

## Article

# Study of Teachers' Concepts of CLIL in Taiwan

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**Abstract:** Taiwan plans to become a bilingual (Chinese and English) nation by 2030 based on the new official policy, and thus the Ministry of Education (MOE) published the 108 (Taiwan year, equal to 2019) curriculum guidelines for the 12-Year Basic Education and has been promoting content and language integrated learning (CLIL). A lot of workshops have been held to develop the abilities of preservice and in-service teachers and to enhance the collaboration among teachers of English and other subjects. Therefore, the current study is carried out to investigate the preservice and in-service teachers' concepts of CLIL to raise their attention on the implementation of CLIL in bilingual education. Due to the pandemic, online questionnaires and cell phone interviews were conducted for this study. There were 22 respondents to the questionnaire and five interviewees, both including preservice and in-service teachers. The analyses were performed for the teachers' age, teaching area, subject, experiences, concepts of CLIL, willingness to apply CLIL, and their opinions. The result of the study provides suggestions for the educators (also the teachers themselves), school authorities, and the government (MOE).

**Keywords:** Content and Language Integrated Learning (CLIL), Bilingual Education, EFL

## 1. Introduction

The new policy of Taiwan to be a bilingual nation by 2030 has been on the way. The Ministry of Education (MOE) in Taiwan published the 108 (Taiwan year, equal to 2019) curriculum guidelines (The Guidelines) for the 12-Year Basic Education (National Academy for Educational Research, 2014; National Development Council, 2018). The Guidelines advocate collaboration among subjects, especially with English, namely, content and language integrated learning (CLIL). A general description of the current education situation in Taiwan is described as below for the discussion of the relevant issues.

### Curriculum Guidelines of 12-Year Basic Education (The Guidelines)

The dual aims of the Curriculum Guidelines of 12-year basic education are life learning and nurturing by nature. The guidelines consist of three broad dimensions, i.e., spontaneity, communication and interaction, and social participation. Each dimension includes three core competencies (National Academy for Educational Research, 2014). Specifically, spontaneity is called autonomous action, which entails physical and mental wellness and self-advancement, logical thinking and problem solving, planning, execution, and innovation and adaptation. Communication and interaction, namely interactive communication, entails semiotics and expression, information and technology literacy and media literacy, and artistic appreciation and aesthetic literacy. Finally, social participation entails moral praxis and citizenship, interpersonal relationships and teamwork, and cultural and global understanding. The aforementioned is the definition of three dimensions and nine items of core competencies (National Academy for Educational Research, 2014).

However, the guidelines have been claimed to cause problems. For example, The guidelines advocate collaboration lessons. More than two subject teachers prepare lessons together to foster better learning for students. In particular, English language teachers and content subject teachers need to cooperate so that content and language integrated learning (CLIL) can be implemented. It is expected that the ideal lessons in CLIL and collaborative planning expose students to English in their school life as can be consolidated in other content course subjects (Liu & Zheng, 2019). Yet, it is not easy for the different subject teachers to prepare the lessons together even though the teachers have known the contents in both subject matters. Despite the good intention to strengthen collaborative teaching, the MOE has not provided the in-service teachers with much help (Kao, Kao & Yang, 2018). For instance, the math teachers can teach arithmetic, but they would find it difficult if English teachers ask them to collaborate lessons and teach the students to add, subtract, multiply, and divide in English. On the other hand, English teachers may know how to sing but the class time is not enough to lead the students to learn the practice of musical instruments and enjoy the beauty of the musical melody.

In addition, the teamwork among different subject teachers for preparing collaborative lessons needs time. They would have to redesign their teaching contents for the 108/2019 Guidelines and learn to apply the collaborative lessons to their classroom (Tsou & Kao, 2018). It seems reasonable that these in-service teachers raise resistance, not to mention they may be unfamiliar with the guidelines and they may even misunderstand the concept of CLIL teaching (Hsu, 2019).

### **EFL and ESL in Taiwan**

The government (MOE) targets to make Taiwan a bilingual nation by 2030 following the social trends and globalization. English as a subject course has been taught as a foreign language (English as a foreign language—EFL) at school, and now the orientation of the guidelines sets English to be a second language (English as a second language—ESL) by 2030. To integrate English into other subjects and also to maintain the key elements of the guidelines, to learn for communication, and to communicate for learning, English teachers are facing swamping challenges. Specifically, the stereotyped teaching methods such as grammar-translation and teacher-centered teaching may not be conducted in the lessons. Moreover, the language teachers may have to learn new content with different knowledge of the non-English subject like terminology in mathematics and biology to meet the students' needs.

In addition, the guidelines promote the use of the English language to connect Taiwan with the world. Therefore, English learning becomes not only important but also complicated. In the past, English was just a language subject to meet an entrance requirement for higher education. Then, the guidelines broaden the functions of English uses in the sense of communication among people from different cultures and countries. It is expected that learners can engage themselves in the global village. Furthermore, content subject teachers are also requested to teach the contents in English. That is, English would gradually immerse in learning through direct content knowledge teaching (Coyle, 2008; Marsh, 2002; Wolff, 2007). This teaching approach has been generally recognized as Content and Language Integrated Learning (CLIL). The framework of CLIL is discussed in detail in the literature review section. This approach has been practiced in many European countries since the 1990s, and it has shown positive effects in subject knowledge learning with a second language (Huang, 2020; Pérez-Cañado & Lancaster, 2017; Czura & Kołodyńska, 2015). However, in Taiwan, studies on CLIL courses are either longitudinal for tertiary education (Yang & Gosling, 2014; Yang, 2015) or elementary education (Huang, 2020). Although the results also have had a positive influence on language learning and the subject contents, the data mainly came from urban cities in Taiwan. It becomes a concern if CLIL courses are applied in rural areas for the students to obtain corresponding learning outcomes.

On the other hand, CLIL courses are expected to provide students with a novel learning experience and bring the learners a global view. However, there are not enough qualified teachers and efficient resources in Taiwan to conduct CLIL courses. While there are sufficient English teachers at school, they are not trained to teach CLIL courses. As for subject teachers, they would refuse to teach the lessons in English because they lack English competencies in terms of pronunciation, vocabulary, grammar, and the like (Marsh, 2002). Although a few universities have been offering CLIL teaching courses for preservice teachers to be qualified as CLIL teachers, they need to work very hard to compensate for their incompetency in the English language and the other subjects. Further, it may take at least five years to finish the teaching training study, pass the teacher qualification test, serve as an intern teacher for a half year, not to mention to have formal employment by a school.

In light of the problems stated above, the teachers need to be prepared for CLIL teaching, and thus the present study aims to investigate both preservice and in-service teachers' concepts of CLIL and to bring their attention to the application of CLIL for bilingual education. A Google form of questionnaire was uploaded for teachers to answer and another five teachers (both preservice and in-service) were interviewed to examine the teachers' age, teaching area and experience, their understanding of CLIL, their willingness to apply CLIL, and so on. The feedback of the teachers provides suggestions for the educators in general (including the teachers themselves), the school administration, and the government (MOE).

## **2. Literature Review**

The following review of literature includes the conceptual framework of CLIL (Content and Language Integrated Learning), and the relevant issues on the language (English in the case of Taiwan), content subject, lesson planning, the role of teachers, and difficulties for the teachers and the students.

### **Conceptual Framework of CLIL (Content and Language Integrated Learning)**

Before the discussion of CLIL theory and practice, the definition of CLIL needs to be understood. Eurydice (2006, p. 8) defined the term as a “two-fold aims” which meant a requirement to meet the special approach, a non-language course taught with a foreign language as a medium. Deller and Price (2007) redefined CLIL as a foreign language that is used to teach a non-language subject. On the other hand, Marsh and Langé (2000) termed it as a pedagogical setting of a non-language course designed and taught in a second language (L2) for learners. As the acronym CLIL covers two main aspects, a non-native language of learners and a non-language course content, the empirical scenarios of CLIL demonstrate a great diversity. Mehisto, Marsh, and

Frigols (2008, p. 9) suggested that CLIL be “a dual-focused approach” with language and content evenly balanced in teaching. Then, Coyle, Hood, and Marsh (2010, p. 1) defined CLIL as “a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language”. Thus, for further clarification, the framework and the findings of current research on CLIL are illustrated as follows.

#### **Four Cs**

Conceptually, Coyle, Hood, and Marsh (2010) provided the notion of “Four Cs”: content, communication, cognition, and culture. They are equally important in managing CLIL teaching in terms of fulfilling learners’ needs and teachers’ requirements.

The first C refers to content. It involves the subject materials, topics, and themes. The second C means communication. It links and provokes the connection between the learners and the content so that the content can be understood by the learners. That is, communication functions to clarify the content idea for learners, which makes the third C possible. The third C stands for cognition. Two levels of cognition can be developed. Different activities and tasks can develop different cognition competencies. Asking questions and providing answers foster the learners’ cognition of content. Moreover, advanced students produce their perspectives developed from previous learning experiences. In other words, they develop the ability to think by themselves, form their points of view, and generate solutions for tasks through learning. The fourth C involves culture that is interpreted as intercultural awareness, understanding, and tolerance (Coyle, 2005). Culture, the fourth C, can be brought up to widen learners’ views on other countries. For example, about traditional politeness of greetings, Asian learners are familiar with manners by shaking hands, waving hands, or nodding heads to each other. On the other hand, they may be kissed on their cheeks when greeted by European friends.

#### **Aims of CLIL**

The aims of CLIL are twofold as stated by Masih (1999, p. 8): “to provide learning outcomes in the chosen subject (history, geography, business, etc.) at the same level as the standard mother tongue curriculum; and to provide learning outcomes in the L2 which exceed the standard curriculum”. In terms of the dual purpose, Moore and Nikula (2016) stated that CLIL enhanced learners’ bilingual skills, their engagement in the second language (L2) development, and their use of the L2. As for the exposure of L2 in different contents, learners are motivated to self-learn the subject matter in L2 (Skehan, 1998; Lasagabaster, 2008). L2 can be used by the students outside the classroom for homework discussion, preview and review contents, and so on (Genesee and Hamayan, 2016).

#### **Roles of language in CLIL**

The first L of CLIL means language, but language application in a CLIL classroom is various. Stohler (2006) showed that learners’ mother language could serve as a bridge to link the known to the unknown to foster their content knowledge learning. On the other hand, Macaro (2006) pointed out the use of learners’ native language functioned as a code switch. Specifically, mother languages are used during the preliminary stages such as clarifying the instructions of activity and negotiating to construct group reports. Above all, the first L refers to the target language in which learners are needed to engage for course subjects. To enhance the use of the target language, Bentley (2010) suggested that L2 learning be embedded in related content. That is, for L2 learning for the awareness of language skills, modeling sentences, and the content vocabulary should be catered in CLIL.

#### **Content subject taught in CLIL**

CLIL lesson means teaching content with a foreign language and students are able to learn. For example, geography through German, music through French, biology through English, and so on. Exposed in the foreign language in different subject contents, CLIL learners are immersed in a second or foreign language. Nevertheless, the foremost concern in the CLIL curriculum is the subject content, and then the second/foreign language learning. Klimova (2012) indicated that CLIL was an attempt to promote knowledge learning and communicative competence. The sections below bring the discussion on how CLIL lessons are planned and their effectiveness assessed, followed by the role of CLIL teachers, and challenges and difficulties faced by the teachers and students.

#### **Planning CLIL lessons**

Planning lessons includes teaching, preparing for teaching, the teaching performance, the evaluation on teaching and learning, teaching objectives, and learning outcomes as recommended by Coyle (2005). He mentioned that the planning process started from the content, and the 4Cs curriculum should be embedded in CLIL lessons. In application, the 4Cs need to follow the order of content, communication, cognition, and culture. For the lesson planning, the “3As tool” operated in the stages of CLIL lessons as suggested by Coyle (2005: 7) is “analyze, add, and apply”. ‘Analysis’ contains the process of how content knowledge is taught through the content language. Adding is the teaching of what content language is aimed for learning. Applying is demonstrating the ability of the learners to gain and transform the content knowledge and content language to perform and accomplish the activities from the above process. ‘Contrast’ is for conventional teaching with the target language not learned but used in CLIL teaching. The content language is different if the same topic is taught to learners of different ages and language proficiencies.

Mehisto, Marsh, and Frigols (2008), to uncover essential pragmatic elements in CLIL, outlined thirty core features under the following categories: authentic material, multiple foci, active learning, safe learning environment, scaffolding, and cooperation. Correspondingly, a checklist complied with core features and subsequent indicators for a CLIL lesson plan was formatted. These core features and indicators assist the teachers to meet the learners' needs and achieve their teaching aims.

### **Assessments**

Most assessments in language courses aim to check how much learners remember. That is, the learners are mostly tested whether they are able to write sentences with correct syntax, words with correct spelling, and choose the correct answers to the questions. On the other hand, as CLIL is a pedagogy with dual foci, the assessment is relatively dual-functional. Coyle, Hood, and Marsh (2010, p. 112) agreed that "the mode of assessment determines how the learners perceive the teacher's intention, and of course, also shapes performance data." In effect, the model of assessment has been mandated by parents and the authority to show the learners' achievement instead of viewing the learning progress. In other words, the assessments are quantitatively presented in terms of grading level and are summative assessments. Thus, it seems not to tell how the learning has been progressed and produced (Andrade, Bennett, and Cizek, 2019). Since CLIL is an approach for students to learn a subject through the target language, the assessment of CLIL subjects needs to consider the process and progress of language use on the content, knowledge of the content, skill progress during and after CLIL lessons, and the teacher's reflections need to also be included. Different from the well-known summative assessments, CLIL assessments need to collect data from the students' learning and evaluate their emergent progress, like formative assessments to evaluate the process of the learner's learning.

CLIL assessments were complicated as addressed by Kiely (2009) because of processing the learning outcomes on both language and contents. Further, practical issues like the school system, educational curriculum, and the criteria of measurement are also considered. In addition, issues as to whether CLIL assessments need to be conducted in L1 or the target language, either language teachers or content teachers, or both are to present the clearly defined reports to learners. The credibility of studies by Dalton-Puffer (2007) and Serra (2007) was criticized by Kiely as the classroom observation was conducted as formative assessments based on limited and self-selected participants. In addition, Kiely (2009) argued that for accountability a clear guideline or checklist needed to be given specifically to a CLIL program assessment. Then, Ioannou-Georgiou and Pavlou (2011) outlined the areas of the assessments in terms of the foreign language competence, subject content, learning attitudes of both the target language and the content knowledge, and strategic competence. Quartapelle (2012) provided various lessons with ways to evaluate the learning performance. As for the area of assessment on language competence, CEFR (The Common European Framework of Reference for Languages) is generally considered as a standardized measurement.

### **CLIL teachers**

Bentley (2010) proposed terms of "Soft CLIL" to teach subjects in the language course in the curriculum and "Hard CLIL" to teach a course in the target language. That is, "Soft" CLIL courses seem to be taught by language teachers, and "Hard" CLIL courses by subject teachers. As CLIL involves a foreign language and a content course at school, the situation for teachers to teach CLIL lessons is complicated. Hence, teachers in CLIL classrooms take great responsibility for the students' learning input. The examination done by Kang, Hwang, Nam, and Choi (2010) indicated that content classes taught in L2 did not cover as much and as high-level content knowledge as the classes taught in the first language (L1). The Korean teachers in the L1-medium classes also offered more scaffolding and urged deeper thinking and active participation among students. Spratt (2017) described the role of a CLIL teacher as an input source, mediator, interaction facilitator, manager, material designer, and so on. A CLIL teacher conducts a subject content presented with the designed language structure to meet both the learner's needs and their language levels. Mehisto, Marsh, and Frigols (2008) described the demands on CLIL teachers as two areas of competence were divided: the first part concerned CLIL parameters, its policy, target language competencies for teaching CLIL, course development and partnerships in supporting student learning and the second part examined whether the CLIL teachers were equipped with the competences of integrations in terms of subject content, the target language, language learning, and cognition development like learning skills and critical thinking. In addition, CLIL teachers were expected to implement CLIL into lesson planning, to know how the second language acquisition is applied to CLIL teaching, to acknowledge and promote intercultural context into CLIL teaching, and to have the ability to manage the learning environment, learning skills, and learning focus, and to know how to design the assessment as well.

### **Difficulties for teachers and students**

As the foci of CLIL are dual, the challenges of implementing the CLIL approach are two-folded. For content teachers, the main problem is the language, English in Taiwan context. However, improving the English proficiency of the content teachers is not an essential issue. That is, it is not simply code-switching of the content into the target language (Pavón, 2013). Similar to Taiwan, English is also a foreign language in Korea. The native English-speaking teachers' talk in Kang, Hwang, Nam, and Choi (2010) included significantly fewer word types and lower lexical diversity in comparison with the L1 (Korean) teachers even

though the native English teachers conducted classes in their native language. The Korean teachers’ talk also provided sensitivity to their students’ affective needs and thus fostered their understanding of content knowledge and the development of reasoning skills. The CLIL teachers need to enhance the learner-learner interaction via cooperation and collaboration in addition to the usual instructor-learner relation (Cummins, 1994). As for language teachers, they are not trained to teach specific subjects. In CLIL based classroom, teachers need to teach different subjects in the target language. Nevertheless, the content teachers do not have to speak like native speakers but they have to pay attention to the accuracy of the content language (Wolff, 2007).

Students in Taiwan are in general passive. To perform the participative CLIL approach, they need to be trained to interact and cooperate with peers through group work. They need to learn to accept the strengths and weaknesses of their classmates and themselves and to learn to work collaboratively to develop problem-solving skills. Specifically, abilities and skills like describing, classifying, analyzing, interpreting, and applying need to be done not in their mother tongue but in the foreign/target language (Bentley, 2010). As the context in Thailand (Charunsri, 2019), it is not easy for Taiwanese students to practice these skills in L1 not to mention in the foreign language. Thus, the learners are encouraged to interact and collaborate to enhance active learning and effective group work as in real-world situations.

**3. Materials and Methods**

Since the current study aims to investigate teachers’ (both preservice and in-service teachers’) concept of CLIL and raise their attention to the application of CLIL for bilingual education, a questionnaire has been designed to address the relevant issue, and interviews were conducted for in-depth understanding. Twenty-two copies of the questionnaire were collected via Google form (<https://forms.gle/6ej1SwPFtYUzkkwZA> during the spring and summer of 2021) and five teachers were interviewed (in the autumn of 2021) to examine their understanding of CLIL, their opinions, and their willingness to apply CLIL together with an analysis on their age, teaching area, and experience. The feedback of the teachers provides implications and suggestions for the educators in general (including the teachers themselves), the school administration, and the authority/government.

**4. Results**

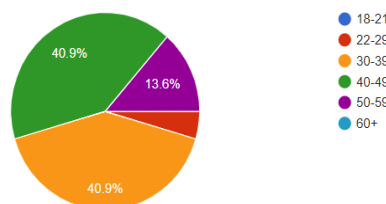
This section includes the reports of the questionnaire findings and the interview results.

**Questionnaire analysis**

The descriptive analyses in this study were based on the Google form and presented question by question. Overall, there were 22 respondents and they all have been teaching English. Even though the questionnaire was bilingual (both in English and Chinese), no teachers of other subjects answered the questionnaire.

Question 1 (Q1): Your age?

There were nine teachers in the age group of 30–39 years old, and another nine in 40–49. Most (81.8%) of the respondents were middle-aged. There were three respondents above 50 years old and one below 30 years old. Thus, the responding school teachers seem to be mostly mid-aged.



**Fig. 1.** Age of teachers.

Q2: How many years have you been teaching?

Nine teachers (40.9%) have been teaching for 11–20 years, and seven (31.8%) for 6–10 years, four (18.2%) for 21–30 years, one (4.5%) for more than 30 years, and one (4.5%) for less than 5 years. The result was consistent with Question 1 in that the mid-aged teachers would have been teaching for about 20 years if they started in their late 20s.



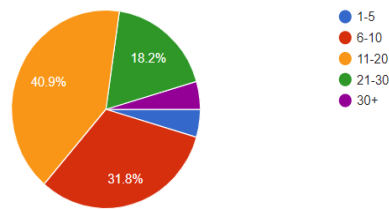


Fig. 2. Years of teaching.

**Q3: Where do you teach?**

5% of the respondents (11 teachers) have been teaching in the suburban area, 40.9% (9) in the urban area, and 9.1% (2) in the rural area. This is interesting in the sense that more suburban teachers are willing to cooperate in research investigation than urban teachers.

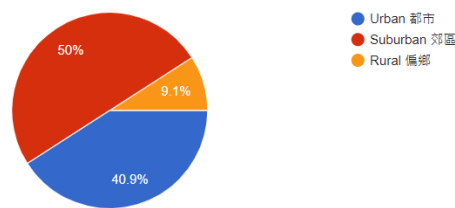


Fig. 3. Teaching areas.

**Q4: What level of students have you taught?**

Most respondents (21, 95.5%) have been teaching in secondary schools. The only exception has been teaching in college. Thus, the analysis of this study provides relevant implications for secondary education.

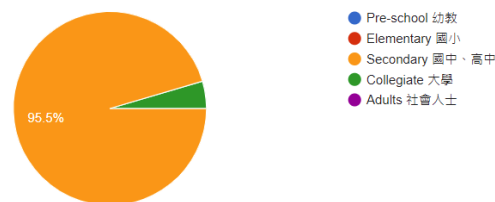


Fig. 4. Student levels.

**Q5: What subject(s) do you teach?**

As mentioned earlier, all of the respondents teach English. The questionnaire title began with the term CLIL even though the questionnaire was bilingual in English and Chinese. Hence, teachers of another subject might be unaware of CLIL and uninterested in answering.

**Q6: Do you know CLIL? What are the 4Cs?**

Eight (36.4%) of the teachers answered both correctly, three (13.6%) correctly answered three Cs, six (27.3%) knew CLIL but did not know 4Cs, and the rest (5, 22.7%) did not know either. Those who knew the three Cs did not understand the Cognition correctly. The reason might be that they were English/language teachers and have not been experienced enough in CLIL to foster the learners' cognition of content.

**Q7: Are you willing to apply CLIL in your classes?**

Almost all of the teachers (21, 95.5%, except one out of 22) answered 'yes'.

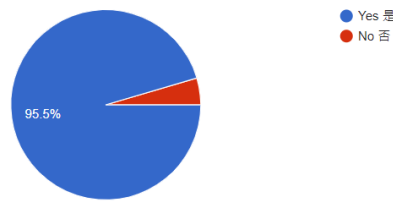


Fig. 5. Willingness to apply CLIL.

Q8: Continued from above, why or why not?

The responses of the 21 teachers were summarized as follows. The teachers were willing to try whatever was beneficial to the students. Especially, CLIL would be advantageous in both the content and language (English). They thought CLIL would be a trend and expected to have resources provided. One answered “I don’t get it” and s/he probably did not answer ‘yes’ in Question 7. Thus, most of the teachers would like to apply CLIL to help their students learn content knowledge and improve English as well. This result corresponds to the positive feedback of Chen (2020) in which teachers from all areas (urban, suburban, and rural) agreed on the implementation of CLIL.

Interview results

Another five teachers were interviewed: three were preservice teachers and two were in-service teachers. All of them have more than 15 years of teaching experience, but three of them have not obtained the teacher’s certificate, hence preservice.

Teacher 1 (T1) has been teaching English in a suburban secondary school for about 15 years. Although she has been a preservice teacher, she has been active in joining CLIL workshops. She thought CLIL was fun and dual-focused and admitted it was difficult to apply CLIL at the beginning and teachers needed training and an open mind to accept different teaching styles.

Teacher 2 (T2) has been teaching English to elementary and secondary students in an urban area for about 20 years. She heard of CLIL but did not understand the meaning of 4Cs and was not sure of the implementation of CLIL, but she was willing to learn and would appreciate that students could also learn English when learning other subjects.

Teacher 3 (T3), a preservice teacher too, has been teaching English to both elementary and secondary students in a rural area for more than 15 years. She knew CLIL and would like to apply it but not right away because in the rural area many students began studying English since the third year of elementary school and they did not have the habit of reviewing and doing homework after school so a lot of the students only had basic English ability. Thus, if English is added into other subject content, it would be a great burden to the rural students. She also said that she asked around teachers of 30 years old and 50 years old, and all of the teachers (both preservice and in-service) were not willing to try CLIL and they expected the government to assign new teachers to do CLIL teaching.

Teacher 4 (T4) is an in-service teacher in a suburban secondary school. He has been teaching English for more than 15 years and was active and willing to apply CLIL. However, he said it would be difficult to implement CLIL in subjects like mathematics, physics, and chemistry. For other subjects, he believed it would be fun to have English immersion classes.

Teacher 5 (T5) is also an in-service teacher, and she has been teaching English in a secondary school in an urban area for more than 20 years. She has actively participated in workshops related to CLIL and she has applied CLIL in her courses. She said the students would think English useful and effective if it was immersed in the content subject.

**5. Discussion**

Both the respondents of the questionnaire and the interviewed teachers are willing to apply CLIL, but there seem to be some problems in the rural area as T3 was reluctant to try immediately. It is also interesting to know that the informal investigation by T3 on her colleagues’ intention shows their unwillingness to apply CLIL. From their answers, there seem to be some myths among these rural teachers. They thought CLIL was for elitists and more able students elitists, and thus rural students with only basic English proficiency could not be taught that way. The rural teachers were expecting ‘new’ teachers (actually foreign/native speaking teachers) assigned by the government to come to teach. However, according to Coyle (2005), the above should be avoided, instead, the language and vocabulary should be adjusted to the student's levels and needs, and the language (English) teacher, as well as the content (subject) teacher, need to prepare together to introduce and elicit the use of language from a low to a high percentage (optimally above 70%). Thus, the introduction and promotion of CLIL have not been so popular enough in Taiwan as to let the rural teachers understand the features and applications of CLIL.

Although most respondents of the questionnaire showed their willingness to implement CLIL, half of them did not understand what CLIL is (cf. the findings of Q6 above). Moreover, one of the difficulties raised by T4 is that it would be difficult

to apply CLIL in subjects such as math. Yet, the testing subjects (math, social sciences, and natural sciences) have not been required to integrate English, but art and elective courses. Thus, there is still time for testing subjects for which teachers and language teachers to prepare and plan lessons cooperatively before the bilingual goal of 2030. Further remarks on this issue are presented in the conclusion below.

## 6. Conclusions

Both the questionnaire and interview results of this study indicated that most of the teachers were willing to apply CLIL to assist the students' learning and enhance the efficacy of English. Nevertheless, about half of the participants did not understand the features and applications of CLIL. Hence, more training programs and workshops are needed for the teachers, especially in the rural area, so that they can realize and practice how to collaborate with their colleagues to conduct CLIL lessons for their students.

### Limitations of this study

The limited number of respondents and interviewees was a drawback of this study. This is probably due to the prevalence of COVID-19. Otherwise, more copies of the printed questionnaire could be distributed and collected by the researcher in person, and more teachers could be interviewed as well. Another disadvantage of the current research is that the subject taught by the teachers of this study is only English. As mentioned in the results of Question 5, the reason might be that the questionnaire begins with English followed by Chinese. If the questionnaire starts with Chinese then English, the teachers of various subjects would probably be willing to answer and to join the interview.

### Suggestions for future study

In Taiwan, it is generally believed that seeing each other is worth 30% of the relationship. Therefore, future researchers are recommended to conduct the data collection in person to gain a good number of results and practical thoughts of the participants. Also, future researchers are suggested to invite teachers from different subjects to respond to the questionnaire and to be interviewed. Specifically, the diverse subject teachers need to participate in the CLIL education as mentioned in Chen (2020) can be recruited for further investigation. In addition, CLIL for testing subjects of entrance examinations (e.g. math, natural science, social science, etc.) still needs resources of materials, lesson plans, and so on, developed by teachers of various fields. So far, most of the conduction of CLIL programs has been on art, health, and physical education, as claimed in Chen (2020). Thus, the government is suggested to sponsor CLIL programs and host workshops to encourage teachers and scholars to collaborate and develop plausible lessons for the bilingual goal of 2030.

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