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Contextualizing CLIL in Elementary Schools in Taiwan and Beyond: A Language-Driven Perspective

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Abstract

The Taiwan government has enforced educational policies that encourage implementation of Content and Language Integrated Learning (CLIL) in elementary school subject courses. Given concerns about the lack of content teachers with adequate English proficiency, the fixed curricula of subject courses, and young EFL learners' beginning English levels, a language-driven CLIL approach was implemented, in which a fifth-grade English teacher incorporated subject knowledge into English courses. This study is an investigation of the experiences of 105 fifth graders and their English teacher after two years of CLIL practice. The results show that this contextually responsive approach positively affected the students' learning as well as their motivation, suggesting that the CLIL approach should be supported by policy makers and stakeholders in the schools. The findings provide implications for future practice, policy, and research in similar settings.

Keywords: Content and Language Integrated Learning (CLIL), effect, motivation, support, language-driven

1. Introduction

In Taiwan and other non-English speaking countries, the citizenry's overall proficiency in English as a lingua franca has been a main indicator of internationalization and economic competitiveness. Thus, English education has been prioritized in educational policies as well as classroom practices. Under the recent educational policy, Bilingual Nation by 2030, educational institutions from primary to tertiary levels are encouraged to provide discipline-specific courses with English as the medium of instruction (Ferrer & Lin, 2021). In accordance with the mandate, experimental Content and Language Integrated Learning (CLIL) courses, in which content is taught in a foreign language for dual learning purposes (Dalton-Puffer, 2011), have been established in major metropolitan areas to pilot the concept (Chen et al., 2020).

Surmont et al. (2016) reported that since CLIL emerged in the 1990s, it had become "a well-established part of education systems across Europe" (Marsh, 2002, p. 30) in both policy and practice (Dalton-Puffer, 2011; San Isidro, 2018). Research has shown positive effects of CLIL on students' language learning (Coyle, 2013; Lázaro-Ibarrola, 2025) as well as on non-linguistic domains, including higher order cognitive skills (Coyle et al., 2010), learning motivation (Doiz et al., 2014; Lázaro-Ibarrola & Azpilicueta-Martínez, 2024), and future employability and mobility (Yang, 2017). However, the practice has also been criticized on several counts.

First, CLIL may benefit only high-achievers and only language learning, not acquisition of content knowledge (Bruton, 2013; Paran, 2013). In particular, young students may not be cognitiively mature enough to process both content and langauge simultaneously, and students from low socioeconomic backgrounds may lack external support (Virdia, 2020). Second, long-term effects have not been sufficiently investigated. Young learners might lose learning motivation once the effect of novelty has faded (Pérez-Cañado, 2012). Third, teaching and learning support needs, such as appropriate materials, activities, and assessments, are still not well understood (Banegas, 2017; Pérez-Cañado, 2012; Rohmah, et al., 2019).

Finally and arguably most significantly from an Asian perspective, the approach originated in Canadian immersion practices and has been implemented mainly in North American and Western European settings, in which most local languages share Indo-European roots with English. Moreover, grounded on social constructivism (Vygotsky, 1978), CLIL is informed by local varieties of salient language teaching methodologies (Hüttner, Dalton-Puffer, & Smit, 2013). Therefore, instructors in these settings use scaffolding strategies for English and other Western foreign language learners that draw on these shared language as well as cultural and social roots (Mahan, 2020). Because European and North American multicultural and multilingual diversity (Hartiala, 2000; Marsh & Hartiala, 2001) differs from Asian diversity and linguistic relationship to English, CLIL teaching experiences in Western countries may have limited application to Asian EFL education. It is important, therefore, to develop a contextually responsive CLIL approach for Asian EFL settings (Hu & Mi, 2026). In contexts such as Taiwan, where learners have limited environmental contact with English, additional support is necessary to enhance both learning effectiveness and motivation.

However, there are few studies of CLIL approaches with young EFL learners who

have had limited exposure to English. Given the importance of context and age level as well as concerns raised in the literature, the aim of the present study was to investigate Taiwanese fifth graders' CLIL experiences after two years of the practice. The formal data collection was administered in the final semester in this period. Three research questions were addressed:

1. What is the effect of CLIL implementation on the language and content learning of elementary-level EFL learners?
2. How does CLIL motivate young EFL learners?
3. What learning and teaching support is needed in elementary school CLIL practices?

This investigation of the learning, cognitive, affective outcomes factors of a two-year implementation of CLIL in a Taiwanese elementary school can serve as a useful reference for making policy decisions, identifying teaching and learning support needs, and determining ways to effectively implement contextually responsive CLIL in similar Asian EFL contexts.

2. Literature Review

The following review will first discuss the theoretical framework, followed by a summary of related studies. While studies focused on the effects of CLIL on the learning outcomes, motivation, and support needs of young EFL learners are prioritized, because these are sparse, they are supplemented with related studies involving other age learners.

2.1 CLIL and Social Constructivist Learning Theory

Coyle et al. (2010) have defined CLIL as "a dual-focused educational approach in which an additional language is used for the teaching and learning of both content and language" (p. 1). The integration of language with subject matter content provides opportunities for meaningful interaction with a foreign language based on authentic and functional input while meeting content curriculum standards (Genesee, 1987; Marsh, 2005) and achieving higher levels of language learning (Marsh & Langé, 2000).

CLIL is based on social constructivist learning theory (Vygotsky, 1978), which posits that higher mental functions are symbolically mediated by artifacts "created to prompt or modulate action" (Bakhurst, 2009, p. 199) and the guidance of others (Lantolf, 1994). Learners' meaning-making emerges through interaction with more capable others while crossing what Vygotsky termed the "zone of proximal development (ZPD)" (Kaufman, 2004), which represents the cognitive development a learner can achieve with support beyond what s/he can achieve alone (Palincsar, 1998). Thus knowledge is co-constructed as individuals learn from one another, highlighting the role of social and cultural interactions in the learning process. To fulfil the curriculum objective of integrated content and language and provide interactional scaffolding (van Lier, 2004), CLIL teachers draw on subject matter, target language, and pedagogical content knowledge (Shulman, 1987) to deliver integrated content and language instruction while providing learning support (de Graaff et al., 2007; Mahan, 2020; Morton, 2018).

In this study, emphasis was placed not only on the instructional scaffolding of

Vygotsky's ZPD theory but also on a societal perspective, to underscore the importance of the structure of learners' social worlds (Palincsar, 1998) in constructivist theory. In counterpoint to the conventional cognitive psychology perspective on individuals' learning processes, Lave and Wenger (1991) proposed situating learning in social practices by fostering collaboration on tasks that provide optimal learning contexts. Similarly, as Coyle et al. (2010) assert, CLIL involves "planned pedagogic integration of contextualized content, cognition, communication and culture into teaching and learning practices" (p. 6). Thus, Mehisto et al. (2008) have described CLIL as an "umbrella term covering a dozen or more educational approaches (e.g. immersion, bilingual education, multilingual education, language showers and enriched language programmes)" (p. 12). These range from content-driven to language-driven practices (Met, 1998) in accordance with specific school and sociolinguistic situations while sharing a focus on learner diversity (Cenoz, 2015). Massler et al. (2014) have differentiated three main configurations of CLIL implementation: CLIL in subject lessons, CLIL in foreign language lessons, and CLIL as a subject of its own.

Because CLIL-specific materials are often not locally available, and subject teachers generally do not have adequate English proficiency and knowledge of language teaching pedagogies (Luo, 2021), in this study a language-driven CLIL approach was examined, in which content aims were incorporated into EFL courses taught by a highly language-proficient and experienced English teacher (Massler et al., 2014; Met, 1998). This arrangement was particular in this elementary school setting, where EFL learners were at beginning levels of English learning. Also, besides being aware of younger EFL learners' needs and language scaffolding strategies to facilitate their comprehension, the English teacher could easily handle subject content at the elementary level and could develop CLIL materials from scratch.

2.2 Effects

2.2.1 Language learning

While European studies have reported positive effects of CLIL on language learning at secondary and tertiary levels (Dalton-Puffer, 2011), the outcomes among younger language learners are mixed. García Mayo and Lázaro Ibarrola (2015) compared the oral interactions of 80 EFL-only and CLIL learners aged 8-11 in Spain and found that CLIL learners used more negotiation strategies and resorted less to their L1, attributed to their more frequent opportunities to interact in the target language. Merino and Lasagabaster (2018) found positive effects of CLIL on Spanish secondary students' English learning with no detrimental impact on their first languages and concluded that CLIL could help students become multilingual. Lázaro-Ibarrola (2025) investigated how different levels of CLIL affected the proficiency of primary school students. By comparing high-intensity CLIL, low-intensity CLIL, and non-CLIL groups, the study found that only students with significant classroom exposure showed clear advantages in writing, speaking, and overall test scores. Interestingly, there were no notable differences between students in low-intensity CLIL programs and those in standard EFL classes.

Agustín Llach (2017) found that fourth graders in CLIL courses had more hours of exposure to English but achieved the same English writing and vocabulary test results as

non-CLIL learners. Pladevall-Ballester's (2015) two-year study found no difference in reading skills between an experimental group (EFL+CLIL) and a control EFL group of primary students, but the control group outperformed the experimental group in listening. These neutral or negative outcomes might be explained by the CLIL learners' need to adapt to the approach, their teachers' greater emphases on content than on language, and the excessive cognitive burden for young learners of simultaneously learning subject matter and English, suggesting that young learners might require long-term and intensive exposure to CLIL.

2.2.2 Content knowledge

The effect of CLIL on content learning generally remains at issue (Dallinger et al., 2016). In a study involving 2,024 elementary and secondary students in Spain, Pérez Cañado (2018a) found that CLIL students outperformed non-CLIL students in Natural Science, especially in the long term. Jäppinen (2005) compared cognitive development in mathematics and science between 335 CLIL learners and 669 L1 learners aged 7-15 in 12 schools in Finland, and concluded that a language-enriched environment had a positive effect on CLIL learners' cognitive development although the approach was more demanding for learners aged 7-9. Moreover, Lorenzo et al.'s (2021) study of over 3,800 secondary students showed that CLIL environments yielded equally high results regardless of SES background. Learning a complex subject like history in L2 did not negatively influence content learning for the CLIL students.

In contrast, Virdia (2020) found a slightly negative effect of CLIL on fourth graders' science learning. Fernández-Sanjurjo et al. (2019) found that sixth-grade students who had been in CLIL programs since primary school performed slightly below non-CLIL students in science. Also, students from lower socio-economic families scored lower than their more privileged counterparts. Possible reasons for poorer CLIL results included students' limited exposure to L2, insufficient parental facilitation, and lack of teacher training in CLIL methodology.

The results of these studies suggest that CLIL does not automatically lead to effective learning. In addition, language learning measurement tools have focused on general language abilities while academic literacy has been neglected (Vollmer, 2008). For learners to construct deep knowledge, both basic interpersonal communicative skills (BICS) and cognitive academic language proficiency (CALP; Cummins, 1979) should be emphasized in CLIL. Also, to measure the full potential of integrating language and content, an integrated content and language assessment must reflect the actual curriculum of the CLIL class (Meyer et al., 2015). Therefore, in the present study, besides measuring general English achievement, an assessment that integrated content with both general and academic language development was conducted.

2.3 Motivation

Young language learners generally begin with positive attitudes towards foreign language learning, but motivation tends to decline throughout elementary school (Nikolov, 2009). However, Pladevall-Ballester's (2019) longitudinal study of CLIL in the fifth and sixth grades of four elementary schools in Spain found that students sustained their motivation

for learning English over time. Doiz et al. (2014), in an exploration of the influence of individual and contextual variables on CLIL learners' motivation in five secondary schools in Spain, found that although the CLIL students were observed to be more anxious, they were more intrinsically and instrumentally motivated and showed a higher interest in language learning than non-CLIL learners. The effects of neither parental support nor gender were significantly different between the two groups. Furthermore, Lázaro-Ibarrola and Azpilicueta-Martínez (2024) investigated how CLIL impacts primary school students' motivation to learn both a foreign language (English) and a regional minority language (Basque) within immersion programs. The results demonstrated that CLIL learners developed a significantly more positive attitude and overall learning experience regarding English although the research also revealed that increased exposure to English via CLIL corresponded with a slightly lower instrumental motivation toward Basque. Despite results showing the benefits of CLIL for motivation, caution needs to be taken, especially with young learners. Otwinowska and Foryś (2017) found that young Polish CLIL learners experienced cognitive overload and exhibited intellectual helplessness (IH) and negative affectivity. It was noted that CLIL's requirement of adequate academic language proficiency to acquire subject knowledge may lead students to regard English as a barrier to content learning rather than a subject to learn. The findings called for attention to the balance between BICS and CALP in the implementation and assessment and in refinements of CLIL curricula. Zheng et al.'s (2023) study also revealed that students' motivation was not static but depended on factors such as the nature of the CLIL subject, pedagogical support from instructors, and effective interactive tasks. Because of the substantial cognitive demands of CLIL, the practice can be expected to strongly impact students' learning motivation, which is a critical factor in sustaining their engagement. In this study, therefore, factors related to young learners' motivation were explored as well as whether they had sustained initial motivation levels after two years of CLIL practice.

2.4 Support

In addition to studies of CLIL implementation, the perceptions of teachers and students have been investigated to inform the design and evaluation of CLIL programs. In Taiwan, CLIL is currently integrated into subject courses by English teachers, sometimes teamed with English native speakers. As subject area teachers are rarely recruited for CLIL even when teamed with native English speakers, Luo (2021) explored 51 in-service elementary school English teachers' perceived difficulties with CLIL practices and found that they felt unprepared to teach other subjects and were not confident of their understanding of CLIL pedagogy. They expressed the need for training in subject knowledge, ways to deliver subject content in English, and how to design CLIL lessons and adapt CLIL materials. Kassymova and Çiftçi (2020) also accentuated the positive impact of CLIL training on self-efficacy and attitudes of Turkish EFL pre-service teachers, whose perceptions might critically influence their practices of CLIL (Arham & Akrab, 2018).

In an investigation of one year of CLIL practice in science and arts and crafts courses by EFL teachers in five primary schools in Spain, Pladevall-Ballester (2019) found that teachers, students, and parents had generally positive perceptions of the approach. All

CLIL courses were taught by EFL teachers with adequate English proficiency and professional training in CLIL. They provided sufficient language support to reduce students' anxiety, so they could enjoy learning English by doing various activities in meaningful contexts. However, among concerns they expressed were lower achievers' comprehension problems and frustration, parents' unrealistic expectations of CLIL, risk of loss of L1 or content knowledge, lack of appropriate materials, and lack of content teachers' support for teaching subject knowledge. Yang and Gosling (2014) also found that college students in Taiwan perceived the language requirements in CLIL programs challenging and suggested additional language support to bridge language and content in CLIL. Arnó-Macià and Mancho-Barés (2015) also reported that scant attention had been paid to language support in CLIL courses taught by content instructors. Promoting collaboration between ESP instructors and content lecturers was recommended. However, how instructional roles are defined, negotiated, and sustained remains an issue, though team teaching by language and content teachers has been considered a potential solution (Hu et al., 2025). For both integration of language into content courses or integration of content into ESP courses, pre-service and in-service professional training in linguistic and intercultural competence, materials design, and CLIL methodology has been deemed essential (Pérez Cañado, 2016, 2018b).

Currently, CLIL in Taiwan is mainly administered top-down, with policy-makers at the national level assuming a strong managerial role to promote a content-driven approach, in which English is incorporated into subject courses (National Development Council & MOE, 2020). This approach, adapted from the immersion model in Canada and the U.S., may not however fit an EFL context. To address possible misalignments between policy-makers' decisions and practitioners' experience-based insights (van Kampen et al., 2020), in the present study, the perceptions of the teacher and the learning outcomes of elementary students in a language-driven CLIL school class, an approach more compatible with the Taiwanese context, were explored.

3. Research Method

A naturalistic, classroom-based research approach was implemented, in which I as researcher assumed the role of non-participant observer without imposing interventions or experimental conditions.

3.1 Participants and Context

Five fifth grade classrooms in a public elementary school in Southern Taiwan participated in the study. The school had a student population of about 800, divided into 30 classes of 20-35 members. The target classes comprised a total of 128 students aged 10-11, all native speakers of Mandarin Chinese, of whom 105 completed all requirements for their data to be included in the analysis. The students had begun taking English courses in the second grade and receiving CLIL instruction in the third grade and were at or near beginning levels of proficiency. They currently had two 40-minute English classes every week. At the time of the study they had been taught by the same English teacher, who had been integrating content knowledge into their English classes for three semesters, so

CLIL instruction was no longer a novelty for these students. Data collection for the study was conducted in the fourth semester.

The focal teacher held a master's degree in Teaching English to Speakers of Other Languages (TESOL), had been teaching in Taiwan's elementary schools for more than 15 years, and had participated in many professional development workshops on a variety of topics, including CLIL. Being at the English C1 level of the Common European Framework of Reference for Languages (CEFR) and having adequate grade-level knowledge in various subjects, this English teacher was well-qualified to implement language-driven CLIL.

3.2 Procedures for CLIL Implementation

As noted, formal data collection took place throughout one semester. The following CLIL procedures were designed by the English teacher:

Step 1. Before the semester started, the English teacher formulated the course topic and both knowledge and language objectives. As the first unit of the English textbook covered weather, weather and water cycle constituted the CLIL subject matter. The teacher adapted content from different sources such as National Geographic magazines for children, picture books, YouTube videos, and other online materials. She also designed worksheets and activities to provide students with abundant language and subject matter exposure. The course objectives included:

Content goal: Weather changes come from water cycle.
Language goals:
1. Say, read, and write weather words.
2. Write about weather.
3. Talk about water cycle systems.

Step 2. In the beginning of the semester, the teacher re-stated the purpose of incorporating science content into English learning and introduced the course topic and learning goals.

Step 3. The CLIL teacher covered each of the three sub-topics, weather, seasons, and water cycle systems and their related English content, for about five weeks. She used multi-modal formats including texts, pictures, videos, animations, and songs. The teacher provided practice in reading, listening, speaking, and writing through a wide variety of individual and group activities, such as circling key words, grouping words, voting for the best sentence, drawing and demonstrating meanings through actions, and listening for comprehension. Both subject and language content was emphasized, including key vocabulary, parts of speech (e.g., rain: noun, rainy: adjective), and types of conjunctions to combine sentences. The instructor facilitated comprehension with facial expressions, hand gestures, language modifications, and a small amount of Chinese.

Step 4. In week 17 of the semester, a government-mandated exam to evaluate students' general English performance nationwide was administered. The exam took 40 minutes. A total of 35 multiple choice questions included 15 listening comprehension questions and 20 reading comprehension questions. The listening comprehension section

tested learners' understanding of sounds, words, classroom and life English, and culture and holiday English. The reading comprehension section evaluated learners' understanding of words, sentences, pictures and tables, and culture and holidays. Appendix I provides examples of Exam questions.

Step 5. In week 18, an integrated content and language assessment was administered. This assessment (see Table 1 for sample questions) was based on the text covering water cycle systems used in class. The assessment was designed to evaluate language and content related to the target sub-topics. As shown in Table 1, learners needed to comprehend the content knowledge in the text well enough to understand it was about the precipitation stage to accurately fill in key words.

Table 1

Sample Exam

earth	hot	rain	air	cycle
clouds	precipitation	condensed	hail	cold
sun	water	snow	drink	vapor

Select the correct vocabulary item to fill in each blank:

1. When water falls back to earth as _____, it may fall back in the oceans, lakes or rivers or it may end up on land. When it ends up on land, it will either soak into the _____ and become part of the "ground water" that plants and animals use to _____ or it may run over the soil and collect in the oceans, lakes or river where the _____ starts all over again.

Step 6. Follow-up surveys completed by the students and interviews with the teacher were conducted after the semester ended. A one-month delayed post-test was administered using the same integrated assessment to evaluate students' retention of knowledge.

3.3 Data Sources and Analyses

A mixed methods design (Johnson & Onwuegbuzie, 2004) was employed. Both quantitative and qualitative data were collected from multiple sources for cross checking to ensure the trustworthiness of the findings.

3.3.1 The integrated content and language assessment and the delayed test

To evaluate CLIL students' learning, an integrated content and language assessment was administered at the end of the semester (see Table 1). As suggested by their English teacher, a pre-test was not conducted because the students were not familiar with the topic. One month later, the same test was administered to check retention of learning. In addition to descriptive analyses, Paired Sample T Tests were used to compare the post-test and the delayed test.

3.3.2 National English exam

Besides the integrated content and language assessment, which was still in development, the results of a national general English exam administered by the government to all elementary school students were used to compare the English proficiency of participants in the study with that of other fifth graders in Taiwan. Descriptive analyses were conducted, and correlations between the two exams were determined.

3.3.3 Student motivation survey

The survey, which was developed for the current study to conform to its context, included three parts: (1) students' background information; (2) students' English learning motivation, adopted from Lasagabaster's (2011) study; and (3) students' perceptions of this learning experience. Q1-Q22, which pertained to students' learning motivation and perceptions of the CLIL approach, were rated on a Likert scale ranging from 1 strongly disagree to 5 strongly agree. Q23-Q26 were open-ended to capture students' views of the class in their own words (see Table 2). Q4 and Q11 were reverse questions. The survey was administered in Chinese to ensure that students understood the questions.

For content validity, following Cohen and Swerdlik's (2005) recommendation that a subject matter expert judges the appropriateness of an item for the construct it was intended to measure, the cooperating English teacher examined the survey items for compatibility with the CLIL principles applied in the target classes as well as the Chinese translation of the survey for accuracy. Descriptive analyses were conducted to tabulate numbers, percentages, and mean scores of the results of the survey. Pearson correlations between students' motivation scores and the results of their English exams were calculated.

Table 2

Survey of Students' Learning Motivation and Perceptions of CLIL (English translation)

Motivation
1. It is important to learn English.
2. I want to learn lots of English.
3. I am interested in learning English.
4. Learning English is a waste of time.
5. English will be very useful when it comes to obtaining a job.
6. I really want to learn English well.
7. I would like to speak and write English very well.
8. I would like to write English very well.
9. I want to have a good command of English to get a good job.
10. I like learning English.
11. Learning English is boring.
12. I enjoy English lessons.
13. I do my best to learn English.
14. In English lessons I try to learn as much as I can.
Perceptions
15. I like my class which integrates content knowledge and English.
16. I like to learn content knowledge by means of English.
17. I like to learn both content and language at once.

18. I learn English from CLIL (content and language integrated learning).
19. I learn content knowledge from CLIL.
20. The materials in CLIL class are useful.
21. The activities in CLIL class are useful for learning English.
22. The activities in CLIL class are useful for learning content knowledge.

Please write your opinions.

23. The activity in my CLIL class I like best is ……..because….
24. I like my CLIL class because….
25. I don't like my CLIL class because….
26. I hope my CLIL class can be….in the future.

3.3.4 Instructor interview

The teacher participated in a two-hour guided interview twice, during and at the end of the semester. She was asked about her understanding of CLIL, implementation processes, observations of applying this practice in her classes, perceptions of related activities, and expectations of support needs for future practice (see Table 3). The interviews were conducted in Chinese, and recorded and transcribed verbatim. Portions of the transcript were translated into English for reporting purposes.

Table 3

Instructor Interview Protocol (English translation)

1. What is your understanding about CLIL? How did you learn about CLIL? Why do you choose to implement CLIL in your English classes?
2. Could you please describe how you are implementing CLIL in your classes this semester?
3. In more than two years of CLIL practice, have you made any modifications? Please explain what modifications you have made and why have you done so.
4. From your observation, what are students' learning outcomes and their learning motivation with this approach?
5. Overall, how do you perceive CLIL practices?
6. Do you plan to continue implementing CLIL? What support needs or expectations do you have?

All the qualitative data, including the students' responses to the open-ended questions in the survey and the instructor's interviews, were analyzed recursively (Bogdan & Biklen, 1998; Lincoln & Guba, 1985). A bottom-up procedure began with open coding. After coding a segment of the data independently, an external coder and I conferred to reach consensus on codes (themes) and sub-codes, following which all remaining data were coded independently. Agreement on discrepant codes was reached through discussion. To answer the first research question about young EFL learners' outcomes from CLIL practices, the results of the national English exam and the integrated content and language assessment and responses to Q18-Q22 in the student survey were analyzed. For the second research question regarding students' learning motivation with CLIL, responses to the motivation and perception items in the student survey were tabulated and compared with learning outcomes. For the third question concerning instructional support needs, the interview data were examined. Also, all the qualitative

data were used to cross-check and supplement the findings for the first two research questions. Following is discussion of the results relevant to the three research questions.

4. Results

4.1 Effects of CLIL Practice

The mean scores of the integrated content and language assessment and the delayed test were 8.70 and 8.62 out of maximum scores of 20, indicating that the CLIL course content was somewhat challenging to this group of learners. No statistically significant difference was found between the post-test and the delayed post-test (see Table 4), indicating good retention of learning one month later.

Table 4

Paired Samples Statistics of Integrated Content and Language Assessment

Paired Differences							
			95% Confidence Interval of the Difference				
Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
.07619	3.69692	.36078	-.63925	.79164	.211	104	.833

The average scores of all five classes on the governmental English exam were above the national average score. The integrated content and language assessment and the national English exam scores were statistically significantly correlated, suggesting that students' general English proficiency and their CLIL learning outcomes were related (r=.609, p=.00). In accordance with the positive results of the governmental English exam, most students as well as the instructor perceived the learning outcomes as positive. On the student survey, the learners reported positive learning effects in response to Item 18 (ave.= 3.94/5) and Item 19 (ave.= 4.03/5), and in responses to the open-ended questions they mentioned multiple benefits for learning content (52 responses), language (20 responses), and life skills (6 responses; see Table 6 for students' perceptions and Table 8 for the coding of students' responses).

The instructor also commented that, having met the challenge of learning subject content in CLIL, the students found the course's English content and the national English exam relatively easy (see Table 9 for the instructor's opinion about learning benefits). She expressed this view in a metaphor: "CLIL is not limited to textbooks. In CLIL, you take students up into the sky to overlook the entire forest. When they return to the ground, learning about flowers and grass becomes very easy." She also contended that content learning enhanced language learning:

> *In EFL contexts in Taiwan, we used to think children couldn't absorb more language than what was in textbooks. However, a new perspective gained from CLIL is that I can teach knowledge. Students learn knowledge from CLIL. Then, we use this knowledge to expand students' language. A combination of these two makes you realize that language is recycled, remembered, and reused repeatedly in gaining knowledge. It becomes real language. Students learn English they can use. You can see the real application in CLIL.*

As this observation supports, in CLIL instruction, learning subject matter and learning English were mutually reinforcing. In particular, content learning further led to deeper language learning as students studied related topics. For example, moving from the topic of weather to the topic of water cycle systems, learners went beyond basic vocabulary acquisition, such as weather–related words, to learn advanced words and the related language learning skills required to comprehend and produce English sentences and paragraphs.

4.2 Young EFL Learners' Motivation

Although the course content in CLIL was relatively challenging for the learners, the survey results show that they were highly motivated and positive toward this learning experience (Tables 5 and 6). The average scores of items in both categories are above 3.5/5, and the majority are above 4/5. In response to the open-ended questions (Table 8), the students specifically reported enjoying CLIL group activities such as drawing, games, and role plays.

Table 5

Learners' Motivation

interest and instrumental orientation						
	SA	A	N	D	SD	Ave
Q1	59	25	16	1	4	4.28
Q2	41	26	26	5	7	3.85
Q3	22	34	35	4	10	3.51
Q4	47	27	25	3	3	4.07
Q5	68	27	6	2	2	4.50
Q6	51	30	15	5	4	4.13
Q7	57	23	17	4	4	4.19
Q8	57	23	16	3	6	4.16
Q9	61	25	15	0	4	4.32
learning situation						
	SA	A	N	D	SD	Ave
Q10	30	32	33	4	6	3.72
Q11	48	28	22	3	4	4.08
Q12	36	28	31	4	6	3.80
investment of effort						
	SA	A	N	D	SD	Ave
Q13	50	32	19	1	3	4.19
Q14	49	23	27	2	4	4.06

SA: strongly agree; A: agree; N: neutral; D: disagree; SD: strongly disagree

Table 6

Learners' Perceptions

learning attitudes						
	SA	A	N	D	SD	Ave
Q15	42	21	29	7	6	3.82
Q16	37	25	30	6	7	3.75
Q17	43	19	28	9	6	3.80
learning effects						
	SA	A	N	D	SD	Ave
Q18	44	26	24	7	4	3.94
Q19	46	25	27	5	2	4.03
materials and activities						
	SA	A	N	D	SD	Ave
Q20	48	23	25	6	3	4.02
Q21	46	23	28	5	3	3.96
Q22	47	26	26	4	2	4.07

These results suggest the importance of the instructor's facilitation as the combined course content is much more difficult in a CLIL than in a conventional English class. The instructor described the strengths and skills needed by CLIL language teachers in order to use a variety of activities and supplementary materials to support learners' comprehension of subject content while focusing on language (Table 9).

> *It is like a process of potential development. Some students who could not learn at first comprehended the content gradually through these different activities. This surely requires a lot of guiding from the instructor. Now we are doing high level teaching and learning. We push slowly. I thought the young kids could not do it, but in fact they did it. They might not understand from my lecture, but they learned from a variety of stimuli, such as drawing and acting. What students have learned is absolutely much more than "open the book and repeat after me."*

Although most students perceived CLIL positively, a few disagreed or strongly disagreed with the experience as shown in Tables 5 and 6. Table 7 shows that students' levels of motivation were significantly correlated with their scores on the integrated assessment ($r = .376$, $p < .01$) and the national English exam ($r = .329$, $p < .01$). Also, 13 responses to the open-ended questions indicated that some students found the approach too difficult (Table 8). These results indicate that having lower English proficiency levels substantially impacted students' motivation and learning outcomes.

Table 7

Correlation between Learners' Motivation and English Ability

		integrated content and language assessment	national English exam
student motivation	Pearson Correlation	.376**	.329**
	Sig. (2 tailed)	.000	.001
	N	101	101

4.3 Teaching and Learning Support

The instructor articulated particular characteristics a CLIL teacher needs to facilitate students' learning (11 responses as shown in Table 9), for example, willingness "to leave their comfort zone." Before requiring students to meet new challenges, CLIL teachers need to be able to design comprehensive lessons with concrete goals for helping students develop meaningful knowledge and language ability, create a variety of activities to cultivate learners' communication and collaboration skills, and conduct alternative assessments to monitor students' learning and adjust their lessons accordingly.

Table 8

Coding Scheme of Student Survey

theme	code	number of responses
positive attitude	fun	52
	group activity	16
	drawing activity	6
	game	6
	role play	3
learning benefit	learn content	52
	learn English	20
	useful in life	6
challenge	too difficult	13

Table 9

Coding Scheme for Instructor Interview

theme	code	number of responses
teaching CLIL	teaching skills	12
	CLIL teacher attributes	11
	language focus	4
benefitting learning	content learning	8
	language learning	11
supporting teaching	teachers' support needs	6
	teaching difficulty	2

Regarding teaching support, the instructor recommended "a training course, of course. As a language teacher, I need to know how to present the content." She suggested professional training in which experts provide guidance in designing CLIL lessons and

share teaching strategies as well as observe classes and give feedback. School administrators should provide time for CLIL teachers to plan and discuss lessons with each other as well as extra teaching materials or equipment when needed.

5. Discussion

Overall, the effects of language-driven CLIL on these young learners' achievements and affect were positive (García Mayo & Lázaro Ibarrola, 2015; Lázaro-Ibarrola & Azpilicueta-Martínez, 2024; Pérez Cañado, 2018a; Pladevall-Ballester's, 2019). Regardless of how challenging the CLIL lessons were, the students were not discouraged (Nikolov, 2009) but remained highly motivated after two years of CLIL. Their learning outcomes as measured with the integrated content and language assessment, though moderate, were sustained, and as a group they outperformed other Taiwanese elementary students in general English proficiency. Nevertheless, a small number of learners, particularly those with low English proficiency, were dissatisfied with the approach (Bruton, 2013).

These largely positive results accord with the theoretical framework of social constructivism (Palincsar, 1998; Vygotsky, 1978). Scaffolding was incorporated from the macro level of CLIL curriculum design to micro level of instructor-student interactions (van Lier, 2004) as well as consideration of socio-context (Lave & Wenger, 1991; Palincsar, 1998). The findings suggest that reciprocity of content and language learning was mediated by the instructor's scaffolding, demonstrating that language-driven CLIL is a contextually appropriate pedagogy for young learners in Taiwan.

5.1 Reciprocity of Content and Language Learning

The results of the integrated content and language assessment show that content learning and both communicative and academic language development can be mutually enhancing (Cummins, 1979; Meyer et al., 2015). Appropriately chosen subject matter provides a meaningful context for language learning, which in turn supports content learning. To make content knowledge comprehensible, language is selected, adapted, and repeated, which reinforces linguistic knowledge. Form expands meaning and meaning enriches form. As described by Denman et al. (2013), the basic principle of CLIL practice is that "foreign language development is facilitated in subject classes, and subject knowledge development is supported by content-based language learning strategies in language classes" (p. 287).

5.2 Comprehension Scaffolding by the CLIL Teacher

To effectively integrate content and language learning, the language teacher drew on a broad repertoire of language teaching techniques, activities, and multi-modal materials as well as familiarity with the CLIL approach. Meaningful lessons and interesting activities allowed young learners to enjoy learning regardless of the difficulty of the content. To scaffold students' learning (Lantolf, 1994; Palincsar, 1998; Vygotsky, 1978) and integrate content and language (de Graaff et al., 2007; Mahan, 2020; Morton, 2018), CLIL teachers need to be equipped with pedagogical content knowledge for subjects they teach to provide effective interactive activities to engage students and boost comprehension

(Zheng et al., 2023). As de Graaff et al. (2007) pointed out, effective CLIL teachers facilitate students' exposure to input, meaning-focussed processing, form-focussed processing, output production, and the development of compensation strategies. Expanding on Shulman's (1987) concept of pedagogical content knowledge, CLIL teachers have not only general proficiency in the target language but also appropriate language (Freeman et al., 2015) to explain specialized academic terms and deliver content knowledge in English effectively (Morton, 2018).

5.3 Language-driven CLIL as Contextually Appropriate Pedagogy in Asian Contexts

Under current educational policy in Taiwan, CLIL practices are content rather than language based and implemented in subject courses, which is not as favorable for developing bilingualism in this setting as it might be in European and North American classrooms. This pedagogical approach needs to be adapted to local contexts (Cenoz, 2015; Hu & Mi, 2026; Mahan, 2020). Given concerns about content teachers' insufficient English proficiency, foreign teachers' unfamiliarity with local students' needs, the fixed curricula of subject courses, and young EFL learners' beginning English levels, this policy is currently not feasible in most elementary school contexts in Taiwan and may end up sacrificing both content and English learning. This empirical study of a skilled English teacher's implementation of language-driven CLIL suggests that currently this approach is contextually appropriate and should inform Taiwan's educational policy.

To implement CLIL in elementary school English courses in Taiwan, language teachers familiar with English teaching pedagogy and the needs of young EFL learners can flexibly adapt content and English curricula to each other, enabling young students to learn both effectively. As students progress through the grades and develop adequate levels of English proficiency, the CLIL model can gradually move toward being more content driven provided that their subject teachers also have adequate English skills.

Although the integrated content and language assessment was used for the first time in this study, the reliability and validity of its scalable items need to be measured for future application, and there was no control group for comparison, the results show that after experiencing two years of CLIL practice, these beginning EFL learners had positive attitudes toward learning English in meaningful contexts even though the process was challenging. Thus, language-driven CLIL was found to be a contextually responsive approach for elementary school EFL learners in Taiwan, which should draw the attention of education policy-makers and can inform future practices, policies, and research in similar settings.

6. Conclusion

This study illustrates the constructive impact of a language-driven Content and Language Integrated Learning (CLIL) approach in a Taiwanese elementary school. Its findings provide evidence that embedding subject knowledge instruction into English courses for young learners not only enhances their language learning and content understanding but also significantly boost in their motivation, thus presenting a compelling case for broad implementation of CLIL methodologies. As evidenced by the positive student and teacher

feedback found in this study, language-driven CLIL can foster an enriching learning environment, in which language and subject learning are blended in a manner that resonates with young EFL learners. By being tailored to the context of Taiwanese elementary education, this approach offers a promising pathway towards bilingual proficiency and academic achievement, meriting further exploration and adaptation in similar educational settings.

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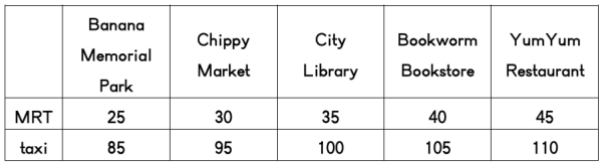
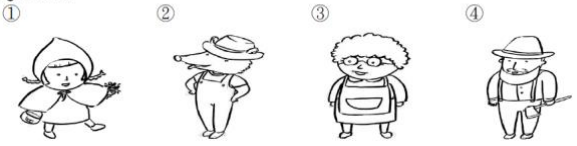
Appendix I

Example questions of the govermental exam

Listening comprehension	Example questions
sounds	① core ② call ③ cool ④ cold
words	This is my _____. Her name is Lisa. ①father ② brother ③ grandpa ④ friend
classroom and life English (sentence comprehension)	
classroom and life English (sentence response)	 ① It's one hundred dollars. ② It's one hundred and ten dollars. ③ It's thirty-five dollars. ④ It's forty-five dollars.
culture and holiday English	

Reading comprehension	Example questions
words	. grandma 
sentences	. The dumplings smell good and taste delicious. 

pictures and tables

Lisa and her friends are talking about the movies that they would like to watch next week. This is the timetable.

Time/ Day	Mon.	Tue.	Wed.	Thur.	Fri.
Super J	10:45	9:30	11:15	12:00	8:20
Tiger King	9:40	10:30	11:00	12:30	9:10
Finding Bemo	8:15	9:25	10:15	7:50	11:55

31. Where are Lisa and her friends going?
① The library.
② The park.
③ The school
④ The movie theater

32. They would like to go on Friday around eight to nine o'clock, which movie can they watch?
① Super J
② Tiger King
③ Finding Bemo
④ They can't watch any movies.

culture and holidays

Today is Mother's day. Robin wants to give his mom a gift. He has saved his allowances for months. So he has NT$ 700. He buys a card. It's NT$ 50. Now, he is in the gift shop, and this is the price list:

Happy Mother's Day!


Flowers NT$550


Sunglasses NT$400


Mittens NT$ 200


Watch NT$ 250


Hat NT$ 450


Bag NT$ 350

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