

**The Effect of Contextualized Content and Language Integrated Learning (CLIL): A Case Study of English for EEC in Grade Ninth Classroom**

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**Research Grant for the Fiscal Year 2022**

## **Abstract**

This study examines the effects of implementing Content and Language Integrated Learning (CLIL) in English language classrooms for Grade 3 secondary school students. The study aims to investigate how CLIL impacts students' English language proficiency and procedural knowledge. The study involves eight sessions that focus on logistics-related content and language instruction. Data from these sessions reveal that CLIL approaches positively impact students' language proficiency by allowing them to practice and apply English language skills in real-life situations. The sessions' interactive activities and scaffolding techniques promote students' vocabulary acquisition, problem-solving abilities, and critical thinking skills. Some sessions presented challenges that required additional support, which the teacher provided through targeted guidance and modeling. Implementing CLIL principles enhances students' procedural knowledge by encouraging innovative and effective teaching practices.

Keywords: CLIL in Thailand, English for EEC, Low language proficiency, logistics

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# Chapter 1

## Introduction

### Background and Statement of the Problem

Thailand recognizes the importance of adapting to economic, social, and global changes to stay competitive and foster sustainable development. As part of its response, the country has emphasized on enhancing English language proficiency among its students, particularly those in the Eastern Economic Corridor (EEC) region. The EEC is a strategic economic zone established by the Thai government to accelerate economic growth and attract foreign investment. It encompasses three provinces in the eastern part of the country: Chonburi, Rayong, and Chachoengsao. The EEC promotes innovation, technology, and high-value industries, positioning Thailand as a hub for advanced manufacturing, services, and the digital economy (Office of the Vocational Education Commission, 2017).

Thai students must possess strong English language skills to support the development of the EEC and cater to the demands of industries operating within the zone. English proficiency is a critical asset in facilitating communication, collaboration, and knowledge transfer in multinational corporations and international business settings (EECO, 2021). The target industries identified in the investment attraction measures include the First S-curve industries, which refer to the existing sectors with high potential for growth and competitiveness, such as automotive, electronics, petrochemicals, tourism, and agriculture. These industries have a well-established foundation and are expected to continue driving economic growth (EECO, 2021).

Additionally, Thailand is also looking to develop the New S-curve industries, which represent emerging and innovative sectors that have the potential to become future engines of economic growth. These industries encompass areas like digital technology, robotics, aerospace, medical and healthcare services, biotechnology, and renewable energy. The focus on these industries aligns with Thailand's aspirations to transition towards a more knowledge-based and technology-driven economy (Eastern Economic Corridor Office, 2021).

Implementing English language learning policies aims to equip students with the necessary language abilities to engage with the global workforce and meet the demands of the EEC industries. These policies focus on fostering basic English language skills, specialized

vocabulary, and technical language relevant to specific industries. By doing so, Thailand aims to enhance the employability and competitiveness of its workforce (Office of the Vocational Education Commission, 2017).

The Committee for Vocational Education responds to the development of human resources in line with the directions of the 10 target industries as defined by the Ministry of Industry. One of the objectives of human resource development to support the growth of the aforementioned industries is to promote educational management for personnel development, which is considered a sustainable development of the economic structure. The focus is on elevating education to meet specific criteria, such as implementing international standards to expand opportunities for global employment and enabling students to use English language skills by ASEAN regulations (Flores & Abad, 1997). Vocational education curricula must align with desired skill sets and competencies required by employers and the development in the region. English language proficiency plays a significant role, in allowing students to comprehend technical manuals in their respective fields (Eastern Economic Corridor Office, 2018). Continuously enhancing students' English language skills is also crucial for effective communication in English within their respective professions, facilitating international competitiveness and future income growth (Eastern Economic Corridor Office, 2021).

Developing teachers' ability to integrate language into content-based instruction, known as Content and Language Integrated Learning (CLIL), is essential to enhance students' English language skills at these educational levels. Schools in the Eastern Economic Corridor (EEC) region have participated in the Basic School Development Project to support the EEC region, also known as EEC Schools. These schools are mandated to implement teaching methods, create learning environments, and offer language, science and technology, and occupation-related courses relevant to the potential industries (First S-curve) and future industries (New S-curve) of the ten target industries (Eastern Economic Corridor Policy Office, 1997). Therefore, it is crucial to develop the teaching structure.

Implementing Content and Language Integrated Learning (CLIL) acts as a catalyst for transforming language learning. Research studies support students' learning outcomes in CLIL classrooms, indicating that they possess subject-specific academic vocabulary aligned with the language of instruction and learners' out-of-class behaviors (Sylvén, 2013). Furthermore, learners in CLIL classrooms demonstrate accurate language usage, including word choice, grammar, and spelling in their written language production. A distinct language

proficiency observed in learners in CLIL classrooms, different from learners in regular classrooms, is their communicative competence, which encompasses fluency in communication and confidence in using the language (Dalton-Puffer & Nikula, 2014; Lasagabaster & Doiz, 2015; Munoa Barredo, 2011). Therefore, CLIL is a viable approach to be implemented in teaching and learning practices in subjects other than foreign language courses, catering to specific teaching principles, curricula, and learners' needs.

To support teaching and learning practices at specific educational levels, implementing CLIL and language-integrated instruction is crucial. This approach aims to enhance students' English language skills to meet the demands of identified industries, ultimately improving their communicative competence, employability, and international competitiveness. In conclusion, this is an essential step for students' future success.

### **Research Objectives:**

1. To assess the content needs, language requirements, and learner preferences to inform the implementation of English language teaching and learning in Grade 9 secondary education following the principles of Content and Language Integrated Learning (CLIL).
2. To investigate the impact of English language teaching and learning practices in CLIL classrooms on the English language proficiency of Grade 9 secondary school students.
3. To examine the effects of English language teaching and learning practices in CLIL classrooms on the Procedural knowledge of Grade 9 secondary school students.

### **Research Questions:**

1. How does implementing Content and Language Integrated Learning (CLIL) in English language classrooms of Grade 9 secondary school students impact their English language proficiency?
2. How does implementing CLIL in English language classrooms of Grade 9 secondary school students affect their Procedural knowledge?

## Contribution to knowledge

1. This research is expected to yield valuable insights into the development of content, language proficiency, curriculum alignment, contextual factors, and student requirements. These insights will inform the effective organization of English language instruction in Grade 9 secondary school classrooms, guided by the principles of Content and Language Integrated Learning (CLIL).
2. By studying the impact of CLIL-based English language instruction in Grade 9 secondary school classrooms, this research will contribute to the existing body of knowledge regarding the effects on students' English language proficiency. The findings will shed light on the effectiveness of CLIL as an instructional approach to enhancing students' language skills.
3. Furthermore, this research will provide valuable insights into the impact of CLIL-based English language instruction on students' Procedural knowledge, specifically regarding instructional strategies. It will explore how integrating content and language influences students' understanding and application of instructional techniques, thereby contributing to the pedagogical discourse in language education.
4. The practical guidelines derived from this research will serve as a valuable resource for teachers and educators seeking to enhance their English language teaching practices within the framework of CLIL. These guidelines will offer evidence-based recommendations and strategies for effectively implementing CLIL principles in classroom settings, promoting instructional efficacy and student engagement.
5. Finally, this research will contribute to the advancement of English language learning management techniques by providing specific approaches for managing language instruction in accordance with CLIL principles. By aligning with the learning context and government learning policies, these techniques will help optimize language learning outcomes and support the broader educational objectives of the state.

## Theoretical Framework

Content and Language Integrated Learning (CLIL) is an instructional approach that integrates subject content and language learning (Coyle et al., 2010; Dalton-Puffer & Nikula, 2014; Kewara, 2016; Mehisto et al., 2008). In Thai, CLIL is defined as "วิทยาการภาษาบูรณาการ" which means "Integrated Content and Language Learning." It is a teaching methodology that utilizes a foreign language as the medium of instruction. It stems from the European context,

where equal emphasis is placed on language use alongside subject learning. The foreign language used in CLIL can be the learners' or the teacher's language. The integration of content and language in CLIL places the learner at the center, and the teacher's role shifts from being a mere instructor or lecturer to a facilitator who considers the learners' needs as paramount. In CLIL classrooms, teachers aim to facilitate learners' holistic development, encompassing language proficiency and analytical thinking skills.

The main concept in organizing content and language-integrated learning (CLIL) in the classroom is the 4C framework (Coyle et al., 2010; Mehisto et al., 2008). The 4C framework represents four key dimensions that guide CLIL practice:

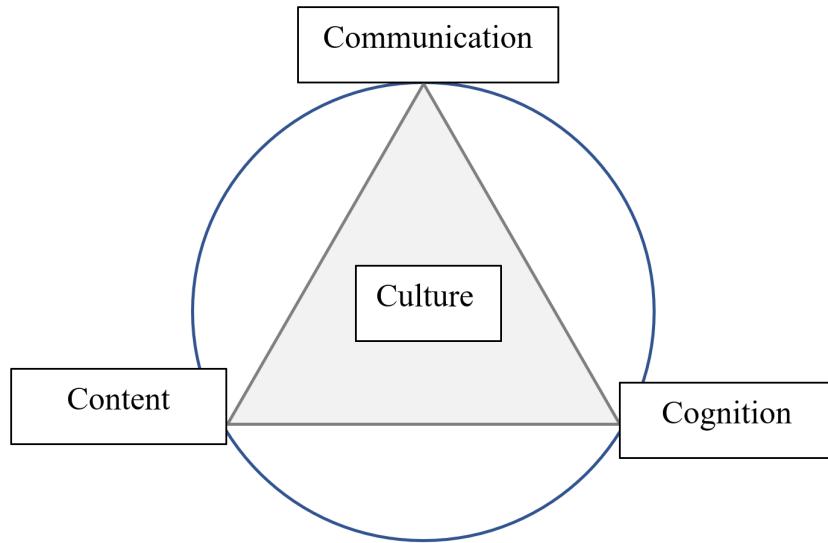


Figure 1: The 4Cs Framework (Coyle, Hood, & Marsh, 2010)

1. Content: This dimension refers to the subject-specific knowledge and skills that students are expected to acquire. It involves selecting and sequencing content that is meaningful and relevant to the curriculum objectives.
2. Communication: The communication dimension focuses on developing students' language proficiency and communicative competence in the target language. It emphasizes the integration of language learning with content learning, enabling students to use language as a tool for understanding and expressing ideas.

3. Cognition: The cognition dimension highlights the development of higher-order thinking skills, such as critical thinking, problem-solving, and analytical skills. CLIL aims to foster deep understanding and conceptual development by engaging students in intellectually challenging tasks and activities.
4. Culture: The culture dimension recognizes the importance of intercultural competence and awareness in CLIL classrooms. It involves exploring the cultural aspects of the target language and the content area, promoting an appreciation for different perspectives, and fostering global citizenship.

The 4C framework provides a comprehensive approach to CLIL instruction, ensuring the classroom integration of content, language, cognitive development, and intercultural understanding. By addressing these dimensions, CLIL promotes meaningful learning experiences and prepares students for academic success in both content and language domains.

Kewara and Prabjandee (2018) proposed a six-step activity framework for organizing Content and Language Integrated Learning (CLIL) lessons as follows:

1. Greetings: Establishing a positive learning environment through greetings and warm-up activities.
2. Review: Reviewing previous knowledge and concepts related to the topic.
3. Directions: Providing clear instructions and guidance for the learning tasks.
4. Task: Engaging students in meaningful tasks that integrate content and language learning.
5. Assessment: Assessing students' understanding and progress throughout the lesson.
6. Delivery: Concluding the lesson by delivering key concepts and providing opportunities for students to reflect and consolidate their learning.

This teaching process emphasizes student-centeredness and supports teachers in facilitating students' independent thinking. Teachers should plan and implement these six steps to allow students to develop their learning skills before introducing content. Following these six steps will assist teachers in designing effective CLIL lesson plans.

## **Scope of the study**

In this study, data were collected from Thepsirin Chonburi School (Uthok Uppatham), a small-sized government secondary school under the jurisdiction of the Office of the Secondary Education Area, Zone 18. The school is located in the Eastern Special Economic Development Zone, following the language education management policy related to the Eastern Economic Corridor, per the Chonburi Provincial Secondary Education Area guidelines. The sample group consisted of vocational education students who were inclined to pursue further studies in vocational education programs in the following academic year. These programs emphasize the CLIL approach to human resource development. The researchers identified the school as a suitable context for investigating the students' needs and implementing CLIL-based teaching and learning strategies.

## ***Population and Sample Group***

- Population: Students of Thepsirin Chonburi School (Uthok Uppatham), affiliated with the Office of the Secondary Education Area, Zone 18 (Chonburi). This refers to the school's general student population under the jurisdiction of the Chonburi Provincial Secondary Education Area.
- Sample Group: Grade 9 students of Thepsirin Chonburi School (Uthok Uppatham), affiliated with the Office of the Secondary Education Area, Zone 18 (Chonburi). This sample group consists of students in a single classroom, utilizing a heterogeneous grouping approach, with 25 students.

## ***Variables:***

- Independent Variables:
  - English language teaching and learning approaches in the classroom based on Content and Language Integrated Learning (CLIL) are designed to align with the content, language, curriculum, context, and learners' needs.
- Dependent Variables:
  - English achievement: Refers to the students' performance and proficiency in English language skills and knowledge.

- Procedural knowledge: Refers to the students' understanding and proficiency in the methods and techniques related to language learning.

## **Definitions of terms**

### *Content and Language Integrated Learning (CLIL) Approach:*

The CLIL approach is a teaching and learning method that provides students with subject content knowledge and English language proficiency. It depends on the specific instructional plans for each lesson, where both English and Thai languages are used in the classroom. The proportion of English language use in the classroom depends on the nature of the content and activities designed by the teacher. It is not limited to using English only in the classroom but is an agreement between the teacher and students on using English during instruction. The objective is to achieve the learning objectives outlined in the lesson plans regarding the students' subject content and English language skills.

### *English for Eastern Economic Corridor (EEC)*

English for EEC is a subject that educational institutions offer following the country's policy to enhance English language learning in response to the industrial growth in Thailand's Eastern Economic Corridor region. The subject's content is tailored to the teachers' readiness in each educational institution and emphasizes content that aligns with the industrial growth in the Eastern region. In this research, the term refers to fundamental logistics content taught in English for instructional purposes. The focus is on developing the procedural knowledge of the students.

### *Procedural knowledge*

Procedural knowledge refers to the ability about how to do things or the knowledge of procedures. It involves understanding the step-by-step processes involved in performing tasks or engaging in various activities. Procedural knowledge often emphasizes the sequential steps required to accomplish objectives or predetermined goals.

### *Grade 9 students*

Grade 9 students at Thepsirin Chonburi School (Uthok Uppatham), affiliated with the Office of Secondary Education Area 18 (Chonburi), enrolled in the 2565 academic year in the English language subject for the Eastern Economic Corridor (EEC).

## Chapter 2

### Literature Review

#### Content and Language Integrated Learning (CLIL)

Content and Language Integrated Learning (CLIL) is an instructional approach that aims to integrate a foreign language with subject content to foster balanced development in both language and content learning (Pavesi et al., 2001). It goes beyond using English as the sole language of instruction and encompasses a wide range of non-linguistic subjects, including mathematics, science, arts, music, and physical education (Coyle et al., 2010; Mehisto et al., 2008; Wolff, 2012). In European educational systems, CLIL is implemented across various educational levels, from primary to secondary or vocational education (Coyle et al., 2009).

When implementing CLIL, a common question arises: should teachers be content specialists or foreign language teachers? The ideal context for CLIL is when teachers can seamlessly integrate both subject content and language instruction (Deller & Price, 2007). However, content teachers often face challenges in CLIL classrooms due to their limited familiarity with CLIL teaching methods and designing activities supporting content and language learning (Pavón & Rubio, 2010). Additionally, teachers may encounter difficulties in implementing CLIL because it differs from their experiences as foreign language learners and may lack sufficient training in CLIL (Kaplan & Baldauf, 1997).

In CLIL classrooms, teachers must balance language and content instruction. While subject teachers commonly use a foreign language for instruction, it is important not to overly focus on language proficiency at the expense of content comprehension. Teachers should employ easily understandable language, avoid complex sentence structures, and provide clear examples to facilitate students' understanding of the subject matter (Marsh & Frigols, 2007; Mehisto et al., 2008). While translation can be used as a tool when necessary, it should not be relied upon as a permanent teaching method. Teachers should aim to utilize the target language as much as possible to prioritize students' comprehension and ensure meaningful learning experiences (Marsh & Frigols, 2007; Mehisto et al., 2008).

Furthermore, teachers should consider students' language and content proficiency levels when designing activities that align with language accuracy. Grammar instruction can

be a collaborative effort between subject teachers and language teachers to support the integration of language learning with subject content, allowing students to develop both their language and content competencies effectively (Marsh & Frigols, 2007; Mehisto et al., 2008).

Research studies have shown the advantages of CLIL in European curriculum frameworks, indicating that CLIL subjects often yield higher learning outcomes compared to regular monolingual language learning curricula (Coyle et al., 2009). Moreover, CLIL supports the development of both the mother tongue and foreign language proficiency, leading to more effective foreign language learning (Coyle et al., 2010; Mehisto et al., 2008).

CLIL is an instructional approach that integrates a foreign language with subject content, emphasizing balanced language and content learning development. Teachers in CLIL classrooms should strive to integrate both subject content and language instruction effectively, considering students' language and content proficiency levels. Teachers can create optimal learning environments where students can comprehend subject matter while developing language skills by employing understandable language, avoiding complex sentence structures, and utilizing examples. Collaborative efforts between subject teachers and language teachers can further enhance the integration of language and content learning, fostering students' competencies in both areas.

### **The 4C Framework in CLIL**

The 4Cs framework for managing content and language integrated learning (CLIL) in teaching and learning was defined by Coyle, Hood, & Marsh (2010). It encompasses four important components, also known as the 4Cs framework Content, Communication, Culture, and Cognition. The diagram below illustrates these components:

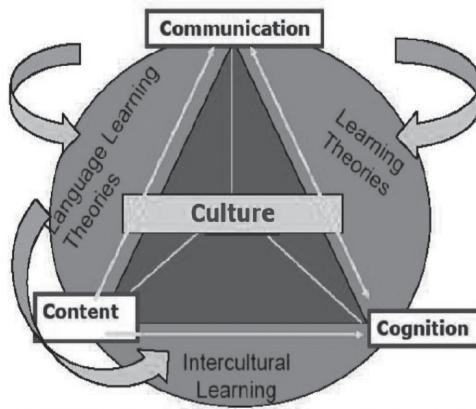


Figure 2: Adapted from Coyle et al., (2010)

1. Content: This component focuses on the subject matter or content that is being taught. It includes the knowledge, concepts, and skills related to the specific subject area. In CLIL, the content is taught using the target language, allowing students to acquire both subject knowledge and language proficiency simultaneously.
2. Communication: Communication refers to the use of language as a means of conveying and exchanging information. In CLIL, communication involves both receptive skills (listening and reading) and productive skills (speaking and writing). Students engage in meaningful communication using the target language to understand and express ideas related to the content being taught.
3. Culture: Culture plays a significant role in CLIL as it enhances students' understanding of the cultural aspects associated with the subject matter and the target language. It involves exploring the cultural contexts, practices, perspectives, and values relevant to the content. By integrating cultural elements, CLIL aims to develop intercultural competence and promote appreciation for diversity.
4. Cognition: Cognition refers to the intellectual processes involved in learning and thinking. In CLIL, it involves critical thinking, problem-solving, and higher-order cognitive skills related to the content area. Students are encouraged to analyze, evaluate, and apply their knowledge and language skills to understand and engage with the content at a deeper level.

The 4Cs framework provides a comprehensive approach to CLIL, ensuring a balanced integration of content, language, culture, and cognitive development. By

considering these four components, teachers can design effective CLIL lessons that promote meaningful learning experiences and support students' overall academic and linguistic growth.

In order for CLIL (Content and Language Integrated Learning) to be successful, teachers need to consider all four components of the framework. Language and communication in the CLIL classroom should be integrated, both on the teacher's part in using language to transmit content and stimulate thinking, learning, and communication in students, and on the students' part in understanding and constructing knowledge independently and in relation to the content that leads to systematic thinking and cultural learning. In the classroom, these should be accompanied by:

- Specificity: Using teaching and learning materials, classroom situations, and learning content that are specific to real-life situations, such as newspapers, brochures, situations in air travel, or other content that occurs outside the classroom.
- Multiple objectives: Designing classroom activities that develop students' skills in various aspects, such as content, language, culture, and global citizenship.
- Active learning: Providing students with hands-on experiences. The teacher's role is to support students' learning and involve them in the design of their learning as part of active learning.
- Creating a learning-promoting environment: Supporting students to help and participate in learning together in the classroom. Students can learn new things without anxiety.
- Fostering learning development: The teacher serves as a counselor and facilitator in the classroom and is always ready to assist students. The teacher also supports students in assisting their classmates (Mehisto et al., 2008).

An effective CLIL classroom promotes learning, enhances skills, and improves understanding of the subject matter through student interaction. Such classroom activities foster intellectual skills, promote communication in context, develop language proficiency and appropriate skills, and raise awareness of cultural differences, both in oneself and in others (Coyle et al., 2010).

## Implementing CLIL

Implementing Content and Language Integrated Learning (CLIL) involves utilizing a foreign language as a medium of communication in non-language subjects, such as mathematics, science, arts, music, and physical education. Originating in 1994, CLIL was introduced by the European Union to facilitate the use of English or other languages among member countries. The primary objective is to achieve a harmonious integration of content and language during the teaching and learning process by establishing meaningful connections between subject matter and students' non-native language.

CLIL transcends a singular focus on either language or content, emphasizing instead the fusion of both elements to promote effective learning outcomes and enhance language proficiency. In CLIL classrooms, communication is facilitated through the utilization of a foreign language as a tool for comprehending and acquiring subject-specific knowledge. Additionally, content serves as a supportive resource for language development. This pedagogical approach acknowledges and capitalizes on the symbiotic relationship between content and language, creating an environment where language usage and content assimilation occur concurrently.

It is important to note that CLIL does not introduce a novel framework for language or content instruction. Rather, it represents an amalgamation of these processes, harnessing a foreign language as a means of communication and content assimilation. Consequently, CLIL presents an efficacious educational methodology that facilitates comprehensive learning, fosters language proficiency, and nurtures students' overall linguistic and cognitive development.

Teachers in CLIL classrooms must adopt a distinctive instructional approach compared to teaching content in students' native language or delivering foreign language lessons. The management of CLIL instruction transcends mere language instruction in various subject domains or the mere translation of content from the native language to a foreign language. Instead, CLIL pedagogy underscores the significance of integrating language and content within subject-specific contexts.

CLIL can vary based on the context of the educational institution and other environmental factors. The implementation of CLIL exhibits differences in terms of learning outcomes and curriculum management approaches, such as:

- Subject Content or Course Structure: The content of specific subjects or the structure of courses can be modified to incorporate the use of a foreign language for learning subject matter and to develop proficiency in that foreign language. For example, geography classes may be taught in French.
- Interdisciplinary Activities: Activities within the curriculum that promote collaboration between foreign language teachers and subject content teachers are encouraged. This may involve organizing instructional activities from different perspectives, such as global citizenship, free trade, or language and war.
- Development of Language-Specific Subject Content: Foreign language teachers must develop subunits of subject content that allow students to compare cultural aspects and content knowledge.
- Curriculum Development: Specific topics that students have studied in subject content and foreign language classes can be identified and incorporated into the curriculum.
- Establishment of International School Networks: The development of networks among schools in different countries allows students to engage in topic-specific activities that highlight and embrace linguistic and cultural diversity among nations.

The implementation of CLIL does not adhere to a rigid format but is based on the concept of integrating content with a foreign language. It can be adapted to various instructional formats.

### **The institutional curriculum under the Eastern Economic Corridor (EEC) project**

The Eastern Economic Corridor (EEC) project aims to stimulate economic development in Thailand's eastern region by establishing new industries and technologies in Chachoengsao, Chonburi, and Rayong provinces. With continuous support from the private sector and foreign investors, the EEC has witnessed significant growth, leading to an increased demand for a highly skilled workforce. Consequently, it becomes crucial to prioritize the development of specific characteristics and skills among students within the EEC, as this will effectively prepare them for the evolving landscape of industries and businesses in the region.

The current labor market within the EEC requires a workforce with diverse and advanced skills. Proficiency in English for effective communication, knowledge and competence in information technology, analytical and problem-solving skills, and creative and future-oriented thinking, are highly sought after. Additionally, fostering ethics and professionalism in the workplace is vital for establishing trust and facilitating effective collaboration within organizations. Integrating ethics and professionalism into vocational education will contribute to creating competent students and quality entrepreneurs who can tackle future challenges.

Education plays a crucial role in developing a high-quality workforce that can meet the needs of employers within the EEC. A well-designed curriculum should encompass various disciplines, providing students with a comprehensive understanding of management, marketing, finance, and more subjects. Emphasizing both theoretical knowledge and practical application will equip students with fundamental concepts and real-world experiences relevant to their future workplaces. Moreover, the curriculum should focus on nurturing problem-solving skills and effectively meeting employers' demands.

Effective education management within the EEC region should reflect the significance of preparing and promoting student learning in schools. It should concentrate on developing essential skills necessary for future careers and preparing students for successful social integration and life in the region. School curricula should be tailored to align with the readiness of the teaching staff, emphasizing blended learning approaches that incorporate language proficiency for effective communication. Furthermore, providing practical training opportunities in real workplace settings as part of the teaching and learning process will greatly enhance students' preparedness.

Guidelines for managing and administering school curricula within the EEC region should emphasize promoting learning and developing essential skills required for professional careers. For instance, there should be a deliberate focus on learning English and other foreign languages to prepare students for working in an international context. Additionally, students should acquire knowledge about technology and innovation that are in high demand across various industries. Cultivating problem-solving skills, analytical thinking, creativity, and innovation are paramount. Furthermore, fostering readiness for leadership and teamwork will contribute to the overall growth and success of students within the EEC (Nuekchaiyaphoom & Saifah, 2021).

## CLIL Lesson plan

CLIL Learning Management Plan The CLIL (Content and Language Integrated Learning) approach is a powerful educational method that combines content instruction with language learning. When designing a CLIL learning management plan, it is essential to consider the 4Cs framework and three additional factors: Analysis, Addition, and Application. These elements work together to create a comprehensive and effective CLIL experience for students.

1. Analysis: Analysis involves a thorough examination of the content to be taught, identifying language demands, and recognizing opportunities for language integration. Teachers need to carefully analyze the subject-specific vocabulary, grammar structures, and discourse patterns that students will encounter. By understanding the language features inherent in the content, teachers can scaffold language learning appropriately and provide targeted support.
2. Addition: The addition factor emphasizes the integration of language learning activities and strategies into the subject-specific lessons. Teachers should incorporate language skills such as reading, writing, listening, and speaking into the content delivery. This integration can be achieved through various techniques, such as providing language input through authentic texts, facilitating discussions, encouraging collaborative projects, and offering opportunities for students to practice language skills in meaningful contexts. By weaving language learning seamlessly into content instruction, students can develop both their subject knowledge and language proficiency simultaneously.
3. Application: The application factor focuses on providing opportunities for students to apply their language skills and subject knowledge in authentic and purposeful ways. Teachers should design tasks and activities that require students to use the language to communicate ideas, solve problems, and engage in critical thinking. This may involve project-based learning, simulations, debates, presentations, or real-world applications of the content. By applying their language skills in meaningful contexts, students deepen their understanding of both the subject matter and the language being learned.

Incorporating the 4Cs framework (Communication, Collaboration, Critical Thinking, and Creativity) alongside the analysis, addition, and application factors ensures a holistic

CLIL learning experience. Students are not only exposed to content knowledge but also develop their language proficiency, communication skills, collaboration abilities, critical thinking skills, and creativity. By integrating these elements, CLIL fosters deep engagement, meaningful learning, and the development of 21st-century skills.

Effective CLIL learning management plans strike a balance between content and language instruction, allowing students to build a strong foundation in both areas. Through the deliberate design of CLIL lessons, teachers can create dynamic learning environments that promote language acquisition, subject mastery, and the development of essential skills.

## **Learning Material**

Learning material is essential in both regular classrooms and CLIL classrooms. The use of projects and the cultivation of students' information-seeking skills, creative thinking, and intellectual skills are important factors in managing language-integrated content teaching and learning. These activities stimulate students to use the target language in their tasks and communicate in the classroom. Group activities, where content knowledge is conveyed through the target language, further enhance language and content integration. Additionally, language teachers need to collaborate with content teachers to determine and analyze key terms, vocabulary definitions, and lesson content to use them in language and other subject classes. As a result, students learn both language and content simultaneously in a structured and comprehensible manner. The effectiveness of learning depends on the students' needs and preferences.

While students can absorb the language well in language-focused subjects, it can be observed that language teachers spend more time compared to content teachers to ensure students' understanding of the language structures. Learning a foreign language alone can become complex and tedious for learners of all ages. Integrating content with language implies that content supports language learning, and language supports content learning. It becomes a fundamental principle to develop students' language learning in general foreign language classrooms.

Traditional language classrooms often focus on grammar learning and reading skills as the foundation of language learning, particularly in the late 20<sup>th</sup> century. However, language learning principles have changed. For example, translation has been replaced with sentence structure substitution or conversational responses. Subsequently, foreign language

learning processes have shifted towards emphasizing communication using the language proficiently and autonomously. The current approach to teaching foreign languages aims to develop students' communication skills in line with the social context and culture of the learners (de Graaff et al., 2007).

### **CLIL Task and Materials Evaluation: the Matrix**

In CLIL (Content and Language Integrated Learning), the relationship between language and intellectual skills is fundamental to effective learning. Recognizing that language proficiency alone is insufficient for successful comprehension and learning is essential. Intellectual skills, such as critical thinking, analysis, problem-solving, and evaluation, play a crucial role in the CLIL classroom (Cummins, 2008).

To ensure that both language and intellectual skills are developed in CLIL instruction, Cummins (2008) developed a matrix that assesses the relationship between these two domains. This matrix provides a framework for evaluating language and intellectual skills integration within CLIL tasks and materials. It helps teachers ensure that language is not merely a means of communication but also an integral part of the learning process. By incorporating intellectual skills into CLIL activities, students are encouraged to think critically, apply knowledge, and engage with the content meaningfully.

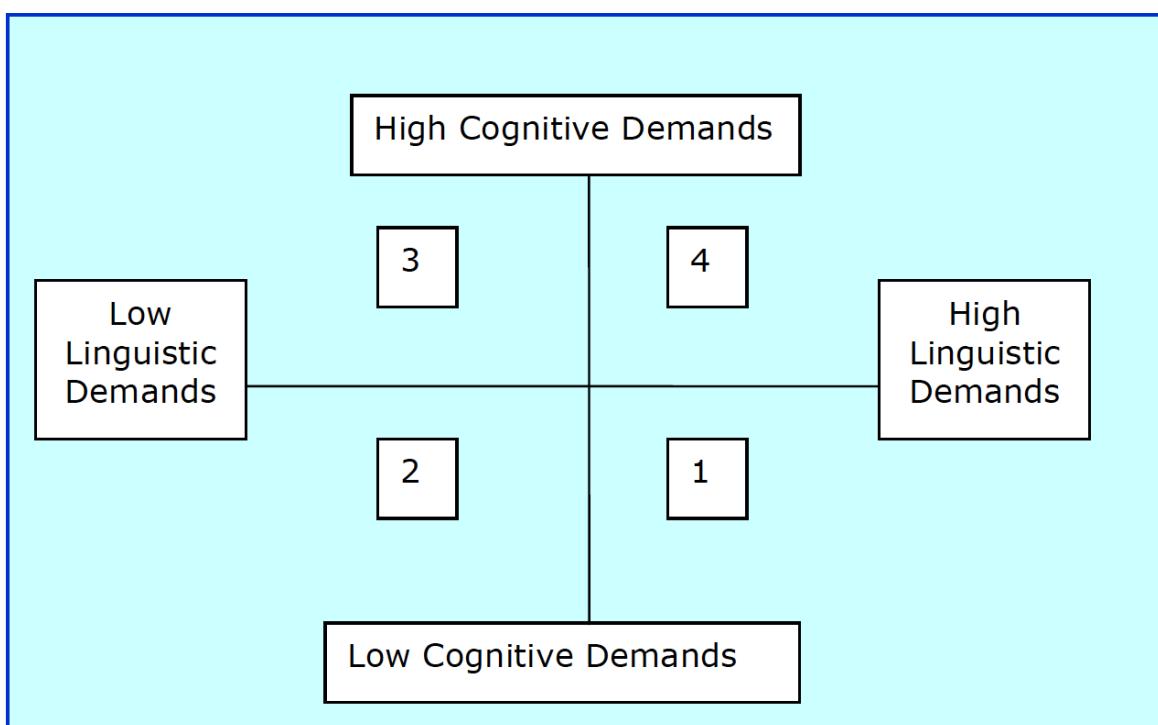
The CLIL matrix is a tool for evaluating instructional materials and learning resources used in CLIL classrooms. It helps teachers identify tasks and materials that effectively promote both language development and intellectual skill acquisition. It emphasizes the need for learning resources beyond language proficiency and provides opportunities for students to engage with subject-specific content using their intellectual abilities.

Developing appropriate CLIL materials and activities that balance language and intellectual skills can be challenging for CLIL teachers. They need to create learning resources that provide language access and foster critical thinking, analysis, and problem-solving. This requires careful planning and integration of content and language objectives to ensure that students develop both language proficiency and intellectual competencies.

By using the CLIL matrix as a guide, teachers can assess their instructional materials and tasks, ensuring they align with the goals of CLIL education. The matrix helps teachers

identify the strengths and weaknesses of their materials, enabling them to make necessary adjustments and enhancements to maximize the integration of language and intellectual skills. The challenge for CLIL teachers is to develop instructional materials and activities that provide access to language while simultaneously fostering the development of students' intellectual skills. CLIL classroom materials should enable students to engage with target language content while enhancing their intellectual competencies. The instructional materials for CLIL classrooms, as depicted in the diagram below, are particularly relevant in stages 3 and 4.

### The Matrix



### Procedural Knowledge

Humans place great importance on understanding and categorizing knowledge, and cognitive psychology utilizes a widely accepted categorization framework consisting of three types of knowledge. The first type is declarative knowledge, which encompasses factual information or statements. For example, someone who can explain the various components of a car's steering system possesses declarative knowledge. The second type is procedural knowledge, which is demonstrated through practical activities or tasks. For instance, an individual who can successfully drive a car possesses procedural knowledge of the steps

involved. The third type is metacognitive knowledge, which involves awareness and control of one's cognitive processes. For example, someone who can effectively monitor and regulate their thinking and learning strategies possesses metacognitive knowledge.

This categorization framework aids in understanding and organizing knowledge in cognitive psychology. Declarative knowledge involves factual information, procedural knowledge involves the steps and activities of a process, and metacognitive knowledge involves awareness and control of cognitive processes. Recognizing and categorizing knowledge into these types enables individuals to better comprehend and apply information in various contexts.

Procedural knowledge specifically pertains to the execution of skills or specific tasks, encompassing the understanding and ability to perform the steps involved in a particular situation. It focuses on the knowledge of processes and activities aimed at achieving goals. Procedural knowledge is derived from the term "process," indicating knowledge of the steps involved in a task. Proficiency in essential procedures entails performing specific operations for problem-solving or task completion.

Processes involve utilizing skills, strategies, or step-by-step methods that can manifest in predetermined actions leading to successful outcomes when executed correctly or in a sequence of operations for problem-solving (e.g., solving equations). This type of knowledge is acquired and developed through practice and problem-solving experiences. Currently, instructional methods for acquiring procedural knowledge have yet to be widely known in the educational domain, impeding effective knowledge acquisition by learners. In project-based learning, students may possess only surface-level knowledge of the project's steps and may require assistance to apply the acquired knowledge practically. This limitation leads to temporary and superficial learning of procedural knowledge (Azimi & Ahmadabadi, 2015) Consequently, a superficial understanding of procedural knowledge in learning occurs.

Knowledge is classified into declarative, procedural, and metacognitive types in cognitive psychology. Procedural knowledge involves the execution of skills and tasks, understanding the steps involved, and applying essential principles. The categorization of knowledge is a prominent approach in cognitive psychology. However, it has been observed that students often comprehend the project process but need help to apply their learning in

real-life situations, resulting in the short-lived and superficial acquisition of procedural knowledge (Canobi, 2009; Miller & Hudson, 2007; Rittle-Johnson & Schneider, 2015).

### **Leaner's Language Competence**

Language competence refers to learners' overall proficiency and ability to effectively understand, produce, and manipulate language in various contexts. It encompasses different aspects such as vocabulary knowledge, grammar skills, pronunciation, fluency, and comprehension (Bernhardt & Kamil, 1995). Research has shown that learners' language competence is crucial to their language learning and academic success (Zhang & Elder, 2010). Several studies have examined the relationship between learners' language competence and their academic performance. Zhang and Elder (2010) found that students with higher language competence achieved better academic outcomes across different subjects. Similarly, Bernhardt and Kamil (1995) highlighted the positive correlation between language competence and reading comprehension skills.

In addition to academic performance, language competence also influences learners' communication abilities. Learners with a higher level of language competence are generally more confident and proficient in expressing their thoughts, opinions, and ideas in the target language (Bernhardt & Kamil, 1995). On the other hand, learners with limited language competence may need help in engaging in meaningful interactions and communicate effectively in various social and academic contexts.

However, research has found that learners with low language proficiency face difficulties and challenges in their learning, especially in classrooms that use a foreign language as the medium of instruction, such as CLIL (Content and Language Integrated Learning) classrooms. Pöhler et al., (2017) noted that these learners may struggle to understand the complex language structures and academic vocabulary used in CLIL classrooms. Additionally, Basterrechea and Leeser (2019) discovered that learners with low language proficiency encounter challenges in expressing their opinions in CLIL classrooms due to a lack of necessary language skills for communication.

Furthermore, learners with limited experience in using English and limited English language skills may struggle to comprehend complex ideas or content, leading to difficulties in listening to lectures, communicating academic content, and potentially requiring more time for learning compared to learners with higher language proficiency (Galloway et al., 2017).

Learners with low language proficiency require significant assistance from teachers in developing language skills and language use for communication or participating in activities in English-based or CLIL classrooms (Basterrechea & Leeser, 2019). The language limitations of these learners impact their participation in conversations or problem-solving activities in the classroom and may affect their learning outcomes (de Dios Martínez Agudo, 2020). It was found that learners can develop English language skills and learning abilities in CLIL classrooms, but it may take longer compared to learners with higher language proficiency.

To address the challenges faced by learners with low language competence, it is important for educators and language instructors to recognize the significance of learners' language competence and provide appropriate support and instruction to foster its development. Strategies such as explicit language instruction, vocabulary enrichment activities, and communicative language teaching approaches can contribute to enhancing learners' language competence (Ellis, 2003; Nation, 2001). By understanding learners' language competence and addressing their specific needs, educators can contribute to more successful language learning outcomes.

## **Related Studies**

Charunsri (2020) reviewed the challenges of implementing Content Language Integrated Learning (CLIL) in higher education in Thailand, including using CLIL as a teaching approach that utilizes a language other than students' mother tongue to teach content. The aim is to achieve a balance between language and content. The review found that implementing CLIL in Thailand faces several challenges, such as a lack of trained teachers, insufficient teaching materials, and limited language proficiency of students. Additionally, there is a need for appropriate assessment tools to evaluate the intended outcomes of CLIL. In terms of content used in CLIL classrooms, the review suggests that it should be appropriately designed to ensure a balance between language and content, with content being relevant and aligned with the curriculum. The review also emphasizes the importance of collaboration between language and content teachers in designing instructional materials. Furthermore, the review highlights the need for further research and development in implementing CLIL in the Thai higher education system, including improving teacher training, sourcing better teaching materials, and evaluating the effectiveness of CLIL.

Kewara and Prabjandee (2018) investigated the use of Content and Language Integrated Learning (CLIL) in Thailand and the professional development of content teachers for effective CLIL implementation in classrooms. While CLIL has been implemented in many countries, its adoption in Thailand has been limited due to a lack of opportunities for content teachers' professional development. The study utilized a mixed-methods approach to gather data from 50 content teachers who participated in a CLIL professional development course in Thailand. The research findings revealed that the knowledge and understanding of CLIL among teachers, as well as their confidence in teaching through this approach, significantly increased after completing the course. The study emphasized several challenges that teachers face, such as limited access to English-language content and resources and limited support from school administrators. The importance of providing opportunities for professional development for content teachers to effectively implement CLIL in Thailand was highlighted. This can be achieved through collaboration between language and content teachers, sourcing appropriate materials and resources, and support from school administrators.

de Dios Martínez Agudo (2020) studied the impact of Content and Language Integrated Learning (CLIL) on the English language proficiency of students in a context where English is the sole language used. The study tracked the progress of a group of Spanish students throughout their four years of secondary education. The students were divided into two groups, with one group studying in CLIL classrooms and the other group receiving instruction in the traditional manner. The study found that the CLIL group outperformed the traditional instruction group in terms of English language proficiency. The research indicates that CLIL can be an effective approach for enhancing students' English language skills in a context where the target language is used exclusively.

In the study by Pöhler et al. (2017), researchers investigated the challenges faced by students with low language proficiency, particularly in vocabulary acquisition. The findings revealed that these students struggled more with vocabulary compared to symbol-based learning. However, when vocabulary was presented in a structured format, such as organized lists or categorized word groups, students showed improved learning outcomes. Based on these findings, the researchers recommended that teachers provide additional support and instruction in vocabulary structure to help students with low language proficiency.

Implementing structured vocabulary instruction can enhance vocabulary learning for students with varying language proficiency levels and promote a deeper understanding of words.

In the Piesche et al., (2016) study, sixth-grade students were examined to assess the impact of Content and Language Integrated Learning (CLIL) on their science education. The study found that CLIL positively affected the students' content knowledge and language proficiency compared to traditional instruction methods. However, it was noted that the learning outcomes before the study had an influence, as students with higher academic achievement benefited more from CLIL than those with lower achievement. The researchers recommended the cautious implementation of CLIL with appropriate support for all students, ensuring that it benefits students of varying academic levels.

## Chapter 3

### Methodology

In this section, the researchers explain the research methodology, including selecting the sample group, developing research instruments, data collection procedures, and data analysis. This study is a mixed-methods research that aims to answer research questions related to the process of implementing Content and Language Integrated Learning (CLIL) in teaching and learning. The researchers surveyed the necessary content and language requirements and used statistical data as preliminary information to assess the current status of teaching and learning, student needs, and anticipated impacts (Mccawley, 2004). They applied the 4C framework, which includes Content, Communication, Cognition, and Culture, as a planned instructional framework and implemented it in their classrooms to analyze whether students were able to achieve the learning objectives in each lesson according to the designed lesson plans. Therefore, the objectives of this study were to understand and explain the phenomena of students' learning experiences (Creswell, 2009) through the implementation of CLIL and to observe the process of implementing the instructional framework in the classroom to understand students' cognitive approaches. (Piesche et al., 2016).

#### Sample Group

The sample group in this research project consisted of students from Thepsirin Chonburi School (Uthok Uppatham), affiliated with the Office of Secondary Educational Service Area 18 in Chonburi, Thailand. These students were enrolled in the academic year 2565 (2022) and comprised 25 students. They were selected through purposive sampling, considering the following criteria:

- Students who were required to study English for the Eastern Economic Corridor (EEC) program.
- Students who expressed a desire to learn through CLIL approaches.
- Students who were willing to cooperate in data collection.

## Research Tools

Research Tools In this research study, the researchers applied and developed four research tools, with defined processes for their application, development, and quality assurance. These research tools were designed to align with the research context as follows:

***1. Questionnaire on the Content, Language, Curriculum, and Learners' Needs for English Language Teaching at the secondary level, specifically in Grade 9, using CLIL approaches.***

This questionnaire assessed the necessary content, language, curriculum, and learners' needs for English language teaching at the Grade 9 level, using CLIL approaches. The questionnaire consisted of two parts:

- Part 1: Demographic information of the respondents.
- Part 2: Dual-response format measurement, where respondents evaluated the existing and desired or recommended measurements.

The assessment utilized a 5-point rating scale as follows:

Level 1 = Very low

Level 2 = Low

Level 3 = Moderate

Level 4 = High

Level 5 = Very high

The questionnaire on the requirements underwent a validity check in terms of appropriateness within the research context. This validation process involved three qualified experts who assessed the questionnaire's accuracy, suitability, and alignment with the learning management plan using a 5-point approximate ratio scale (บุญชม ศรีสะอุด, 2556) as follows:

5: Highly appropriate

4: Very appropriate

3: Moderately appropriate

2: Slightly appropriate

1: Least appropriate

Afterward, the researchers made revisions and improvements to the questionnaire based on the recommendations provided by the qualified experts. The experts evaluated the learning management plan's accuracy, suitability, and consistency using the aforementioned 5-point rating scale.

Then, the mean and standard deviation were calculated, and the mean values were interpreted by comparing them to the criteria for interpretation as follows:

Mean values between 4.51 - 5.00: Highly appropriate

Mean values between 3.51 - 4.50: Very appropriate

Mean values between 2.51 - 3.50: Moderately appropriate

Mean values between 1.51 - 2.50: Slightly appropriate

Mean values between 1.00 - 1.50: Least appropriate

Based on the criterion of a mean score of 3.51 or higher, it can be considered that the learning management plan is effective and can be implemented (Srisa-Ard, 2013).

Afterward, the researcher utilized the results from the questionnaire on the necessary content, language, curriculum, and students' requirements as a guideline for developing a Content and Language Integrated Learning (CLIL) instructional plan for English language classrooms at the secondary level, specifically for Grade 9.

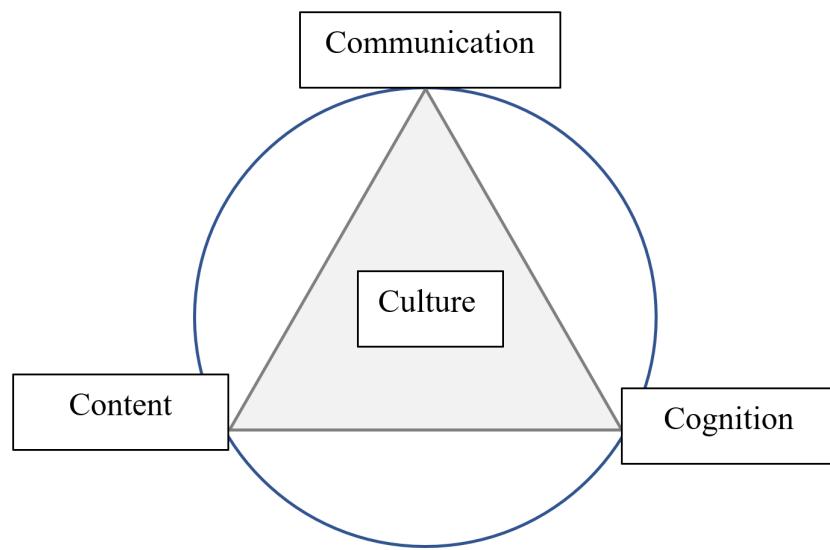
***2. The English language lesson plan in the classroom following the CLIL approach is related to the Eastern Economic Corridor (EEC) special economic zone at the Grade 9 level in secondary education.***

The instructional plan for English language learning in the classroom, based on the CLIL approach, focuses on the Eastern Economic Corridor (EEC) special economic zone. The aim of the plan is to enhance students' language proficiency in English while also expanding their knowledge and understanding of economic concepts related to the EEC.

The plan is designed to address the specific needs and requirements of the students, which have been identified through assessments and evaluations. It considers the content, language, curriculum, and the students' learning goals. By incorporating the CLIL approach, the plan promotes an integrated learning experience where language and content are taught together, providing students with opportunities to develop their language skills within the context of the EEC. The plan consists of eight comprehensive lessons integrating content and

language learning. These lessons are designed to be learner-centered, engaging, and interactive. The framework for lesson development follows a structured approach, ensuring that each lesson aligns with the identified objectives and incorporates appropriate teaching methodologies.

Throughout the lessons, students will engage in various language activities such as reading comprehension, listening exercises, and speaking tasks, all centered around economic concepts relevant to the EEC. They will also have opportunities to apply their language skills through writing activities, discussions, and project-based tasks. The instructional plan aims to



The instructional plan for English language learning in the classroom, following the CLIL approach, focuses on English language related to the basic logistics system of the Eastern Economic Corridor (EEC) special economic zone. The content of the plan includes the following:

The instructional plan aims to develop students' language skills in English while deepening their understanding of fundamental logistics concepts. The plan is designed to be interactive and engaging, encouraging active participation from students. It incorporates a variety of activities and tasks that promote language acquisition and content comprehension.

Students will explore topics related to the basic logistics system, such as transportation modes, supply chain management, inventory control, and warehouse operations. They will learn about the role of logistics in supporting the efficient movement of goods and services within the EEC. Students will enhance their language proficiency and

gain a deeper understanding of the logistics system within the EEC context by reading, analyzing, listening, and discussing logistics-related materials.

The plan includes practical activities that allow students to apply their language skills in real-life situations. They will have opportunities to write reports, give presentations, and participate in group discussions, strengthening their language abilities while reinforcing their understanding of logistics concepts.

The instructional plan follows the principles of the CLIL approach, integrating language and content learning to create an authentic learning experience. By integrating English language learning with the study of logistics, students will develop both their language skills and their knowledge of the basic logistics system in the EEC.

Overall, the plan aims to provide students with the necessary language skills and knowledge to navigate the logistics system in the EEC. It promotes language development while equipping students with essential logistics-related knowledge and skills. By the end of the course, students will have a solid foundation in the English language and a comprehensive understanding of basic logistics concepts within the context of the EEC.

Session	Content	Objective
1.	<ul style="list-style-type: none"> <li>- types of products (Frozen and chilled food, Biohazard, Radioactive and harmful, fragile, medical products, Flammable goods)</li> <li>- Definitions of each type of product.</li> </ul>	Identify types of the given products
2.	<ul style="list-style-type: none"> <li>- the placement of different types of produced in a closed container</li> <li>- types of products and provide relevant items</li> <li>- work process and elaborate reasons</li> </ul>	Analyze the arrangement of dangerous goods
3.	<ul style="list-style-type: none"> <li>- Evaluate supplement material for packing a provided product</li> <li>- Compare and contrast each protection materials</li> <li>- Display packing process</li> </ul>	Identify types of the given products

4.	<ul style="list-style-type: none"> <li>- Shipping process for basic goods</li> <li>- Giving detailed shipping instructions</li> </ul>	Describe shipping process
5.	<ul style="list-style-type: none"> <li>- perform procedural knowledge</li> <li>- identify types of products and select relevant material</li> </ul>	Describe procedure of sending particular good
6.	<ul style="list-style-type: none"> <li>- Design logo of their product</li> <li>- use appropriate language that describe the property of the goods</li> </ul>	Create identity of the product and make awareness of the customers
7.	<ul style="list-style-type: none"> <li>- Understand goods' description</li> <li>- Identify types of descriptive information</li> </ul>	Analyse the given descriptive information
8.	<ul style="list-style-type: none"> <li>- Understand the instruction</li> <li>- Perform descriptive language that is relevant to the designed product</li> </ul>	Create a product with description

The instructional management plan underwent a validity check regarding contextual appropriateness within the research context by three qualified experts. Subsequently, the researcher made improvements based on the recommendations provided by the experts before further implementation. The qualified experts rigorously examined the plan's accuracy, appropriateness, and alignment with the research context using a five-level ordinal scale (Srisa-Ard, 2013) as follows:

- 5: Indicates the highest level of appropriateness.
- 4: Indicates a high level of appropriateness.
- 3: Indicates a moderate level of appropriateness.
- 2: Indicates a low level of appropriateness.
- 1: Indicates the lowest level of appropriateness.

Following this, the plan's validity was assessed by calculating the mean value and standard deviation and interpreting the average score by comparing it to predefined criteria:

Mean between 4.51 and 5.00: Indicates the highest level of appropriateness.

Mean between 3.51 and 4.50: Indicates a high level of appropriateness.

Mean between 2.51 and 3.50: Indicates a moderate level of appropriateness.

Mean between 1.51 and 2.50: Indicates a low level of appropriateness.

Mean between 1.00 and 1.50: Indicates the lowest level of appropriateness.

According to the established criteria, a mean score of 3.51 or above indicates an effective instructional management plan suitable for further implementation (Srisa-Ard, 2013).

Afterward, the researcher implemented the revised English language instructional management plan for Grade 9 students following the Integrated English Language Curriculum Guidelines related to the Eastern Special Economic Zone. The plan was adjusted based on the expert recommendations. Following the adjustments, the researcher conducted a trial implementation of the English language instructional management plan for Grade 9 students at Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Office of Secondary Educational Area, Area 18 (Chonburi). This trial implementation aimed to assess the plan's feasibility for future use in teaching and to gather data for further improvement of the instructional management plan to enhance its quality.

Subsequently, the researcher finalized the English language instructional management plan for Grade 9, incorporating the revisions made, to be used in the actual implementation with a sample group of Grade 9 students at Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Office of Secondary Educational Area, Area 18 (Chonburi).

### ***3. Test of English Proficiency and Procedural Knowledge***

The objective of the English Language Proficiency and Methodology Assessment Test is to monitor and assess the learners' English language proficiency and procedural knowledge. It is designed based on the learning objectives of the English language teaching curriculum, following the principles of integrated language skills. The test is divided into an essay-type section that assesses content and language, consisting of 8 units and a total of 10 items. It is further divided into 5 items for assessing English language proficiency and another 5 items for assessing knowledge in methodology. The assessment grid provided below serves as a framework for test development.

<b>Content Demands - Knowledge structure</b>	<b>High</b>	<b>Principles/relationships</b> Relationship between concepts – principles-processes - routines	<b>Quadrant I</b> Defining Identifying Classifying Describing...	<b>Quadrant II</b> Applying Explaining Comparing Analyzing...
	<b>Low</b>	<b>Concepts/classification</b> What? – Where? – Who? - When?	<b>Quadrant III</b> Defining Identifying Classifying Describing...	<b>Quadrant IV</b> Applying Explaining Comparing Analyzing...
			<b>Lower-order Thinking skills / CALP functions</b>	<b>Higher-order Thinking skills / CALP functions</b>
			<b>Language Demands</b>	

The instructional management plan underwent a validity check regarding contextual appropriateness within the research context by three qualified experts. Subsequently, the researcher made improvements based on the recommendations provided by the experts before further implementation. The qualified experts rigorously examined the plan's accuracy, appropriateness, and alignment with the research context using a five-level ordinal scale (Srisa-Ard, 2013) as follows:

- 5: Indicates the highest level of appropriateness.
- 4: Indicates a high level of appropriateness.
- 3: Indicates a moderate level of appropriateness.
- 2: Indicates a low level of appropriateness.
- 1: Indicates the lowest level of appropriateness.

Following this, the plan's validity was assessed by calculating the mean value and standard deviation and interpreting the average score by comparing it to predefined criteria:

- Mean between 4.51 and 5.00: Indicates the highest level of appropriateness.
- Mean between 3.51 and 4.50: Indicates a high level of appropriateness.
- Mean between 2.51 and 3.50: Indicates a moderate level of appropriateness.
- Mean between 1.51 and 2.50: Indicates a low level of appropriateness.
- Mean between 1.00 and 1.50: Indicates the lowest level of appropriateness.

According to the established criteria, a mean score of 3.51 or above indicates an effective instructional management plan suitable for further implementation (Srisa-Ard, 2013)

Afterward, the researcher took the evaluation results of the English language proficiency

and methodology assessment test and made improvements based on experts' recommendations. The revised English language proficiency and methodology assessment test was then piloted with Grade 9 students at Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Secondary Education Service Area Office, Area 18 (Chonburi). This pilot study aimed to assess the feasibility of using the test in classroom instruction and gather data for further test enhancement.

Following the pilot study, the researcher finalized the comprehensive version of the English language proficiency and methodology assessment test. This complete test will be used in a real-life experiment with a sample group of Grade 9 students at Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Secondary Education Service Area Office, Area 18 (Chonburi). This step aims to verify the effectiveness of the test in classroom settings and utilize the data collected for future test improvements.

#### ***4. Semi-structured Interview***

The semi-structured interview aims to collect data on English language teaching and learning outcomes in the classroom, following the communicative language teaching approach, which includes English language proficiency and methodology. The researcher will develop the interview based on the 4Cs conceptual framework and its application in the classroom. The semi-structured interview will undergo validity checks regarding its appropriateness within the research context, conducted by three qualified individuals. Afterward, the researcher will make necessary revisions and improvements based on the recommendations provided by the qualified individuals before its implementation.

All four types of research instruments have been certified for ethical considerations in human research, approved by the research ethics committee of Burapha University on October 2, 2565, B.E.

### **Data Collection**

The data collection process was divided into three steps as follows:

**Step 1:** Assessment of the content, language, curriculum, and student needs for English language teaching and learning in Grade 9 of secondary education, following the Communicative Language Teaching approach.

1.1 The researchers sent a request letter to the administration of Thepsirin Chonburi School (Uthok Uppatham), and government schools under the supervision of the Office of Secondary Education Area 18. The letter contained a clear explanation of the project's objectives and a request for collaboration in data collection.

1.2 The researchers contacted and requested cooperation from the class teachers to explain the research project to the students. The class teachers provided information about the project's background, the role of the students, the benefits of the research, and the students' freedom to decide whether to participate or not. It was emphasized that their decision to participate or not would not affect their academic performance. (Note: The researchers were not present during this explanation; only the class teachers and students were involved). This was done to ensure that students could make informed decisions.

1.3 The researchers obtained informed consent from the students who agreed to participate in the research. This was done by distributing assessment documents through Google Forms to approximately 25 students, based on the email addresses provided by the class teachers.

1.4 The research data from the sample group in this study was kept confidential and recorded in a computer system accessible only to the researcher. The data was destroyed after the completion of the research, within a period of one year.

## **Step 2:** Implement designed lesson plans

2.1 The researchers conducted teaching and testing activities with a sample group using the English language teaching and learning management system based on the Integrated Language Approach. The activities spanned a total of 8 class periods.

2.2 The researchers contacted and requested cooperation from the class teachers to explain the research project to the students. The researchers sought the teachers' assistance in explaining the research project to the students, including its background, the role of the students, the benefits of the research, and the advantages for the students who chose to participate. The students were given the freedom to decide whether to participate in the research project or not. It was emphasized that their decision would not impact their academic performance. (Note: The researchers were absent during this explanation; only the class teachers and students were involved).

2.3 The researchers obtained informed consent from the students who chose to participate in the research. The class teachers distributed assessment documents on the researchers' behalf.

2.4 The researchers provided a clear explanation to the sample group of students about the learning activities conducted using the Integrated Language Approach in the English language subject related to the Eastern Economic Corridor. The aim was to ensure that the students had sufficient knowledge and understanding of the learning activities and could engage in them correctly.

2.5 Afterward, the researchers implemented the Integrated Language Approach teaching and learning management system in the English language subject related to the Eastern Economic Corridor for the 3rd-year students at Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Office of Secondary Education Area 18, during the first semester of the academic year 2022. The sample group consisted of 25 students, and the implementation proceeded as follows:

2.5.1 Pretest: The pretest was administered using an English language proficiency and knowledge assessment related to the Eastern Economic Corridor for the 3rd-year students at Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Office of Secondary Education Area 18. The pretest lasted for one hour.

The researchers provided pretest and posttest questionnaires to the sample group of students. Before conducting the pretest, the students in the sample group received clear explanations regarding the format of the test, its duration, and objectives. The pretest was administered before the teaching and learning management activities, while the posttest was conducted at the conclusion of the teaching and learning activities. Both tests covered the same topics and followed a similar format. The objective of the tests was to assess the students' learning outcomes. The tests included multiple-choice questions and essay questions. During the testing period, the students in the sample group were not allowed to engage in discussions, share information, or use electronic devices. After the designated time, the completed questionnaires were collected and scored.

2.5.2 In this study, the researchers conducted teaching and learning management activities with the sample group of students on the topic of English language related to the special economic zone of the Eastern Economic Corridor. The activities were carried out for

a total of 8 class sessions, with each session lasting 100 minutes. The regular English language classes that were relevant to the Eastern Economic Corridor already scheduled were used for these teaching and learning activities. Students who did not wish to participate in the research project were allowed to withdraw without prior notification to the researchers. For those students who chose not to participate or withdrew during the research project, the teacher arranged separate seating for them at the back of the classroom. These students were provided with supplementary learning activities and were supervised by an assistant teacher. The main teacher continued to teach the topic of English language related to the special economic zone of the Eastern Economic Corridor during the 9th class session (which allowed students to engage in activities at their own pace). In cases where students missed certain class sessions or did not complete certain activities, their data were not included in the analysis conducted by the researchers.

2.5.3 After completing the teaching and learning activities, the researchers allowed a one-week interval before administering the posttest to the sample group. The posttest included a language proficiency assessment in English and knowledge assessment of English language methodology related to the special economic zone of the Eastern Economic Corridor. The posttest was conducted with the sample group consisting of Grade 9 students from Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Office of Secondary Educational Service Area 18. The testing duration was one hour.

2.5.4 After administering the language proficiency and knowledge assessment posttest, the researchers analyzed the collected scores using statistical analysis. The research report provides an overview of the research findings, and individual data or information that could identify the sample group is not disclosed. The research data of the sample group in this study are kept confidential in document format and stored in a computer system accessible only to the researcher. The data will be destroyed after one year upon completion of the research.

### **Step 3: Interview**

After completing Step 2, the research team conducted semi-structured interviews with the sample group using a predetermined interview guide. The interviews were conducted with Grade 9 students from Thepsirin Chonburi School (Uthok Uppatham), under the supervision of the Office of Secondary Educational Service Area 18. Each interview lasted approximately

15 minutes per individual. The research data of the sample group in this study are kept confidential in document format and stored in a computer system accessible only to the researcher. The data will be destroyed after one year upon completion of the research. Only the researcher has access to the data.

The semi-structured interviews were conducted as a qualitative research method used to obtain in-depth information about individuals' thought processes and decision-making during specific events or tasks. The sample group of students provided insights into their thoughts, feelings, and actions during that period. In addition to understanding the thought processes and decision-making of the sample group in-depth, the interviews also served as a tool to assess the impact of Content and Language Integrated Learning (CLIL) on their knowledge of language-related processes.

The interviews were conducted after the students had submitted their assignments in the classroom. They took place immediately after the submission and were carried out five times in total. The objective of these interviews was to gain a deeper understanding of the thought processes and decision-making of the sample group during task assignments. Requesting the sample group to reflect on their work allowed for identifying strengths and weaknesses in their learning processes and areas that required improvement. During the interviews, the sample group was informed about the thought processes and strategies necessary to complete the tasks successfully. They were also asked to identify any challenges encountered and suggest solutions. Furthermore, the sample group was questioned about the strategies employed to ensure the completion and effectiveness of their work.

The interviews were conducted in a separate room, and the interviewers used open-ended questions to encourage detailed responses from the sample group of students. The interviews were conducted in Thai language but focused on the use of English language by the sample group throughout their assigned tasks and the strategies they employed to ensure successful completion. Specifically, the interviews aimed to understand how the sample group used English language to comprehend the subject matter, communicate their thoughts, and negotiate meaning with their classmates. The interviews consisted of five main topics.

The first topic focused on the initial reactions of the sample group to the assigned tasks and the approaches they took to start their work. The second topic emphasized the progress made and challenges encountered along the way. The third topic explored the final stages of

their work and any modifications or corrections they made. The fourth topic delved into the effectiveness of the techniques and methods that could be applied to future assignments. The fifth and final topic involved summarizing the overall experiences of the sample group regarding the assigned tasks.

The researchers conducted quantitative and qualitative data analysis in this research project. The following details are provided:

*1. Necessary Assessment Questionnaire:*

The researchers analyzed the data using pre-existing software for social science data analysis. The analyzed data included the following:

- Descriptive statistics analysis: Mean and Standard Deviation.
- Inferential statistics analysis: Calculated using the Mean Difference Method (MDF) at a significance level of 0.05 and the modified Priority Needs Index (PNImodified).

*2. Language Proficiency and Procedural knowledge Test:*

The researchers analyzed the data using pre-existing software for social science data analysis. The analyzed data included the following:

- Descriptive statistics analysis: Mean and Standard Deviation.
- Qualitative analysis using content analysis methodology.

*3. Semi-Structured Interview:*

The researchers analyzed the qualitative data using content analysis methodology.

## Chapter 4

### Findings

This chapter presents the findings of the needs assessment conducted to explore the expectations and priorities of students in the context of English language learning, as well as the implementation of CLIL in the classroom. The needs assessment aimed to gather valuable insights into various aspects of the English lesson, including target communication skills, teaching and learning methods, teaching materials, and language used in the classroom. The data collected from the participants were analyzed and interpreted to identify significant patterns and trends. Additionally, this chapter examines the integration of CLIL principles and practices in the classroom, assessing its effectiveness in promoting content learning and language development.

Table 1: Means, standard deviations, and levels of the authentic conditions of the English lesson (n= 39)

Aspects of Lesson	$\bar{x}_{real}$	SD	Interpretation
<i>Target communication skills</i>			
1. Converse and write to exchange data about themselves, various matters around them.	2.67	1.108	Moderate
2. Speak and write appropriately to express needs, offer help and agree and refuse to give help in various situations.	2.56	1.119	Moderate
3. Speak and write appropriately to ask for and give data, explain, compare and express opinions about what has been heard or read.	2.59	1.093	Moderate
4. Speak and write to describe their own feelings and opinions about various matters, activities, experiences and news/incidents, as well as provide justifications appropriately.	2.77	1.180	Moderate
5. Use requests appropriately and give instructions, clarifications and explanations.	2.56	1.188	Moderate
6. Speak and write to summarize the main idea/theme and topic identified from analysis	2.82	1.233	Moderate

Aspects of Lesson	$\bar{x}_{real}$	SD	Interpretation
of matters/news/incidents/situations of interest to society.			
7. Speak and write to express opinions about activities, experiences and incidents, as well as provide justifications.	2.56	1.188	Moderate
8. Participate in/organize language and cultural activities in accordance with their interests.	2.64	1.224	Moderate
9. Search for, collect and summarize the data/facts related to other learning areas from learning sources, and present them through speaking/writing.	2.69	1.195	Moderate
Total mean score for communication skills	2.65	1.170	Moderate
<i>Teaching and learning methods</i>			
10. Thematic discussions	2.72	1.191	Moderate
11. Problem solving	2.56	1.165	Moderate
12. Project method	2.54	1.189	Moderate
13. Brainstorming	2.67	1.177	Moderate
14. Case method	2.62	1.067	Moderate
15. Presentation	2.67	1.177	Moderate
16. Giving and receiving feedback	2.72	1.099	Moderate
17. Using learner's reaction and/or reflection	2.56	1.165	Moderate
18. Using types of questions (rhetorical, open, referential, suggestive, etc.)	2.74	1.019	Moderate
Total mean score for method	2.64	1.139	Moderate
<i>Teaching materials</i>			
19. Using mind mapping / creating visual and/or mapping activities	2.54	1.144	Moderate
20. Using pictures / charts, paintings, graphs / diagrams, and flowcharts	2.62	1.091	Moderate
21. Using different kinds of authentic materials (audio, visual, textbooks)	2.56	1.165	Moderate
22. Using pedagogical materials	2.69	1.151	Moderate

Aspects of Lesson	$\bar{x}_{real}$	SD	Interpretation
23. Using social media	2.44	1.095	Low
Total mean score for materials	2.57	1.129	Moderate
<i>Language used in classroom</i>			
24. Formal speaking	2.67	0.982	Moderate
25. Informal speaking	2.62	1.091	Moderate
26. Students' native language (Thai language) only	2.74	1.069	Moderate
27. Interpretation or explanation of an idea in a physical movement	2.64	1.135	Moderate
28. Code-mixing and code switching between English and Thai	2.59	1.093	Moderate
29. Target language (English) only	2.69	1.080	Moderate
Total mean score for language	2.66	1.075	Moderate
Grand total	2.64	1.012	Moderate

The data analysis of the aspects of the lesson provides valuable insights into the students' performance and the effectiveness of the teaching and learning methods. The findings reveal a moderate level of achievement across various areas, indicating both strengths and areas for improvement. When considering the target communication skills, it is evident that the students displayed a moderate level of proficiency. They were able to engage in conversations, exchange data, and express their needs appropriately. However, there is room for improvement in their ability to summarize main ideas, express opinions, and provide justifications. By focusing on enhancing these skills, the students can further develop their ability to analyze and discuss complex topics.

The teaching and learning methods implemented in the classroom received a moderate rating. Thematic discussions, problem-solving activities, and project-based approaches were utilized to facilitate learning. However, there is potential for further improvement in effectively implementing these methods to enhance the students' language skills and critical thinking abilities. Incorporating more interactive and engaging activities, as well as providing clear instructions and guidance, can contribute to a more impactful learning experience.

The analysis of the teaching materials used in the classroom indicates a moderate level of engagement. The inclusion of visual aids, such as mind mapping, pictures, charts, and graphs, contributed positively to the students' understanding. However, the utilization of social media received a lower rating, suggesting an opportunity to integrate digital resources more effectively. By leveraging technology and incorporating relevant and authentic materials, the students can further enhance their engagement and practical application of the learned content.

Language use in the classroom was rated at a moderate level. The students had exposure to both formal and informal speaking, which allows them to adapt their language use in different contexts. The incorporation of the students' native language (Thai) and code-mixing/code-switching between English and Thai indicates the need for additional emphasis on English immersion. Consistent use of the target language (English) can strengthen the students' language proficiency and promote a more immersive learning environment.

In conclusion, the analysis of the data highlights the students' moderate level of achievement in target communication skills, the moderate effectiveness of teaching and learning methods, the moderate level of engagement with teaching materials, and the moderate implementation of language use in the classroom. By addressing the identified areas for improvement, such as summarizing main ideas, enhancing critical thinking skills, incorporating digital resources, and promoting English immersion, the overall learning experience can be further enhanced. With continued support and targeted instruction, the students can strengthen their language proficiency and achieve higher levels of success in their language learning journey.

Table 2: Means, standard deviations, and levels of the expected conditions of the English lesson (n= 39)

Aspects of Lesson	$\bar{X}_{real}$	SD	Interpretation
<i>Target communication skills</i>			
1. Converse and write to exchange data about themselves, various matters around them.	3.44	0.968	Moderate
2. Speak and write appropriately to express needs, offer help and agree and refuse to give help in various situations.	3.56	0.995	High

Aspects of Lesson	$\bar{x}_{real}$	SD	Interpretation
3. Speak and write appropriately to ask for and give data, explain, compare and express opinions about what has been heard or read.	3.54	0.996	High
4. Speak and write to describe their own feelings and opinions about various matters, activities, experiences and news/incidents, as well as provide justifications appropriately.	3.54	0.942	High
5. Use requests appropriately and give instructions, clarifications and explanations.	3.44	1.021	Moderate
6. Speak and write to summarize the main idea/theme and topic identified from analysis of matters/news/incidents/situations of interest to society.	3.49	1.023	Moderate
7. Speak and write to express opinions about activities, experiences and incidents, as well as provide justifications.	3.67	1.009	High
8. Participate in/organize language and cultural activities in accordance with their interests.	3.79	0.923	High
9. Search for, collect and summarize the data/facts related to other learning areas from learning sources, and present them through speaking/writing.	3.82	1.073	High
Total mean score for communication skills	3.59	0.994	High
<i>Teaching and learning methods</i>			
10. Thematic discussions	3.62	0.907	High
11. Problem solving	3.62	0.963	High
12. Project method	3.72	0.944	High
13. Brainstorming	3.62	0.935	High
14. Case method	3.90	0.882	High
15. Presentation	3.56	0.940	High
16. Giving and receiving feedback	3.72	0.999	High
17. Using learner's reaction and/or reflection	3.64	1.013	High

Aspects of Lesson	$\bar{x}_{real}$	SD	Interpretation
18. Using types of questions (rhetorical, open, referential, suggestive, etc.)	3.82	0.970	High
Total mean score for method	3.69	0.950	High
<i>Teaching materials</i>			
19. Using mind mapping / creating visual and/or mapping activities	3.79	0.951	High
20. Using pictures / charts, paintings, graphs / diagrams, and flowcharts	3.67	0.955	High
21. Using different kinds of authentic materials (audio, visual, textbooks)	3.74	0.938	High
22. Using pedagogical materials	3.85	0.904	High
23. Using social media	4.05	0.857	High
Total mean score for materials	3.82	0.921	High
<i>Language used in classroom</i>			
24. Formal speaking	3.54	1.047	High
25. Informal speaking	3.51	0.942	High
26. Students' native language (Thai language) only	3.79	0.978	High
27. Interpretation or explanation of an idea in a physical movement	3.79	0.864	High
28. Code-mixing and code switching between English and Thai	3.72	1.025	High
29. Target language (English) only	3.44	1.046	Moderate
Total mean score for language	3.63	0.984	High
Grand total	3.67	0.740	High

The needs assessment data provides valuable insights into the students' expectations for the English lesson. The findings indicate that the students have high expectations in terms of their target communication skills, teaching and learning methods, teaching materials, and language use in the classroom. In terms of target communication skills, the students expect to develop a wide range of abilities. They desire to be able to converse and write effectively to exchange data about themselves and various matters around them. They also expect to be

proficient in expressing needs, offering help, agreeing, and refusing to give help in different situations. The students want to ask for and give data, explain, compare, and express opinions about what they have heard or read. They also seek to describe their own feelings and opinions about various matters, activities, experiences, and news/incidents, providing justifications when necessary. Additionally, they expect to be able to use requests appropriately and give instructions, clarifications, and explanations. The students also aspire to develop skills in summarizing the main ideas/themes and expressing opinions about activities, experiences, and incidents, providing justifications. Lastly, they have a desire to search for, collect, and summarize data/facts related to other learning areas and present them effectively through speaking and writing. Overall, the students have high expectations for their communication skills development in various domains.

Regarding teaching and learning methods, the students expect a diverse and engaging learning experience. They anticipate thematic discussions, problem-solving activities, project-based approaches, brainstorming, case methods, presentations, giving and receiving feedback, using learners' reactions and reflections, and employing different types of questions. These methods are seen as effective ways to promote active participation, critical thinking, and engagement in the learning process. The students expect the lessons to be dynamic, interactive, and focused on their active involvement.

The students also have high expectations for the teaching materials used in the English lesson. They anticipate the use of mind mapping, visual aids, various authentic materials (such as audio, visual, and textbooks), and pedagogical materials. They expect these resources to enhance their understanding and engagement in the learning process. Additionally, the integration of social media is seen as a valuable resource to support their language development.

Language use in the classroom is another aspect where the students have high expectations. They expect exposure to both formal and informal speaking, enabling them to adapt their language use to different contexts. The inclusion of their native language (Thai) and the practice of code-mixing and code-switching between English and Thai are seen as beneficial for effective communication and comprehension. However, it is important to note that the students express a moderate expectation for using the target language (English) exclusively. This suggests that they recognize the importance of English proficiency and expect a higher emphasis on using English consistently within the classroom.

In summary, the students' expectations for the English lesson are high across various aspects. They aspire to develop strong communication skills, engage in interactive and diverse teaching and learning methods, utilize effective teaching materials, and improve their proficiency in English language use. By aligning the instructional practices with these expectations, the English lesson can meet the students' needs, foster their motivation, and create an optimal learning environment for their language development and overall success.

Table 3: The comparison of the authentic and expected conditions of the aspects of English lesson (n = 39)

	Authentic		Expectation		df	t	p
	M	SD	M	SD			
Target communication skills	2.65	1.084	3.59	0.838	38	3.316	.002*
Teaching and learning method	2.65	1.034	3.69	0.804	38	4.051	.000*
Teaching materials	2.57	1.049	3.82	0.819	38	4.481	.000*
Language used in classroom	2.66	0.972	3.63	0.740	38	3.839	.000*
Overall	2.67	1.012	3.67	0.740	38	3.977	.000*

p < .05

The data provided shows a comparison between the authentic conditions and the students' expected conditions for various aspects of the English lesson. The comparison is based on mean scores and standard deviations, and statistical significance is assessed using t-tests.

1. Target Communication Skills: The mean score for the authentic condition in target communication skills is 2.65, while the mean score for the students' expected condition is significantly higher at 3.59 (p < .002). This indicates that the students have a strong expectation for improvement in their communication skills compared to the current state.
2. Teaching and Learning Methods: The mean score for the authentic condition in teaching and learning methods is 2.65, whereas the mean score for the expected condition is significantly higher at 3.69 (p < .000). This suggests that the students have a clear expectation for more diverse and engaging teaching and learning methods that go beyond the current practices.

3. Teaching Materials: In terms of teaching materials, the mean score for the authentic condition is 2.57, while the mean score for the expected condition is significantly higher at 3.82 ( $p < .000$ ). This indicates that the students have a strong expectation for the use of a wider range of teaching materials that are more authentic and relevant to their learning needs.
4. Language Used in Classroom: The mean score for the authentic condition in language used in the classroom is 2.66, and the mean score for the expected condition is significantly higher at 3.63 ( $p < .000$ ). This suggests that the students have a clear expectation for a more immersive language environment, with a higher emphasis on English language use and effective communication.

When comparing the authentic conditions to the students' expected conditions across all aspects, the mean score for the authentic condition is 2.67, whereas the mean score for the expected condition is significantly higher at 3.67 ( $p < .000$ ). This indicates that the students have high expectations for improvement in all aspects of the English lesson.

These findings highlight the importance of aligning instructional practices and classroom conditions with the students' expectations. By addressing these expectations and providing a learning environment that meets their needs, educators can enhance student engagement, motivation, and overall learning outcomes in the English lesson.

Table 4: Analysis of the Modified Priority Needs Index (PNI<sub>modified</sub>) in respect of target communication skills

Aspects	Authentic (D)		Expectation (I)		Needs	
	$\bar{X}_{real}$	SD	$\bar{X}_{expect}$	SD	PNI <sub>modified</sub>	Rank
Teaching materials	2.57	1.129	3.82	0.921	0.49	1
Using social media	2.44	1.095	4.05	0.857	0.66	1
Using mind mapping / creating visual and/or mapping activities	2.54	1.144	3.79	0.951	0.49	2
Using different kinds of authentic materials (audio, visual, textbooks)	2.56	1.165	3.74	0.938	0.46	3
Using pedagogical materials	2.69	1.151	3.85	0.904	0.43	4

Aspects	Authentic (D)		Expectation (I)		Needs	
	$\bar{X}_{real}$	SD	$\bar{X}_{expect}$	SD	$PNI_{modified}$	Rank
Using pictures / charts, paintings, graphs / diagrams, and flowcharts	2.62	1.091	3.67	0.955	0.40	5
Teaching and learning method	2.64	1.139	3.69	0.95	0.40	2
Case method	2.62	1.067	3.9	0.882	0.49	1
Project method	2.54	1.189	3.72	0.944	0.46	2
Using learner's reaction and/or reflection	2.56	1.165	3.64	1.013	0.42	3
Problem solving	2.56	1.165	3.62	0.963	0.41	4
Using types of questions (rhetorical, open, referential, suggestive, etc.)	2.74	1.019	3.82	0.970	0.39	5
Giving and receiving feedback	2.72	1.099	3.72	0.999	0.37	6
Brainstorming	2.67	1.177	3.62	0.935	0.36	7
Presentation	2.67	1.177	3.56	0.940	0.34	8
Thematic discussions	2.72	1.191	3.62	0.907	0.33	9
Language used in classroom	2.66	1.075	3.63	0.984	0.36	3
Interpretation or explanation of an idea in a physical movement	2.64	1.135	3.79	0.864	0.44	1
Code-mixing and code switching between English and Thai	2.59	1.093	3.72	1.025	0.44	2
Students' native language (Thai language) only	2.74	1.069	3.79	0.978	0.38	3
Informal speaking	2.62	1.091	3.51	0.942	0.34	4
Formal speaking	2.67	0.982	3.54	1.047	0.33	5
Target language (English) only	2.69	1.08	3.44	1.046	0.28	6
Target communication skills	2.65	1.17	3.59	0.994	0.35	4

Aspects	Authentic (D)		Expectation (I)		Needs	
	$\bar{X}_{real}$	SD	$\bar{X}_{expect}$	SD	$PNI_{modified}$	Rank
Participate in/organize language and cultural activities in accordance with their interests.	2.64	1.224	3.79	0.923	0.44	1
Speak and write to express opinions about activities, experiences and incidents, as well as provide justifications.	2.56	1.188	3.67	1.009	0.43	2
Search for, collect and summarize the data/facts related to other learning areas from learning sources, and present them through speaking/ writing.	2.69	1.195	3.82	1.073	0.42	3
Speak and write appropriately to express needs, offer help and agree and refuse to give help in various situations.	2.56	1.119	3.56	0.995	0.39	4
Speak and write appropriately to ask for and give data, explain, compare and express opinions about what has been heard or read.	2.59	1.093	3.54	0.996	0.37	5
Use requests appropriately and give instructions, clarifications and explanations.	2.56	1.188	3.44	1.021	0.34	6
Converse and write to exchange data about themselves, various matters around them.	2.67	1.108	3.44	0.968	0.29	7
Speak and write to describe their own feelings and opinions about various matters, activities, experiences and news/incidents, as well as provide justifications appropriately.	2.77	1.18	3.54	0.942	0.28	8
Speak and write to summarize the main idea/theme and topic identified from analysis of matters/news/	2.82	1.233	3.49	1.023	0.24	9

Aspects	Authentic (D)		Expectation (I)		Needs	
	$\bar{X}_{real}$	SD	$\bar{X}_{expect}$	SD	$PNI_{modified}$	Rank
incidents/situations of interest to society.						

The analysis of the target communication skills reveals the students' expectations and priorities in their English language learning. Among the identified skills, "Participate in/organize language and cultural activities in accordance with their interests" emerges as the highest priority skill. The students place significant importance on engaging in language and cultural activities that align with their personal interests, highlighting the desire for meaningful and relevant learning experiences. This skill garners a relatively high  $PNI_{modified}$  value of 0.44, indicating its significance in the students' expectations.

Another skill that holds considerable priority is the ability to "Speak and write to express opinions about activities, experiences, and incidents, as well as provide justifications." Students aspire to articulate their viewpoints confidently and justify their opinions effectively. With a  $PNI_{modified}$  value of 0.43, this skill ranks prominently in their expectations, emphasizing the significance of fostering their expressive abilities.

Furthermore, the skill of "Search for, collect and summarize the data/facts related to other learning areas from learning sources, and present them through speaking/writing" is deemed important by the students. They value the ability to gather and present information from various sources, showcasing their desire for research skills and the integration of knowledge across disciplines. This skill holds a  $PNI_{modified}$  value of 0.42, underlining its relevance in their English language learning.

Additionally, the students express a need to "Speak and write appropriately to express needs, offer help, and agree and refuse to give help in various situations." This skill highlights their desire to navigate social interactions effectively, displaying their awareness of the importance of communication in different contexts. With a  $PNI_{modified}$  value of 0.39, this skill is notable in their expectations.

Moreover, the students emphasize the importance of "Speak and write appropriately to ask for and give data, explain, compare, and express opinions about what has been heard or

read." They aspire to effectively communicate their understanding of information, engage in discussions, and convey their opinions confidently. This skill is ranked fifth in terms of priority, with a PNImodified value of 0.37.

In summary, the Modified Priority Needs Index (PNImodified) analysis highlights the target communication skills that are particularly important to the students. Engaging in language and cultural activities, expressing opinions confidently, conducting research and presenting findings, and communicating effectively in various situations are key areas where the students seek development. Educators can better meet the students' expectations and foster their overall language proficiency by addressing these skills and prioritizing them in their English language instruction.

## **CLIL classroom implementation**

### Session 1:

During Session 1, the teacher employed visual aids and flashcards as part of the CLIL approach to introduce basic logistics vocabulary to the students. This approach aimed to integrate content and language learning by associating words with concrete images. By visually connecting the vocabulary with relatable visuals, the students were able to grasp and comprehend the meaning more easily. The interactive activities, such as matching pictures with words, further enhanced their engagement and facilitated their understanding and retention of the vocabulary. Through this session, a strong foundation was laid for the students' future learning and expansion of their logistics-related vocabulary.

The implementation of Session 1 demonstrated the effective utilization of the CLIL approach in integrating content and language learning in the logistics classroom. The use of visual aids and flashcards allowed the teacher to introduce basic logistics vocabulary in a visually engaging manner, facilitating the students' comprehension and retention of the vocabulary. By associating words with concrete images, the students were able to make connections between the vocabulary and its meaning more easily. The interactive activities, such as matching pictures with words, further enhanced the students' engagement and understanding of the vocabulary. By actively participating in these activities, the students were able to apply their knowledge in a meaningful context, reinforcing their understanding and retention of the introduced vocabulary.

The session's focus on laying a solid foundation for future learning and vocabulary expansion in logistics was achieved through the integration of the CLIL approach. By introducing key vocabulary in an engaging and visually supported manner, the students were provided with a strong starting point for their further exploration of logistics concepts. The CLIL approach's effectiveness in Session 1 was evident in the students' active engagement and comprehension of the introduced vocabulary. The visual aids and interactive activities served as effective instructional tools, fostering a deeper understanding of the vocabulary and its application in the context of logistics.

Overall, the implementation of Session 1 successfully demonstrated the benefits of employing the CLIL approach in the logistics classroom. By integrating content and language learning through visual aids, interactive activities, and meaningful context, the students were able to develop a solid foundation of logistics vocabulary and comprehension. This session's success set the stage for future sessions, where the students would continue to build upon their knowledge and expand their proficiency in logistics through the CLIL approach.

#### Session 2:

Session 2 builds upon the vocabulary introduced in the previous session and focuses on reinforcing and expanding logistics-related vocabulary. The interactive activities, such as word association games and sentence construction exercises, encourage students to use the vocabulary in meaningful contexts. This approach allows students to deepen their comprehension and linguistic skills in logistics. The targeted support provided by the teacher in areas like spelling and pronunciation indicates an awareness of individual student needs and a commitment to addressing language challenges within the context of procedural tasks.

The primary focus was reinforcing and expanding the logistics vocabulary introduced in Session 1. The teacher employed various interactive activities to engage the students and encourage them to use the vocabulary in meaningful contexts. These activities included word association games and sentence construction exercises. These activities provided students with practical opportunities to apply the vocabulary they had learned in Session 1. By using the words in different contexts, students could deepen their understanding of the vocabulary and develop their linguistic skills in the field of logistics.

One notable aspect of Session 2 was the targeted support provided by the teacher. The teacher identified areas where students faced challenges, such as spelling and

pronunciation, and offered specific assistance to address these difficulties. This personalized support indicated the teacher's commitment to addressing individual student needs and ensuring that each student could effectively engage with the vocabulary. Session 2 was designed to reinforce and expand the logistics vocabulary through interactive activities and targeted support. By actively involving the students in using the vocabulary in meaningful ways, the session aimed to enhance their comprehension and linguistic proficiency in logistics. The teacher's provision of individualized support demonstrated a commitment to addressing language challenges and fostering the students' language development within the context of procedural tasks.

### Session 3:

In Session 3, the students were given the opportunity to apply their understanding of logistics in a new context. They engaged in a task that required them to categorize and place products based on their logistics compatibility. While the students were able to complete the task, they faced challenges when it came to providing reasoning for their categorizations, indicating a need for further guidance in critical thinking and the practical application of their knowledge.

To address this, the teacher can employ various strategies. Offering additional examples can help students explore different scenarios and comprehend how logistics compatibility influences the categorization and placement of products. Facilitating discussions among the students encourages them to articulate their reasoning and learn from one another's perspectives. Guiding the students in practical reasoning and justification enables them to develop the analytical skills necessary for making informed decisions in logistics.

By incorporating these scaffolding techniques, the teacher can strengthen the students' understanding and analytical abilities in logistics. This approach allows them to apply their procedural knowledge to real-world scenarios, fostering critical thinking skills and boosting their confidence in decision-making processes. Session 3 underscores the importance of guiding students in bridging theoretical knowledge with practical applications, ultimately leading to a deeper understanding of logistics concepts and their practical significance.

#### Session 4:

In Session 4, the students engaged in a group task to elaborate on the shipping process. However, they encountered difficulties in presenting their ideas verbally in front of the classroom. To address this, the teacher can incorporate activities that specifically target the development of public speaking skills. By providing opportunities for practice, offering constructive feedback, and modeling effective communication techniques, the students can enhance their oral communication abilities in the context of logistics. These efforts will not only boost their confidence in expressing ideas but also contribute to their overall communication skills in logistics-related topics.

Session 4 focused on developing the students' oral communication skills in the context of logistics. The students were assigned a group task that required them to elaborate on the shipping process. However, they encountered challenges when it came to presenting their ideas verbally in front of the classroom. The session highlighted the importance of effective communication in logistics and the need for students to express their thoughts and ideas confidently. By incorporating activities that specifically target public speaking skills, the teacher aimed to provide the students with the necessary tools and support to overcome their difficulties.

Engaging in activities that foster public speaking skills is crucial in helping students develop confidence and clarity in their verbal communication. By practicing and receiving constructive feedback, students can improve their delivery, organization of ideas, and overall presentation skills. The teacher's role in providing modeling and guidance during these activities is essential in demonstrating effective communication strategies and techniques.

Through these efforts, the students can gain the confidence to articulate their ideas effectively, not only in the logistics domain but also in various other contexts. The development of oral communication skills is vital for future professional success, as effective communication is essential in the field of logistics, where clear and concise information exchange is crucial.

Overall, Session 4 emphasized the importance of oral communication skills in logistics and addressed the challenges the students faced in presenting their ideas verbally. By incorporating activities that foster public speaking skills, providing constructive feedback,

and offering modeling, the session aimed to enhance the students' overall communication abilities and confidence in expressing their ideas in logistics-related topics.

#### Session 5:

During Session 5, the students were required to fill out a shipping form, highlighting the need for more focused vocabulary instruction and practice, especially in logistics-related terms. The challenges faced by the students indicated the importance of addressing specific vocabulary gaps to enhance their ability to complete forms and communicate essential shipping information accurately. Despite these challenges, the students demonstrated an understanding of basic logistics knowledge, showcasing the effectiveness of the teacher's interactive activities and scaffolding techniques in engaging the students and developing their language skills.

Session 5 centered around the task of filling out a shipping form, which revealed the need for more targeted vocabulary instruction and practice, particularly in logistics-related terms. The challenges encountered by the students highlighted the importance of addressing specific vocabulary gaps to improve their ability to accurately complete forms and effectively communicate essential shipping information. The session emphasized the significance of logistics vocabulary in practical scenarios. Filling out a shipping form requires a precise understanding of terminology related to logistics processes, such as shipping methods, packaging requirements, and delivery instructions. The challenges faced by the students indicated the need for additional vocabulary instruction and practice to enhance their proficiency in using logistics-related terms.

Despite these difficulties, it is worth noting that the students demonstrated an understanding of basic logistics knowledge. This indicates the effectiveness of the teacher's interactive activities and scaffolding techniques implemented in previous sessions. The interactive activities and scaffolding provided the students with a solid foundation in logistics concepts and terminology, enabling them to comprehend the basic principles necessary for completing the shipping form. To further enhance the students' language skills and proficiency in logistics vocabulary, it is recommended that the teacher addresses the specific vocabulary gaps identified during Session 5. This can be achieved through targeted vocabulary instruction, vocabulary-building activities, and ample practice opportunities that focus on the terminology and phrases commonly used in shipping and logistics contexts.

By addressing these vocabulary gaps, the students will be better equipped to complete forms accurately and communicate essential shipping information effectively. This targeted vocabulary instruction will not only improve their logistical abilities but also enhance their overall language skills and confidence in real-world logistics scenarios.

Session 5 serves as a valuable reminder of the importance of ongoing vocabulary instruction and practice in the context of logistics. By identifying and addressing specific vocabulary gaps, the teacher can further support the students in their language development and ensure their readiness to apply logistics knowledge in practical situations.

#### Session 6:

In Session 6, the students were challenged to apply their knowledge of logistics by creating a shipping form for their hypothetical shipping business. This task required them to think systematically and logically group information to design a fillable form that captures crucial details from potential customers. Although language difficulties may have arisen, the students managed to produce a basic functional form, showcasing their ability to apply logistics knowledge practically and engage in problem-solving tasks.

Session 6 focused on applying the students' knowledge of logistics through the creation of a shipping form for a hypothetical shipping business. This task required the students to think systematically and logically in order to design a fillable form that effectively captured crucial details from potential customers. Creating a shipping form involves considering various logistics-related factors, such as shipping methods, packaging requirements, delivery addresses, and customer contact information. The students had to apply their understanding of these concepts and organize the form in a coherent and user-friendly manner. This task not only tested their logistics knowledge but also challenged their problem-solving and critical thinking skills.

Although language difficulties may have arisen during the session, the students managed to produce a basic functional form. This accomplishment showcases their ability to apply their logistics knowledge practically and engage in real-world problem-solving tasks. It also highlights their capacity to think analytically and logically when designing a form that captures essential information for a shipping business. The session provided an opportunity for the students to demonstrate their understanding of logistics concepts in a practical context. It allowed them to exercise their creativity and decision-making skills by designing a form

that met the needs of a shipping business. This hands-on activity enhanced their ability to think critically, organize information, and apply their knowledge in a tangible way.

To further develop their skills in logistics and form design, it would be beneficial for the teacher to provide feedback and guidance on improving the form's structure, clarity, and inclusion of necessary logistics-related details. This feedback can help students refine their designs and understand the importance of capturing accurate and comprehensive information in a shipping form. Overall, Session 6 provided an engaging and challenging task that allowed the students to apply their logistics knowledge practically. The successful creation of a functional shipping form demonstrated their ability to think systematically and engage in problem-solving tasks within the context of logistics. By providing opportunities for practical application and feedback, the teacher can continue to support the students in developing their logistics skills and enhancing their problem-solving abilities.

#### Session 7:

During Session 7, the students were tasked with demonstrating their understanding of the packing process and their ability to identify appropriate product types and evaluate transportation options for shipment. While the students succeeded in packing items ready for delivery, they required assistance in explaining their packing process and articulating the transportation options they would select. The teacher could provide guidance and modeling to help students improve their ability to express their choices clearly and justify their decision-making in the context of logistics.

Session 7 focused on assessing the students' comprehension of the packing process and their skills in identifying suitable product types and evaluating transportation options for shipment. The students were given the task of packing items in preparation for delivery, which required them to consider factors such as product characteristics, packaging materials, and transportation methods. While the students were able to successfully complete the packing task, they encountered challenges when it came to explaining their packing process and articulating their choices of transportation options. This indicates a need for further support in developing their ability to express their decisions clearly and justify their choices within the context of logistics.

To address this, the teacher can provide guidance and modeling to help students improve their communication skills in logistics. By demonstrating effective ways of

explaining the packing process and articulating transportation choices, the teacher can help students develop their ability to express their ideas and decisions in a clear and concise manner. Additionally, providing examples and engaging students in discussions can enhance their critical thinking skills and encourage them to justify their decision-making based on logistics considerations. It is important for students to not only understand the logistics concepts but also be able to communicate their choices and reasoning effectively. Clear and concise communication is crucial in logistics, as it ensures that all parties involved in the transportation process understand the requirements and expectations.

By addressing the challenges faced by students in explaining their packing process and articulating transportation options, the teacher can help them develop their communication skills in the context of logistics. This will not only improve their ability to express their choices clearly but also enhance their understanding of the logistics decision-making process. Overall, Session 7 highlighted the importance of guiding students in effectively communicating their decisions and justifying their choices within the logistics field. By providing guidance, modeling, and opportunities for practice and discussion, the teacher can support the students in improving their communication skills and their ability to apply logistics knowledge in real-world scenarios.

#### Session 8:

The final session focused on developing the students' skills in calculating the cost of international and domestic shipments for various goods. The students were presented with different factors to consider, such as shipment time, distance, and volume, and were tasked with comparing and contrasting each shipment. Although the students could calculate the dimensions of the shipments, they needed assistance in providing clear reasoning for their comparisons and contrasts. The teacher could further emphasize the importance of logical thinking and effective communication when analyzing and presenting their findings, enabling the students to strengthen their reasoning and evaluation skills in logistics-related calculations.

To address this, the teacher can place a stronger emphasis on the importance of logical thinking and effective communication when analyzing and presenting their findings. It is crucial for students to not only perform calculations but also understand and articulate the

reasoning behind their choices. By providing guidance and modeling, the teacher can help students strengthen their reasoning and evaluation skills in logistics-related calculations.

Encouraging discussions and debates among students can also contribute to their critical thinking abilities and enhance their ability to articulate their reasoning and conclusions. This enables them to make informed decisions based on quantitative analysis and justify their choices in a logical and coherent manner.

By further developing their logical thinking and effective communication skills in the context of logistics-related calculations, the students will be better equipped to analyze and evaluate different shipping options, considering factors such as cost, time, and distance. This session serves as a valuable opportunity for the students to enhance their reasoning and evaluation abilities, preparing them for real-world logistics scenarios where accurate calculations and clear justifications are essential.

Overall, the sessions provided a comprehensive learning experience in logistics, addressing vocabulary acquisition, practical application, problem-solving, and communication skills. The challenges encountered in Sessions 3, 4, 5, and 7 highlighted specific areas where students required further support and guidance. By tailoring instruction to address these challenges, the teacher fostered the students' logistics knowledge and language proficiency growth.

## Chapter 5

### Discussion, Recommendation and Conclusion

#### Discussion

Implementing the Content and Language Integrated Learning (CLIL) approach in the logistics sessions demonstrated its effectiveness in promoting language development and content acquisition simultaneously. By integrating logistics content into language learning activities, students could engage with the subject matter meaningfully, making connections between language and real-world logistics contexts. This approach enhanced their vocabulary acquisition and deepened their understanding of logistics concepts and principles.

The CLIL approach also facilitated the development of procedural knowledge in logistics. Through hands-on activities and problem-solving tasks, students could apply their knowledge in practical scenarios, gaining valuable experience in logistics operations. Students acquired procedural skills and developed a deeper understanding of the logistical processes involved by engaging in tasks such as categorizing products, creating shipping forms, and calculating shipment costs.

The challenges encountered by students in sessions 3, 4, 5, and 7 provided valuable insights into their learning needs. These challenges, such as difficulties in providing reasoning, articulating choices, or justifying decisions, highlighted areas where students required additional support and guidance. By recognizing and addressing these challenges, the teacher demonstrated an effective instructional response, tailoring instruction to meet the specific needs of the students. This targeted support helped students overcome their difficulties and fostered their growth in logistics knowledge and language proficiency.

The integration of CLIL and procedural knowledge in the sessions contributed to the development of a well-rounded skill set in logistics. Students were not only equipped with the necessary content knowledge but also developed practical skills in problem-solving, critical thinking, and effective communication. These skills are essential in the field of logistics, where professionals must navigate complex logistical processes, make informed decisions, and communicate effectively with stakeholders.

Furthermore, the CLIL approach and the emphasis on procedural knowledge provided students with opportunities to develop transferable skills that extend beyond the

realm of logistics. The ability to think systematically, analyze information, and communicate effectively are valuable skills in various academic and professional contexts. The sessions, therefore, not only prepared students for logistics-related tasks but also nurtured their overall cognitive and communication abilities.

In conclusion, the implementation of the CLIL approach and the integration of procedural knowledge in the logistics sessions proved to be highly beneficial for students. By combining language and content, the sessions promoted vocabulary acquisition and deepened understanding of logistics concepts. The challenges encountered by students highlighted the need for targeted support and guidance, which further facilitated their growth in logistics knowledge and language proficiency. Overall, the sessions provided students with a comprehensive learning experience, equipping them with the necessary skills and knowledge to excel in the field of logistics and beyond.

## **Recommendation**

The CLIL implementation in Sessions 1-8 of the logistics course showcased a comprehensive approach to language and content integration, providing students with a holistic learning experience. The sessions effectively addressed various components, including vocabulary acquisition, practical application, problem-solving, and communication skills. However, the challenges encountered in Sessions 3, 4, 5, and 7 revealed specific areas where students required additional support and guidance, indicating the need for further refinement in the CLIL approach.

One key recommendation for future CLIL sessions in logistics is to place a strong emphasis on targeted vocabulary instruction. By introducing new vocabulary in meaningful contexts and providing ample opportunities for practice and reinforcement, students can develop a robust logistics-related vocabulary repertoire. This can be achieved through engaging activities such as word association games, sentence construction exercises, and authentic materials that expose students to industry-specific terminology.

In addition to vocabulary instruction, clearly defined language objectives should be established for each session. By aligning the language skills and structures to be developed with the logistics content being taught, teachers can provide a focused approach to language learning. This ensures that students acquire language skills that are directly applicable to their understanding and communication of logistics concepts.

To enhance the authenticity of the CLIL sessions, the use of authentic materials and tasks is highly recommended. Incorporating actual shipping forms, case studies, or industry-related resources exposes students to authentic language input and allows them to develop practical skills that mirror real-world logistics scenarios. This not only enhances their language proficiency but also equips them with the necessary knowledge and skills required in their future careers in logistics.

Scaffolding techniques should be employed to support students in their language and content learning. By providing clear examples, step-by-step guidance, and gradually reducing support as students become more proficient, teachers can effectively scaffold students' understanding of complex logistics tasks. Scaffolding encourages students to actively engage in problem-solving, develop critical thinking skills, and gradually take ownership of their learning.

Furthermore, sessions that involve oral communication should include activities specifically designed to target oral communication skills. Role-plays, debates, group discussions, and presentations provide valuable opportunities for students to practice expressing their ideas, engaging in meaningful dialogue, and improving their spoken fluency. These activities encourage students to apply their procedural knowledge in practical contexts and develop their ability to communicate effectively in logistics-related discussions.

Regular opportunities for reflection and feedback should be incorporated into the sessions to promote metacognition and facilitate growth. Students can reflect on their learning progress, evaluate their own performance, and receive constructive feedback from the teacher and peers. This feedback loop encourages self-awareness, fosters a growth mindset, and enables students to make continuous improvements in both language and content areas.

Authentic assessment tasks that mirror real-life logistics situations should be implemented to measure students' language proficiency and content knowledge. By designing assessments that require students to apply their language skills and procedural knowledge in realistic contexts, teachers can obtain a more accurate representation of students' abilities and effectively evaluate their skills and understanding.

Lastly, ongoing professional development and support for teachers in CLIL methodology are crucial. Training programs, workshops, and collaborative opportunities can

provide teachers with the necessary knowledge, skills, and strategies to effectively implement CLIL in logistics instruction. Continued professional development ensures that teachers stay abreast of current pedagogical practices, further enhancing the quality of CLIL sessions and promoting student success.

By implementing these recommendations, future CLIL sessions in logistics can be further enhanced, promoting students' language development, content knowledge, and practical skills in the field of logistics. The integration of vocabulary instruction, clear language objectives, authentic materials and tasks, scaffolding techniques, oral communication activities, reflection and feedback opportunities, authentic assessment tasks, and professional development for teachers collectively contribute to a successful CLIL implementation and optimize student learning outcomes.

## **Future research**

Based on the current study on CLIL implementation in logistics, several topics can be explored for further research and study. These topics aim to deepen our understanding of CLIL in logistics education and identify areas that require further investigation. Some suggested topics for further studies are:

1. Assessment in CLIL logistics education: This topic focuses on exploring effective assessment methods and strategies for evaluating students' language proficiency and content knowledge in CLIL logistics courses. It can involve investigating the validity and reliability of assessment tools and exploring alternative assessment approaches that align with the CLIL approach.
2. Teacher training and professional development in CLIL logistics instruction: This topic examines the effectiveness of teacher training programs and professional development initiatives in preparing teachers to implement CLIL in logistics education. It can involve studying the impact of training on teachers' pedagogical practices, their confidence in implementing CLIL, and the transfer of knowledge and skills into the classroom.
3. Integration of technology in CLIL logistics instruction: This topic explores the integration of technology tools and resources to enhance CLIL logistics instruction. It can involve investigating the use of online platforms, multimedia materials, and

digital tools to support language and content learning in logistics. The focus can be on identifying effective technological interventions and their impact on student engagement, language proficiency, and content understanding.

4. Long-term effects of CLIL logistics education: This topic investigates the long-term effects of CLIL instruction in logistics on students' language proficiency, content knowledge, and career readiness. It can involve longitudinal studies that track students' progress over an extended period, examining their language skills, academic achievements, and professional outcomes in the field of logistics.
5. Cross-cultural perspectives in CLIL logistics education: This topic explores the impact of cultural factors on CLIL implementation in logistics education. It can involve examining how cultural diversity influences students' language development, content understanding, and their ability to apply logistics concepts in different cultural contexts. Comparing CLIL practices in diverse cultural settings can provide valuable insights into effective strategies for addressing cultural diversity in logistics education.
6. CLIL and interdisciplinary approaches in logistics education: This topic examines the integration of CLIL with other disciplines in logistics education. It can involve exploring how CLIL can be combined with STEM (Science, Technology, Engineering, and Mathematics) or other relevant disciplines to foster interdisciplinary learning in logistics. The focus can be on identifying effective instructional approaches and assessing the impact on students' learning outcomes.
7. CLIL and professional communication skills in logistics: This topic investigates the integration of CLIL with the development of professional communication skills in logistics. It can involve exploring strategies and activities that enhance students' abilities to effectively communicate in logistics-related contexts, such as business negotiations, supply chain management, or customer service.

These suggested topics offer avenues for further research and study in the field of CLIL logistics education. They address various aspects of CLIL implementation and its impact on language proficiency, content knowledge, pedagogical practices, and student outcomes. By exploring these topics, researchers and educators can contribute to the ongoing

development and refinement of CLIL practices in logistics education, ultimately enhancing the learning experiences and outcomes of students in this field.

## Conclusion

**Implementing** Content and Language Integrated Learning (CLIL) in English language classrooms of Grade 9 secondary school students has shown significant positive impacts on their English language proficiency. The data from sessions 1-8 indicate that CLIL approaches, specifically incorporating logistics-related content into language instruction, have provided students with valuable opportunities to practice and apply their English language skills in real-life contexts. Through engaging activities such as word association games, sentence construction exercises, and practical vocabulary applications, students can reinforce and expand their logistics vocabulary. This enhances their ability to comprehend and use logistics-related terminology and strengthens their overall language proficiency.

Moreover, the challenges encountered by students in sessions 3, 5, and 7, where they struggled with providing reasoning and justifications, highlight the need for ongoing support and guidance. The teacher's targeted support in addressing these challenges, such as providing additional examples and facilitating discussions, demonstrates a commitment to improving students' language proficiency. By scaffolding their learning, the teacher assists students in developing their analytical and reasoning skills, enabling them to express their thoughts more effectively in English. This, in turn, contributes to their overall English language proficiency and ability to communicate ideas clearly and coherently.

The implementation of CLIL in English language classrooms of Grade 9 secondary school students also has a positive impact on their Procedural knowledge. Throughout sessions 1-8, the instructional strategies and techniques employed by the teacher have promoted active engagement, critical thinking, and problem-solving skills among the students. The interactive activities, collaborative tasks, and problem-solving exercises integrated into the sessions have not only deepened their understanding of logistics but have also provided them with opportunities to develop their Procedural knowledge.

The challenges encountered in sessions 3, 4, 5, and 7 have revealed specific areas where students require further guidance in Procedural knowledge, such as public speaking skills, vocabulary acquisition, and logical reasoning. The teacher's efforts in providing modeling, offering constructive feedback, and emphasizing the importance of clear communication

indicate a commitment to enhancing students' Procedural knowledge. By incorporating CLIL principles, the teacher has encouraged innovative and effective teaching practices, promoting the integration of content and language instruction. This approach allows students to not only acquire subject-specific knowledge in logistics but also develop their understanding and application of instructional methodologies in the context of English language learning.

In conclusion, the data from sessions 1-8 suggest that implementing CLIL in English language classrooms of Grade 9 secondary school students positively impacts their English language proficiency and Procedural knowledge. By integrating logistics-related content into language instruction, students have the opportunity to practice and apply their language skills in meaningful contexts. The challenges encountered throughout the sessions highlight areas for further support, which the teacher addresses through targeted guidance and scaffolding techniques. Overall, the implementation of CLIL principles in the classroom enhances students' language proficiency, critical thinking skills, and understanding of effective teaching methodologies.

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# Appendix

## **Appendix A**

Survey on the students' needs for content, language, curriculum, and materials in the English language subject related to the Eastern Economic Corridor (EEC) for ninth-grade secondary school students, focusing on contextualized Content and Language Integrated Learning (CLIL) principles.

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

หมายเหตุ: แบบสอบถามนี้อยู่ในรูปแบบของ Google form

## แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

Email \*

nattharhma@gmail.com

เพศ \*

- ชาย
- หญิง

คิดว่าระดับภาษาอังกฤษของเราอยู่ในเกณฑ์ไหน \*

- ไม่รู้เรื่องเลยแม้แต่นิดเดียว เป็นศูนย์
- พอรู้บ้าง พึ่งออก อ่านได้ เชียนได้ พูดได้นิดหน่อย
- ปานกลาง ถ้าต้องเจอคนต่างชาติ สามารถเข้าใจได้ แต่ต้องฟังด้วย
- เก่ง พร้อมมาก สื่อสารเรื่องยากๆเป็นภาษาอังกฤษได้
- เก่งมากๆ พูดสนับสนุนทรัพจน์ หรือเขียนเป็นภาษาอังกฤษได้

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

ถ้าเรียนวิชาอื่นๆเป็นภาษาอังกฤษด้วย นักเรียนคิดว่า... \*

- ดายແນ່ “ໄມ່ເຈົາ
- ຕ້ອງຍາກແລະໄມ່ສາມາດເຂົ້າໃຈໄດ້
- ຈະເຂົ້າໃຈເມື່ອຄຽບແປລເປັນພາສາໄທຢ່າງເຫັນນັ້ນ
- ນ່າຈະເຂົ້າໃຈດ້ວຍຕົວເອງນິດໆທຸນຍ່າໄດ້
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ห้องเรียนພາສາອັງກຸນແບບທີ່ເຮົາຍາກໄດ້

ໜໍາຍເລີ່ມ 5 ໜໍາຍເລີ່ມ ຕ້ອງການໃນຮະຕັບນັກທີ່ສຸດ

ໜໍາຍເລີ່ມ 4 ໜໍາຍເລີ່ມ ຕ້ອງການໃນຮະຕັບນັກ

ໜໍາຍເລີ່ມ 3 ໜໍາຍເລີ່ມ ຕ້ອງການໃນຮະຕັບປານກລາງ

ໜໍາຍເລີ່ມ 2 ໜໍາຍເລີ່ມ ຕ້ອງການໃນຮະຕັບນ້ອຍ

ໜໍາຍເລີ່ມ 1 ໜໍາຍເລີ່ມ ຕ້ອງການໃນຮະຕັບນ້ອຍທີ່ສຸດ

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## ทักษะในการสื่อสาร (Communication skills) \*

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4

3

2

1

สนทนาและเขียน  
โตตอบข้อมูล  
เกี่ยวกับตนเอง  
และเรื่องต่างๆ  
ใกล้ตัวได้

พูดและเขียน  
แสดงความ  
ต้องการ เสนอและ  
ให้ความช่วยเหลือ  
ตอบรับและปฏิเสธ  
การให้ความช่วย  
เหลือ

พูดและเขียนเพื่อ  
ขอและให้ข้อมูล  
บรรยาย อธิบาย  
เปรียบเทียบ และ  
แสดงความคิด  
เห็นเกี่ยวกับเรื่อง  
ที่ฟังหรืออ่าน  
อย่างเหมาะสม

พูดและเขียน  
บรรยายความรู้สึก  
และความคิดเห็น  
ของตนเองเกี่ยวกับ  
เรื่องต่างๆ  
กิจกรรม  
ประสบการณ์ และ  
ข่าว/เหตุการณ์  
พร้อมทั้งให้  
เหตุผลประกอบ  
อย่างเหมาะสม

พูดขอร้อง ชี้แจง  
และอธิบาย ให้ค่า  
แนะนำอย่าง  
เหมาะสม

พูดและเขียนสรุป  
ใจความสำคัญ/  
แก่นสาระ หัวข้อ  
เรื่องที่ได้จากการ  
วิเคราะห์เรื่อง/  
ข่าว/เหตุการณ์/

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สถานการณ์ที่อยู่  
ในความสนใจ

พูดและเขียน  
แสดงความคิด  
เห็นเกี่ยวกับ  
กิจกรรม  
ประสบการณ์ และ  
เหตุการณ์ พร้อม  
ให้เหตุผล  
ประกอบ

ระบุ/เขียนสื่อที่  
ไม่ใช่ความเรียงรูป  
แบบต่างๆ ล้มพังหรือ  
กับประโยชน์และ  
ข้อความที่ฟังหรือ  
อ่าน

แสดงความคิด  
เห็นเกี่ยวกับเรื่อง  
ที่ฟังและอ่านจาก  
สื่อประเภทต่างๆ  
พร้อมทั้งให้  
เหตุผลและยก  
ตัวอย่างประกอบ

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

## กิจกรรมในชั้นเรียน (Method) \*

	5	4	3	2	1
พูดคุย อภิปราย ในชั้นเรียน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ทำกิจกรรมแบบ ทดลองแก้ปัญหา	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ทำชิ้นงานหรือ โครงการ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ระดมสมองในชั้น เรียนหรือกลุ่ม เพื่อน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
กรณีศึกษา	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
นำเสนองาน/พรี เซ็นต์งาน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ให้คอมเม้นท์ เกี่ยวกับงานที่ทำ มาส่ง	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
เขียนหรือพูดเพื่อ สะท้อนความรู้สึก หรือสิ่งที่ได้รับ จากการเรียน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้วิธีตั้งค่าตาม น้ำใจตอบ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## สื่อการเรียน (Materials) \*

	5	4	3	2	1
ใช้รูปภาพเป็นสื่อการสอน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้กราฟ ตาราง ข้าร์ทต่างๆเป็นสื่อการสอน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้เนื้อหา หรือ อุปกรณ์ที่ใช้ในชีวิตจริง	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้หนังสือเรียนที่ดัดแปลงภาษาให้เหมาะสมแล้ว	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้โซเชียลมีเดีย หรือเทคโนโลยี	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

## ภาษาที่ใช้ในการเรียนการสอน (Language) \*

	5	4	3	2	1
ภาษาเป็นทางการ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ภาษาทั่วไป หรือไม่เป็นทางการ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้ภาษาไทยในการอธิบาย	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้กริยาท่าทางในการช่วยสื่อความหมาย	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้ภาษาไทยสับสันญากับภาษาอังกฤษ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้ภาษาอังกฤษอย่างเดียว	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

## ในความคิดเรา วิชาภาษาอังกฤษควรมีเนื้อหาที่เกี่ยวข้อง สอดคล้องกับวิชาอื่นๆ แค่ไหนค่ะ \*

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ไม่เห็นด้วยอย่างยิ่ง				เห็นด้วยอย่างยิ่ง

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ในการเรียนภาษาอังกฤษ ประกอบด้วยเนื้อหาและตัวภาษา เช่น เราสามารถเรียน "เนื้อหา" เรื่องร้านอาหารว่ามี \* อาหารประเภทใดบ้าง หรือมีอาหารชีพใดบ้างในร้านอาหาร และเรียน "ภาษา" ว่ามีแกรมมาร์หรือค่าศัพท์ภาษาอังกฤษอะไรบ้างที่ใช้เรียกหรืออธิบายประเภทอาหารหรืออาหารชีพในร้านอาหาร ในความคิดของเรา นั้น "เนื้อหา" หรือ "ภาษา" สำคัญกว่ากัน

- เนื้อหาสำคัญกว่าภาษา ควรเน้นเนื้อหา
- ภาษาสำคัญกว่าเนื้อหา ควรเน้นภาษา
- สำคัญทั้งคู่ ควรเน้นเท่ากัน

จากข้อข้างบน ทำไม่เราถึงคิดแบบนั้น \*

-

มีข้อเสนอแนะอื่นๆ ให้บันทึก เช่นเพิ่มตรงนี้ได้เลยค่ะ

-

ห้องเรียนภาษาอังกฤษที่เคยเรียนเป็นอย่างไรบ้าง

- หมายเลขอ 5 หมายถึง ตรงกับสภาพปัจจุบันในระดับมากที่สุด
- หมายเลขอ 4 หมายถึง ตรงกับสภาพปัจจุบันในระดับมาก
- หมายเลขอ 3 หมายถึง ตรงกับสภาพปัจจุบันในระดับปานกลาง
- หมายเลขอ 2 หมายถึง ตรงกับสภาพปัจจุบันในระดับน้อย
- หมายเลขอ 1 หมายถึง ตรงกับสภาพปัจจุบันในระดับน้อยที่สุด

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## ทักษะในการสื่อสาร (Communication skills) \*

1

2

3

4

5

สนทนาและเขียน  
โตตอบข้อมูล  
เกี่ยวกับตนเอง  
และเรื่องต่างๆ  
ใกล้ตัวได้

พูดและเขียน  
แสดงความ  
ต้องการ เสนอและ  
ให้ความช่วยเหลือ  
ตอบรับและปฏิเสธ  
การให้ความช่วย  
เหลือ

พูดและเขียนเพื่อ  
ขอและให้ข้อมูล  
บรรยาย อธิบาย  
เบรี่ยนเที่ยบ และ  
แสดงความคิด  
เห็นเกี่ยวกับเรื่อง  
ที่ฟังหรืออ่าน  
อย่างเหมาะสม

พูดและเขียน  
บรรยายความรู้สึก  
และความคิดเห็น  
ของตนเองเกี่ยวกับ  
กับเรื่องต่างๆ  
กิจกรรม  
ประสบการณ์ และ  
ข่าว/เหตุการณ์  
พร้อมทั้งให้  
เหตุผลประกอบ  
อย่างเหมาะสม

พูดขอร้อง ชี้แจง  
และอธิบาย ให้ค่า<sup>+</sup>  
แนะนำอย่าง  
เหมาะสม

พูดและเขียนสรุป  
ใจความสำคัญ/  
แก่นสาระ หัวข้อ<sup>+</sup>  
เรื่องที่ได้จากการ  
วิเคราะห์เรื่อง/  
ข่าว/เหตุการณ์/<sup>+</sup>

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

สถานการณ์ที่อยู่  
ในความสนใจ

พูดและเขียน  
แสดงความคิด  
เห็นเกี่ยวกับ  
กิจกรรม  
ประสบการณ์ และ  
เหตุการณ์ พร้อม  
ให้เหตุผล  
ประกอบ

ระบุ/เขียนสื่อที่  
ไม่ใช่ความเรียงรูป  
แบบต่างๆ สัมพันธ์  
กับประโยชน์และ  
ข้อความที่ฟังหรือ  
อ่าน

แสดงความคิด  
เห็นเกี่ยวกับเรื่อง  
ที่ฟังและอ่านจาก  
สื่อประเภทต่างๆ  
พร้อมทั้งให้  
เหตุผลและยก  
ตัวอย่างประกอบ

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

## กิจกรรมในชั้นเรียน (Method) \*

	1	2	3	4	5
พูดคุย อภิปราย ในชั้นเรียน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ทำกิจกรรมแบบ ทดลองแก้ปัญหา	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ทำชิ้นงานหรือ โครงการ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ระดมสมองในชั้น เรียนหรือกลุ่ม เพื่อน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
กรณีศึกษา	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
นำเสนองาน/พรี เซ็นต์งาน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ให้คอมเม้นท์ เกี่ยวกับงานที่ทำ มาส่ง	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
เขียนหรือพูดเพื่อ สะท้อนความรู้สึก หรือสิ่งที่ได้รับ จากการเรียน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้วิธีตั้งค่าถาม นำเสนอ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

## สื่อการเรียน (Materials) \*

	1	2	3	4	5
ใช้รูปภาพเป็นสื่อการสอน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้กราฟ ตาราง ขาร์ทต่างๆเป็นสื่อการสอน	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้เนื้อหา หรือ อุปกรณ์ที่ใช้ในชีวิตจริง	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้หนังสือเรียนที่ตัดแบ่งภาษาให้เหมาะสมแล้ว	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้โซเชียลมีเดีย หรือเทคโนโลยี	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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แบบสำรวจความต้องการการเรียนรายวิชาภาษาอังกฤษ

## ภาษาที่ใช้ในการเรียนการสอน (Language) \*

	5	4	3	2	1
ภาษาเป็นทางการ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ภาษากึ่งทางการหรือไม่เป็นทางการ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้ภาษาไทยในการอธิบาย	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้กริยาท่าทางในการช่วยสื่อความหมาย	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้ภาษาไทยสลับกับภาษาอังกฤษ	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ใช้ภาษาอังกฤษอย่างเดียว	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

มีข้อคิดเห็นอื่นๆ ใหม่ๆ เช่นเพิ่มตรงนี้ได้เลยค่ะ

ข้อเสนอแนะเพิ่มเติม

ข้อเสนอแนะเพิ่มเติม

This form was created inside of Burapha University.

Google Forms

## Appendix B

### Detail of the expert's assessment of research instruments

#### เอกสารสรุปการตรวจสอบเครื่องมือของผู้เชี่ยวชาญ

ชื่อโครงการ ผลของการจัดการเรียนการสอนแบบวิทยาภาษาบูรณาการ: กรณีศึกษาในรายวิชาภาษาอังกฤษ ที่ เกี่ยวข้องกับระเบียงเศรษฐกิจพิเศษภาคตะวันออก ระดับมัธยมศึกษาปีที่ 3

The Effect of Contextualized Content and Language Integrated Learning (CLIL): A Case Study of English for EEC in Grade Ninth Classroom

#### ประกอบด้วยเอกสารดังต่อไปนี้

1. ตารางแสดงค่าคณณเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของ แบบสอบถามความต้องการจำเป็น โดยผู้เชี่ยวชาญ 3 ท่าน
2. ตารางแสดงค่าคณณเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของ แผนการจัดการเรียนการสอนภาษาอังกฤษในชั้นเรียนตามแนวทางวิทยาภาษาบูรณาการโดย ผู้เชี่ยวชาญ 3 ท่าน
3. ตารางแสดงค่าคณณเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของ แบบทดสอบผลสัมฤทธิ์ทางภาษาอังกฤษและความรู้ในเชิงวิธีการโดยผู้เชี่ยวชาญ 3 ท่าน
4. ตารางแสดงค่าคณณเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของ แบบสัมภาษณ์กับโครงสร้างโดยผู้เชี่ยวชาญ 3 ท่าน

1. ตารางแสดงค่าคะแนนเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของแบบสอบถามความต้องการจำเป็น โดยผู้เชี่ยวชาญ 3 ท่าน

ที่	ข้อสอดคล้อง	คะแนนความคิดเห็นของผู้เชี่ยวชาญ			$\Sigma R$	IOC	แปลผล
		1	2	3			
1.	รูปแบบ (Format)	+1	+1	+1	3	1	ใช่ได้
2.	เวลา (Time allocation)	+1	+1	+1	3	1	ใช่ได้
กลุ่มข้อคำถาม							
3.	คิดว่าระดับภาษาอังกฤษของเรารอยู่ในเกณฑ์ไหน	+1	+1	0	2	0.67	ใช่ได้
4.	ถ้าเรียนวิชาอื่นๆเป็นภาษาอังกฤษด้วย นักเรียนคิดว่า...	+1	+1	+1	3	1	ใช่ได้
5.	ทักษะในการสื่อสาร (Communication skills)	+1	0	0	1	0.33	ปรับปรุง
6.	กิจกรรมในชั้นเรียน (Method)	+1	0	0	1	0.33	ปรับปรุง
7.	สื่อการเรียน (Materials)	+1	0	0	1	0.33	ปรับปรุง
8.	ภาษาที่ใช้ในการเรียนการสอน (Language)	+1	+1	+1	3	1	ใช่ได้
9.	วิชาภาษาอังกฤษความมีเนื้อหาที่เกี่ยวข้อง สอดคล้องกับวิชาอื่นๆเพียงใด	+1	+1	+1	3	1	ใช่ได้
10.	การให้น้ำหนักระหว่าง "เนื้อหา" หรือ "ภาษา"	+1	+1	+1	3	1	ใช่ได้
Total						0.77	ใช่ได้

#### ข้อเสนอแนะเพิ่มเติม

- ควรปรับภาษาให้เหมาะสมกับระดับของเด็ก
- Items under categories 5, 6, and 7 should be added descriptions to make it clearer.

#### สรุปการแก้ไข

- เพิ่มคำอธิบายในรายหมวด 5, 6, และ 7
- ตารางแสดงค่าคะแนนเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของแผนการจัดการเรียนการสอนภาษาอังกฤษในชั้นเรียนตามแนวทางวิทยาบูรณาการโดยผู้เชี่ยวชาญ 3 ท่าน

ที่	ข้อสอดคล้อง	คะแนนความคิดเห็นของ ผู้เชี่ยวชาญ			$\Sigma R$	IOC	แปลผล
		1	2	3			
Objectives of the lesson plan							
1	The terminal objective(s) of the lesson plan is appropriate.	+1	+1	+1	3	1	ใช่เด
2.	The enabling objectives of the lesson plan is consistent with the terminal objective(s).	+1	+1	+1	3	1	ใช่เด
The content of the lesson plan							
3.	The content of the lesson plan is consistent with the terminal and enabling objectives.	+1	+1	+1	3	1	ใช่เด
4.	The content of the lesson plan is appropriate for the students.	+1	+1	+1	3	1	ใช่เด
5.	The content of the lesson plan is accurate to the course description.	+1	+1	+1	3	1	ใช่เด
6.	The activities/tasks employed in the classroom are consistent with the terminal and enabling objectives.	+1	+1	+1	3	1	ใช่เด
7.	The activities/tasks employed in the classroom are appropriate for the students.	+1	+1	+1	3	1	ใช่เด
8.	The activities/tasks employed in the classroom are consistent with the content of the lesson.	+1	+1	+1	3	1	ใช่เด
9.	The procedure of the lesson is appropriate for the students.	+1	+1	+1	3	1	ใช่เด

ที่	ข้อสอดคล้อง	คะแนนความคิดเห็นของ ผู้เชี่ยวชาญ			$\Sigma R$	IOC	ผล
		1	2	3			
Materials employed in the classroom							
10.	The material(s) employed in the classroom is consistent with the activities and content of the lesson.	+1	+1	+1	3	1	ใช่เด
11.	The material(s) employed in the classroom is appropriate for the students.	+1	+1	+1	3	1	ใช่เด
Time spent in the classroom							
12.	Time spent is appropriate for the lesson.	0	0	+1	1	0.33	ปรับปรุง
Evaluation							
13.	The evaluation/assessment employed in the lesson is consistent with the objective(s) of the lesson plan.	+1	+1	+1	3	1	ใช่เด
Overall							
14.	The lesson plan is appropriate for emphasizing the CLIL.	+1	+1	+1	3	1	ใช่เด

#### ข้อเสนอแนะเพิ่มเติม

1. Add more activity
2. The students may bring their own items, allowing them to participate in the lessons and supporting engagement in the classroom.
3. The time allocation should be extended. Please make sure that the students follow your instruction and reach your goal.
4. Time allocation for some activity might not be enough.

5. You can create checklist for students to use when they listen to their friends' presentation, product, or answers to increase their participation and attention to learn language.
6. Students might be a mixed ability.

### สรุปการแก้ไข

1. เพิ่มเวลาสำหรับให้นักเรียนทำกิจกรรมในแต่ละครั้งให้มากขึ้น

3. ตารางแสดงค่าคะแนนเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของแบบทดสอบผลสัมฤทธิ์ทางภาษาอังกฤษและความรู้ในเชิงวิธีการโดยผู้เชี่ยวชาญ 3 ท่าน

ที่	ข้อสอดคล้อง	คะแนนความคิดเห็นของ ผู้เชี่ยวชาญ			$\Sigma R$	IOC	แปลผล
		1	2	3			
1.	The content of the semi-structured interview is valid.	+1	+1	+1	3	1	ใช่เดิม
2.	The questions of the semi-structured interview are understandable.	+1	+1	+1	3	1	ใช่เดิม
3.	The time given for each question is appropriate.	+1	+1	0	2	0.67	ใช่เดิม
4.	The questions are consistent with the objective(s) of the study.	+1	+1	+1	3	1	ใช่เดิม
5.	The language use is understandable for the students.	+1	+1	+1	3	1	ใช่เดิม
Total						0.93	ใช่เดิม

#### ข้อเสนอแนะเพิ่มเติม

1. The time should not be fixed for each question in order to get insightful from the students.
2. Thai items should be provided.

#### สรุปการแก้ไข

1. เพิ่มเวลาให้การสัมภาษณ์ของนักเรียนแต่ละคน
2. เพิ่มการอธิบายคำศัพท์เฉพาะเป็นภาษาไทยให้นักเรียน

4. ตารางแสดงค่าคะแนนเฉลี่ย ระดับความเหมาะสมและแสดงผลการพิจารณาค่าดัชนีความสอดคล้องของแบบสัมภาษณ์กับโครงสร้างโดยผู้เชี่ยวชาญ 3 ท่าน

ที่	ข้อสอดคล้อง	คะแนนความคิดเห็นของผู้เชี่ยวชาญ			$\Sigma R$	IOC	แปลผล
		1	2	3			
1.	The directions are clear and understandable.	+1	+1	+1	3	1	ใช่เดิม
2.	The test items include the elements of transformative assessment.	+1	+1	+1	3	1	ใช่เดิม
3.	The test involves focused vocabulary.	+1	+1	+1	3	1	ใช่เดิม
4	The test format supports test takers to do the test.	+1	+1	+1	3	1	ใช่เดิม
5.	The grammar is at the test takers' level.	+1	+1	+1	3	1	ใช่เดิม
6.	The test includes the element of procedural knowledge.	+1	+1	+1	3	1	ใช่เดิม
7.	The time allocation is enough for test-takers to do without a rush.	0	+1	+1	2	0.67	ใช่เดิม
Total						0.95	ใช่เดิม

### ข้อเสนอแนะเพิ่มเติม

1. Do students need to draw picture in the writing part? Will it be a factor to make students get good scores?
2. The students' mixed level should be concerned.

### สรุปการแก้ไข

1. เพิ่มข้ออธิบายเรื่องการวาดภาพประกอบเพื่อแสดงกระบวนการ

**Appendix C**  
**Request letter for approval from the school**



ที่ วา ๘๑๑๙/๑๑๔๒

คณะศึกษาศาสตร์ มหาวิทยาลัยบูรพา  
 ตำบลแสนสุข อำเภอเมือง  
 จังหวัดชลบุรี ๒๐๑๓๑

๒ ๒๕๖๕

เรื่อง ขอความอนุเคราะห์เข้าเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนเทพศิรินทร์ชลบุรี (อุทกฯ อุปถัมภ์)

ด้วยข้าพเจ้า นางสาวพรนวลัย เกware อาจารย์สังกัดภาควิชาบัณฑิตศึกษานานาชาติ การพัฒนารัฐพยากรณ์นุชร์ คณะศึกษาศาสตร์ มหาวิทยาลัยบูรพา กำลังดำเนินการทำวิจัยเรื่อง “ผลของการจัดการเรียนการสอนแบบวิทยาฐานะในการ: กรณีศึกษาในรายวิชาภาษาอังกฤษ ที่เกี่ยวข้องกับระเบียงเศรษฐกิจพิเศษภาคตะวันออก ระดับมัธยมศึกษาปีที่ ๓” โดยมีความประสงค์ขอเข้าเก็บข้อมูลกับนักเรียน ชั้นมัธยมศึกษาปีที่ ๓ ณ โรงเรียนเทพศิรินทร์ชลบุรี (อุทกฯ อุปถัมภ์) ในระหว่างวันที่ ๑๕ ชั้นวาม พ.ศ. ๒๕๖๕ - วันที่ ๓๑ มีนาคม พ.ศ. ๒๕๖๖ เพื่อประกอบการวิจัย ในการนี้ จึงขอความอนุเคราะห์ให้ผู้วิจัย เข้าเก็บข้อมูลวิจัย ณ โรงเรียนเทพศิรินทร์ชลบุรี (อุทกฯ อุปถัมภ์) ตามช่วงเวลาที่ระบุข้างต้น ทั้งนี้ ท่านสามารถติดต่อผู้วิจัยได้ที่หมายเลขโทรศัพท์ ๐๘๖ ๙๒๖ ๓๓๒๒

จึงเรียนมาเพื่อโปรดพิจารณาให้ความอนุเคราะห์ ทางคณะศึกษาศาสตร์ มหาวิทยาลัยบูรพา หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์จากท่าน และขอขอบคุณอย่างสูงมา ณ โอกาสนี้

ขอแสดงความนับถือ

๗๙.๙

(รองศาสตราจารย์ ดร.สกุญ รีรานิชธรรมกุล)  
 คณบดีคณะศึกษาศาสตร์ ปฏิบัติการแทน  
 อธิการบดีมหาวิทยาลัยบูรพา

ภาควิชาบัณฑิตศึกษานานาชาติการพัฒนารัฐพยากรณ์นุชร์  
 โทรศัพท์ ๐ ๓๘๑๐ ๒๐๐๔  
 โทรสาร ๐ ๓๘๓๙ ๓๔๘๘

## Appendix D

### Ethical form

สำเนา

ที่ IRB2-090/2565



เอกสารรับรองผลการพิจารณาจริยธรรมการวิจัยในมนุษย์

มหาวิทยาลัยบูรพา

คณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา ได้พิจารณาโครงการวิจัย

รหัสโครงการวิจัย : HU071/2565

โครงการวิจัยเรื่อง : ผลของการจัดการเรียนการสอนแบบบูรพาภาษาบูรพา: กรณีศึกษาในรายวิชาภาษาอังกฤษ  
ที่เกี่ยวข้องกับเรื่องเศรษฐกิจพิเศษภาคตะวันออก ระดับมัธยมศึกษาปีที่ 3

หัวหน้าโครงการวิจัย : นางสาวพรพรรณ เกware

หน่วยงานที่สังกัด : คณะศึกษาศาสตร์

คณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา ได้พิจารณาแล้วเห็นว่า โครงการวิจัย  
ดังกล่าวเป็นไปตามหลักการของจริยธรรมการวิจัยในมนุษย์ โดยที่ผู้วิจัยเคร่งครัดและศักดิ์ศรีในความเป็นมนุษย์ไม่มีการ  
ล่วงละเมิดสิทธิ สร้างสรรค์ ไม่ก่อให้เกิดภัยร้ายต่อบุคคล ด้วยวิธีการที่สอดคล้องกับจริยธรรมและกฎหมาย

จึงเห็นสมควรให้ดำเนินการวิจัยในขอบเขตที่เสนอได้ (ดูตามเอกสารตรวจสอบ)

- แบบเสนอเพื่อขอรับการพิจารณาจริยธรรมการวิจัยในมนุษย์ ฉบับที่ 2 วันที่ 13 เดือน กันยายน พ.ศ. 2565
- เอกสารโครงการวิจัยฉบับภาษาไทย ฉบับที่ 1 วันที่ 24 เดือน สิงหาคม พ.ศ. 2565
- เอกสารซึ่งแจ้งผู้เข้าร่วมโครงการวิจัย ฉบับที่ 2 วันที่ 13 เดือน กันยายน พ.ศ. 2565
- เอกสารแสดงความยินยอมของผู้เข้าร่วมโครงการวิจัย ฉบับที่ 1 วันที่ 24 เดือน สิงหาคม พ.ศ. 2565
- เอกสารแสดงรายละเอียดเครื่องมือที่ใช้ในการวิจัย ฉบับที่ 1 วันที่ 24 เดือน สิงหาคม พ.ศ. 2565
- เอกสารอื่น ๆ (ถ้ามี) ฉบับที่ - วันที่ - เดือน - พ.ศ. -

วันที่รับรอง : วันที่ 8 เดือน ตุลาคม พ.ศ. 2565

วันที่หมดอายุ : วันที่ 8 เดือน ตุลาคม พ.ศ. 2566

ลงนาม อาจารย์เจนวิทย์ นวลแสง

(อาจารย์เจนวิทย์ นวลแสง)

ประธานคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยบูรพา

ชุดที่ 2 (กลุ่มนุษยศาสตร์และสังคมศาสตร์)

