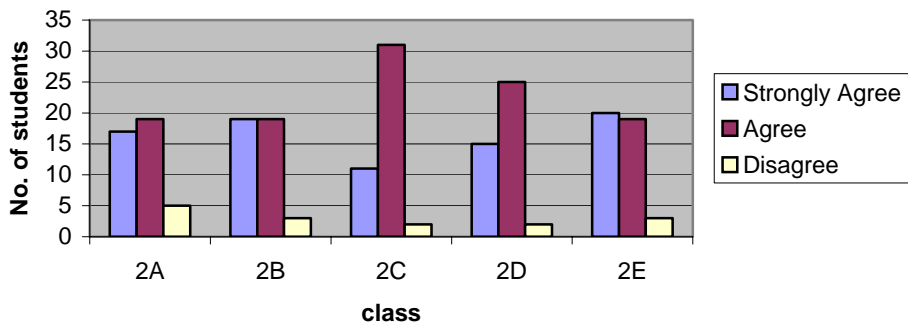
The figure below shows the margin notes that an S.3 student, Rachel, made in her economics textbook. The notes show that in the process of deciding which notes to make Rachel gained an overall understanding of the content:



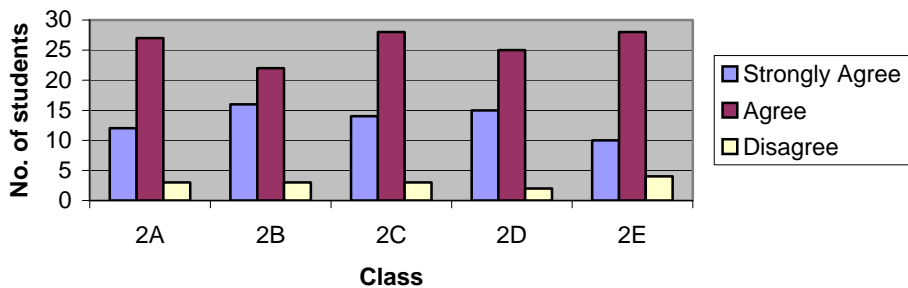
## S2 CSP End-of-Year Evaluation: Selected Items relevant to EMI



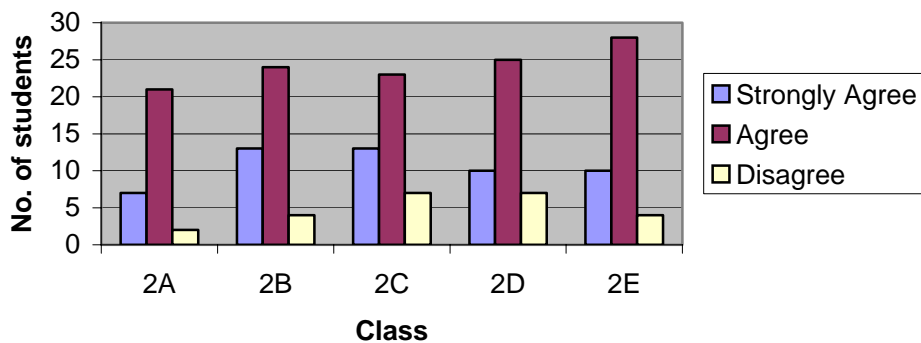
#### 4. Preparation for lesson is useful



#### 5. 'English' used in EMI subjects raises my awareness



#### 6. Ways to spell words are useful



## Impact on Learning

Students we interviewed identified three benefits of learning study skills:

- More classroom activities



Lesson preparation gives students an overview of the content, so the teacher can design learning activities without worrying about not being able to cover the syllabus.

Jeremy, an S.3 student, made this remark about his history lessons:

"There are many chances for us to use English in class. There are discussions and projects for nearly every chapter covered."

When asked whether there was enough time to cover all topics if classroom activities were used in EMI content subjects, Rachel made some remarks. See the video below.



How students' learning has improved:

- Students find it easier to remember information after learning study skills
- Students' confidence increases



Cherry, an S.2 student, "was very afraid of history" until she learned how to make notes and memorise vocabulary. Miss Lo Yuen-shan, the history panel chair, remarked that students' confidence has "definitely" increased and they can give fuller answers.