

# From Theory to Practice: A Practical Guide for In-Service Teachers on CLIL Material Development Implemented in English Primary Classrooms

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## Abstract

This study investigates the impact of Content and Language Integrated Learning (CLIL) workshops on the learning achievements of in-service teachers and the subsequent influence of CLIL kits on student learning outcomes. Seventeen Grade 4 teachers participated in a comprehensive training program focused on CLIL concepts, methodologies, and material development. Pre-tests and post-tests were administered to assess the teachers' knowledge and skills regarding CLIL. Following the training, teachers collaboratively designed CLIL lesson plans and CLIL innovative kits and implemented them in their classrooms. Simultaneously, 114 Grade 4 students participated in activities designed to enhance their potential in English through the use of the CLIL kits. Statistical analyses, including Means and Standard Deviation, were employed to compare pre-test and post-test scores for both teachers and students. Results indicated a statistically significant increase in teachers' learning achievements ( $p < 0.001$ ), suggesting the effectiveness of the CLIL workshops in enhancing their understanding and application of CLIL strategies. Moreover, post-test scores after utilizing CLIL kits in classrooms for students significantly exceeded pre-test scores ( $p < 0.001$ ), highlighting the positive impact of CLIL kits on student learning outcomes. The findings underscore the potential of CLIL methodologies to empower teachers and enrich the learning experiences of students in language-content subjects. This study contributes valuable insights to the ongoing discourse on effective language instruction methodologies and calls for continued integration of CLIL strategies in educational practices in Thailand.

**Keywords:** Content and Language Integrated Learning (CLIL), Material development, in-service teacher training, Professional Development, English Primary Classroom.

## **Introduction**

The majority of EFL teachers look for the most successful techniques or strategies. To ensure that their students receive the greatest education possible which suggests that the students can understand and use the language with ease, to help the students learn, effective EFL teachers therefore recognize the situation and carefully select the best teaching strategy. The trend of globalization in English education resulted in educational institutions offering bilingual and EMI programme to enhance the potential of either core content subjects or the English language for students. The well-known approach is CLIL, which stands for Content and Language Integrated Learning, which is a widely used term in Europe to refer to the method of teaching a curriculum subject through a foreign language. The main objective of CLIL is to enhance both subject knowledge and proficiency in the foreign language.

Since integrated learning involves a dual focus on meaning and form, the primary benefit of the CLIL methodology over traditional EFL lessons is that students “learn to use language and use language to learn” (Mehisto, Marsh, & Frigols, 2008: 26). This allows students to concentrate on language and communication. Therefore, the CLIL technique is built around communication, offering a rich and varied input (various genres, academic languages, classroom languages, and language functions), and encouraging student participation and the creation of comprehensive output (Swain, 1985). In contemporary educational landscapes, emphasizing the importance of employing innovative instructional approaches is crucial, especially in the field of language instruction. Content and Language Integrated Learning (CLIL) has emerged as a pedagogical approach that intertwines language acquisition with subject matter content, fostering a collaborative and mutually beneficial environment for both teachers and students. This study examines the potential of CLIL approaches to bring about transformation by analyzing their effect on the learning successes of in-service teachers and, consequently, their impact on student learning outcomes. In the Thai context, many teaching strategies have been used to help Thai students improve their English communication abilities because there is a great need for English communication skills in Thailand due to the expansion of the international sector. Since Thai is the only official language in the country, it can be challenging to improve Thai students' English proficiency in an unsupportive learning environment (Noomura, 2013)

Recognizing the critical role of teachers in the implementation of effective language instruction, the researchers initiated a comprehensive CLIL teacher development program. Seventeen Grade 4 teachers, engaged in cultivating their expertise, experienced targeted workshops aimed at enhancing their understanding of CLIL concepts, methodologies, and material development. This intervention sought to empower educators with the tools and knowledge necessary to seamlessly integrate language and content in their instructional practices.

Simultaneously, the researchers investigated the progressive effects of CLIL methodologies by introducing CLIL innovation kits into Grade 4 classrooms. These kits, collaboratively designed with and implemented by teachers, served as dynamic instruments to enhance students' potential in foreign language learning, specifically English. Engaging in activities embedded within these CLIL kits immersed students in a language-rich learning environment designed to transcend traditional language instruction.

This study aims to address three fundamental research questions: Firstly, it explores how professional development workshops on CLIL can be structured to effectively empower teachers in implementing the CLIL approach in their teaching practice. Secondly, it investigates how CLIL workshops can be optimally designed to enhance English language learning for primary students. Lastly, it examines whether there are differences between pre-test and post-test scores on primary students' learning achievements following the implementation of CLIL kits. By gaining into these inquiries, this research proposes to provide meaningful insights into the efficacy of CLIL strategies, thus fostering a deeper understanding of their capacity to empower educators and enrich student language proficiency and academic achievement.

As the field of education grows more international, the integration of CLIL techniques represents an innovative approach that promotes active and cooperative language teaching to achieve improved academic outcomes.

## Statement of Problem

The Ministry of Higher Education, Science, Research and Innovation of Thailand has been taking inclusivity, equality, and equity in education into serious account for years, and since 2020 launched a project for being mentors for small schools which subsidizes the joining universities' mentorship for networking schools. Many universities have participated in the program to support the in-service teachers' learning as one of the main missions. The researchers were optimistic that the real contribution to EFL in-service teachers could be possible; moreover, it might have a huge positive impact on the small school. It seemed challenging to everyone, especially the teachers. Both teachers of English and content teachers were pedagogically and communicatively limited with English abilities; therefore, the decision to develop the teachers' English communication and teaching skills was executed. In addition, research on CLIL is rarely conducted on small primary schools in Thailand. It would contribute to the English and content subject teachers' community to build up a more in-class English learning environment as well as empower teachers to develop themselves professionally.

CLIL still has a lot of issues despite having the benefit of teaching both language and subject. For instance, it is typical for English to be the only language used as the target. The research is needed to provide a solution to the problem of the classroom's topic and language balance. Boost the effectiveness of CLIL. Furthermore, CLIL features alone have served as the

foundation for CLIL design. Perhaps it should be examined from the perspective of a more professional curriculum design paradigm in order to fully realize its potential.

### **Research objectives**

- 1) To empower teachers' professional development on Content and Language Integrated Learning (CLIL) approach
- 2) To develop Content and Language Integrated Learning Teaching Materials (CLIL Kits) for enhancing English language learning to primary students
- 3) To evaluate the effectiveness of Content and Language Integrated Learning Teaching Materials (CLIL Kits) for enhancing English language learning to primary students

### **Research Questions**

This study examines teachers' comprehensibility regarding the professional development of CLIL and students' English Language competence after implementing CLIL kits. The research questions are the following:

- RQ1. How can professional development workshops on CLIL be structured to effectively empower teachers in implementing the CLIL approach in their teaching practice?
- RQ2. How can CLIL workshops be effectively developed English language learning for primary students?
- RQ3. Are there differences between pre-test and post-test scores on primary students' learning achievement regarding the implementation of CLIL kits?

### **Literature review**

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

CLIL is an educational approach that started in the early 1990s in Europe, where students in mainstream education are taught non-linguistic subjects using an additional language as the medium of teaching (Coyle, Hood, & Marsh, 2010; Dalton-Puffer, Nikula, & Smit, 2010). Since CLIL is a successful method for enhancing students' language and content knowledge, it is currently spreading to other regions of the world, including Australia, Asia, and Latin America (Bozdoğan & Karlıdağ, 2013; Lyobe & Lia, 2013).

According to Dalton-Puffer et al. (2010), CLIL teachers who employ the additional language as a teaching medium engage in language practice alongside their pupils. As a result, the CLIL classroom may be thought of as a center where teachers and students communicate in the same target language while covering various subject areas. When introducing new material in a CLIL classroom, it should be done differently than in a traditional classroom. As stated by Marsh, Mehisto, Wolff, and Frigols Martín (2010), CLIL is a novel approach to learning that requires content instructors to be ready to acquire several kinds of competence, such as in language, topic subjects, best practices in teaching and learning, and the integration of CLIL in

their schools. Content, Cognition, Communication, and Culture are interrelated in teaching and learning in both the first and target languages, according to Coyle's (2009) 4 Cs principle framework. A conception of CLIL that was first proposed in the field of education and subsequently applied in CLIL is known as the 4 Cs framework; content, communication, cognition, and culture.

### **Benefits of CLIL methodology**

Previous studies provide evidence for the advantages of integrated learning in language acquisition, demonstrating that CLIL students outperform their non-CLIL counterparts in terms of foreign language proficiency (Alonso, Admiraal, Westhoff & de Bot, 2006; Pérez Cañado, 2011). Even students who are one, two, or even three years older than CLIL learners score equally well or better (Lasagabaster, 2010)

EFL instruction as, according to Mehisto, Marsh, and Frigols (2008), CLIL "replicates the conditions to which infants are exposed when learning their first language." In this way, emphasizing content gives language use a purpose (Dalton-Puffer, 2007) and lowers anxiety, which makes learning and engagement settings safer. Because CLIL encourages more naturalistic learning than traditional methods, its programs not only increase exposure to the target language but also improve the quality of that exposure, which leads to successful foreign language acquisition outcomes.

CLIL methodology offers a multifaceted approach to language and content instruction, benefiting students by enhancing language proficiency and deepening content understanding. Educators also find value in the integrated curriculum planning, professional development opportunities, and increased student engagement associated with CLIL.

### **Professional Development for CLIL Teachers**

Previous studies have tried to use various methods to train CLIL teachers. In order to increase knowledge of the CLIL approach, Redford (2009) created a one-year Modern Foreign Language teacher training course. Participants took part in. The researcher prepared and delivered CLIL lessons across a range of topics and tongues. Through reflection on their own teaching methods and resources, the program helped participating teachers acquire tools. To find appropriate CLIL approaches for a Thai setting, Mackenzie (2008) created a preparatory and inspiring CLIL teacher training course in Thailand. Teachers who took part in the process created lesson plans and material.

The questions to measure teachers' CLIL concepts included some of the issues raised by the previous literature in CLIL and CBI contexts on CLIL practices and teacher experiences (Cammarata & Tedick, 2012; Papaja, 2013).

The questions were adapted into the following example:

- (1) Teacher's profile, to obtain information about their career, experience, and use of English
- (2) Teachers' beliefs on the objectives of CLIL, assessment and error correction

- (3) Resources used in class for different tasks
- (4) Basic concepts of CLIL

### Conceptual Framework

The conceptual framework of this study is based on the integration of Content and Language Integrated Learning (CLIL) methodologies to enhance both teacher proficiency and student learning outcomes. The professional development workshops conducted for teachers on CLIL principles and techniques will improve their instructional skills and understanding. In turn, these empowered teachers can develop and implement CLIL-based lesson plans and CLIL kits on English, Mathematics, Science and Technology, Social studies, and Art and Home Economics, which are expected to positively influence students' language and content learning achievements. The framework emphasizes the process where teacher training directly impacts classroom implementation, which subsequently leads to measurable improvements in student performance. This approach aims to provide a comprehensive understanding of the effectiveness of CLIL at the school, particularly within the context of Grade 4 English language instruction as shown in Figure 2.

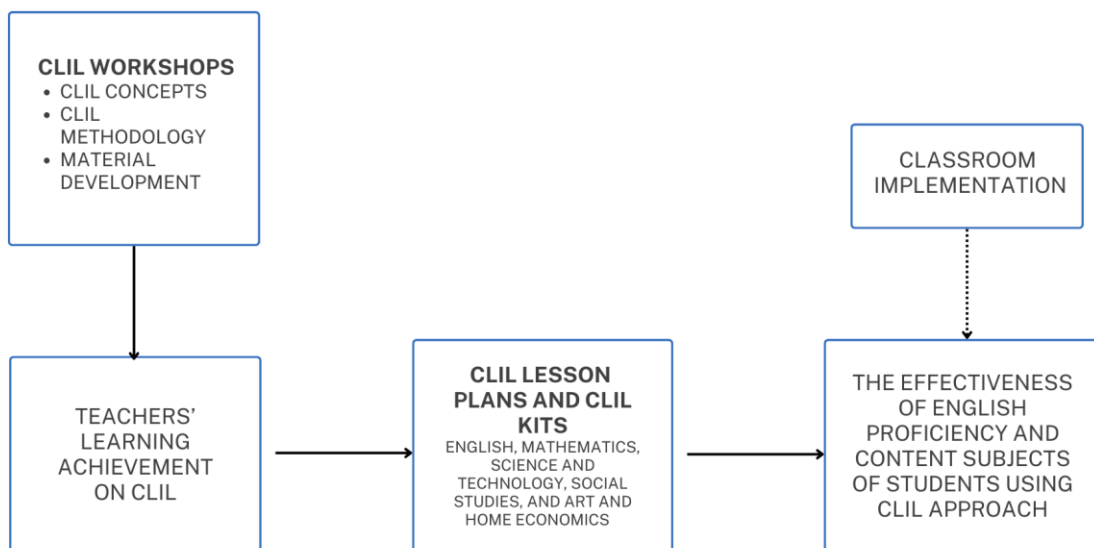


Fig 1. Conceptual Framework

## Research Design

The procedures of the pre-experimental research with a one-group pretest-posttest design in this research are described in Figure 2.

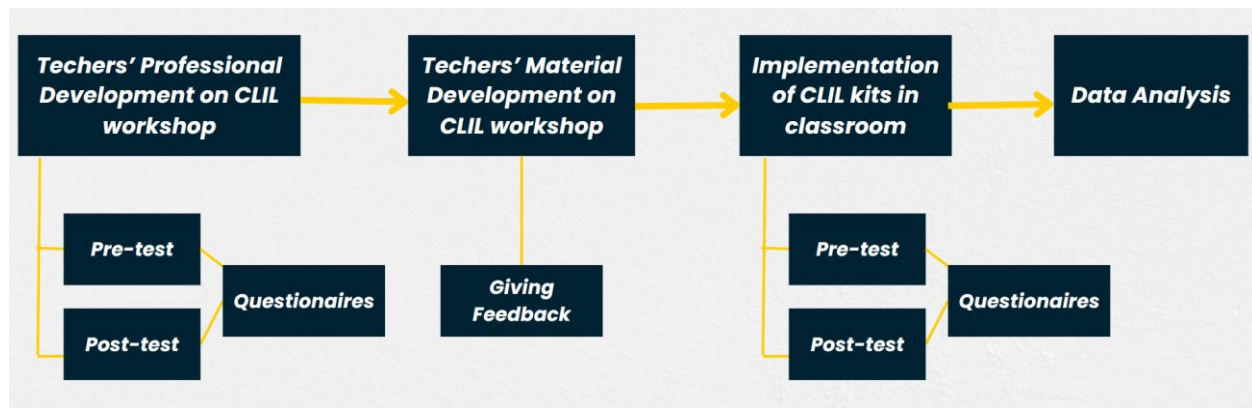


Fig 2. Research Design

The administering a pretest proposed to measure teachers' mastery in CLIL concept before given a treatment and apply an experiment that used CLIL professional training using one group pretest-posttest, the researchers wanted to find out whether there is any significant difference of teachers' mastery before and after being trained using CLIL concepts.

After developing lesson plans and CLIL Kits, it's the implementation of the kits in classrooms measuring English language competence of the students using pre- test and post-test.

### Development of an innovation

#### Innovation Plan

In response to the evolving landscape of language instruction and the increasing importance of Content and Language Integrated Learning (CLIL), this innovation plan outlines a comprehensive strategy to integrate CLIL methodologies into primary education. The plan focuses on three key phases: professional development for teachers, collaborative material development and lesson planning, and the implementation of CLIL kits in the classroom.

Firstly, to enhance Teacher Understanding of CLIL, the researcher conducted targeted professional development workshops to improve teachers' comprehension of CLIL concepts and methodologies. Administer pre-tests to gauge baseline knowledge, followed by focused training sessions to address identified areas of improvement. Second, to foster collaborative material development. The researcher designed collaborative sessions for teachers to develop CLIL kits and lesson plans that seamlessly integrate content and language. Provide resources, guidelines, and mentorship to support teachers in creating innovative and effective CLIL instructional materials. Then, the researcher supported teachers in implementing CLIL kits during regular classroom activities. Monitor and evaluate the impact of CLIL strategies on student learning outcomes through formative assessments and feedback mechanisms.

This innovation plan aims to empower primary educators with the knowledge and tools needed to successfully integrate CLIL methodologies into their teaching practices. By focusing on professional development, collaborative material development, and classroom implementation, this plan seeks to create a sustainable framework for enhancing language instruction and student learning outcomes in primary education.

### **Characteristic of Innovation**

The study proposes a three-phase model that systematically addresses different aspects of CLIL integration: professional development, collaborative material development, and classroom implementation. This phased approach ensures a holistic and structured implementation strategy. Additionally, it is targeted at Professional Development. The study recognizes the importance of addressing teachers' understanding of CLIL through targeted professional development. By conducting pre-tests to identify specific areas of improvement and tailoring training sessions accordingly, the innovation aims to enhance teachers' comprehension effectively. Moreover, another characteristic of Innovation is collaborative material development. A crucial characteristic of this innovation is the emphasis on collaborative material development. Teachers are encouraged to work together to create CLIL kits and lesson plans, fostering a culture of knowledge-sharing and creativity. This collaborative approach enhances the quality and diversity of CLIL instructional materials.

Lastly, the study focuses on student learning outcomes. The innovation places a strong focus on the impact of CLIL strategies on student learning outcomes. By incorporating assessments before and after the implementation of CLIL kits, the study aims to measure the effectiveness of CLIL in enhancing English language competence among primary students.

### **Research methodology**

The research method used in this study is a pre-experimental research design with a one-group pretest-posttest design. This design involves measuring the same group of participants before and after an intervention (CLIL workshops for teachers and implementation of CLIL kits for students) to assess changes in their knowledge, skills, or outcomes. The study also employs quantitative data analysis techniques by calculating means and standard deviations, to compare pre-test and post-test scores and determine the effectiveness of the intervention.

#### **Participants**

The sample selection in this study involves two main groups: in-service teachers and Grade 4 students.

**In-Service Teachers:** The study recruited a sample of 17 Grade 4 teachers who were actively engaged in cultivating their expertise. These teachers participated in the comprehensive CLIL teacher development program, including targeted workshops focused on enhancing their understanding of CLIL concepts, methodologies, and material development. They are teachers

of in-service English, Mathematics, Science and Technology, Social studies, and Art and Home Economics in Grade 4 from a Government Primary School in Pathumthani by using purposive sampling.

**Grade 4 Students:** The study involved a sample of 114 Grade 4 students from a Government Primary School in Pathumthani by using convenience sampling. These students participated in activities designed to enhance their potential in English through the use of CLIL kits developed by the teachers. The students' English language competence was assessed through pre-test and post-test measurements administered before and after the implementation of CLIL kits in classroom activities.

### **Instruments**

There were three instruments used in this study.

1. Pre-test and post-test on CLIL concepts for teachers. The test was designed to measure teachers' understanding of CLIL methodology and assess knowledge and skills related to CLIL concepts before and after the training program by using Google Form.

2. CLIL lesson plans and CLIL kits collaboratively designed by teachers post-training to utilize in classroom activities to integrate content and language for English language development.

3. Pre-test and Post-test on implementation of CLIL Kits for students in the classroom which focuses on measuring English language competence and content subjects of Grade 4 students administered before and after the implementation of CLIL kits in the classroom activities. The test consists of 15 items on English, Mathematics, Science and Technology, Social studies, Art and Home Economics subjects.

The validity of the pre-test and post-test were calculated using the index of term-objective congruence (IOC) method discussed in the literature by three experts.

### **Data Collection**

The data collection in this study was separated into three phases. It was conducted at a Government Primary School in Pathumthani. The first phase involved the teachers' professional development on CLIL. The training was conducted for three hours on CLIL. Before the training started, the teachers were addressed to do the pre-test on CLIL for being tested comprehensibility. After the training had been done, the teachers were assigned to do the post-test.

The second phase employed teachers' material development and lesson plans on CLIL. Teachers engaged in collaborative material development and lesson planning sessions following the professional development phase. Emphasis on integrating CLIL concepts into instructional materials and lesson plans. During this session, the researchers guided and gave feedback to teachers. The last phase is the implementation of CLIL kits in classrooms. Teachers implemented CLIL kits developed in phase two during regular classroom activities. Classroom activities focused on integrating content and language, with an emphasis on English language

competence integrated Mathematics, Science and Technology, Social studies, Art and Home Economics subjects by using pre-test and post-test.

**Data Analysis**

To answer research questions, the data obtained from research results’ teachers and students pre-test and post-test were analyzed quantitatively. Quantitative analysis was done using Means and Standard deviation. The data was collected from teachers’ scores and students’ scores in pre-test and post-test.

**Ethical Consideration**

The researcher was aware of the participants’ rights, their autonomy and independence, justice, and fairness. The permission from the school principal was obtained before collecting the data. The participants were informed of the purpose of the study. The data in this study were treated confidentially. The school’s name was not included to prevent the identification of the site.

**Research results**

**Teachers’ comprehensibility on CLIL**

In order to answer the first research question and to determine if CLIL significantly affected of the CLIL workshop to the teachers between pre-test and post-test (Table1.)

Teachers’ Learning Achievements	N	Mean	SD	Sig.
Pre-test	17	5.82	3.988	<0.001
Post-test		18.53	1.772	

**Table 1.** Teachers’ Learning Achievements on CLIL

As shown in Table 1, the study involved 17 in-service teachers who participated in CLIL workshops aimed at enhancing their understanding and application of CLIL strategies. Before the workshops, the teachers were tested by a pre-test to assess their background knowledge of CLIL concepts. The results indicated that the mean score on the pre-test was 5.82, with a standard deviation of 3.988, suggesting considerable variability in the initial levels of understanding among the participants. Following the completion of the CLIL workshops, the teachers were administered a post-test to measure any improvements in their learning achievements. The post-test results revealed a substantial increase in the mean score to 18.53, with a reduced standard deviation of 1.772. Statistical analysis indicated a highly significant difference between the pre-test and post-test scores ( $p < 0.001$ ), indicating that the CLIL workshops had a significant and positive impact on the teachers' learning achievements. The findings suggest that the structured training program effectively empowered the teachers,

leading to a notable improvement in their understanding and application of CLIL methodologies to design and develop CLIL lesson plans and CLIL teaching materials.

**Students’ learning achievement**

In order to answer the third research question and to determine if CLIL kits significantly affected of the English language competence after teacher’s implementation between pre-test and post-test of the students (Table2.)

Student’s Learning Achievement	N	Mean	SD	Sig.
Pre-test	114	10.07	2.592	<0.001
Post-test		12.74	1.844	

**Table 2.** Students’ Learning Achievements

From the Table 2, the study involved 114 Grade 4 students who participated in activities aimed at enhancing their English language competence through the use of CLIL kits. Initially, the students were tested by a pre-test to assess their English language competence and content subjects. The results revealed a mean score of 10.07, with a standard deviation of 2.592, indicating some variability in the initial English language proficiency levels among the students. Following the implementation of CLIL kits in classroom activities, the students were administered a post-test to measure any improvements in their English language competence. The post-test results demonstrated a significant increase in the mean score to 12.74, with a reduced standard deviation of 1.844. Statistical analysis indicated a highly significant difference between the pre-test and post-test scores, suggesting that the use of CLIL kits had a positive impact on the students' English language achievements. It significantly increased at the .001 level.

The results imply a meaningful improvement in the English language competence of students who engaged in activities utilizing CLIL Kits across various subjects. This outcome underscores the effectiveness of CLIL strategies in fostering language learning in a multidisciplinary context.

**Discussion**

The positive impact of CLIL innovation kits on student learning achievements in English implies that incorporating content and language integration strategies can be an effective approach to enhance language learning outcomes. It is shown that the teachers in this study selectively implemented one aspect (English Vocabulary and classroom language), which fits their immediate needs, of the teacher professional development program (Emshoff et al., 1987). This indicates that implementing CLIL is a challenging task for teachers.

The outcomes of this study illuminate the transformative potential of Content and Language Integrated Learning (CLIL) strategies in both teacher professional development and student learning outcomes. The discussion explored the implications of the findings and situated them within the broader context of language instruction and educational practices.

In terms of teacher professional development, the significant increase in teachers' learning achievements, as evidenced by the post-test scores surpassing pre-test scores, underscores the efficacy of the CLIL workshops. These outcomes suggest that targeted professional development initiatives focused on CLIL concepts and methodologies have a tangible impact on teachers' understanding and application of innovative language instruction strategies. The collaborative nature of the workshops, where educators actively engaged in the design of CLIL kits, appears to have empowered them with practical skills that transcend traditional language teaching approaches.

The positive shift in student learning achievements following the implementation of CLIL kits reinforces the potential of these materials to enhance language proficiency and academic success. The interactive and content-rich nature of CLIL activities has evidently contributed to a more dynamic and engaging language learning environment for students. This aligns with the broader literature on CLIL, emphasizing the value of integrating language and content to deepen comprehension and language acquisition.

In accordance with the third research question, the results indicated that verbal production and interaction was one ability that was obviously beneficial. Accordingly, Dalton-Puffer (2011) summarizes research in the field by stating that “the area where a difference between CLIL students and mainstream learners is most noticeable is their spontaneous oral production.” These findings are consistent with earlier studies carried out in primary (Bret Blasco, 2011) and secondary schools (Lasagabaster, D. & Ruiz de Zarobe, Y. 2010)

The positive outcomes of this study advocate for the integration of CLIL strategies in educational policies and planning. Policymakers should consider incorporating CLIL methodologies into teacher training programs and curricula, fostering a systemic approach to innovative language instruction. Moreover, the positive impact of CLIL innovation kits on student learning achievements in English implies that incorporating CLIL can be an effective approach to enhance language learning outcomes.

For material development, the successful implementation of CLIL innovation kits implies the need for the development of high-quality, context-specific teaching resources and CLIL strategies to contribute to increased student engagement and motivation. Educators should be encouraged to incorporate interactive and hands-on activities within the CLIL framework.

## **Knowledge from research**

The research on CLIL Material Development Implemented in English Primary Classrooms yields significant insights into the effectiveness of CLIL methodologies. Structured CLIL

workshops empower teachers by enhancing their understanding and application of CLIL strategies, resulting in notable improvements in their learning achievements. Collaborative material development sessions enable the creation of CLIL lesson plans and CLIL innovation kits, which, when implemented in Grade 4 classrooms, positively impact students' English language competence across various subjects. The students enhance communication skills by using English to learn content, cognitive and critical thinking, content knowledge, and culture. Understanding themselves and other cultures prepares them to be global citizens. These findings underscore the transformative potential of CLIL integration, emphasizing its role in enhancing teacher professional development and improving student language proficiency and academic achievement in primary education” as shown in Figure. 3.

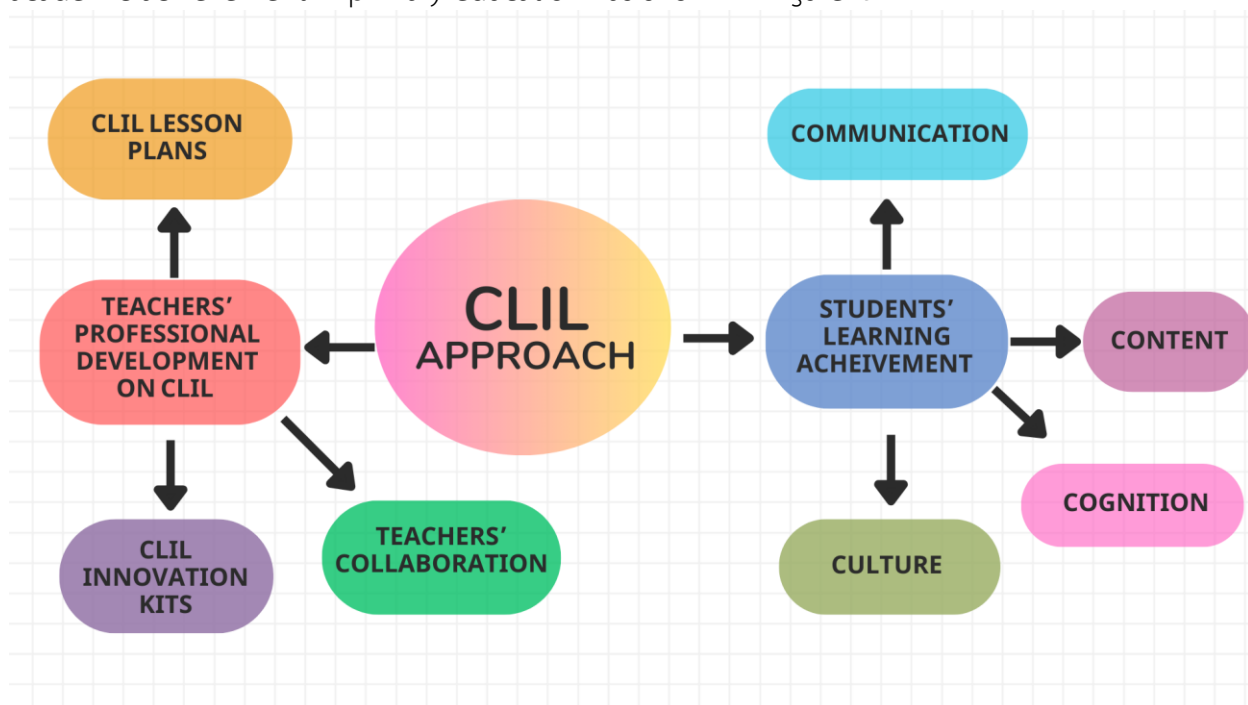


Fig. 3 Knowledge from Research

## Conclusion

This study has demonstrated the transformative potential of Content and Language Integrated Learning (CLIL) methodologies in the context of English language instruction for in-service teachers and primary students. Through a comprehensive investigation, the study has provided empirical evidence supporting the effectiveness of CLIL workshops in enhancing teachers' understanding and application of innovative language instruction strategies. The significant increase in teachers' learning achievements following targeted professional development initiatives underscores the importance of cultivating a supportive environment for educators to embrace CLIL concepts and methodologies.

Moreover, the positive impact of CLIL innovation kits on student learning outcomes highlights the potential of integrated content and language instruction to enhance language

proficiency and academic success. By engaging in activities designed to integrate language and content across various subjects, students demonstrated meaningful improvements in English language competence. These findings suggest that CLIL strategies offer a promising avenue for educators to foster dynamic and engaging language learning environments, ultimately contributing to enhanced educational outcomes.

The implications of this study extend beyond the confines of the classroom, advocating for the integration of CLIL methodologies in educational policies and planning. Policymakers and stakeholders are encouraged to consider incorporating CLIL strategies into teacher training programs and curricula, thereby fostering a systemic approach to innovative language instruction. Additionally, the successful implementation of CLIL innovation kits underscores the importance of developing high-quality, context-specific teaching resources to support CLIL instruction.

## **Suggestions**

### **1. Suggestions for applying research results**

1.1 The results from the research can boost Teacher Professional Development Programs. Educational institutions and policymakers can utilize the findings of this study to design and implement targeted professional development programs for in-service teachers. These programs should focus on enhancing teachers' understanding of CLIL concepts and methodologies, providing practical training on collaborative material development, and supporting the effective implementation of CLIL strategies in the classroom.

1.2 Curriculum designers and educational resource developers can use the insights from this study to create high-quality CLIL teaching materials and resources. These materials should be context-specific and aligned with the curriculum objectives, catering to the diverse needs of both teachers and students.

1.3 School administrators and leaders play a crucial role in supporting CLIL implementation. They should provide the necessary resources, infrastructure, and professional support to facilitate effective CLIL integration in schools. This includes allocating time for collaborative planning and reflection, fostering a culture of innovation and continuous improvement.

1.4 Engaging parents, caregivers, and the broader community in supporting CLIL initiatives can enhance their success. Schools can organize outreach activities, parent workshops, and community events to raise awareness about CLIL and garner support for language learning initiatives.

### **2. Suggestions for further research**

2.1 Future research could investigate the long-term effects of CLIL implementation on both teachers and students. Longitudinal studies tracking the progress of participants over an

extended period can provide valuable insights into the sustainability and impact of CLIL strategies on language proficiency and academic achievement.

2.2 Exploring the cross-cultural applicability of CLIL methodologies and their adaptation to different educational contexts can enrich our understanding of their effectiveness. Comparative studies across diverse cultural and linguistic settings can identify best practices and challenges in implementing CLIL strategies.

2.3 With the increasing use of technology in education, further research might be required on integrating digital tools and resources within CLIL frameworks. Investigating the role of technology in enhancing language learning outcomes and facilitating collaborative content and language integration can inform pedagogical practices in the digital age.

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