Late immersion: Contrasting content-trained teachers’ and language-trained teachers’ pedagogies

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Overview
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1. The late immersion context
- Immersion: Teaching content subjects through an L2 to lead to content + language learning
- Content-language integrated learning
- Late immersion: Subject specialism
- Late immersion teacher education: content- or language-trained

2. Aim of study
To investigate the classroom discourse of content-trained and language-trained late immersion teachers to find out what pedagogies support content-language integrated learning

3. Contexts of study
Hong Kong
- Late immersion: 25% (n=114) top ranking secondary schools
- L1 Chinese teachers teaching L1 Chinese students a content subject through English
- Most subjects, taught by content-trained teachers
- Class size = 40

Xi’an
- CCUCEI project: 18 kindergarten, 13 primary schools, 3 middle schools
- L1 Chinese teachers teaching L1 Chinese students a content subject through English
- One subject outside curriculum, taught by language-trained teachers
- Class size = 50-60

4. Data source

| Lesson 1 | Grade 8 science on ‘Structure and functions of the eye’ (Hong Kong) |
| Lesson 2 | Grade 9 geography on ‘Effects of scientific farming methods’ (Hong Kong) |
| Lesson 3 | Grade 8 science on ‘Fire triangle and its application to putting out a fire’ (Xi’an) |
| Lesson 4 | Grade 8 science on ‘Functions of the eye’ (Xi’an) |

Content-driven
Language-driven
5. Classroom discourse features for analysis

1. lesson structure
2. content-focused talk: complexity of content and knowledge relationships
3. language-focused talk: form-function integration
4. teacher-student interaction
   - teacher questioning
   - student-student interaction tasks

6. Findings: Lesson structure

Lesson 1
- Teacher stating the topic of the lesson
- Teacher explanation of how the structure of the eye functions to help us see in different light conditions
- Teacher instruction on how to dissect an eye
- Students dissecting an eye in groups
- Teacher rounding off the practical work and instructing students to finish an exercise on the dissected eye
- Students working on the exercise

Lesson 4
- Teacher asking what students can see and what they cannot see without eyes to introduce the topic
- Teacher brief explanation of how our eyes see
- Group discussion on why two eyes are better than one, followed by teacher-led sharing
- Teacher demonstrating how two eyes are better than one using a bottle of water
- Teacher explanation of the functions of the iris, pupil, and lens, and the causes of short-sightedness
- Group discussion on the causes of short-sightedness, followed by teacher-led sharing
- Role play of a news reporter interviewing 2 other students on how they protect their eyes
- Group work on writing on the petals of a flower designs to protect eyes
- Students sharing ideas on how to protect our eyes

6. Findings: Complex content complex language

The passive voice is used in the theme (position the topic in focus (the size of a pupil));
- a particle phrase to provide more information;
- a when-clause to explain a cause-effect relationship;
- an infinitive phrase to describe purpose;
- a long noun phrase with postmodification of prepositional phrases and relative clauses to provide detailed information;
- nominalised phrases to represent a concept and to allow the concept to be further explained and developed;
- subject-object words (e.g., accommodation, iris, pupil, lens, retina, optic nerve, light sensitive cells).

6. Findings: Content complexity

Yes, the pupil is used to admit light into the eye. And in fact pupil is nothing but a hole. This is important. Don't say 'len'. Lens. Lens help to change, help to focus all the objects into a single point on the retina which is the back of the eye. (Pointing at the lens in the diagram) After passing through the pupil, the light will move another structure. This is the lens. (Pointing at the lens in the diagram) The lens helps to change the size of the pupil depending on the lighting condition. Under very bright condition, the size of a pupil can be adjusted by the iris. And if the size of a pupil will change, the size of the pupil will affect the accommodation of the eye. OK? (Drawing the focusing muscles and lens on the partially drawn diagram) When we are looking [sic] things under dark condition, the iris will move to make the hole larger to make the pupil larger. So the pupil can be changed by (6) the movement of the focusing muscles. ...
6. Findings: Form-function integration

- Teachers’ explicit and consistent use of the language of the content → students’ use of the language e.g.
- the language of cause-effect in Lesson 2
- the language of hypothesis in Lesson 3
- Teachers’ awareness of the form-function relationships and advanced planning of specific language form(s) for the function(s) of the content
- Knowledge relationships: content ↔ language

6. Findings: Teacher-student interaction

Teacher questioning → better quality teacher-student interaction

T: Now, what happened just now? What happened with the splint?  
Ss: (Noise)
T: The…splint…stopped burning, right?  
Ss: Stopped burning.
S3: Because there is not enough oxygen in this test tube.
T: In this test tube, there is not enough oxygen, right? OK. There is not enough oxygen there means…oxygen is...

T: Oxygen in this test tube is very limited, right? Now think about the relationship between this (holding the test tube and the wooden splint) burning, burning splint and the oxygen. …there is…not enough oxygen, right? Why? Why there is not enough oxygen, the fire stops burning? The fire stops. (Inviting a student) OK.
S6: Burning needs oxygen.
6. Findings: Teacher-student interaction

Student-student interaction tasks

Lesson 4: Task (Discussion on how to protect our eyes relying on students’ own knowledge)

S1: [Student reading what they have written] We can have a good rest and often see plants. Don’t play computer for a long time. Oh, do eye exercises, eat many vegetables, don’t read in the sun, the last one is don’t watch TV for a long time.

T: Thanks a lot, another group? …

S2: ah eye exercise, don’t read in the sun, don’t read on the bus, ah watch more flowers and trees.

T: Thank you. OK, next.

S3: Don’t watch TV for a very long time and don’t read under the sun. We … we should do exercise, eye exercises every day, and often have a rest is very important. And don’t play computer for too long.

T: OK. Thank you. [Turns 157-162, Lines 250-259]

6. Findings: Summary

Planning

Content (depth)

Knowledge relationships

Teacher-student interaction

Teacher monologue

Teacher’s explicit and consistent use of target language forms

Teacher questioning

Student-student interaction tasks

Implementation

Language (Language objectives: form-function integration)

7. Implications

- Content: Depth of content → complex language

- Teachers’ awareness of form-function relationships → content-language pedagogies