5

Utilizing the CLIL Approach in a Japanese Primary School: A Comparative Study of CLIL and Regular EFL Lessons

Yuki Yamano

1   Introduction

In recent years, Content and Language Integrated Learning (CLIL) has received growing attention, especially in East Asian countries, due to the introduction of English as a Foreign Language (EFL) education in primary schools. However, few empirical studies have been conducted regarding the feasibility and potentiality of content- and language-integrated instruction in these contexts (Butler, 2005; Yamano, 2012; Yamano, 2013a, 2013b, 2013c; Yamano, 2015). Coyle (2007) has called for encouraging the CLIL research community "to be connected" by "involving more practitioner researchers in articulating theories of practice through learning communities" (p. 558). In regard to these issues, it is particularly important to investigate the possible outcomes of CLIL at Japanese primary schools, in which English education was formally implemented in April 2011. In this context, many teachers have been

Y. Yamano (✉)

School of Education, Utsunomiya University, Utsunomiya, Japan
e-mail: yyamano@cc.utsunomiya-u.ac.jp

searching for effective educational programs (the Society for Testing English Proficiency (STEP), 2012) while integrating CLIL research into Asian contexts. To meet this need, the present study explores the potentiality of CLIL at a Japanese primary school by utilizing the four principles of CLIL, known as the 4Cs: Content (subject matter), Communication (language), Cognition (cognitive skills), and Culture/Community (awareness toward learning community and pluricultural understanding) (Coyle, 2007; Coyle, Hood, & Marsh, 2010; Mehisto, Marsh, & Frigols, 2008).

1.1   Japanese Primary EFL Education

Before discussing the implementation of the CLIL approach at a Japanese public primary school, it is necessary to first define the goals and characteristics of Japanese primary EFL education as conducted in the context of this study.

According to the Ministry of Education, Culture, Sports, Science and Technology (MEXT), the formal name of Japanese primary EFL education is "foreign language activities" (MEXT, 2009). Although it does not include a specific language in its name, MEXT (2009) clarifies that "[i]n principle, English should be selected for foreign language activities" (p. 1). The name of the subject itself represents the uniqueness of Japanese elementary EFL education, which is in fact different from that in other Japanese contexts such as junior and senior high schools.

According to MEXT, the primary purpose of Foreign Language (FL) education is "to form the foundation of pupils' communication abilities through foreign languages" (MEXT, 2009, p. 1). More precisely, it includes three overall goals: (1) developing an understanding of languages and cultures through various experiences; (2) fostering a positive attitude toward communication; and (3) familiarizing pupils with the sounds and basic expressions of foreign languages (MEXT, 2009, p. 1). Through these objectives, foreign language education was initiated for all fifth and sixth graders in Japan. At the same time, it imposed certain responsibilities on Japanese elementary school teachers who were basically subject teachers. Such responsibilities included creating their own lesson plans for their English classes.

In this regard, MEXT recommends that teachers utilize their knowledge of other subjects in order to maintain the interest of their pupils as well as enhance the communication activities in the classroom (MEXT, 2009). On the one hand, this treatment imposes a certain burden on Japanese primary school teachers, who are basically subject teachers and different from English language specialists at junior and senior high schools. On the other hand, it provides an opportunity for primary teachers to utilize their knowledge of other subjects in the class. Therefore, it is expected that CLIL can be helpful for Japanese primary school teachers to conduct their lessons by informing them how to integrate content and language in the classroom.

As indicated by Yoshida (2011), the importance of experiential learning and the "practical and real use" was lacking in Japanese EFL education until its formal implementation in 2011 (p. 111). In order to define experiential learning, Yoshida (2011) cited several instances of other major subjects that pupils study in the class. For instance, as a part of social studies classes, they can visit a garbage disposal plant in order to observe how refuse is recycled and "to see how society functions" (Yoshida, 2011, p. 104). As a part of science classes, they can grow plants or raise animals as hands-on experiments. Through these study processes, pupils can engage in "practical, down-to-earth experiential learning" (Yoshida, 2011, p. 104).

Furthermore, Yoshida (2011) defined this phase of experiential learning as an "approach phase" (p. 104) and argued that this empowered pupils to "take off" where "abstract formulas and cognitively demanding de-contextualized content is introduced" (Yoshida, 2011, p. 104). In fact, English was the only major subject that lacked this particular "approach phase" (Yoshida, 2011, p. 104). Therefore, Yoshida (2011) attributed one of the reasons for the failure of Japanese English education to the lack of experiential learning in primary school.

In regard to evidence about the failure of Japanese English education, Yoshida (2011) referred to the result of a questionnaire conducted by the National Institute for Educational Policy Research (NIER, 2006). It suggested that the number of junior high school students who favored English declined as they became older. In addition, almost one-third of the junior high school students stated that they could not comprehend

English. It indicated that students experienced more difficulty in studying English than in other subjects, such as math or science, because of the lack of experiential learning at primary school (Yoshida, 2011).

In order to solve the aforementioned problem as well as accomplish the successful transition from "approach to take-off," Yoshida (2011) argued that Japanese primary EFL education should be taught not only "through exposure in the here-and-now cognitively undemanding communicative situation" (p. 111) but also by "learning the skills and knowledge necessary for higher level communication activities" (p. 111). Furthermore, Butler (2005) encouraged Japanese primary teachers, when creating their lesson plans, to include a balance between their pupils' cognition levels and their English competence. She also insisted that lowering the cognitive level of the activities or materials was not appropriate for pupils in the fifth and six grades even though their English was somewhat limited (Butler, 2005). Thus, the importance of experiential learning is acknowledged in this study based on the premise that CLIL would be useful to enrich experiential learning in regard to Cognition, the third principle of the CLIL approach.

In addition to the experiential study, Yoshida (2003, 2008) also suggested that another goal of Japanese primary English education was to develop an understanding of international issues such as global warming, environmental topics, and cultural diversity. The guidelines of MEXT (2009) also stipulated the importance of "deepen[ing] the experiential understanding of the languages and cultures of Japan and foreign languages" (p. 1). MEXT (2009) indicates that deepening the understanding of other cultures and languages can enhance the awareness of students toward their own culture and native language. Thus, the development of international understanding should be included as one of the important elements of Japanese primary school English education.

Thus, the goals and characteristics of Japanese primary EFL education involve an effective integration of content and language, experiential learning, and intercultural understanding. In other words, these objectives acknowledge the 4Cs: Content, Communication, Cognition (various types of experiential study), and Culture/Community (Coyle, 2007; Coyle et al., 2010; Ikeda, 2011; Mehisto et al., 2008). In the following

section, the use of the CLIL approach in Japanese EFL education will be further explored based on the 4Cs perspective.

1.2   CLIL and Japanese Primary EFL Education

CLIL was developed in Europe at around the same time as the European Union (EU) was promoting a policy which aimed to develop its members' foreign language education by encouraging students to learn two other languages in addition to their native tongue (European Commission, 2003). Since then, the CLIL approach has proven to be a promising educational approach that has the potential to enhance students' proficiency in their second language by integrating learning content courses along with the non-native language (Coyle, 2007; Coyle et al., 2010; Eurydice, 2006; Ikeda, 2011; Marsh, 2000; Mehisto et al., 2008). The CLIL approach has proliferated in Europe and numerous studies have been conducted on its educational effects (Dalton-Puffer, Nikula, & Smit, 2010). In addition, insightful frameworks have been developed to clearly define CLIL practices, one of which is the four principles of CLIL (i.e., the 4Cs) (Coyle, 2007; Coyle et al., 2010). Results from evaluations have suggested that CLIL implementation in European primary schools is effective in improving pupil proficiency in the target language (Bentley, 2010; Lorenzo, Casal, & Moore, 2010; Serra, 2007) and fostering a positive attitude and motivation toward language acquisition (González, 2011). This then raises the question: is it possible to share these positive attributes in a different context and environment?

As explained in the previous section and elsewhere (Yamano, 2013a, 2013b, 2013c), Japanese primary EFL education places importance on Content and Communication, Cognition, and Culture/Community, which the CLIL approach values as the four crucial principles of the theory (Coyle, 2007; Coyle et al., 2010; Ikeda, 2011; Mehisto et al., 2008). Therefore, CLIL seems effective for Japanese primary EFL education; however, it is important to further comprehend the rationale for the use of the CLIL approach in Japanese primary EFL education in terms of the 4Cs perspective.

1.2.1   Content

The term "Content" refers to the subject matter studied in class. In other words, it is the "progression in new knowledge, skills and understanding" (Coyle et al., 2010, p. 53), which can be constructed not only through one subject, such as science or social studies, but also through several subjects depending on the theme of learning (Coyle et al., 2010; Ikeda, 2011; Mehisto et al., 2008). In addition, as mentioned above, the guidelines of Japanese primary school English education suggest that instruction in class should be in accordance with the students' interests by linking it with several other subjects (MEXT, 2009). This is in agreement with the description of one of the core features of CLIL methodology: "maximizing the accommodation of students' interests" (Mehisto et al., 2008, p. 29) by bringing authenticity to learning (Coyle et al., 2010; Marsh, 2000; Mehisto et al., 2008). Thus, it is expected that a CLIL classroom learning environment is an effective one (Coyle et al., 2010; Mehisto et al., 2008), since it may provide Japanese primary school pupils with meaningful and authentic educational context.

1.2.2   Communication

Under the term "Communication," CLIL recognizes the importance of three different types of language: (1) the language *of* learning (language required to learn the primary concepts of the content); (2) the language *for* learning (language required to engage in classroom activities or related tasks); and (3) the language *through* learning (language that was not planned beforehand but emerges during the lesson (Coyle, 2007; Coyle et al., 2010)). Particularly, "language through learning" never appears without the active participation of the teachers and the students (Coyle et al., 2010), which is one of the main objectives of Japanese early EFL education. In regard to these three types of language, this study places a special emphasis on the importance of the "language through learning" while investigating the differences between a CLIL and a non-CLIL environment.

1.2.3   Cognition

The term "cognition" refers to the cognitive skills that students employ during the lesson (Coyle et al., 2010; Mehisto et al., 2008). The CLIL approach encourages students to utilize various types of cognitive skills from cognitively less demanding ones such as understanding or memorizing key vocabulary to cognitively higher demanding skills that include creative thinking while using the target language (Coyle et al., 2010; Ikeda, 2011; Mehisto et al., 2008). As a result, CLIL teachers should take care to achieve a sufficient balance in terms of cognitively and linguistically demanding tasks when they plan CLIL units or lessons. In a similar vein, it has been explained in the previous section that the consideration of classroom activities in Japanese primary EFL education was crucial in order to fill in the gap between pupils' lower levels of foreign language competence and their relatively higher levels of cognitive skills (Butler, 2005; Yoshida, 2011). In order to facilitate this type of planning, Coyle et al. (2010) developed the CLIL Matrix, "an adapted version of Cummins' 1984 model" (p.43), which has high and low cognitive demands in the Y axis and high and low linguistic demands in the X axis (see Figs. 5.2 and 5.3 in Sect. 3.3).

According to this CLIL Matrix, Coyle et al. (2010) explain that the "tasks [should] follow the route from low linguistic and cognitive demands to high linguistic and cognitive demands" (p. 68). Quadrant 1 is the starting point and provides initial confidence to the learners by reducing the linguistic and cognitive demands. Quadrant 2 ensures that language demands do not impede the achievement of cognitive goals. In Quadrant 2, it can be assumed that already learned language is recycled while the students are engaged in tasks that utilize their higher-order thinking skills (HOTS). Quadrant 3 represents the final situation wherein the students engage in tasks by incorporating new language and high cognitive skills. Quadrant 4 is used only when high linguistic demands necessitate linguistic practices or grammar explanations in order to assist the progress of learning (Coyle et al., 2010). This matrix is applied in this study in order to investigate how CLIL and non-CLIL pupils cognitively engage in classroom activities.

1.2.4 Culture/Community

Although the terms "Culture and Community" are used interchangeably in CLIL theory (Ikeda, 2011, p. 8), Ikeda (2011) explained that the former refers to developing intercultural understanding and global citizenship, while Mehisto et al. (2008) defined the latter as the realization "that being members of the learning community is enriching" (p. 31). Thus, the CLIL approach aims to bring global issues into the class through the enrichment of learning communities, which is in line with one of the purposes of Japanese primary school English education (MEXT, 2009) as mentioned in Sect. 1.1.

Therefore, the goals and characteristics of Japanese primary school English education clearly coincide with the 4Cs of the CLIL approach, as seen in Fig. 5.1.
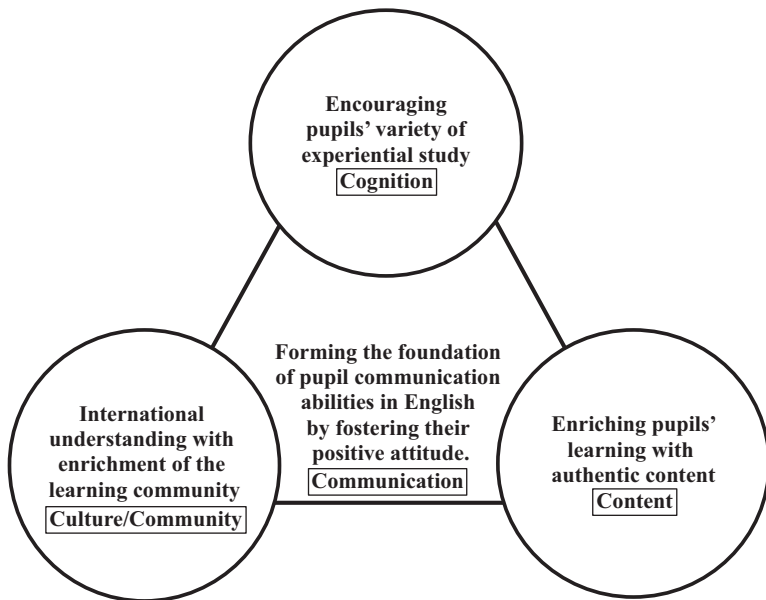

Fig. 5.1 Aims and characteristics of Japanese primary school English education based on the 4Cs of the CLIL approach

Based on these ideas, it is worthwhile to explore the feasibility and potentiality of the CLIL approach in a Japanese primary school by comparing the differences between CLIL and non-CLIL (standard) instruction through the 4Cs perspective.

2   Course Design

Three research lessons for both CLIL and non-CLIL classes were conducted in 2011 (see Appendix). The topic for this study was "animals," which was chosen beforehand on the basis of a needs-based analysis of the pupils and teachers. The lessons were aimed at familiarizing the pupils with the names of colors and animals, characteristics, and habitats of animals as well as using interrogative questions in English, such as "What animal do you like?" or "What animals live in the ocean?" and so forth.

In the non-CLIL class, English lessons were conducted using a conventional approach which solely focused on language learning. This involved: Presentation/Input; Practice (e.g., explicit practice using questions and visual aids such as picture cards or videos); and Production/Output (e.g., playing fun games using the learned vocabulary). Furthermore, the teachers continued to focus on the overall objectives by providing the pupils with numerous fun learning activities to maintain their interest, familiarize them with the target vocabulary, and cultivate the pupils' positive attitude toward communication.

On the other hand, the CLIL lessons were conducted by incorporating the 4Cs. In regard to "Content," the instruction incorporated arts and crafts as well as science and social studies. In the first lesson, the pupils created their favorite animals with colored clay while using related vocabulary in English. At the beginning of the second lesson, which focused on science as well as arts and crafts, the pupils learned about the animals' habitats by categorizing the animals they had made in the previous lesson and then assembling all of the animals into a zoo constructed of colored clay. The third lesson was a social studies class in which the pupils studied various issues regarding endangered animals and attempted to devise solutions to save them.

In terms of "Communication," the language of learning, the target vocabulary, was the same as in the non-CLIL lessons. The "language for learning," the language for classroom participation entailing the use of specific phrases, was similar to that used in the non-CLIL class. The "language through learning," the unplanned emergent language, was accomplished by the augmentation of interaction and active involvement of the pupils and teachers.

As for "Cognition," keeping in mind that the pupils were still beginners in English, each lesson included activities that included "lower-order thinking skills" (LOTS) such as remembering, understanding, and applying (Ikeda, 2011, p. 8). Then they engaged in related tasks by using the target language and higher-order thinking skills (HOTS) such as "analyzing, evaluating, and creating" (Ikeda, 2011, p. 8). For instance, during the first CLIL lesson, since the colors of the clay were limited to five (red, blue, yellow, white, and black), it was assumed that the majority of the pupils would need a combination of the colors to make their favorite animals instead of just one. In other words, it required them to apply their existing knowledge about colors and use their newly learned English vocabulary in order to answer the teacher's question, "What color do you want?" In the second CLIL lesson, the pupils utilized the same cognitive skills to create their zoo while the third CLIL lesson demanded the pupils apply HOTS in English to think about solutions for saving endangered animals. It is obvious that it was the most challenging lesson for the pupils, since it required "creation," which is regarded as the most cognitively demanding process in the revised version of Bloom's taxonomy (Anderson & Krathwohl, 2001, p. 31).

Finally, regarding "Community," the pupils' learning was expanded from individual work to classroom discussion about animals during the sequence of lessons. Furthermore, the primary task in the second lesson required cooperative learning. As for "Culture," the understanding of international matters and learning about endangered animals were interwoven in order to raise the students' awareness regarding this particular global issue.

2.1 Participants

This experimental study was conducted on 71 fifth graders at a Japanese primary school. The pupils had just begun learning English six weeks prior to this project and they were hence still beginners in English. They were divided into two classes at the beginning of the school year. One class ($n = 36$, 20 boys and 16 girls) was assigned to the non-CLIL condition, a regular English class, in which English is taught as a main subject. The other class was a CLIL class ($n = 35$, 20 boys and 15 girls) in which English was used as a medium for content learning along with several other subjects.

This study involved four teachers: a native English-speaking teacher (NTE), a Japanese teacher of English (JTE, the researcher conducting this study), and two classroom teachers who were content teachers in charge of pupils' subject classes except for English. The English classes were carried out by the NTE and the JTE through a team-teaching approach while the role of the content teachers was to support their pupils during the class.

2.2 Instruments

This study utilized three different types of data: (1) recordings of the lessons, (2) pupils' responses to a questionnaire, and (3) teachers' interviews. First, three video cameras and eight integrated circuit (IC) recorders were used to record all of the classroom interactions as well as the pupils' reactions during the class. The collected data was then transcribed and utilized to identify the differences between the two classes. Second, a Likert-scale questionnaire and two open-ended questions were administrated to the pupils in both classes. The former was used to obtain the pupils' overall impressions toward their classes in terms of their understanding of the content and language, perceived difficulty of the class, and their level of satisfaction. The latter was used to examine individual and detailed reflections regarding the classes, which were answered voluntarily by the pupils. Finally, semi-structured interviews with the teachers were conducted in order to obtain their opinions regarding the classes.

In particular, since the CLIL instruction differed from non-CLIL instruction, the teacher of the CLIL class homeroom was interviewed in order to determine whether she perceived any potential problems in the lessons. Thus, all of the data was utilized to investigate the differences between the CLIL and non-CLIL instructions as well as explore the positive and negative aspects of CLIL application in a Japanese primary EFL context.

3 Implementation of the Course

Through the analysis of CLIL and non-CLIL classes conducted according to the aforementioned lesson plans, several differences were identified in relation to the 4Cs of CLIL.

3.1 Content: The CLIL Class and Its Diverse Emotions

A major difference between the CLIL and non-CLIL instruction was seen in the emotions experienced by the pupils during the classes. In fact, the CLIL class pupils perceived more diverse emotions compared to those in the non-CLIL class. One possible reason for this may be down to the difference in the content.

In the case of the non-CLIL class, fun learning games and activities were utilized to foster the pupils' interest in the target language. Consequently, the majority of the non-CLIL pupils reported that they enjoyed the games. In fact, English classes that involve playing games are very popular at Japanese primary schools, and the NTE of this study described it as a "regular" approach in his interview. This course of study follows the idea that teachers should provide pupils with the opportunity "to experience the joy of communication in the foreign language" (MEXT, 2009, p. 1).

On the other hand, CLIL pupils expressed not only enjoyment but a variety of other emotions such as sadness, sympathy, and satisfaction during the lessons. For example, during the first CLIL lesson, many pupils experienced pleasure and enjoyment when creating their favorite animals and working on their English skills. One CLIL pupil stated that it was

the best class that she had taken over the last five years. In the third lesson, a number of CLIL pupils expressed deeper emotions such as grief and sympathy after becoming aware of the global issue regarding endangered animals; in fact, three CLIL pupils actually shed tears when they learned that endangered Sumatran elephants died from hunger due to deforestation. Furthermore, overall CLIL pupils' satisfaction was apparent in their responses to the questionnaires. CLIL pupils studied actual situations that endangered animals faced on a daily basis. Engaging with the topics and thinking about the solutions seemed to enrich the pupils' various types of emotions while using English. This appears to underscore the importance of "maximizing the accommodation of students' interests" (Mehisto et al., 2008, p. 29) by bringing authenticity to the class (Coyle et al., 2010; Marsh, 2000; Mehisto et al., 2008). In addition, it may be effective to realize one of the primary objectives of Japanese elementary school English education: deepening pupils' experiential learning that is appropriate to their ages and interest by enriching the content of the lessons.

3.2   Communication: "Language Through Learning" in the Lessons

The main vocabulary of the lessons and the phrases used for the class were planned beforehand and taught in both the non-CLIL and CLIL lessons. However, the emergence of "language through learning" (incidentally used or recycled language) could not be predicted (Coyle et al., 2010; Ikeda, 2011). Therefore, the advent of the language may influence active involvement in the class (Coyle, 2007; Coyle et al., 2010). Through the use of audio equipment, all of the classroom interactions and the "language through learning" were transcribed. The findings revealed that such language was rarely elicited from the non-CLIL pupils. Meanwhile, various examples of such language emerged in the CLIL class during the lessons as reactions or questions. Table 5.1 provides examples of these differences.

As shown in Table 5.1, there was a greater incidence of the emergence of "language through learning" in the CLIL class. It also reveals one apparent difference between the CLIL and the non-CLIL class: CLIL

Table 5.1 Language through learning in CLIL and non-CLIL classes

	CLIL class	Non-CLIL class
1st lesson	Total: *n* = 72 (LTL from the pupils: *n* = 29) Gray, brown, turtle, polar bear, whale, giraffe, pig, rabbit, tail, eyes, nose, mouth, teeth, ears, big, small, long, short, break, broke, connect, again, new, thank you, please, yes, no	Total: *n* = 25 (LTL from the pupils: *n*= 2) Yes, no,
	(LTL from the teachers: *n* = 43) Pretty, cute, wonderful, excellent, good, great, Be careful, Look at this, You're welcome, How much do you want? This much or more? A lot or a little? Do you need more? Do you understand it? Yes or no? Good job! You did it!	(LTL from the teachers: *n* = 23) Are you OK? Can you say the color in English? Do you understand the rule? Let's start. Ready go! Hang on! Good job!
2nd lesson	Total: *n* = 79 (LTL from the pupils: *n* = 26) Different, light green, dark green, light brown, dark brown, bird, sea, lake, fish, shark, treasure, pirates, grasses, desert, cold, deep, How do you say ~ in English?	Total: *n* = 14 (LTL from the pupils: *n* = 0) Nil
	(LTL from the teachers: *n* = 53) Sea lion, seals, salt water, fresh water, What color would you like? Do you have ~? Who made ~? Next is ~. Which do you want? In English, we say ~. We can say ~. Is this a ~? Both are OK, Over here, For example, Say sorry to your friend. Be nice to your friends. Great. It's interesting.	(LTL from the teachers: *n* = 14) Who won the game? Oh, that's great. Can you find the animals? Great. Wonderful.

Table 5.1 (continued)

	CLIL class	Non-CLIL class
3rd lesson	Total: *n* = 71 (LTL from the pupils: *n* = 44) Don't throw dirty things in the ocean. Help animals. Protect our nature. Think about animals. Let's cooperate! Be kind to animals. Please take dirty things. Don't cut trees and recycle! Protect animals. Let's recycle. Don't make many dams. Don't waste electricity. Don't kill animals, (LTL from the teachers: *n* = 36) Why? Really? How do you feel? Japanese is OK. How wonderful your message is! Do you need a help? You're doing very well. Well done! Everyone did a wonderful job today. Please show us your pictures.	Total: *n* = 18 (LTL from the pupils: *n* = 0) Nil (LTL from the teachers: *n* = 18) Do you understand? Can you say that again? Be quiet. Try it again. Be nice to your friends.
Total	*n* = 231 (LTL from pupils: *n* = 99, LTL from teachers: *n* = 132)	*n* = 57 (LTL from the pupils: *n* = 2, LTL from the teachers: *n* = 55)

Note: *LTL* Language through learning

pupils actively engaged in the cognitively demanding interaction with teachers with more frequent use of "why?" or "how" questions. At the same time, CLIL teachers allowed the students to use the pupils' mother tongue, Japanese, during the CLIL activities. This accelerated pupils' thinking and teachers' feedback on their opinions, as most of the CLIL pupils needed to know how to explain their ideas in English. As a result, the teachers responded with a wider range of vocabulary compared to those in the non-CLIL class. In fact, in the non-CLIL class, the expres-

sions that the pupils employed appeared to be fixed due to limited opportunities such as repeating the target vocabulary or using it in the games, both of which were introduced to reinforce the pupils' correct use of the target language. During the post-lesson interview, the NTE reported that he had more freedom to interact with the pupils in the CLIL class through the integration of content and language compared to those in the non-CLIL class.

Another interesting finding was that Basic Interpersonal Communicative Skills (BICS), the skills to use language necessary to communicate with people in everyday life situations (Cummins, 1981), appeared more frequently in the CLIL lessons than in the non-CLIL lessons. For instance, during the first lesson, all of the CLIL pupils had to engage with the teachers in order to receive their necessary colored clay, and several BICS expressions naturally emerged such as "Here you are," "Thank you," and "You are welcome." Furthermore, another example of BICS was identified in the second CLIL lesson when the school principal appeared and helped create the class zoo with the CLIL pupils. The English teacher asked the principal, "What color would you like?" instead of "What color do you want?" The expression seized CLIL pupils' interest and helped them realize the richness of the foreign language by learning a polite expression in English. Furthermore, the phrase was utilized as recycled "language through learning" in the teachers' skit during the next CLIL lesson. In the Japanese EFL public school environment, it is rare for students to engage in natural interactions involving BICS in a language class. In this regard, CLIL may be effective to enhance the natural use of the target language, which is necessary for basic interpersonal communication.

Thus, the results show that CLIL encouraged the use of "language through learning" during the lessons, which rarely appears in conventional EFL lessons. In other words, CLIL pupils more actively participated in language learning compared to those in the non-CLIL class. This difference may represent the potential of CLIL in deepening experiential learning by providing pupils with the opportunity to use the target language in a practical way as well as making them realize the need to express their individual thoughts.

3.3   Cognition

The overall results point to the positive effects of the CLIL experience. However, before the third CLIL lesson, three teachers had a disagreement about the extent to which cognitive burdens should be imposed on the pupils. In particular, the content teacher of the CLIL class anticipated problems regarding the tasks and believed that such activities were too difficult for CLIL pupils because of their high cognitive and linguistic demands.

In regard to high cognitive demand, it was assumed that two cognitively demanding tasks would be imposed on the CLIL pupils: difficulty in both the content and task. In fact, the content of the third lesson, the problems facing endangered animals, was to be studied in the sixth grade according to the syllabi of social studies as well as of science in the Japanese curriculum published by MEXT. This meant that pupils would be studying this particular subject more than one year ahead of time. In terms of the difficulty of the task, pupils were required to think about how to save endangered animals and write their ideas in both Japanese and English. Unlike the non-CLIL class in which the target vocabulary was acquired through fun games, the final CLIL class required higher cognitive engagement in order to comprehend the content and engage in the serious and relatively abstract task. As for high linguistic demand, vocabulary and expressions required to understand the aforementioned difficult content would be in English, despite the fact that they had just begun learning English. Thus, the CLIL class content teacher was deeply aware of the challenge and was concerned that it might even discourage the students while undermining the positive responses from the previous two lessons. The NTE also made a similar plea to decrease the level of difficulty in the lessons. However, having observed the CLIL pupils' engagement and involvement in the previous two lessons, the JTE had faith in the potential of the final lesson and attempted to convince the other teachers to continue with the original plan. After several meetings with the three CLIL teachers, it was finally agreed that strengthening the linguistic scaffold-

ing during the lesson by a systematic use of both the target and the pupils' first language as well as the use of realia would stimulate interest in the pupils regarding endangered animals.

In fact, it turned out that the CLIL pupils participated actively and showed a high level of concentration during the final lesson. Their interest in learning about endangered animals was so keen that all of the CLIL pupils were eager to comprehend the content in English. As a result, they engaged in the final task by thinking of solutions to this particular global issue and expressing them in both English and Japanese, which increased their use of language through learning, as already mentioned in the previous section. This impressed all the CLIL teachers during the third CLIL lesson. In particular, this lesson worked as a catalyst in changing the content teacher's beliefs toward EFL teaching at primary school. In fact, this teacher created other CLIL lessons and materials with the collaboration of the JTE, which finally led to her teaching a CLIL class as a main teacher on her own (Yamano, 2015).

Thus, the third lesson revealed a clear distinction between the two classes in terms of the levels of cognitive skills presumably used in the lessons. The CLIL class pupils engaged in a wide range of tasks (from LOTS to HOTS) by learning both content and target language, whereas even after explicit practice, the target vocabulary acquired by the non-CLIL pupils was limited in range since they only employed low-level cognitive skills (understanding and memorizing the language) during the three lessons. The interrelation between how the pupils expanded their cognitive levels and linguistic demands in each lesson is shown in Figs. 5.2 and 5.3:

Drawing upon these findings, it can be claimed that CLIL lessons have the potential to help pupils utilize various levels of cognition by stimulating their interests with authentic content while also challenging them with high linguistic demands. They may also motivate content teachers to create better EFL lessons with the use of their knowledge and experience.
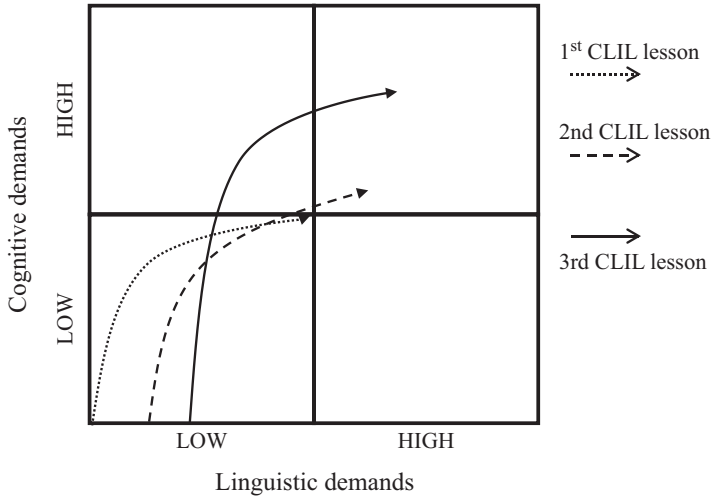
Fig. 5.2 CLIL lessons in the CLIL matrix (adapted from Coyle et al., 2010, p. 43, and Cummins, 1984)
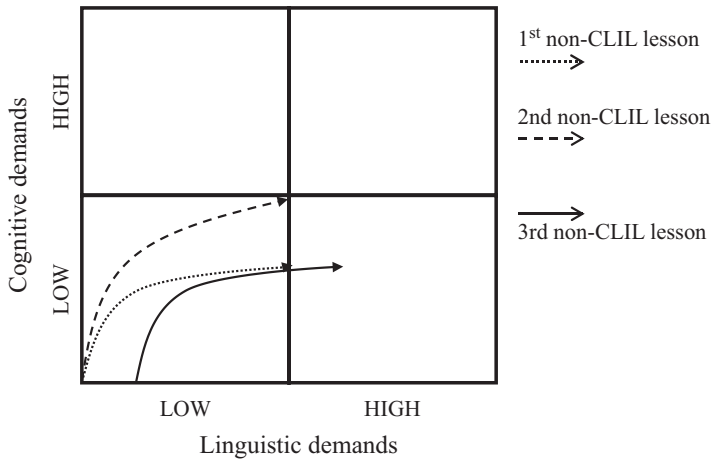

Fig. 5.3 Non-CLIL lessons in the CLIL matrix (adapted from Coyle et al., 2010, p. 43, and Cummins, 1984)

3.4   Community/Culture

Two differences were found between the CLIL and non-CLIL lessons under Community/Culture: (1) cooperative learning in the CLIL lessons versus playing learning games together in the non-CLIL lessons; and (2) active participation of CLIL students in the task related to certain global issues.

In the CLIL class, cooperative learning was interwoven with one of the 4Cs, enrichment of learning community. Interestingly, despite the fact that several mishaps occurred during the second lesson in the form of disagreements, none of the CLIL pupils responded negatively to the question related to satisfaction. This ambivalent result appears to be connected with the experience of cooperative learning. For instance, one CLIL pupil described her frustration about a conflict that had occurred during the cooperative learning lesson with the negative expression, "it was not fun today." Nevertheless, she responded positively to her Likert-scale questionnaire with "I am satisfied with the lesson." The pupil subsequently explained the inconsistency of her responses on the questionnaire by stating that although she had had a quarrel with one of the group members during the lesson, the product of the group work (i.e., the class zoo) had made a positive impression on her.

On the contrary, despite learning English through playing fun games, the non-CLIL pupils reported lower levels of satisfaction on the questionnaire. One non-CLIL pupil reported that she had been pinched by another person in her group since she was procrastinating during the game. As a result, she responded negatively to her Likert-scale questionnaire. It is apparent that although playing games was favored by many primary pupils and assumed by teachers to be effective for encouraging pupils to actively participate in a foreign language class in Japan, it may actually increase competitiveness, which may ultimately demotivate the pupils.

Thus, these differences reinforce the importance of cooperative learning, as indicated by numerous scholars (Johnson, Johnson, & Holubec, 1994; Kagan, 1992; Slavin, 1994). In addition, such differences elucidate the overall effectiveness of the implementation of cooperative

student-centered activities into CLIL lessons (Mehisto et al., 2008; Meyer, 2010).

Another clear difference between CLIL and non-CLIL classes also appeared during the third lesson. That is, endangered animals as a global issue was considered by the CLIL pupils to be an important topic for classroom discussion. However, it might not be appropriate to compare the CLIL and non-CLIL classes since the non-CLIL class did not engage in discussing this issue. One can assume that just by learning vocabulary related to global issues without a streamlined lesson, a pupil would find it difficult to recognize the seriousness of global issues and thus enhance their participation in the world community. In contrast, the CLIL lessons provided the pupils with the opportunity to participate in a task related to one of the world's serious problems. Thus, it is apparent that CLIL has the potential to help students develop their understanding of international matters, which also resonates with the overall purpose of Japanese primary EFL education.

4   Outcomes and Implications

The present study explored the usefulness of CLIL courses by examining them in comparison with non-CLIL regular mainstream EFL classes in a Japanese primary school. The results of the in-depth analysis of classroom observations, students' questionnaires, and teacher interviews revealed that differences did exist between the two different types of instruction. For instance, in terms of Communication, the richness of "language *through* learning" appeared in the CLIL class, whereas unplanned language rarely appeared in the non-CLIL class. This finding shows that CLIL enhanced classroom communication by fostering a positive student attitude. As for Community, the enhancement of CLIL student cooperative learning was apparent, which enriched the learning environment compared to that of the non-CLIL class.

However, some of the results suggest that the reality is much more complex. Although the present study began with the expectation that the results would reveal the differential contribution of the 4Cs: Content,

Communication, Cognition, and Culture/Community, it is the interaction among the 4Cs that seems to have the most effect on enhancing the learning experience. For example, with authentic content (i.e., Content), the CLIL students experienced a wider range of emotions, which also encouraged them to actively engage in the linguistically and cognitively demanding tasks (i.e., Communication and Cognition) related to global issues (Culture). This can be seen as the contribution of the Content aspect of CLIL. Nevertheless, without the integration of the 4Cs, this positive synergy might not have worked in this study. Thus, it may not be possible to individually separate the four components, nor would it be effective to do so. However, in order to help CLIL instructors understand the four principles of CLIL, it may be advisable to characterize the expected contributing factors in terms of the individual components. Such an attempt is shown in the diagram in Fig. 5.4. The shaded portion
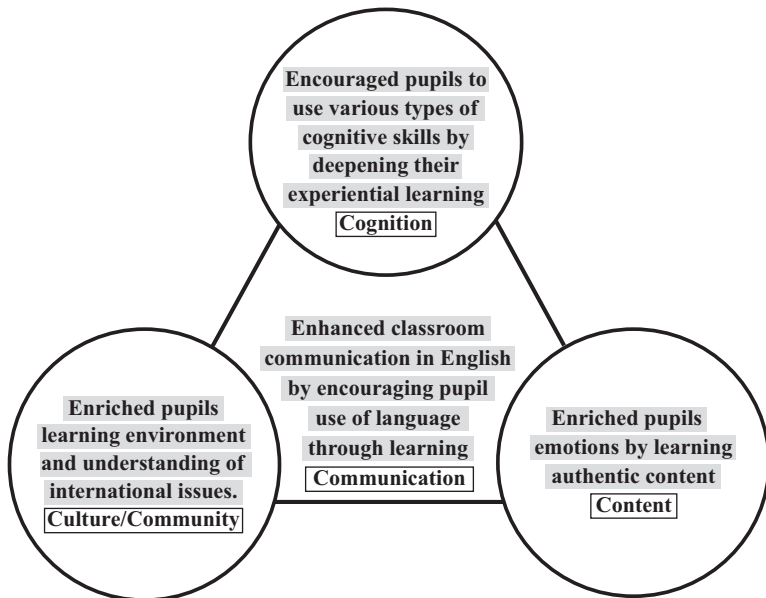
Fig. 5.4 The potentials of CLIL application in Japanese primary EFL education found in this study

illustrates the positive effects of the CLIL program conducted in this study.

Thus, this research study concludes that utilizing the CLIL approach in a Japanese primary school has the potential to improve Japanese primary EFL education. However, there were two limitations in this study: (1) this was only a single exploratory study regarding the application of a CLIL program; and (2) the numbers of the participants were restricted. Consequently, the results of this research may not be applicable to other school contexts. Therefore, additional research in more varied contexts is necessary in order to verify the overall feasibility and potential of CLIL implementation.

CLIL has emerged as a promising instrument for the development of language education, not only in the European context but also in Asia. Since CLIL has developed in Europe by finding ways to share experiences and address problems among the various countries, it is expected that the same phenomena will occur in the Asian context. Hopefully, this exploratory study can form a basis for future research and contribute to providing a firm foundation for the implementation of CLIL to the benefit of students and teachers who seek to enhance their English language education.

Appendix

The First Non-CLIL lesson procedure

Activities and aim	Teachers (Ts)	Pupils (Ps)	Community and time
Warming up (Familiarize the pupils with the expression about their feelings)	Greeting in English.	Greet each other in English	Class (5 min)
Introduction to the new vocabulary about colors. (Provide input by using visual aids)	1. Show the pupils color picture cards. 2. Ask them the names in English and catch the pupils answer. 3. Provide them feedback depending on the pupils' responses.	1. Listen to the English teachers. 2. Try to answer the questions as much as possible.	Class (8 min)
Asking the pupils the name of the colors. (Familiarize the pupils with the vocabulary)	Ask each pupil the names of the colors in face-to-face interaction with extrinsic rewards.	Try to answer the teacher's question.	Pair (10 min)
Game "color relay game" (Provide the pupils an opportunity to use the target vocabulary and provide them an enjoyable experience)	Explain the game rules to the pupils and begin the game.	Listen to the teachers talk and participate in the game by using the target vocabulary.	Group (13 min)
Introduction to the new vocabulary about animals (Provide the pupils input by using visual aids)	1. Show the pupils animal picture cards. 2. Ask them the names in English and catch the pupils' answers.	1. Listen to the English teachers. 2. Try to answer the questions as much as possible.	Class (8 min)

The Second Non-CLIL lesson procedure

Activities and aim	Teachers (Ts)	Pupils (Ps)	Community and time
Warming up (Familiarize the pupils with the expression about their feelings)	Greeting in English "Good morning, everyone! How are you today?"	Greet each other and in English.	Class (3 min)
Review of the previous lesson. (Have the pupils review the learned vocabulary)	1. Ask the pupils the names of the color in English 2. Provide the pupils the first sound of the color as a hint.	No answer to the question. Rarely answer the question.	Only teachers (2 min)
Additional review of the previous lesson. (Provide the pupils with input and an opportunity for output)	1. Show the pupils a skit. 2. Ask the pupils the colors of their clothes	1. Watch the skit. 2. Raise their hand depending to the question.	Class (7 min)
Task 1: Game "Bingo" (Familiarize the pupils with the vocabulary and provide them an enjoyable experience)	Have the pupils play the game.	Play the game.	Solo (10 min)
Review of the names of the colors. (Have the pupils review the learned vocabulary)	1. Show the pupils color picture cards. 2. Ask them the names in English and catch the pupils answer. 3. Provide them feedback depending on the pupils' responses.	1. Listen to the English teachers. 2. Try to answer the question as much as possible.	Class (3 min)

(*continued*)

Activities and aim	Teachers (Ts)	Pupils (Ps)	Community and time
Review of the vocabulary of animals. (Have the pupils review the learned vocabulary)	1. Show the pupils animal picture cards. 2. Ask them the names in English and catch the pupils answer. 3. Provide them feedback depending on the pupils' reactions.	1. Listen to the English teachers. 2. Try to answer the question as much as possible.	Class (5 min)
Task 2: "Looking for the hidden animals." (Familiarize the pupils with the vocabulary and provide them an enjoyable experience)	1. Ask the pupils to look for the hidden animals on the pages. 2. Confirm what animals were on the pages with the pupils.	1. Look for the hidden animals on the page. 2. Confirm what animals were on the pages with the teachers.	Solo (15 min)

The Third Non-CLIL lesson procedure

Activities and aim	Teachers (Ts)	Pupils (Ps)	Community and time
Warming up. (familiarize the pupils with the expression about their feelings)	Greeting in English "Good morning, everyone! How are you today?"	Greet each other and answer the teachers' questions.	Class (5 min)
Review of the previous lesson. (Have the pupils review the learned vocabulary)	1. Show the pupils animal picture cards. 2. Ask them the names in English and catch the pupils answer. 3. Provide them feedback depending on the pupils' responses. Next, do the same procedure with the use of the pages of Eigo-note 1.	1. Listen to the English teachers. 2. Try to answer the questions as much as possible.	Class (8 min)

Activities and aim	Teachers (Ts)	Pupils (Ps)	Community and time
Introduction to the new vocabulary about animals' habitats (Provide the pupils input while utilizing their existing knowledge of animals and the visual aids)	1. Show the pupils animals' habitat picture cards. 2. Ask them what animals live there and the names of the habitats by allowing them to use Japanese, then try to catch the pupils' answer. 3. Provide them feedback depending on the pupils' responses.	1. Listen to the English teachers. 2. Try to answer the question as much as possible.	Class (15 min)
Task: "animal relay game" (Familiarize the pupils with the vocabulary and provide them an enjoyable experience)	1. Explain the game rules to the pupils and have the pupils play the game.	Participate in the game.	Group (15 min)

The First CLIL lesson procedure

Activity and aim	Teachers (Ts)	Pupils (Ps)	Community and time
Warming up. (Familiarize the pupils with the expression about their feelings)	Greeting in English "Good morning, everyone! How are you today?"	Greet each other and answer the teachers' questions.	Class (3 min)
Introduction to the vocabulary about colors and animals. (Provide input by using visual aids)	1. Show the pupils color picture cards. 2. Ask them the names in English and catch the pupils answer. 3. Provide them feedback depending on the pupils' responses.	1. Listen to the English teachers 2. Try to answer the questions as much as possible.	Class (8 min)

Activity and aim	Teachers (Ts)	Pupils (Ps)	Community and time
Task 1: Distribute the colored clay. (Provide the pupils the opportunity for output of the target vocabulary)	Ask the pupils their required colors and distribute the colored clay.	Answer the teachers' question in order to obtain the colored clay in order to make a favorite animal.	Pair (8 min)
Task 2: "Let's make your favorite animal!" (Familiarize the pupils with the vocabulary and provide them an enjoyable experience)	Have as much interaction as possible with the pupils by asking them questions, such as "What color is this?", "What animal are you making?", or "What's this?" Also provide instructions to help the pupils make their animals effectively.	Make a favorite animal in the lunch group while having interaction with three teachers and their peers. Also ask teachers if they need a help or have a question about the animals or the procedure.	Solo Pair Group (26 min)

The Second CLIL lesson procedure

Activity and aim	Teachers (Ts)	Pupils(Ps)	Community and time
Warming up (Familiarize the pupils with the expression about their feelings)	Greeting in English "Good morning, everyone! How are you today?"	Greet each other and answer the teachers' questions.	Class (3 min)
Review of the previous lesson. (Have the pupils review the learned vocabulary)	Ask the pupils, "What animal did you make?" and ask the questions about the English vocabulary of colors and animals to the pupils.	Listen to and answer the questions.	Class (5 min)

Activity and aim	Teachers (Ts)	Pupils(Ps)	Community and time
Task 1: (science) Introduction to the vocabulary for the animals' habitats and natural things while categorizing the animals based on their five habitats. (Provide the pupils input by utilizing their existing knowledge of animals and visual aids)	1. Ask the pupils where their animals live and what natural features are in the habitat. 2. Provide correct feedback and encourage them to think about where their animals live. 3. Have the pupils organize the animals into the five habitats.	1. Listen to and answer the teachers' questions. 2. Receive teachers' feedback and think about what animals live in the habitat. 3. Try to categorize the animals into the five habitats using cognitive skills.	Class (10 min)
Task 2: (Arts and handicrafts) Let's make a class zoo! (Familiarize the pupils with the vocabulary and provide them an enjoyable experience)	1. Have the pupils organize themselves into five habitat groups according to the animals the pupils made. 2. Ask each group members what color paper and clay are needed to make their animals' habitat. 3. Have the pupils begin to make the habitats. 4. Ask the pupils what they are making, also answer the pupils' questions and support them if trouble occurs. 5. Praise the pupils' work and their class zoo.	1. Regroup into five habitat groups by thinking about which group is appropriate for the animals. 2. Think and choose the required color paper and clay to make the group's habitat in cooperation with the group members. 3. Start to make the group habitat. 4. Answer the teachers' questions and ask the teachers if they have questions. 5. Be confident of the work they did for the class zoo.	Group (27 min)

The Third CLIL lesson procedure

Activity	Teachers (Ts)	Pupils (Ps)	Community and time
Warming up. (Familiarize the pupils with the expression about their feelings)	Greet in English "Good morning, everyone! How are you today?"	Greet each other and answer the teachers' questions. (No one answered that they were sad today.)	Class (3 min)
Review of the previous lesson. (Have the pupils review the learned vocabulary)	Ask the pupils about their habitats, natural things they made in the previous lesson by showing pictures.	Answer the teachers' questions.	Class (3 min)
Introduction to the new vocabulary	Introduce the new vocabulary, "clean'" and "dirty" with the use of picture cards.	Listen to the teachers talk and answer their questions.	Class (6 min)
Skits about the issue of endangered animals. (Social study)	1. Provide first skit about the problem of the "dirty ocean" 2. After the first skit, show the picture of a dead turtle and introduce one more new word, "die." 3. Provide second skit about the problem of "the dirty forest." 4. After the skit, show a picture of a dead elephant. 5. Ask the pupils how they feel now by put the same questions at the beginning of the lesson.	1. Watch the skit-show. 2. Listen to the teachers' talk. 3. Watch the second skit-show. 4. Look at the picture. 5. Answer the teachers' questions. (All the pupils answered that they feel sad now because of understanding the issue of endangered animals.) (Three pupils shed tears.)	Class (8 min)

Activity	Teachers (Ts)	Pupils (Ps)	Community and time
Class discussion	1. Ask the pupils their ideas to save the endangered animals. 2. Translate the pupils' ideas into English by confirming the ideas with the speaker and writing it down on the blackboard.	1. Think about and express the ideas to the class. 2. Negotiate meaning with the English teachers to translate the speaker's ideas into English.	Class (6 min)
TaskLet's think about how to save the endangered animals and write a message to the WWF.	1. Distribute a WWF's pamphlet and a worksheet about the endangered animals and white paper. 2. Help the pupils translate their ideas into English. 3. Help the pupils write their message in English. 4. After making sure that all the pupils finished writing their message, show them a picture of smiling children with a baby elephant in a regenerated forest.	1. Start to think about ideas. 2. Discuss their ideas with the teachers when they have help from the teachers. 3. Write down their message both in Japanese and English. 4. Watch the picture and hopefully feel happy to see it.	Solo Pair (18 min) Class (1 min)

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