Reading Fair 2009

Reading across the Curriculum: Enhancing English Language Development and Concept Development

25th April, 2009
Outline of the Presentation

1. Introduction
2. Theoretical Dimension
   - Conceptualization of “Reading across the Curriculum”
3. Practical Dimension
   - Curriculum Design
   - Classroom Practice
4. Collaboration among Teachers
1. Introduction
Reading across the curriculum in English

- Read to Learn
- Helping students develop reading skills to cope with learning content subjects in English
  - Comprehend, organise and recall
Current situation

- Increased reading demand in English for learning purposes
  - Increased amount of reading materials
  - A wider, technical and specialised vocabulary
  - More variety of text types
  - Distinctive mode of analysis for different subjects

- English reading skills are handled in English lessons
2. Theoretical Dimension
Conceptualization of “Reading across the Curriculum”

- RaC is a component within Language across the Curriculum (LaC).
Conceptualization of LaC
Language across the Curriculum (LaC)

- The development of a language policy across the curriculum - such a policy means in effect that every teacher in the school should accept it as part of his responsibility to develop the pupils’ reading, writing, and speaking ability in and through the subject or activity for which he is responsible.
One of the recommendations -

- In the secondary school, all subject teachers need to be aware of:
  - The linguistic processes by which their pupils acquire information and understanding, and the implications for the teacher’s own use of language;
  - The reading demands of their own subjects, and ways in which the pupils can be helped to meet them.
Recent developments in UK

Statutory requirement for use of LAC

- ‘Pupils should be taught in all subjects to express themselves correctly and appropriately and to read accurately and with understanding….’
In the area of reading

- Pupils should be taught strategies to help them read with understanding, to locate and use information, to follow a process or argument summarise, and to synthesise and adapt what they learn from their reading.

- Pupils should be taught the technical and specialist vocabulary of subjects and how to use and spell these words.
They should also be taught to use the patterns of language vital to understanding and expression in different subjects. These include:

- the construction of sentences, paragraphs and texts which are often used in a subject, e.g. language to express causality, chronology, logic, exploration, hypothesis, comparison, and how to ask questions and develop argument.
Three messages

1. Language is taken as both an end and a means.
2. Students should be taught skills to cope with reading for learning purposes.
3. Teaching of language skills is not the responsibility of language teachers only.
Language Across the Curriculum (LaC)
School curriculum

Compartamentalised Subject-based Curriculum

ENG  CHI  MATHS  L.S.  I.H.  SCI.
Common Areas across Subjects
Common Areas across Subjects

Language, Concepts, Skills, etc.
## Language across the Curriculum – The HK Context

<table>
<thead>
<tr>
<th></th>
<th>CHINESE</th>
<th>ENGLISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Level of schooling</td>
<td>Across all levels</td>
</tr>
<tr>
<td>2</td>
<td>Language Mode</td>
<td>Spoken &amp; Written</td>
</tr>
<tr>
<td>3</td>
<td>Language Situation</td>
<td>First Language</td>
</tr>
<tr>
<td>4</td>
<td>Language Items (V, G, Text)</td>
<td>Subject General &amp; Subject Specific</td>
</tr>
<tr>
<td>5</td>
<td>Language Skills (L, R, S, W)</td>
<td>Subject General &amp; Subject Specific</td>
</tr>
</tbody>
</table>
Reading across the Curriculum
Reading across the curriculum

Reading skills

chi
maths
sci.
eng
i.s.
i.h.
Reading in the school curriculum

- A skill to be mastered – end
- A skill through which knowledge is acquired – means
Reading across the curriculum

- Are there any reading related language elements which are common across subjects?
- If so, how are these elements handled in the curriculum?
- If we were to develop reading across the curriculum, what should be taught and how to teach them?
Reading Development

Herber & Herber (1993)

Level 1: Learn to read
Level 2: Learn to read to learn
Level 3: Read to learn

Learn to read and read to learn

- **Learn to read** – learn to crack the code
- **Learn to read to learn** – to get information and ideas in texts
- **Read to learn** – to apply their reading ability to acquire information and ideas from text independently
3. Practical Dimension
3. Practical Dimension

- Curriculum Design
- Classroom Practice
Curriculum Design
Designing a programme on reading across the curriculum
A few issues to consider

- What to teach?
- How to teach it?
- Who to teach it?
- When to teach it?
What to teach?

- What linguistic elements do students need in order to learn your subjects (major content subjects) effectively?

(Identify linguistic demands)
Linguistic elements

- **Form**
  - Vocabulary ✓
  - Sentence structures ✓
  - Text types ✓

- **Functions** ✓

- **Skills**
  - Reading ✓
  - Writing
  - Listening
  - Speaking
Subject general Vs subject specific linguistic demands

- Are there any linguistic elements which are specific to certain school subjects?

- Are there any linguistic elements which are common across many school subjects?
## Language Items/Concepts – Numbers

<table>
<thead>
<tr>
<th>Subject General</th>
<th>Subject Specific</th>
</tr>
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</table>
| **Cardinal number:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10… | **History:** year, date  
E.g. BC 1000 VS AD  
1000; 1\textsuperscript{st} October, 1949 |
| **Ordinal number:** first, second, third… | **Mathematics:** measurement  
E.g. one-third = 1/3 |
## Language Items/ Concepts – Colours

<table>
<thead>
<tr>
<th>Subject General</th>
<th>Subject Specific</th>
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<tbody>
<tr>
<td>Red, Orange, Yellow, Green, Blue...</td>
<td>Science: cobalt</td>
</tr>
<tr>
<td></td>
<td>Geography: observation</td>
</tr>
<tr>
<td></td>
<td>River/ lake/ reservoir (blue)</td>
</tr>
<tr>
<td></td>
<td>Vegetation (green)</td>
</tr>
<tr>
<td></td>
<td>Developed area (purple)</td>
</tr>
<tr>
<td></td>
<td>Art: types of colours</td>
</tr>
<tr>
<td></td>
<td>Primary colours (red, yellow, blue)</td>
</tr>
<tr>
<td></td>
<td>-&gt; Mixing of colours</td>
</tr>
<tr>
<td></td>
<td>Secondary colours (orange, purple, green)</td>
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</table>
Subject General Reading Skills

- **Vocabulary**
  - Work out the meaning of words and phrases by using knowledge of word formation (i.e. prefix, suffix) and some semantic clues (i.e. synonyms)

- **Information Processing**
  - Process simple sentences by identifying meaningful chunks
  - Locate specific information by identifying key words
  - Locate details which support the main ideas from different parts of a text
Subject General
Language Skills

- Study skills
  - Use of reference books / dictionary
  - Note-taking – listening
  - Note-taking – reading
  - Memory strategies (?)
Subject Specific Language Skills

- Science: How to identify/ write a description of a process such as ‘photosynthesis’ in a biology report?
- History: How to identify/ present the causes, events and impact of WWII in a History essay?
- Home Economics: How to read/ write the procedures described in a recipe?
- Economics/ Mathematics: How to present the changes of a set of data?
### Reading across the Curriculum

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<td>Language Skills</td>
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Text types and text structures

- Text type - Informative text
- Text structures
  - Description of a definition
  - Description of a structure
  - Descriptions of a process
Example 1: Description of a Definition

When a person models himself or herself after someone else by assuming the characteristics, values, attitudes or mannerisms of the other person, we refer to the behaviour as identification.
- Definition = class + defining characteristics

- Identification = behaviour + .....
A wristwatch is a mechanical time-telling device which is worn on a band around the wrist.

**Analysis:**

- **Class:**
  - a device

- **Defining characteristics:**
  - Mechanical
  - Function - Tell time
  - Worn on a band
  - around the wrist
A definition

Reading demands of learners:
- Able to know how a definition is written
- Able to identify the two constituents of a definition
- Able to write a definition
Example 2: Description of a Structure

- A structure text usually contains the following information constituents:
  - names of parts making up the structure
  - their locations
  - their properties
  - their functions
Tooth Structure

- Teeth are derived from the skin rather than from bone, but they do contain a high proportion of non-living material.
- A tooth has three regions: the crown is the part projecting above the gum, the neck is embedded in the soft gum and the root is out of sight anchoring the tooth in its bony socket. [Inside the tooth is a fairly hard material which contains some living cells; this is the dentine. The dentine cannot withstand wear, so in the crown and neck it is covered with a layer of hard, non-living enamel. The dentine in the root is covered with a substance called cement, which helps to fix the tooth in its socket.] Inside the dentine, in the centre of the tooth, is a hollow pulp cavity containing nerves, a small artery and a small vein.
Tooth Structure

- The teeth are not, however, set immovably in their sockets. If this were the case, we should frequently break our teeth when biting on something unexpectedly hard. Instead, they are suspended by fibres, extending from the dentine to the jaw socket. When we bite, these fibres have a cushioning effect, preventing damage.
## Skeleton of a Description of a Structure

<table>
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<th>Name of structure/part</th>
<th>Location</th>
<th>Property</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>A tooth</td>
<td></td>
<td>derived from skin contains high proportion of non-living materials</td>
<td>Biting</td>
</tr>
<tr>
<td>The crown</td>
<td>projecting above the gum embedded in the soft gum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The root</td>
<td>out of sight</td>
<td></td>
<td>anchoring the tooth in the bony socket</td>
</tr>
<tr>
<td>The dentine</td>
<td>inside the tooth</td>
<td>a fairly hard material which contains some living cells, cannot withstand wear</td>
<td></td>
</tr>
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<td>in crown and neck</td>
<td>is covered with a layer of enamel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in the root</td>
<td>covered with a substance called cement</td>
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Example 3: Language Use in Scientific Descriptions

- Language use: passive constructions dominate
- Example: *Solar Energy*
- “One of the earliest attempt at solar heating was the Dover House built in 1949. In this house energy from the sun *is absorbed* by a large area of blackened metal sheets covered by *double plates of glass*. Next, *the heat* *is carried away by air circulating behind the metal sheets*. After this, *it is stored chemically in large tanks containing Glauber’s salt, a given volume of which can hold eight and a half times more heat than water*. Finally, *a fan blows the hot air from the storage to the various rooms in the house.*”

- Functions:
  - To show the objectivity of the findings
  - To emphasise the topic of the sentence
Content of a reading across the curriculum

- Learning / Study skills
- Dealing with vocabulary
- Reading strategies
- Language skills
Other issues in curriculum design

- Theme of the Reading Programme
  - General or subject specific topics
  - Text types specific to other KLAs, e.g. description of process, definition, classification, analysis, etc.

- Teaching objectives – content objectives and language objectives
Characteristics of the Reading Materials

- A variety of text types and topics
- Focus questions – to facilitate exploration of the topic
Classroom Practice
Teaching of Reading:

- Teaching strategies – use of questioning
- Principles of teaching of reading
Teaching Strategies – Use of Questions

- Effective use of guiding questions to help students make sense of the text
- Show them clues to meaning
### Crime Solvers: Extract of the Text (P.5)

<table>
<thead>
<tr>
<th>Crime Solvers: Extract of the Text (P.5)</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most crime scenes contain clues. Even the tiniest things, such as a drop of blood or a strand of hair, can be used to help solve a crime. The experts who study these clues are called forensic scientists. The evidence they piece together is used to find and convict suspects.</td>
<td>a. What are clues? Can you give me two examples of clues from this paragraph? Give me more examples of clues in your own words.</td>
</tr>
<tr>
<td></td>
<td>b. What do the crime solvers do to these clues?</td>
</tr>
<tr>
<td></td>
<td>c. Find two words for the people who study clues from crime scenes.</td>
</tr>
<tr>
<td></td>
<td>d. Who are forensic scientists?</td>
</tr>
<tr>
<td></td>
<td>e. Why do we call them experts?</td>
</tr>
<tr>
<td></td>
<td>f. What do forensic scientists do with the clues?</td>
</tr>
</tbody>
</table>
Principles of Teaching of Reading

a. Informed practice
   - When students are doing reading practice, they should know what they are practicing.

b. Practice with feedback
   - They know what has gone wrong in their reading.
Example of Informed Practice

Making use of knowledge of suffix

- (Focus Ss on the spellings of “scientists” and “pathologists”. Guide Ss to use phonics skills to read them aloud.)

- What does the suffix “-ist” refer to? (refer to a person)
- Which two words end in the “-ist” suffix? (scientists, pathologists)
When to teach Reading across the curriculum?

Transitions between switch in MOI

- From Primary 6 to Secondary 1
- From Secondary 3 to Secondary 4
- From Secondary 6 to Secondary 7
- From Secondary 7 to University
4. Collaboration among Teachers
- Responsibilities of English Teachers and Content Teachers
- Collaborative Lesson Planning (CLP Meeting)
Responsibilities of English Teachers and Content Teachers

- English teachers
  - Lesson design
  - Identify language objectives
  - Teach subject general / specific text types and reading skills and strategies

- Content teachers
  - Linguistic detectives
  - Informants about subject specific linguistic elements
  - Identify content objectives
  - Teach subject specific reading skills
Collaborative lesson planning

- Sharing of teaching experience
- Plan lessons collaboratively
Successful Factors for a Reading Programme

- Teachers’ understanding of “Reading across the Curriculum”, lesson planning and teaching of reading skills
- Good collaboration between English teachers and Content teachers
- The reading programme is complementary to the School-based curriculum.
- Principal’ and teachers’ support, attitudes and beliefs