Implementing Content and Language Integrated Learning (CLIL) in a Secondary English Classroom in Thailand: An Investigation of Communication and Cognitive Skills

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Abstract

This study investigated the development of communication and cognitive skills through the implementation of Content and Language Integrated Learning (CLIL) in secondary English classrooms in Thailand. Previous research had rarely examined how CLIL enhances both communicative competence and higher-order thinking in the Thai EFL context, creating a need for empirical evidence in this area. The objectives were to explore the effectiveness of CLIL instruction in improving students' English communication skills and cognitive abilities. The participants were 34 lower secondary students from a public school in Rayong Province. The study employed a qualitative method design, using classroom video observations and teacher reflection. The findings from classroom observations indicated that students participating in CLIL lessons demonstrated noticeable improvement in oral communication and critical thinking, as reflected in their increased participation, ability to express ideas, and use of English in meaningful contexts, compared with more teacher-centered instructional practices. They also reported higher engagement, motivation, and confidence in using English for content learning. The new findings indicated that integrating subject content with English language learning encouraged authentic communication, problem-solving, and reflective thinking, suggesting that CLIL can effectively promote both communication and cognitive development in the Thai EFL context.

Keywords: CLIL approach, secondary student, CLIL activities, communication skill, cognitive skill

Introduction

English is a global language used in various fields, including education, health, economics, and communication and information technology. However, there was no single teaching approach that fitted every learner in the English as a foreign language (EFL) context. In Thailand, where English is a primary foreign language, various methods have been used to improve students' English proficiency. Yet, an unsupportive learning environment and limited opportunities to use English outside the

classroom continued to hinder success. According to the Education First (EF) English EF Education First. (2025), Thailand ranked 116th out of 123 non-native English-speaking countries, categorized as very low proficiency. Despite national efforts by the Ministry of Education, Thai students still demonstrated limited English skills, especially among freshmen at the tertiary level.

Effective communication skills were essential for both academic and professional success, as they involved conveying information through verbal, written, visual, and non-verbal means. Thai English teachers were therefore encouraged to adopt teaching approaches that fostered both communication and cognitive engagement. Namsaeng (2022) However, while English classrooms typically emphasized communication skills, cognitive skills- such as reasoning, attention, and problem-solving- were often overlooked. Strengthening these abilities was vital for comprehensive language development and lifelong learning.

To address this issue, the Content and Language Integrated Learning (CLIL) approach was recognized as an effective method that integrated subject content with English language learning. By applying CLIL in secondary English classrooms, teachers could promote students' communicative competence while simultaneously developing their cognitive skills through authentic and meaningful communication.

Literature Review
CLIL Implementation

Content and Language Integrated Learning (CLIL) was an educational approach that combined the learning of subject content with the acquisition of a foreign language. It aimed to enable learners to use the target language as a medium for learning, rather than merely as an object of study. CLIL was grounded in the 4Cs framework proposed by Coyle (2007), consisting of Content, Communication, Cognition, and Culture/Community. This study adopted Coyle's (2007) 4Cs framework-Content, Communication, Cognition, and Culture/Community-as a guiding structure for designing and implementing the CLIL classroom activities. The framework was operationalized through lesson planning rather than used solely as a theoretical reference. Each activity integrated subject-related content with meaningful language use while engaging students in cognitive processes such as observation, comparison, analysis, and evaluation. Cultural and social dimensions were addressed through interaction-based tasks, including discussions, peer feedback, and debates, which required learners to negotiate meaning within a shared classroom context. The eight activities were sequenced from guided language practice to more autonomous and cognitively demanding tasks, ensuring that communication and cognition developed concurrently in alignment with the adapted 4Cs framework. Through CLIL, students were encouraged to develop communication skills while engaging in cognitive processes such as reasoning, problem-solving, and reflection. This approach promoted active learning, authentic communication, and a deeper understanding of both subject matter and language use.

Previous studies implemented CLIL in diverse educational contexts and examined its effects on both language proficiency and cognitive development. A study published in Campillo-Ferrer, Miralles-Martínez Sánchez-Ibáñez (2020). *CLIL teachers' views on cognitive development in primary education*. *Palgrave Communications, 6*(1), Article 97 explored the implementation of CLIL in Spain, where

the approach had been widely adopted over decade. The research analyzed how science and social science teachers promoted cognitive skills in primary classrooms. Using a mixed-methods design, the study found that CLIL lessons often emphasized lower-order thinking skills, which limited the development of higher-order cognitive abilities and creativity. Factors such as teaching experience and professional roles influenced teachers' ability to promote advanced cognitive engagement. Similarly, Chaiyasuk (2023) examined the use of CLIL in Japanese primary schools, where English had recently been introduced as a foreign language. The study, based on Coyle's 4 Cs framework, compared a CLIL class of 35 students with a non-CLIL class of 36 students. Data were collected through classroom observations, student questionnaires, and teacher interviews. The results demonstrated that CLIL lessons enhanced students' motivation, communicative competence, and cognitive participation compared to traditional EFL instruction.

Conceptual Framework

The main framework in this study was the 4Cs Framework, which provided four core principles-content, communication, cognition, and culture-as a foundation for designing and implementing CLIL-based instruction. In this research, the framework was adapted to include contextual considerations, acknowledging the importance of learners' educational setting, classroom environment, and sociocultural background in shaping learning outcomes. Therefore, rather than strictly applying the original 4Cs model, this study employed an adapted 4Cs framework in which *context* functioned as a supporting dimension that informed the integration of content and language learning. This adapted framework emphasized the development of cognitive skills, meaningful language use, creative learning processes, and social interaction within an authentic classroom context, allowing the CLIL approach to be implemented in a way that was responsive to the specific characteristics of the Thai secondary EFL classroom.

Figure 1

Coyle's (2005) '4Cs Framework
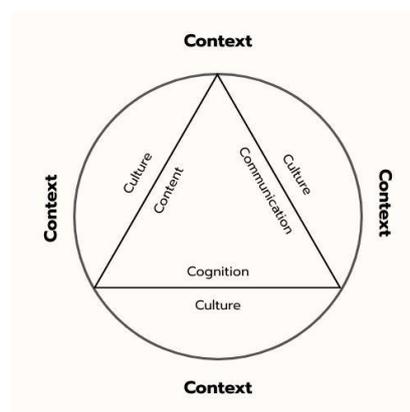
In this study, the CLIL framework was applied with a primary focus on communication and cognition, which aligned directly with the research objectives. Communication was conceptualized as both interpersonal and intrapersonal interaction, where learners engaged in meaningful language use through scaffolding, negotiation of meaning, and active classroom interaction. These communicative processes supported

students' ability to express ideas, respond to peers, and reflect on language use in context. Cognition was emphasized through learning tasks that promoted both lower- and higher-order thinking skills, including understanding, analyzing, evaluating, and creating, in accordance with the revised Bloom's taxonomy (Krathwohl, 2002). Students were required to process content cognitively by observing patterns, making comparisons, and constructing meaning, thereby using language as a tool for thinking rather than as an isolated subject. Although content, culture, and context informed the overall instructional design, the present study primarily examined how the integration of communication and cognition within CLIL activities supported students' language use and cognitive engagement in the classroom.

The Present Study
Context and Participants

The study was conducted at a secondary school in Rayong Province, Thailand, focusing on the implementation of the Content and Language Integrated Learning (CLIL) approach in English teaching. Traditionally, English instruction at the school had emphasized grammar and rote learning, often neglecting opportunities for students to use English in practical, communicative contexts. This research aimed to shift the focus from theoretical knowledge toward practical, context-based learning, enabling students to apply English meaningfully in real-life situations.

The participants consisted of 34 students from one secondary English classroom. The CLIL approach was implemented in the Fundamental English subject, with lessons designed to enhance both communication and cognitive skills. The content was not restricted to a specific topic; instead, it integrated themes that connected to students' everyday experiences and global issues. In this study, "content" was defined as meaningful thematic contexts rather than discipline-specific subject matter. Although many activities focused on grammar, these language structures were embedded within themes related to students' experiences to provide a communicative and conceptual purpose. Grammar was therefore treated as a tool for meaning-making within content-based contexts, reflecting a context-adapted implementation of CLIL.

By incorporating real-world and cross-curricular content, the lessons encouraged students to develop a deeper understanding of English as a medium of communication. This approach allowed students to engage in meaningful learning through authentic topics such as current events, social issues, and practical life situations, fostering both communication proficiency and higher-order thinking skills.

This context reflected the common challenges of English language teaching in Thai secondary schools, where learners often demonstrated limited communicative competence despite years of study. The implementation of CLIL in this setting demonstrated observable patterns of student engagement, language use, and cognitive processes during classroom activities. The findings of this study provide descriptive insights into how CLIL was enacted in a secondary EFL classroom and how students responded to the instructional tasks within this specific context.

CLIL Lesson Plans

The CLIL activities were divided into four sessions and were carefully designed based on Coyle's (2005) 4Cs framework-Content, Communication, Cognition, and Culture-to be implemented within a regular English classroom. Each

session integrated meaningful content that encouraged both language and cognitive development through real-world themes. The four main topics and eight sub-activities (8 periods of teaching) included: (1) Problems Around the House-with activities such as talking about common household problems and writing short paragraphs about them; (2) Our Planet, Our Home (The Environment)-which involved reporting and summarizing facts about environmental issues; (3) We Love Sport-featuring a debate on alternative choices and creating short presentations using gerunds and infinitives; and (4) Healthy Food-which included a debate on alternative choices and a reflective discussion on common mistakes with peer and teacher feedback.

Moreover, the data collection and analysis procedures were consistent with established qualitative research practices applied throughout the study. Researcher reflection notes were systematically recorded immediately after each CLIL activity, with a specific focus on students' communicative performance and cognitive engagement. Classroom video recordings were transcribed to capture authentic language use and interaction patterns. To ensure trustworthiness, data triangulation was employed by cross-examining reflection notes, classroom observations, and video transcripts, and all coding decisions were aligned with the research objectives to enhance credibility and analytical rigor. Through this process, the researcher gained in-depth insights into the effects of each activity, students' engagement, and the instructional methods that effectively supported the implementation of CLIL within the school's English curriculum.

Activity 1: Talking about Problems around the House

In this activity, students worked in six mixed-ability groups to discuss common household problems. They shared ideas for addressing issues such as broken items and proposed solutions like repairing, replacing, or claiming the items. The activity integrated content and language by introducing the passive voice, with students practicing sentence transformation using visual prompts related to household tasks. Group collaboration allowed them to exchange ideas and apply grammatical structures in a meaningful context.

Activity 2: Writing a Short Paragraph about Household Problems

In the second activity, students continued working in mixed-ability groups and engaged in tasks that combined language form with personal experience. The lesson began with a warm-up discussion about household technologies, which helped activate prior knowledge and vocabulary. Students then analyzed example sentences to identify tense and voice before rewriting them in passive form. Finally, they wrote short paragraphs describing household problems using passive constructions. This task encouraged them to integrate grammar knowledge into real-life contexts, resulting in meaningful written communication.

Activity 3: Reporting Facts about the Environment

In the third activity, students worked in six mixed-ability groups to explore environmental issues while practicing direct and reported speech. The lesson began with a brainstorming session on the importance of protecting the environment, followed by a grammar focus on how direct speech is transformed into reported speech. Students analyzed sentence pairs, discussed grammatical changes, and collaboratively practiced

rewriting examples. For the main task, each group selected a short environmental news article, identified quotations, and rewrote them into reported speech before presenting their summaries to the class. This integration of grammar and real-world content encouraged both language application and awareness of environmental topics.

Activity 4: Summarizing of What a Speaker Has Said

In the fourth activity, students worked in six mixed-ability groups to practice reported speech through communicative and interactive tasks. The lesson began with a class discussion on ways to protect the environment, during which students shared ideas such as planting trees, reducing plastic use, and saving electricity. This initial exchange activated students' background knowledge and provided a meaningful context for language learning. The teacher then introduced the grammar focus-reported speech-and demonstrated how to convert direct speech into reported speech. Students practiced this concept through role-play activities, creating dialogues related to environmental topics. In pairs, one student spoke using direct speech while the other summarized it in reported form. Each pair performed their dialogues for the class, allowing students to apply grammar in real communication and receive feedback from both peers and the teacher.

Activity 5: Debating on Alternative Choices

In the fifth activity, students worked in six mixed-ability groups to explore the use of gerunds and infinitives through communicative, interactive, and reflective tasks. The lesson began with a warm-up discussion on students' favorite sports, where they shared personal preferences and reasons such as "I like volleyball" or "I want to be a volleyball player." This discussion helped connect language use with students' real-life interests and experiences. The teacher then introduced the grammar focus-gerunds and infinitives-through an inductive approach. Students analyzed example sentences from their responses, identifying patterns before the teacher explicitly clarified the rules.

To enhance interaction and practical language use, students engaged in a "Find Someone Who…" speaking activity, asking and answering questions that naturally incorporated gerunds and infinitives (e.g., "Do you like playing volleyball?" "Do you want to go swimming?"). This encouraged spontaneous English use and helped build communicative confidence. Selected pairs then performed short dialogues in front of the class, while peers identified the target grammatical structures used. Finally, groups collaborated to create and revise their own sentences, presenting them to the class and receiving feedback from both peers and the teacher.

Activity 6: Create a Short Presentation Using Gerunds and Infinitives

In the sixth activity, students were divided into six mixed-ability groups to promote peer interaction and collaborative learning. The lesson began with a review of gerunds and infinitives through a class discussion about favorite sports and hobbies, allowing students to use target grammar naturally while sharing personal interests. The teacher then reinforced grammatical understanding with example sentences such as "enjoy playing football" and "want to learn English," supported by visual aids and contextual examples.

Following the grammar review, each group was assigned a sport or famous athlete to research and create a short written and oral presentation. Students were required to incorporate gerunds and infinitives in describing their chosen subject's activities and achievements. They worked together to draft, revise, and present their work, using teacher and peer feedback to refine their grammar and organization. Presentations were followed by a peer review session, where students evaluated one another's grammar accuracy, clarity, and structure under teacher guidance.

Activity 7: Debating on Alternative Choices

In this final activity, students were divided into six mixed-ability groups to promote collaboration and inclusive participation. The lesson began with a brainstorming session on the question "What makes food healthy?" where students shared examples of nutritious foods, connecting English learning with real-life and cultural experiences. The main task was a classroom debate on the topic "Eating organic food is healthier than consuming processed food." Before preparing their arguments, students reviewed key vocabulary and received explicit instruction on comparative and superlative structures (e.g., healthier, more nutritious, the most harmful) to support their persuasive language use.

Each group read assigned materials outlining both sides of the argument, discussed ideas, and collaboratively wrote debate points using the target grammar forms. During the debate, groups presented their positions, listened to counterarguments, and responded using evidence-based reasoning and respectful communication. The teacher guided the process, ensuring accuracy, fluency, and equal participation.

Activity 8: Reflecting on the Debate and Discuss Common Mistakes

This final reflective activity followed the previous debate on healthy food choices and aimed to consolidate both linguistic and cognitive learning outcomes. The lesson began with a whole-class discussion in which students reflected on the debate, shared which arguments they found most persuasive, and considered whether their opinions had changed. This opening encouraged metacognitive engagement and critical reflection on content and communication.

Next, the teacher led a review of students' use of comparative and superlative structures, highlighting common grammatical mistakes and guiding students to analyze the causes of their errors. After this discussion, students worked in mixed-ability groups to collaboratively write short reflective essays. These essays integrated grammar practice with personal reflection by requiring students to use target structures while expressing their opinions about healthy eating and the debate experience. During the process, students exchanged feedback, discussed grammar choices, and revised their writing with teacher support to ensure accuracy and coherence. Some groups later presented their essays to the class, receiving constructive feedback from peers.

Research Instruments

Two primary research instruments were employed in this study to collect data and evaluate the outcomes in accordance with the research objectives: lesson plans and researcher reflection. Both instruments were specifically designed to explore how CLIL (Content and Language Integrated Learning) could enhance students' communication and cognitive skills in a secondary English classroom.

The lesson plans were structured to promote students' active use of English through interactive tasks, collaborative discussions, and problem-solving activities. Each lesson aimed to create authentic communication contexts, encouraging students to express opinions, negotiate meaning, and share ideas with peers. This focus on communication skills enabled students to build confidence in using English for both interpersonal and academic purposes.

In addition, the lessons were intentionally designed to stimulate cognitive skill development by engaging students in tasks that required reasoning, analysis, synthesis, and evaluation. Activities encouraged learners to apply knowledge to real-world situations, think critically about content, and make informed decisions through classroom discussions and reflective writing.

The researcher reflection served as a qualitative tool to observe and document students' language use, engagement, and cognitive processing during lessons. Through reflective notes and video analysis, the researcher examined how students interacted, solved problems, and demonstrated understanding. This allowed for a deeper exploration of how communication and cognitive development emerged through CLIL implementation.

Together, these instruments provided a comprehensive framework for assessing both the linguistic and intellectual dimensions of learning, ensuring that the integration of content and language led to measurable improvement in students' communication and cognitive competencies.

Researcher Reflection

This research instrument was the researcher reflections on the class interaction during the teaching process. The researcher immediately took notes after each activity to observe students' participation in class, the classroom environment during each CLIL activity, and how students responded to the provided activities. The researcher's reflections focused on aspects of greater interest to gather more in-depth data on the effects of each activity and teaching style in implementing CLIL within the lessons of the curriculum in the secondary English classroom.

Data collection

The data collection process was based on the school's English syllabus during the second semester of the 2023 academic year. The researcher analyzed the existing syllabus to identify topics, grammar points, and learning objectives suitable for integrating CLIL principles into regular English lessons. The selected content areas included Problems around the House, Our Planet, Our Home, We Love Sports, and Healthy Food, which aligned with the syllabus themes while allowing opportunities to develop students' communication and cognitive skills.

To ensure consistency with curricular goals, the researcher designed 8 CLIL-based activities aligned with the 4Cs framework (Coyle, 2005). These activities were integrated into the regular syllabus schedule, allowing the study to unfold naturally within the existing classroom context.

The data collection focused on observing how the CLIL lessons influenced students' communication and cognitive development. Qualitative data were gathered through classroom observation videos and the researcher's reflections after each session. The reflections included descriptive notes on class interactions, student engagement, language use, and cognitive processes during the lessons. This combination of syllabus-based activity design and classroom observation provided authentic insights into how CLIL could be effectively implemented in a regular English curriculum.

Data Analysis

The qualitative data obtained from classroom observations and video recordings were transcribed and analyzed using a thematic coding approach based on the grounded theory method, following Lichtman's (2013) "three Cs" model: Coding, Categorizing, and Concepts. In the coding stage, the researcher carefully examined observation notes and transcripts to identify key excerpts related to the study's objectives, assigning initial codes such as "student engagement," "teacher scaffolding," and "peer interaction." In this study, student engagement, teacher scaffolding, and peer interaction were treated as supportive learning conditions rather than independent analytical constructs. By minimizing teacher-centered instruction, students were encouraged to actively use language and cognitive skills through self-directed and interactive tasks. This learner-centered approach allowed students to practice communication and thinking more confidently, thereby contributing to the development of their communicative (or linguistic) competence and cognitive skills through authentic use rather than direct instruction. During the categorizing stage, these codes were organized into broader thematic groups, including "student involvement" and "instructional scaffolding," which represented significant aspects of classroom dynamics. Finally, in the concepts stage, these categories were synthesized into higher-level conceptual themes that illustrated relationships between communication and cognitive development-for instance, the emergence of "improved communicative performance through structured support." Through this systematic process, the researcher identified meaningful patterns that revealed how CLIL-based instruction enhanced students' communication abilities and cognitive engagement in the EFL classroom.

Ethical Considerations

The researcher was concerned about the ethics of a study, so consent forms were sent to the school's director for data collection. Participants were informed about the study's aims, process, and time duration, their right to end participation there is no penalty, and no confidentiality.

Result
Promoting Communication through CLIL

The CLIL approach implemented in this study effectively promoted students' communication skills through a sequence of structured, scaffolded, and progressively challenging activities that integrated content learning with meaningful language use. From the outset, students were engaged in authentic, interactive tasks designed to foster oral fluency, confidence, and contextual language production. During the first phase (Activities $1-2$), personal storytelling, pair discussions, and sentence construction exercises allowed students to express personal experiences and ideas related to lesson topics while practicing appropriate vocabulary and grammar in context. These tasks encouraged active participation, reduced communication anxiety, and strengthened fluency through continuous teacher scaffolding that gradually diminished as learners became more independent.

As students advanced to Activities 3 and 4, communication tasks grew more cognitively and linguistically demanding, requiring them to comprehend, reformulate, and present ideas through question-and-answer sessions and reported speech practice. These exercises supported not only grammatical accuracy but also interactive use of English, as students learned to respond meaningfully rather than relying on memorized structures. The combination of speaking and writing activities during this stage enhanced coherence and accuracy across multiple communication modes.

In the subsequent phase (Activities $5-6$), communication was further developed through cooperative sentence analysis, essay writing, and oral presentations, during which students exchanged feedback, constructed well-organized written pieces, and articulated their thoughts orally. Such activities helped bridge the gap between language form and communicative function, encouraging learners to transfer grammatical knowledge into fluent, purposeful use while fostering social interaction, teamwork, and discourse organization skills.

The most substantial communicative growth was evident in Activity 7, where students participated in structured debates that required spontaneous language production, logical reasoning, and persuasive discourse using comparative and superlative forms. Debating enhances students' interactional competence by promoting active listening, turn-taking, expression of agreement and disagreement, and use of academic discourse markers-features that reflect higher communicative proficiency. Finally, Activity 8 focused on reflection and essay writing, enabling students to engage in metacommunication by analyzing how and why they used specific language structures in particular contexts. Peer feedback and reflective discussion promoted self-awareness, enabling learners to monitor, evaluate, and refine their communication strategies. Overall, communication was promoted in a developmental continuum that moved from guided, structured interaction to autonomous and authentic expression, illustrating CLIL's potential to balance accuracy and fluency while cultivating confidence, critical engagement, and communicative competence necessary for real-world English use.

Fostering Cognition through CLIL

The CLIL activities implemented in this study effectively fostered students' cognitive development by integrating content-based learning with tasks that engaged higher-order thinking skills throughout the learning process. In the initial activities (Activities 1-2) , students were introduced to basic cognitive processes through observation, comparison, and sentence construction, which required them to analyze language structures and relate them to visual or contextual cues, forming a foundation for more complex thinking.

As the lessons progressed to Activities 3 and 4 , students engaged in exercises such as question-and-answer sessions and the transformation of direct speech into reported speech, which required comprehension, analysis, synthesis, and adaptation of information-key indicators of developing higher-order cognitive skills. These tasks encouraged learners to identify patterns, apply grammatical rules in meaningful contexts, and make logical connections between prior knowledge and new content.

During Activities 5 and 6 , students further advanced their cognitive skills by constructing sentences, writing short essays, and preparing oral presentations. These tasks required them to organize ideas coherently, evaluate grammatical choices, and apply rules strategically, reinforcing reasoning, problem-solving, and logical structuring of language.

The most significant cognitive engagement occurred in Activity 7 , where structured debates challenged students to evaluate arguments critically, synthesize information from readings, construct evidence-based points, and defend their positions using comparative and superlative forms. This activity exemplified the integration of analytical thinking, reasoning, and decision-making with meaningful language use, fostering metacognitive awareness and autonomous problem-solving.

Finally, Activity 8 emphasized reflective thinking, as students wrote essays evaluating their debate performance, analyzed grammatical mistakes, and discussed strategies for improvement. Peer feedback and self-assessment reinforced students' ability to reflect critically on their cognitive processes, recognize patterns of errors, and develop strategies for self-regulation. Overall, the CLIL approach promoted cognition by progressively guiding learners from basic analysis and comprehension to complex evaluation, synthesis, and reflection, demonstrating that content-based, structured tasks can effectively stimulate critical thinking, problem-solving, and metacognitive development while supporting the simultaneous growth of language skills.

The findings derived from the analysis of the eight CLIL activities revealed substantial improvement in both communication and cognitive skills among secondary EFL students. Throughout the learning process, students gradually strengthened their ability to use English for diverse communicative purposes, including expressing opinions, participating in discussions, delivering presentations, and providing constructive peer feedback. This progression reflected a marked enhancement in both oral and written communication proficiency. Concurrently, cognitive development was evident as students applied grammatical knowledge in meaningful contexts, synthesized information, critically evaluated language use, and engaged in problem-solving tasks that demanded higher-order thinking. Activities emphasizing collaboration, debate, and presentation produced the most notable growth, as they required students to negotiate meaning, construct logical arguments, and self-regulate

their language use. Although challenges such as differing proficiency levels, language anxiety, and occasional dependence on the first language were observed, continuous teacher scaffolding and peer collaboration effectively supported ongoing progress. Overall, the results indicate that the CLIL approach successfully fosters the interconnected development of linguistic communication and cognitive processing, empowering learners to apply their English skills with greater confidence, accuracy, and critical awareness in authentic learning situations. These outcomes align with the study's objectives to enhance both communication and cognitive skills through the implementation of CLIL in the secondary English classroom.

Throughout the eight CLIL-based activities, students demonstrated progressive development in both communication and cognitive skills. In the initial stages, Activities 1 and 2 focused on building students' foundational communication abilities through personal storytelling, discussion, and sentence construction. These activities encouraged learners to form contextually appropriate sentences, boosting their confidence in oral expression while simultaneously fostering basic cognitive skills through observation and comparison of sentence structures. As the lessons progressed, Activities 3 and 4 strengthened the connection between students' prior knowledge and new lesson content. Students engaged in question-and-answer sessions, sentence transformation, and reported speech exercises that required comprehension, synthesis, and adaptation-key indicators of developing higher-order thinking.

Collaborative learning became central in Activities 5 and 6, where students analyzed sentence structures in pairs or groups, composed short essays, and presented their work orally. These activities enhanced both linguistic accuracy and fluency, promoting teamwork, logical organization of ideas, and the application of grammatical knowledge in meaningful communication. The most significant development was evident in Activity 7, where structured debates required students to employ comparative and superlative forms effectively while expressing and defending opinions. This activity fostered advanced cognitive processes such as evaluation, reasoning, and critical thinking, and represented the highest level of integration between communication and cognition. Finally, Activity 8 encouraged reflection and consolidation through essay writing and peer feedback, helping students internalize grammatical forms, articulate ideas clearly, and enhance metacognitive awareness.

In summary, the sequence of activities gradually guided students from basic language practice toward complex, authentic communication requiring analytical and reflective thinking. Among all activities, the debate in Activity 7 stood out as the most impactful, serving as a culmination of the learning process where students demonstrated comprehensive growth in both communication and cognitive domains.

Discussions

The findings of this study were consistent with previous CLIL research conducted in Thai secondary education, particularly in its effectiveness in enhancing both communication and cognitive skills. The activities implemented-such as group discussions, debates, and group work encouraged active student participation and improved their English communication abilities, aligning with earlier studies by Suwannoppharat and Chinokul (2015) and Srisawat (2023). Students demonstrated progress in higher-order thinking skills, including analyzing, evaluating, and synthesizing information, which reflected the cognitive processes outlined in Bloom's

taxonomy and Coyle's 4Cs framework. Activity 7, which focused on structured debates, was particularly effective in promoting both communicative confidence and cognitive complexity in the classroom. During the debates, students were required to express their opinions clearly, respond to counterarguments, and use comparative and superlative forms accurately, which strengthened their oral communication and fluency in authentic contexts. At the same time, they engaged in higher-order thinking processes such as analyzing different viewpoints, evaluating evidence, and constructing logical arguments. The debate format encouraged students to plan, synthesize information, and justify their ideas, integrating language use with critical thinking. Although this study primarily relied on face-to-face instruction rather than technology-enhanced approaches, the debate activity provided valuable opportunities for learners to simultaneously develop grammatical accuracy, strategic language use, and cognitive skills, illustrating a dynamic balance between communication and cognition in authentic learning situations. Although this study relied primarily on face-to-face instruction rather than technology-enhanced approaches, it contributed important insights into balancing grammatical accuracy and communicative fluency in authentic learning contexts. Overall, the findings supported the pedagogical value of CLIL in Thai EFL classrooms and highlighted both its effectiveness and the contextual challenges involved.

The findings implied that integrating Content and Language Integrated Learning (CLIL) in secondary English classrooms offered substantial benefits for learners, particularly in enhancing communication and cognition simultaneously. Consistent with previous CLIL research (e.g., Suwannoppharat & Chinokul, 2015; Tachaiyaphum & Sukying, 2021), the CLIL lessons in this study created interactive learning environments where students expressed opinions, negotiated meaning, and applied grammatical knowledge in authentic contexts. In alignment with Coyle's 4Cs framework, the activities addressed Communication and Cognition by requiring students to analyze, compare, and synthesize content through English. The inclusion of reflective writing and peer feedback further encouraged metacognitive development, echoing Bloom's taxonomy of higher-order thinking. These implications suggested that CLIL could help students build critical thinking, problem-solving, and reasoning skills essential for 21st-century learning. Activities such as debates and presentations-particularly the structured debate in Activity 7-were shown to be especially effective in stimulating cognitive and communicative growth. While CLIL proved valuable, the study also indicated a need for enhanced teacher training and context-tailored instructional resources to strengthen future implementation.

This study concluded that CLIL was a beneficial pedagogical approach for promoting the dual development of language proficiency and cognitive growth among Thai EFL learners. By integrating content-based tasks with language learning, students improved their communicative competence while developing critical thinking, reasoning, and problem-solving abilities. The results aligned with prior research (e.g., Chaiyasuk, 2023; Srisawat, 2023), reinforcing the idea that CLIL fosters a dynamic interaction between content learning and language development. Activity 7 emerged as the most effective task, as it required students to engage in analytical reasoning and confident communication through structured debates.

Recommendations

However, the study also presented several limitations. The small sample of Grade 10 students restricted the generalizability of the findings, and variations in students' proficiency levels and prior knowledge influenced the learning outcomes. Methodologically, the study relied on only two data sources-teacher reflection and classroom video recordings-and the researcher also served as the classroom teacher, which may have introduced subjective bias. Time constraints and reliance solely on face-to-face instruction further posed challenges in fully achieving all instructional goals. Although this study did not include a technology component, future research could explore technology-enhanced CLIL models, drawing on prior studies such as Wongthong (2025), to expand opportunities for interaction and engagement. Despite these limitations, the findings suggested that when content and language were meaningfully connected, CLIL classrooms provided a supportive environment where students could develop English language skills while engaging in cognitive processes, preparing them for ongoing communication and critical thinking in broader contexts.

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