Literacy Challenges and Students' Strategic Language Learning Efforts during the Primary-Secondary Transition

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The project

- **Participant schools:**

    2 secondary schools & 4 primary schools

- **Involved subjects:**

    English; integrated science; mathematics

- **Activities:**

    Lesson observation; interviews; learning materials; questionnaires

- **Aims:**

    Self-regulated learning challenges

    Pedagogical suggestions

Self-regulated strategic learning

Self-regulated strategic learning refers to the dynamic process of using meta-strategies (e.g., paying attention, planning, obtaining and using resources, organizing, implementing plans, orchestrating strategy use, monitoring and evaluating) to guide the use of cognitive strategies, affective strategies, and sociocultural-interactive strategies in the learning process.

Oxford, Rebecca L. 2011. Teaching and Researching: Language Learning Strategies. London: Longman.

Importance of self-regulated strategic learning in EMI contexts

- Language demand in subject content learning
- Subject-specific literacy
- Content-focused teaching
- The significance of strategic self-regulated learning to notice, select, reorganize, imitate, adapt, and internalize subject content in the medium of English

Challenges & Suggestions

Self-regulated processes of learning subject content and language:

- Noticing
- Selecting
- Reorganizing
- Understanding resources
- Reviewing and memorizing
- Imitating
- Adapting

Note: The processes did not happen in a linear sequence but were interlinked with each other.

Challenge 1: Noticing

1) **Determine the importance** of a particular resource for noticing and retention.
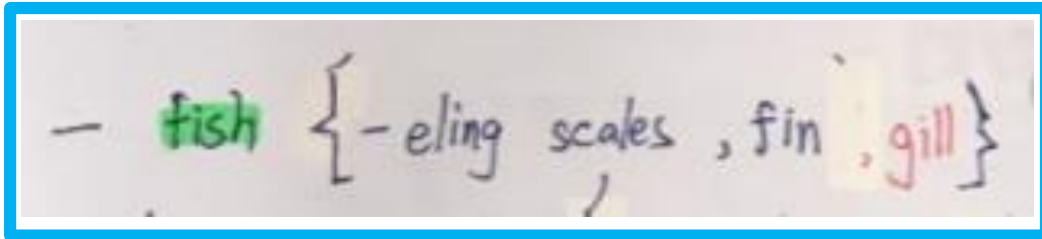
Important resource (changes of tone)

T: *A __higher__ temperature __increases__ the rate of evaporation.*

Challenge 1: Noticing (Con't)

2) Notice the language mistakes in the resources either.

Language mistakes

In student's note

On student's assignment
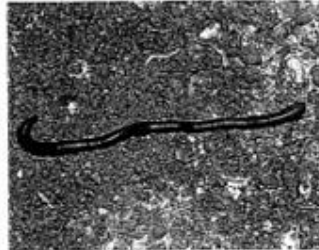
Challenge 1: Noticing (Con't)

3) Notice the **differences in the requirement** of assignment tasks in secondary school and in primary school.
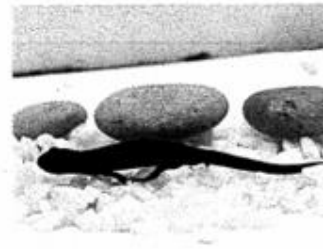
1. The photos below show some animals.

Dolphin

Earthworm

Chimpanzee

Mantis

Salamander

(a) (i) Classify the above animals into two main groups.

One group includes _____ *vertebrate*

The other group includes _____ *invertebrate*

Challenge 1: Noticing
Suggestions

- Tell students **explicitly** when important resources are provided.

→Tell students what is important.

T: *A **higher** temperature **increases** the rate of evaporation. This is important, please write down in your notebook and underline 'higher' and 'increases'.*

→Tell students how important it is.

T: *It is very important. You need to review it.*
(cf. T: This is for your reference. Read it if you are interested)

→Tell students when a resource related to previous knowledge is provided.

T: *This note is related to section 6 in Chapter 3.*

Challenge 1: Noticing *Suggestions (Con't)*

- Make sure the notes are **accurate**.

  → Ensure the notes/ resources provided are with accurate content and language

  Write clearly if you are writing by hands.
  Check spelling and grammar.

  → Ensure students' notes are with accurate content and language

  Collect students' notebooks and check them timely.
  Get students to cross-check their notebooks timely.

Challenge 1: Noticing
Suggestions (Con't)

- Convey **your expectations** on assignments to students clearly.

  → Tell students that they need to give very specific answers in their assignments at this stage.

  → Give students more practice to familiarize them with the assignment requirements.

Challenge 2: Selecting

Underachievers either take **whatever was provided** or **give up** recording all the new resources provided.

Reason A: Lack of knowledge about what is important
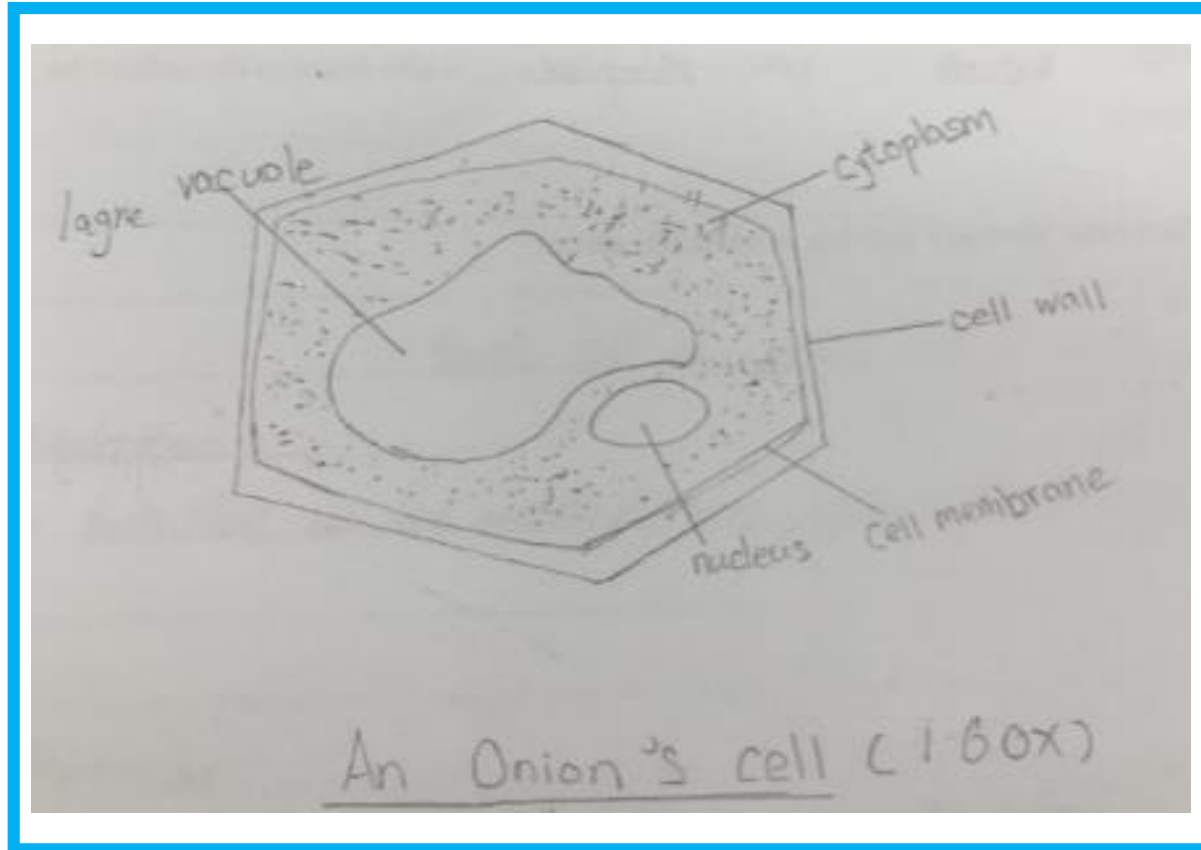
Reason B: Lack of knowledge about what is new

Thomas said he will take notes only on what is not in the textbook or the unit handbook…when the teacher is teaching [contents in] some pages of the textbook, ***he will see whether the notes he gives us are included in those pages***. If not, he will write down the notes.

Challenge 2: Selecting
Suggestions

- Tell students explicitly when you want them to **take notes**.

  T: *This is not mentioned in your textbook. Please write it down now on your notebook.*

- Tell students explicitly the **location** of the existing resources.

  T: *You can find the characters I just mentioned on p.124, so you don't need to take notes.*

- Use **colour coding** when writing information on the board.

  E.g. Write important concepts/ words in red, new concepts in yellow, taught knowledge in white etc.
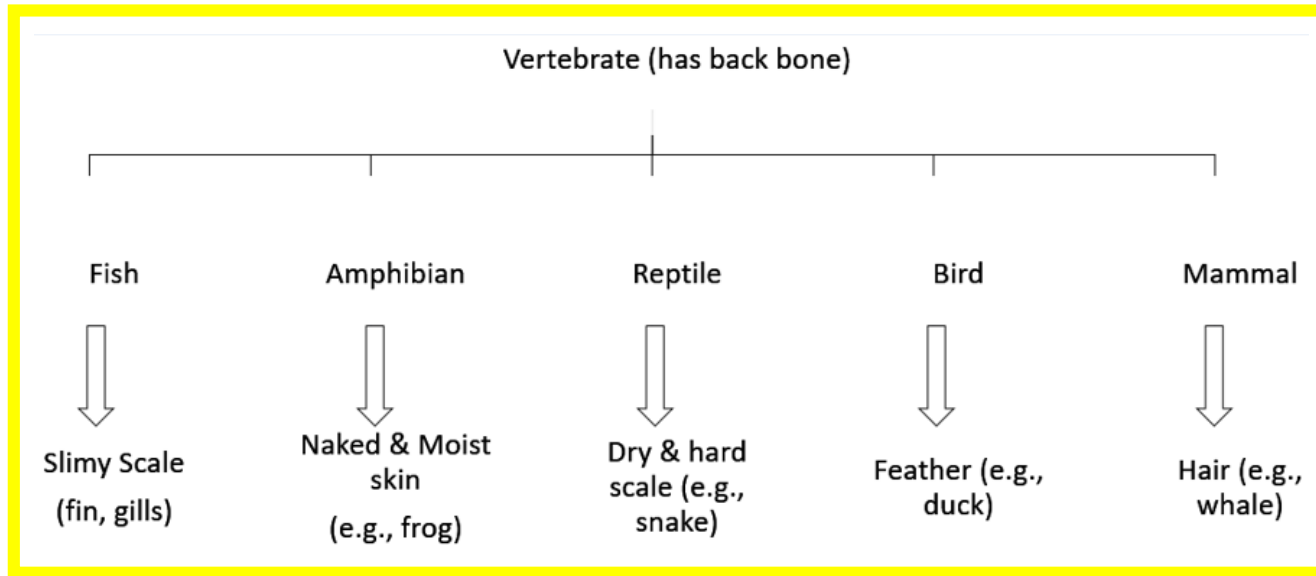
Challenge 3: Reorganizing

Reorganize the resources/ notes to make them **more systematic.**

The use of concept maps

From a higher achiever

Vertebrate (has back bone)

Fish	Amphibian	Reptile	Bird	Mammal
⬇	⬇	⬇	⬇	⬇
Slimy Scale (fin, gills)	Naked & Moist skin (e.g., frog)	Dry & hard scale (e.g., snake)	Feather (e.g., duck)	Hair (e.g., whale)

From a weaker learner

Vertebrate
1. Fish -- slimy scale, fin, gill
2. Amphibian -- naked, moist skin
3. Reptiles -- dry scales
4. Bird -- feathers, beak, fing
5. Mammal --hair, mammary gland

The use of symbols and colours

* Stain the cell by the colour solution
  ↓ cell has no colour → easier to observe

* Use cover slip to cover the glass slide
  ↓ push it to flatten the cell → easier to observe,
                                    protect the sample
  * Human have 46 chromosome, 23 pairs *   from
                                                   damaging /
                                                   contamination

From a weaker learner

- To staim the cells and make them
  easier to be seen

            fleatten
Cavor - To   the specimen

Challenge 3: Reorganizing *Suggestions*

- Provide more **systematic notes** to the students.

  E.g. Organize notes according to chapters/ sections/ concepts.

- Direct students to write notes in **a specific place** to **link** different but related resources together.

  T: *This is related to section 6.3. Write this sentence next to it.*
  T: *Write this next to point 1 on the note I just given.*

  T: *This note is about animal extinction. It is related to p.123-124 of your textbook. Write the page number down on your note.*

Challenge 4: Understanding resources

Use the resources even **before understanding** them properly.

E (d) Which of the above animals have a body temperature which is not easily affected by the environment? (2 m

Challenge 4: Understanding resources
Suggestions

- Use **concept-check questions**

  Ask students concept-check questions to evaluate their understanding on the taught textbook content.
  "What are the characteristics of living things" vs. "Is fish a living thing? Why?"

- Use **L1** resource judicially

  Explain difficult concepts/ questions in Chinese.

  Ask students to translate the important concept into Chinese to evaluate their understanding.

  Encourage students to write down the Chinese equivalence for difficult vocabulary.

Challenge 5: Reviewing and memorizing

Underachievers generally **lack strategies** to review the information effectively.

Time constraints

Challenge 5: Reviewing and memorizing
Suggestions

- Suggest students the different reviewing **strategies**

  E.g., reviewing the content on the Chapter Review, drawing graphs and mind maps etc.

- Spare some time **in class** for students to review and memorize.

- **Examine** students' mastery of the taught knowledge from time to time

  E.g., make in-class quiz as a routine (can be as formal as test or less formal by just calling on students) etc.

Challenge 6: Imitating

Underachievers only imitate language structure that could be **easily noticed and located** in samples when completing written assignments.

Students' examples

From a high achiever

Whale is not a fish because it has hair. A whale is a vertebrate because it has a mammary gland. It doesn't lay eggs. **It is a vertebrate because** it has a backbone. **This can be further classified under the group of** mammal, because it has hair.

From a weaker learner

(h) Whale is not a fish because its has mammary glands. This can be further classified under the group of mammal.

From a weaker learner

(h) Whale is not a fish because it has mammary glands. It is a vertebrate because it has backbone.

Challenge 6: Imitating *Suggestions*

- Scaffold students by providing **writing frames**

(f) This dinosaur is ___ a vertebrate ✓
because it ___ has ___ backbone ✓ .
This can be further classified under the group of
___ reptile ✓
because ___ it has dry and hard
scale ✓ .

(g) This is a penguin. It is an invertebrate / a ⟨vertebrate⟩ ✓
because it ___ has ___ backbone ✓ . This can
be further classified under the group of
___ bird ✓
because ___ it has feathers ✓ .

Provide students with the useful language structures that can help students to write long answers using more accurate language and in a more organizing manner.

These scaffoldings can be removed gradually.

Challenge 7: Adapting

Underachievers often **use** the acquired resources right away **without adaptation**.

How many apples in the box are good?

Apples in the box are good:
$160 \times (1-2.5\%)$
$= 160 \times 97.5\%$
$= \dfrac{160}{1} \times \dfrac{97.5}{100-20} = 19.5$
$= 156 \,(apple)$

Challenge 7: Adapting *Suggestions*

- Tell students **explicitly** when adaptation of the given resources is necessary.

  T: *You should not only copy the words or phrases but write in complete sentences for question 2 and 3.*
  T: *You cannot simply copy the sentence in a question when answering it.*

Conclusion

- Challenges: Lacked awareness and ability of self-regulated learning of subject content and language

- Pedagogical suggestions:
  - **Raise students' awareness** of the processes of resource utilization (noticing, selecting, reorganizing, understanding, reviewing and memorizing, imitating, adapting)
  - **Scaffold** students' self-regulated learning

Future Research

- Subject content teacher professional development:
    - Teacher knowledge about self-regulated learning for language and content learning
    - Pedagogical practice to facilitate and promote students' self-regulated learning
    - Perceptions and challenges of integrating self-regulated learning development in EMI classes

- Self-regulation ability development for language and content learning:
    - Pedagogical framework
    - Effectiveness

Publications

Hu, J., & Gao, X. (2018). Self-regulated strategic writing for academic studies in an English-medium-instruction context. *Language and Education*, 1–20. http://doi.org/http://dx.doi.org/10.1080/09500782.2017.1373804

Hu, J., & Gao, X. (in press). Appropriation of resources by bilingual students for self-regulated learning of science. *International Journal of Bilingual Education and Bilingualism*. http://dx.doi.org/10.1080/13670050.2017.1386615
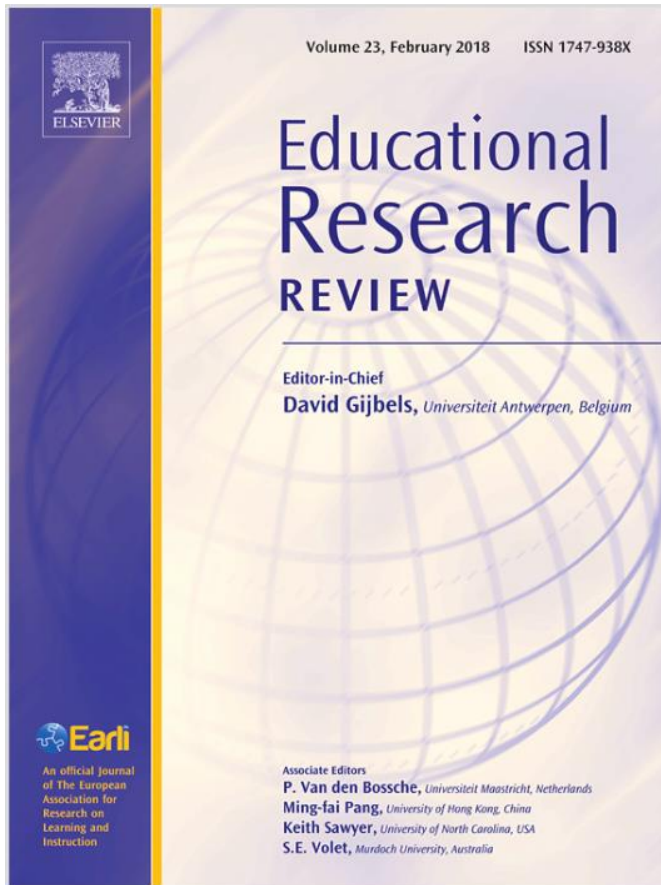
- Hu, J., & Gao, X. (2017). Using think-aloud protocol in self-regulated reading research. *Educational Research Review, 22*, 181–193. https://doi.org/https://doi.org/10.1016/j.edurev.2017.09.004

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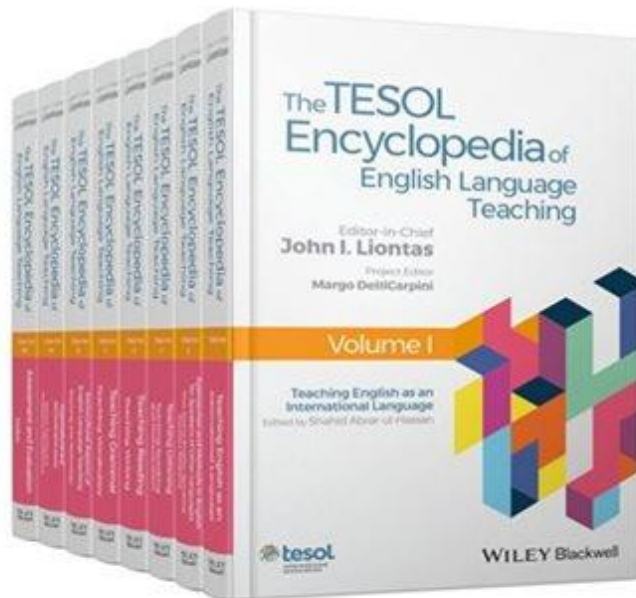
- Hu, J., & Gao, X. (2018). Hong Kong English curriculum in the new millennium. In J. I. Liontas (Ed.), *The TESOL Encyclopedia of English Language Teaching*. Hoboken, NJ: Wiley/Blackwell Publishers. https://doi.org/https://doi.org/10.1002/9781118784235.eelt0937

Manuscripts under review:

- Understanding teachers' pedagogical practice in Content and Language Integrated Learning classrooms

- Linguistic demands in English science textbooks for English as a Foreign Language learners

- Self-regulation in language learning strategy research