IMPLEMENTING READING TO LEARN PEDAGOGY IN CLIL LESSONS: THE CASE OF AN INDONESIAN SECONDARY SCHOOL

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ABSTRACT

In recent years, content and language integrated learning (CLIL) has gained popularity among educators across the world, including in Indonesia. In classroom practice, various procedures have been applied to conduct CLIL lessons. One of them is the Reading to Learn (R2L) pedagogy developed in the Systemic Functional Linguistic tradition. This current study illustrates how R2L pedagogy was employed in an Indonesian CLIL biology lesson. To achieve the goal, the study used a qualitative case study. The data were obtained from video recordings of classes during the implementation at a private school in Bandung Barat, Indonesia. At the time of the teaching, the R2L pedagogy was applied in the classroom to embed English literacy in biology lessons for senior high school students. From the pedagogic register analysis of the selected lesson, it was revealed that the lesson consisted of three carefully planned lesson stages. First, preparing for reading immersed students in daily life and helped them acquire basic knowledge by using images or diagrams. Subsequently, detailed reading was carefully prepared to connect the activated knowledge with human digestive systems (disciplinary knowledge). Here, the students read the given text to identify technical processes in the digestive system in each organ, jotted them down in the form of notes, and elaborated on the terms. At the last stage, the observed teacher incorporated the scientific terms into new writings during a joint construction activity. R2L pedagogy, as described here, supports educators in delivering interactive CLIL lessons effectively and enables educators to promote embedded literacy in classrooms.

Keywords: CLIL, Reading to Learn (R2L) pedagogy, preparing for reading, detailed reading, joint construction

INTRODUCTION

More recently, there is a rich and growing body of literature around the idea of language and content integration into everyday teaching and learning practices (He & Lin, 2020; Lin & Lo, 2016; Lo, 2017). In this sense, the content refers to the knowledge being taught in a classroom (Lizama, 2017) which is aligned with non-language academic subjects such as history and biology (Lo & Lin, 2018). Accordingly, educators are now encouraged to "make a dual, though not necessarily equal, commitment to language- and content-learning objectives" (Stoller and Fitzsimmons-Doolan, 2017, p.71). In recent literature, this pedagogical focus goes under names such as content-based instruction (CBI) or content and language integrated learning (CLIL). Under the headings, scholars have formulated suitable methodologies for the integration of both foundational learnings in an endeavor to provide teachers with the knowledge and skills that they need to teach. One of the pedagogical methodologies is reading to learn (R2L) pedagogy developed in the research tradition of systemic functional linguistics (SFL hereafter) (see Rose and Martin, 2012).

R2L pedagogy has its roots in the genre-based approach to writing designed in the Sydney School tradition (Rose & Martin,

2012). It provides carefully designed teaching and learning interactions that enable students to read and engage with challenging texts and jointly construct texts that have similar patterns to the texts used in the detailed reading. At the same time, it also serves as a professional learning program that provides teachers with methodology and knowledge about language and pedagogy (Rose, 2017a). The key elements of knowledge about language include the written genres that students should master and the patterns of language that realize the genres at the level of discourse and lexicogrammar. Meanwhile, knowledge of pedagogy encompasses genres of classroom practice and patterns of classroom discourse that actualize the genres of classroom practice at the levels of lessons and exchanges (Rose, 2017b).

As mentioned earlier, R2L pedagogy is closely associated with SFL. SFL models language as a stratified semiotic system, which means that meanings are realized through various degrees of abstraction (Martin, 1992; Hao, 2020). At the most abstract level of meaning or social contexts, SFL situates language into a genre that is defined as "staged goal-oriented social processes" that have predictable patterns which can be recognized by members of a culture (Martin, 2009, p.13). Genres are expressed through registers. Registers are constellations of three register variables, that is, **field** of activity and knowledge, **mode** of meaning such as visual, spoken, somatic, and written modes, and **tenor** of social relations (Halliday & Matthiessen 2014). the register variables are realized into language functions called meta functions which consist of ideational, interpersonal, and textual functions (Martin, 1992). Ideationally, language can be used to construe experiences or express users' perceptions of the world. At the same time, language is used to textually create coherent and cohesive discourse and interpersonally to enact social relationships among speakers (Bloor & Bloor, 2013).

In the context of education, the three register variables are mapped into the term pedagogic registers which comprise pedagogic relations, activities, and modalities. In classroom practice, pedagogic activities are negotiated in pedagogic relations between teachers and students and delivered through various pedagogic modalities such as speaking, writing, viewing, and drawing (Rose, 2018). Rose further describes that pedagogic registers are used to exchange knowledge and values between teachers and students. He further states that the exchanges constitute a further dimension called a curriculum register. Both pedagogic and curriculum registers comprise what is called a curriculum genre.

Curriculum genres focus on the pattern of spoken discourse in classrooms in which knowledge and values are negotiated between teachers and students (Rose, 2020). In other words, curriculum genres can be understood by analyzing sequences of learning activities where knowledge and values are accumulated in classrooms. As mentioned earlier, curriculum genres are configurations of knowledge and pedagogic register as shown in Figure 1. In school contexts, students should acquire knowledge that covers specialized registers and genres ranging from commonsense (domestic) to uncommon sense knowledge (manual trade or scientific knowledge). This knowledge always goes along with social values when students gain it. The values enact social hierarchies of authority, autonomy, success, and inclusion (Rose, 2014, 2020). These knowledge and values are brought into being by the pedagogic register.

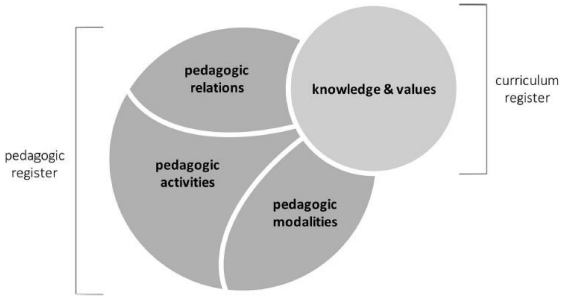

Figure 1. Dimension of curriculum genre from Rose (2020)

Pedagogic registers, on the other hand, show how teaching and learning activities occur (Rose, 2018). As shown in Figure 1, the pedagogic registers consist of pedagogic activities, relations, and modalities. Pedagogic activities are actualized through phases of lessons containing a series of

lessons. The series of lessons is further made up of learning cycles (Rose, 2017b). The core of pedagogic activities is learning tasks. Theoretically speaking, the learning tasks may be carefully prepared by contextualizing them in the students' experiences and re-focused by the teachers. The tasks are then evaluated using various degrees of affirmation or rejection and may be elaborated upon after having been completed (Rose, 2014). Therefore, pedagogic activities consist of five structural elements termed *cycle phases* including *prepare, focus, task, evaluate,* and *elaborate.* Focus, task, and evaluate are categorized as nucleus phases while prepare and elaborate are marginal phases (see Rose, 2021).

Figure 2. Nucleus and marginal phases of a learning cycle from Rose (2021)

Pedagogic relations are associated with exchanges between teachers and students including presentation of knowledge and action, evaluation, and participation. In other words, pedagogic relations organize the roles of teachers and students in classroom exchanges. The roles of teachers are to present knowledge, direct activities in classrooms, and evaluate students. Meanwhile, the roles of students are to receive or display knowledge, solicit knowledge, and perform actions from teachers or peers (Kartika-Ningsih & Rose, 2021; Rose, 2020). Meanwhile, pedagogic modalities refer to the sources of meaning such as the knowledge of teachers and students, environments, and recorded images and texts. In classroom practice, the sources are deployed in various ways to bring meanings into classroom discourse by speaking, writing, drawing, or gesturing (Rose, 2014, 2018, 2020).

A set of R2L curriculum genres has been carefully designed to guide reading and writing activities in classrooms (see Rose & Martin, 2012). This model is designed to help students actively participate in learning activities and successfully access and acquire knowledge. R2L lessons start with preparing for reading which focuses on reading and discussing texts related to the curriculum. This activity helps students grasp the general understanding of given texts without struggle since teachers prepare the background knowledge required to apprehend the texts.

Preparing for reading may be followed by detailed reading which focuses on reading short paragraphs sentence-by-sentence. This activity helps students gain full comprehension of the given texts and fluency. Detailed reading uses a carefully planned cycle of teacher-student exchanges which focus on elaborating meanings such as defining new words, explaining unfamiliar concepts, and discussing knowledge of students while students identify and mark each wording. This scaffolding supports all students in a class to read the given texts in detail and depth no matter what their level of difficulty of texts (Rose, 2015, 2021).

Following detailed reading, students are then guided to write what they have learned from reading. This activity is called joint writing or construction which commonly involves notes. The notes consist of highlighted information obtained during detailed reading. Those will help students to construct new texts and understand the generic structure of texts. After joint writing, this is followed by joint construction which focuses on constructing new texts based on the previous activities by considering the appropriate language use and structure.

When implementing CLIL in a class, most CLIL teachers perceive themselves as content subject teachers or L1 or L2 language teachers only (Lo, 2014). In fact, CLIL teachers should revisit the belief and integrate language teaching into their content-oriented lessons (Lo, 2017) to teach effective CLIL lessons. Pedagogically, they should be well equipped with strategies to make subject content accessible to all students and help them learn languages. To make content accessible to students, CLIL teachers should provide strategies that engage all students in the learning process involving various semiotic resources and help them succeed with learning tasks. As one of the methodologies used in CLIL lessons, R2L pedagogy meets the requirement and has shown a promising impact on teaching

scientific writing in CLIL lessons (Kartika-Ningsih & Rose, 2021).

Research on the implementation of R2L pedagogy in CLIL lessons has been conducted widely (e.g., Ahern, 2023; Kartika-Ningsih, 2019, 2024). Most of the studies were undertaken in multilingual or bilingual settings. Kartika-Ningsih (2019), for example, investigates how L1 (Bahasa Indonesia) and L2 (English) were used when implementing R2L in biology CLIL lessons. Unlike previous studies, this study is conducted in the setting of English as a medium instruction due to school policy. Besides, the study also investigates how resources such as diagrams and images are incorporated into the classroom.

In light of the facts above, the current study has two primary objectives. First, it demonstrates a pedagogy that balances language and subject content in a CLIL lesson, namely R2L Pedagogy. In this sense, the study provides an example of a carefully designed lesson plan to teach content and language and examples of classroom interactions in an Indonesian EFL/ESL setting. Besides, this study also demonstrates how to actively involve students in learning activities and integrate other semiotic resources like diagrams or images to create embedded literacy (Rose, 2021). A good understanding of how teachers structure their teaching to construct knowledge plays a significant role in improving students' understanding and teachers' professionalism. Results emerging from this study can be a reference for teachers to implement in ESL or EFL classrooms that implement content-based education, particularly CLIL.

METHOD

Context of study

The current study employs a qualitative case study in which the writer acted as a teacher (Marshall et al., 2022) in a private school located in Lembang, West Java, Indonesia. This school was selected because it features two types of curricula. In practice, the school combines both the National Curriculum including *Kurikulum 2013* (the 2013 Curriculum) and the International Cambridge General Certificate of Secondary Education (IGCSE). With reference to English in the Cambridge curriculum, this school adopts English as a second language. Note-taking is a common task to be tested in IGCSE and is also one of the activities in the R2L program implemented in the school. Thus, this is a suitable condition for conducting action research in this school since students are familiar with activities. The 2013 curriculum applied in this school also supports conducting CLIL lessons. It is stated in Indonesian Government Regulation (*Peraturan Pemerintah Republik Indonesia*) No 39 Year 2018 that the purpose of learning English in Grade 11 is to "distinguish social function, text structure, and linguistic elements in some spoken and written explanation texts … related to the natural or social phenomena in other subjects in class XI, according to the context their use." This practice creates a chance to apply content and language integrated learning (CLIL) using reading to learn (R2L) methodologies.

Participants

This study involved two different classes in Year 11. The classes were heterogeneous since students came from different social backgrounds and ethnic groups in Indonesia, as well as being mixed-gendered. Each class had about 15 students (16–17 years old). The students took science as their major at that time of the research. The teacher was about 30 years old and had been teaching English for eight years at the school.

Data collection and analysis

To achieve the purpose of the study, a CLIL biology lesson (around 90 minutes) from the corpus was selected to conduct a fine-grained analysis of the classroom discourse. The lesson was selected carefully so that it matched the subjects (both English and Biology) and topic concerned (explanation texts in English class and "human digestive systems" in Biology class). The lesson was also conducted in a regular classroom (instead of a laboratory). The observed lesson was then transcribed verbatim. It was followed by a discourse analysis of the lesson in terms of pedagogic registers in R2L frameworks. Discussions of linguistic analysis are presented in the following section. The analyses were conducted through the lens of R2L methodologies.

Particularly, the study investigates pedagogic registers which include the analysis of pedagogic relations (interact) and pedagogic activities (phase). As the focus of the current study, the selection of pedagogic registers is described. This is to provide a sense of how the observed teacher structures his lessons to construct knowledge.

FINDINGS AND DISCUSSION

Lesson stages to construct knowledge of the digestive system

Within the R2L program, pedagogic activities are organized into a hierarchy of segments starting from whole lessons, to lesson activities commonly called steps in a lesson plan, to learning cycles at the smallest level of classroom interaction (Rose, 2014; 2018). Rose (2021) further describes that units at each level may be iterated in a series. For example, each lesson activity comprises a series of learning cycles that focus on specific micro activities such as reviewing materials, identifying the organs, and identifying what happens there as shown in Table 1. Meanwhile, the unit at the micro level may be organized into learning cycles that concentrate on questions, responses, and evaluation widely known as initiation-response-feedback or IRF (Walsh, 2011).

In every unit at each level, the obligatory stage is a task that students should accomplish. As stated previously, the given task is commonly preceded by an overview and it may be further elaborated. In the CLIL biology lesson described here, the central task is to collaboratively read an explanation text discussing human digestive systems with students. The students embark upon identifying the human bodies involved in the systems using an unlabeled diagram projected in front of the classroom and on the provided worksheet. Here it is called an overview stage or preparing for reading. This is then elaborated by making notes of key points from texts such as involved organs and movements that occurred in those organs, and collaboratively composing a short explanation text based on the notes.

Table 1 shows that there are at least three lesson activities that pertain to constructing knowledge of the human digestive system, namely overview of the field, detailed reading, and joint construction. Each lesson activity includes prepare, task, and elaboration. The central task of the overview is to familiarize students with the constructed field or knowledge. The teacher here shows unlabeled human bodies in digestive systems and identifies the functions of each organ. In this activity, the common-sense terms coming from the students reading are jotted down on the board. This is followed by detailed reading focusing on identifying processes that occur in the organs. In this activity, the teacher and students identify technical terms in the digestive system such as *ingestion*, *mechanical* and *chemical digestion*, *absorption*, and *elimination*. The terms then rephrase the terms using students' words. The last activities are to make a note together, construct a short text, and review the text, particularly in terms of its structure. Analyzing the pedagogic activities here also reveals that the teacher embeds skills such as viewing multimodal texts, reading, and writing verbal explanation texts into the given CLIL biology lesson. In the literature, this is known as embedded literacy (Martin, 2013).

Table 1. Pedagogic activities to construct knowledge of the human digestive system

Curriculum genre	Prepare	Task	Elaborate
Preparing for reading /overview	Review and engage with the given topic →	Identify the organs involved in the digestive system →	Identify functions or what happens in each organ
Detailed reading	Identify processes →	Name the (technical) processes →	Rephrase the technical processes
Joint construction	Make notes of key points such as organs and movement →	Write a short text →	Review the text

Lesson activity 1: An overview

An overview focuses on familiarizing students with explanation text. The teacher then invites students to read the definition of explanation aloud to the whole class. This ritual is commonly observed in the classroom and indicates inclusion and affirmation of students' authority (Rose, 2021). The teacher then inquiries about the student's knowledge using questions and other students identify the keywords. The teacher locates the answer in the text projected on the board by highlighting the keywords as shown in Table 2.

Afterward, the teacher directs students through the wording *I am going to show* for the perceptive task. He displays a picture and invites students to identify elements in the picture. The hand-up ritual is applied here to select scribes. Two students are selected and take turns to scribe the names of organs on the board as the other students dictate. The ideational function of this activity was to activate students' knowledge and perception to build technical knowledge which will be discussed in the next stage. Subsequently, the teacher guides his students to label each organ projected on the board or the worksheet. The pedagogic relation here is interpreted as display perception. The teacher then evaluates the responses from students using words such as *okay* or *all right*. Interpersonally, such responses give students immediate success and affect their motivation (Rose, 2018). Such continual positive evaluations over time establish identities as successful students.

In this stage, the teacher deploys a visual graphic record source, particularly an unlabeled image. Here students can access the source both on a screen and through students' photocopies. The teacher indicates items in the image by pointing and locating them verbally while asking questions that inquire about students' knowledge. In response to this, students name the pictures and recall shared knowledge. After the students and teacher jointly label the image, the teacher reads and recites the organ names and points them gesturally. Here, spoken knowledge, visual graphic record sources, and indicating record sources involving verbal and gestural sources are used to help students gain knowledge of organs involved in the human digestive system.

After labeling the image, the teacher invites students to focus on the image with complete labels. He asks his students to identify the organs that he points out. In terms of pedagogic relations, the teacher is encouraging students to display their perception. Next, he inquiries about the processes that occur in each organ. The responses from students are then approved and recalibrated by the teacher using wordings such as *that's chewing or destroying* and *you can use those words* as shown in Table 4. The pedagogic relation here can be construed as inquire and display perception. Ideationally, the recognizing task in this learning cycle is to name the processes using students' commonsense terms. This serves as the foundation for the next lesson activity.

Table 2. Exchanges in preparing the lesson

		Phase	**Interact**
T	I would like to show you a very simple definition. Somebody, could you please read this one? [points at the text]	Prepare	Direct perception Insist display
S1	Me. Me. [Hands up]		Invite evaluation
T	Yes, S1.		Permit display
S1	An explanation is a written text to explain how and why something in the world happens.		Display activity
T	What is the keyword from the first sentence?	Focus	Inquire perception
S1	Explain	Identify	Display perception
T	What is it?	Evaluate	Ignore display
SS	How and why	Identify	Display perception
T	So, we focus on how and why something happens in the world. [Highlights words]	Evaluate	Display perception

Table 3. Exchanges in identifying digestive organs

		Phase	**Interact**
T	I am going to show a picture.	Prepare	Direct activity
	Look at this one! [points to image]		Direct perception
	What, what is this? [points to image]	Focus	Inquire perception
S	Human body	Identify	Display perception
T	Human body. Ok, good job.	Evaluate	Approve
	Before we start, I have to make sure you know the parts of our bodies that are related to the…	Prepare	Inquire perception
S3	Digestive system		Display perception
T	Digestive system. Ok, good Job.		Approve
	Could you please write it down here?	Prepare	Insist display
S4	Me.		Invite evaluation
S5	Me.		Invite evaluation
T	Yes.		Permit evaluation
	We have two sides here.		
	You are here [S4] and you are here [S5]		
	Okay, number one. What is it?	Focus	Inquire perception
Ss	Mouth	Identify	Display perception
T	All right.	Evaluate	Approve
	And number 2?	Focus	Inquire perception
Ss	Esophagus	Identify	Display
T	Esophagus. Okay.	Evaluate	Approve

Table 4. Exchanges in identifying processes

		Phase	**Interact**
T	Before we start to identify the process, let's identify the organs.	Prepare	Direct activity
	What is this? [points at image]	Focus	Inquire perception
S	Mouth.	Identify	Display perception
T	Okay.	Evaluate	Approve
	And then? [points at image]	Focus	Inquire perception
Ss	Esophagus	Identify	Display perception
T	Yes.	Evaluate	Approve
T	What happens in our mouth?	Focus	Inquire perception
Ss	Chewing Destroying food.	Identify	Display perception
T	You say something [S1]?	Focus	Inquire perception
S1	Destroying food.	Identify	Display perception
T	Ok, that's chewing or destroying. You can use those words. Thank you very much.	Evaluate	Approve

To summarize, an overview functions to familiarize students with the knowledge gained in the next lesson activity. Rose (2023, p. 427) explains that various resources such as diagrams and gestures are ideationally used "to start from learners' every-day knowledge and perceptions to build technical knowledge". As demonstrated in this study, students' commonsense knowledge is activated through activities such as labeling images and identifying processes. Here, knowledge is grounded in everyday students' experiences through images and negotiated with students, especially when identifying elements in the images. As discussed in the following section, the images here may be implicitly sourced by indicating either verbally or gesturally.

Lesson activity 2: Detailed reading

Detailed reading enables students to read passages in depth since the central task of this activity is to identify scientific terms. In this context, it starts with reading aloud a (multimodal) text about the human digestive system. The teacher asks his students about the general content of the text and then elaborates on it by paraphrasing the identified terms. In terms of pedagogic relations, the teacher here is encouraging students to display perception. In the next learning cycle, the teacher invites a student to read the text to the class and permits him/her to perform it. This invitation is responded to by reading the text sentence-by-sentence.

Once a student finishes reading a sentence, the teacher stops the student from reading the text. In doing so, he manages to ensure all students share the same comprehension. The teacher then selects keywords from the text. Each wording is then highlighted by the teacher on the projected board while the whole class highlights the wording in their copies. This cycle is iterated until students read the whole paragraph. Following the learning cycles, the teacher asks students to read the next paragraph as in the exchange below. The teacher invites another student to read the text to the class. The hand-up routine also colors this stage. Repeatedly, once the student finishes reading, the teacher asks other students questions. These learning cycles are reiterated to identify other terms such as *mechanical and chemical digestion, absorption, assimilation,* and *elimination* in the text.

Table 5. Exchanges in naming scientific terms

		Phase	**Interact**
T	Okay, let's go to the second paragraph.	Prepare	Direct activity
	Who's next?		Insist display
S1	Me		Invite evaluation
T	Yes, please		Permit evaluation
S	The mechanism of digestion of nutrition starts with food intake, known as ingestion.		Display activity
T	Okay, the first mechanism starts with food intake. From this sentence what is the key word?	Focus	Inquire reception
S1	Ingestion	Identify	Display reception
T	Ingestion.	Evaluate	Approve
	Let's highlight ingestion.		
	So, what is ingestion here?	Focus	Inquire reception
S1	Food intake	Identify	Display reception
T	When you put	Elaborate	Approve
Ss	Your food		Display reception
T	Your food into your mouth.		Approve
	That's what we called as?	Focus	Inquire reception
Ss	Ingestion	Identify	Display reception
T	Okay.	Evaluate	Approve
	This is the first technical term in the digestive system.		
	The first one is ingestion. I am going to write it down here.	Elaborate	

Rose (2015, 2017b) states that detailed reading supports all students in a classroom to read and comprehend given texts in detail and depth, regardless of students' reading skills and the level of text difficulty. As evidenced in this study, detailed reading supports students in reading the text with full comprehension and unpacking scientific terms. As a result, meanings are now explicitly sourced in the words which are retrieved from the text and identified during interaction in the classroom. When students understand the whole text, more abstract concepts of food processing are realized

through scientific terms. This condition matches those observed in earlier studies (e.g., Rose, 2023).

Lesson activity 3: joint construction

In this study, joint constructions involve taking notes, writing a short explanation text, and reviewing the text. Following Kartika-Ningsih and Rose (2021), note-taking grapples with re-instantiating information obtained from reading activities into new writings. In other words, students highlight some key information from the given text during detailed reading. In conducting note-taking, the teacher invites a student to scribe on the board as shown in Figure 2. Meanwhile, other students and the teacher dictate the main keywords. They collaboratively complete a note which includes the organs and processes of the digestive system. At once, the teacher elaborates on each meaning of the keywords. By doing so, all students can engage in the activity. Note-taking also familiarizes students with the knowledge of food processing and the note becomes a new source of meaning. On this basis, abstract knowledge can be more elaborated in joint writing.

The main task of this stage is to make a simple sequential explanation text collaboratively. The teacher begins by directing the activity, *we are going to write the text together here*, and simultaneously engage students with it. The teacher then recalls the prior lesson. In writing this text, students should include phenomenon identification followed by a sequential explanation (Martin & Rose, 2012, Derewianka & Jones, 2016) in their writing. To achieve that goal, the teacher guides the class to write the text by maintaining the overall structure and grammatical structure. Here the teacher is guiding the class to start with phenomenon identification, before writing down each process in the human digestive system. When the rewriting is complete, the students and teacher label its phases. This activity reinforces both the structure and the terms used in explanation texts. Once the teacher and students have completed constructing the text, the teacher makes a quick review of the text particularly grammatical resources and word choice.

Figure 3. A student scribing in front of the class

As demonstrated in the study, notes become a powerful source for constructing a new explanation text. This finding is consistent with results seen in other studies (e.g., Kartika-Ningsih & Rose, 2021) in which notes can help students control both reading and writing tasks. In addition to the sources of knowledge, the projected text and notes serve as models of explanation texts which have been understood by students. The teacher borrows the patterns from the given text and uses notes as a source. During the interaction, the teacher negotiates the features of the text and labels the text on the projection and students' worksheets.

Table 6. Exchanges in joint writing

		Phase	Interact
T	We are going to write the text together here.	Prepare	Direct activity
	What is the first part of the explanation text?	Focus	Inquire knowledge
Ss	Identification	Identify	Display knowledge
T	Identification of phenomenon	Evaluate	Approve
T	What can we write for the first paragraph?	Focus	Inquire knowledge
S6	Digestive system is a system that is important for our body.	Identify	Display knowledge
T	Ok.	Evaluate	Approve
	Could you please write here?		Insist activity
S6	[S6 writes on the board]		Display activity

		Phase	Interact
T	Is it enough? What else? Do you have any idea? Digestive system is a system that is important for our body. We need extra sentences before we go to the first step.		Insist activity
S6	[S6 writes other sentences on the board]		Display activity
Ss	Can we say this identification of phenomenon? Yes Yes, because we focus on introducing phenomena.	Focus Identify Evaluate	Inquire knowledge Display knowledge Approve
T	Remember! After this, we are going to focus on explaining the process.		

CONCLUSION

Understanding how to structure lessons to construct knowledge is important for CLIL teachers. As demonstrated in this study, carefully planned lessons and instructions help students access disciplinary knowledge (the human digestive system) easily. Practically, teachers need to start with an overview that immerses students in their daily lives to activate their basic knowledge. The teachers may present their students with a text discussing disciplinary knowledge and read the text together. At this stage, two-way interactions are needed to identify keywords and elaborate on them. Once students gain some knowledge from this activity, the teacher and students can begin to write a text. However, the success of students in mastering the knowledge should also be supported by the use of semiotic resources available to teachers. Therefore, teachers should be alert to deploy visual, verbal, or bodily representations so that students can access the knowledge.

Though the findings are illuminating, they cannot be generalized. As stated in the title, the present study only reports a CLIL biology lesson and relies on classroom interactions. To make a valid generalization and strong claim, further studies can provide multiple cases to get a clearer picture of how to structure teaching to effectively construct knowledge in the classrooms. Besides, further studies should include other data collections such as interviews with teachers and students to support the arguments and the results of the interventions. By doing so, it is expected that the findings will be more potent and compelling.

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