# The Content and Language Integrated Learning Implementation: Speaking Skills in Graduate Classes

**Nuchwana Luanganggoon**
*nuchwana@kku.ac.th*

**Phatchara Phantharakphong,**

**Phongthanat Sae-Joo**

**Jiradawan Huntula**

Faculty of Education, Khon Kaen University, Thailand

## Abstract

Integrating language learning within the experiences to learn the subject content knowledge has become a focus of attention in recent years in various countries. The purpose of this study was to investigate the implementation the Content and Language Integrated Learning (CLIL) approach by focusing on the speaking skills in a purposely selected single graduate class in Biochemistry. Document analysis and classroom observations were the main sources of data. The results show that speaking skills of the learners could be improved using this approach and that the key success factors include well-designed classroom activities, moderate class size, and special attention to assessment. It is recommended that teachers should be aware of the limitation of students' language background, classroom context and culture in implementing this approach to language development.

*Keywords:*

classroom assessment, content and language integrated learning, pedagogy in higher education

## Introduction

According to Bangkok Declaration 1967 (ASEAN Secretariat, 1967), one of the aims of the Association of Southeast Asian Nations (ASEAN) is to encourage collaborative activities towards achieving quality education in the region, and in particular in professional development programs, educational research and other technical administrative support. To achieve this aim, English has been formally adopted as the ASEAN official working language, as a lingua franca, and the medium for communication among the participating countries. As a result, English language policies and language education programs were launched and implemented in the different ASEAN countries.

Due to the overall low English language proficiency of Thai students, Thailand's Ministry of Education has embarked on policies and special programs for the development of Thai teachers' English language proficiency in both basic and higher education. Of particular importance here, is the Thailand Qualifications Framework for Higher Education (TQF: HEd) (Thailand Higher Education Commission [TOHEC], 2006) that was developed and adopted to ensure consistency in both standards and award titles for higher education qualifications,

and to make clear the equivalence of academic awards with those granted by higher education institutions in other parts of the world such as the United Kingdom and ASEAN University Network Quality Assurance. The Framework classifies desirable university students learning outcomes into five domains: ethical and moral development, knowledge, cognitive skills, interpersonal skills and responsibility, and analytical and communicative skills in mother language and English. In particular, in the domains of knowledge and cognitive skills, learning outcomes are directly related to the field of study undertaken and should be specified in the program and course documents. At the same time, basic mathematical and statistical technique, effective communication in oral and written forms, and the use of information and communication technology are significant generic learning outcomes that should be contextualized in all programs and courses.

Khon Kaen University (KKU) was established as the major university in the Northeastern part of Thailand in 1964 and has developed itself to become one of the top universities in Thailand. The University has recently become one of the nine national research universities in Thailand and an educational center in the Mekong sub-region. The University's major mission is to prepare future global citizens to work in a continually changing world. KKU's strategic goal is to be recognized both internationally and regionally as a leading university in research. The University, with its three categories of study (social sciences, health science, and science) currently has more than 40,000 students studying in 23 faculties, in one main and one satellite campuses, and provides for 43 International/English programs, which cover a wide variety of disciplines. KKU has excellent facilities and thus provides its students with an environment conducive to learning and with the proper support to achieve academic success. Additionally, it takes an investment-minded approach to education by providing funds for students to pursue their goals relevant to higher education through study and research.

Towards the aim of compliance with the Thailand Qualifications Framework for Higher Education (TOHEC, 2006), the University offers three main activities to raise the competency of its students.

Compulsory English language courses provided for the undergraduate programs consist of 12 credits (four courses). Additional language courses, called English for Specific Purposes, are offered in some faculties focusing on content and vocabulary in the particular discipline. Lastly, the university promoted the Content and Language Integrated Learning (CLIL) approach into many of its programs. For over a decade now, regular professional development workshops were conducted and many courses across the different faculties have implemented CLIL in their design and delivery.

**The Need for Speaking Skills among Graduate Students**

In addition to its role in developing knowledge and skills in the various disciplines, language is essential to communicate and express ideas in various situations. Here, we argue that in the context of globalization, such communication would include communication in English. In particular, speech is an essential component of communication in the day to day interactions of professionals. To attain academic success, it is most important for students in higher education in countries that have adopted a foreign/second language to have a good English proficiency in general, and in particular speech, in addition to their deep knowledge of their respective disciplines (Less, 2003). Consequently, developing students' speaking skills is a primary concern for the participation courses in this study.

**Language Teaching Methods and CLIL**

Approaches for teaching second language vary. Most traditional methods focus on language processes and required skills such as listening, speaking, reading, writing, vocabulary, pronunciation, and grammar. Traditionally, language learning occurs in distinct programs and courses prior to, or parallel with disciplinary programs and courses. Horwitz (2008) identified the following main recent approaches to language teaching: *the Audiolingual Method, Grammar Translation, Total Physical Response, the Natural Approach, Communication Language Teaching, and Proficiency-Oriented Language Teaching, Content-Centered Language*

*Teaching, Sheltered-Immersion, and Task-Based language learning.*

An alternative approach to the aforementioned is to integrate the disciplinary knowledge development with learning the new language. The term "Content and Language Integrated Learning" (CLIL) was adopted in 1994 (Marsh, Maljers & Hartiala, 2001) within the European context to describe and design good practices in different school environments where teaching and learning take place in the new language at the same time that the language is being developed. In other words, CLIL is a dual-focused educational approach in which are foreign/second language is used for the learning and teaching of both content *and* language (Coyle, et al., 2010). As English is being increasingly used as a medium of instructions around the world, this approach has gained wide implementation in different countries (Graddol, 2006).With the demand of language proficiency development, the interest in CLIL is growing recently and is widely accepted as, what can be called, the best practice in education. However, there are various modes of implementation of the CLIL approach.

**CLIL Models**

Hood (2005) indicated four alternative CLIL models emerging in the UK. The first model is *the Surface cross-curricular linking,* which involves both language teachers and subject matter teachers planning together. The second model is *the Integrating language and recycling/deepening content* where the subject topic/syllabus adapted for teaching in the target language to explore the subject whilst improving foreign language skill. The third model is *Integrating language and new content.* In this model, it is possible to re-conceptualize the curriculum in an integrated way. For example, CLIL might consist of the study of 'water' in a foreign language, which is investigated from different perspectives such as scientific, geographical, historical, current catastrophes, water shortages, water for leisure, poetry, art, drama and music, linking wherever possible language to space and place. The fourth model is known as *Immersion (content approach),*where language teachers develop a more content type approach to a theme, which might include taking a typical topic such as house and home and carrying out a comparative study between house and home in an African country and in an English-speaking western culture.

**The Use of Language in CLIL**

In CLIL settings, it is necessary for learners to progress systematically in both their content learning and their language learning and usage, as previously argued. Coyle et al. (2010) identified different roles of language in such settings. First, CLIL environments needs to develop the language that is needed for learning the content. They call this CLIL environment the ***Language of learning*** being the language for learners to access the basic concept and skills related to the subject theme or topic. For example, the new knowledge may include key words or phrases of the content. Further language is needed to manage the process of learning. They call this the ***Language for learning*** consisting of the kind of language learners use in a foreign language environment to finish their works. For example, when they do a research project, they need language to help them in writing research reports or presenting the project. *Finally,* ***Language through learning*** happens when learners are encouraged to articulate their understanding, then a deeper level of learning takes place unintentionally. For example, in a group discussion, learners will develop language in doing research when they might need use a dictionary to read academic articles to review the literature of the study. It is worthwhile to note that CLIL classrooms often demand a higher level of discourse and dialogic activity than discourse in traditional language stand alone courses.

**Purposes of the Research**

The purpose of this study is to investigate the implementation the Content and Language Integrated Learning approach by focusing on the development of speaking skills in a graduate level class. In particular, the three research questions are posited here:

- How can the CLIL be implemented in terms of course outcomes, learning activities and assessment practices?

- What are the benefits arising from such integrations?

- What are some of the arising problems and challenges facing such integration?

## Methodology

### Research Design and Samples

Qualitative research design, specifically multiple case study (Yin, 1994), was used in this investigation. The methodological approach consisted of three main techniques: *document analysis, classroom observations and interviews*. All the lecturers who had voluntarily participated in the initial professional development program on CLIL from year 2015 to 2016 were included in this study. Twenty five syllabi of the courses they designed were analyzed in the first stage of document analysis technique (as shown in Table 1). Then , six classes were selected for observations. Due to space limitations, only one of these case studies observed will be discussed in depth (as shown in Table 2).

The 25 course syllabi, which were taught by using CLIL model was categorized into three as shown in Table 1

### Data Collection Techniques

*Document Analysis:* As the current curricula or programs provided in Khon Kaen University follow outcome-based design, the learning objectives of all courses were identified along with the learning activities, materials and assessment. The course syllabi were analyzed using the domain of learning from TQF: Higher Education and, in particular the 4C Framework consisting of *Content, Communication, Cognition,* and *Culture*. The rubric based on 4Cs framework (Coyle et al., 2010) was used to analyze the data. Such complete analysis will not be discussed here. Rather, we will identify examples from them to discuss the first research question

*Table 1. Course Syllabus taught by using CLIL model*

| Categories (N) | Faculty | Name of courses |
|---|---|---|
| Sciences (3) | Faculty of Science | Dissertation Seminar on Biochemistry |
| | | Quantity Theory and Application |
| | | Biology of Amphibians |
| Health Sciences (6) | Faculty of Veterinary | Veterinary Micro-anatomy and Physiology 1 |
| | Faculty of Public Health | Application of Epidemiology in Health Education and Health Promotion |
| | Faculty of Pharmacy | Pharmaceutical Practice |
| | | Pharmaceutical Practice 3 |
| | | Pharmaceutical Practice 2 |
| | | Pharmaceutical Chemistry |
| Social Sciences (16) | Faculty of Education | Introduction to Listening and Academic Speaking 2 |
| | International College | English for Communication in Multicultural Societies |
| | | Academic English |
| | | University Study Skills in English |
| | | Mathematics 1 |
| | | Aesthetics for Life |
| | | Wellness Dimension |
| | | Information Literacy |
| | | Human Relations & Communications |
| | | Global Business Management |
| | | Introduction to Sociology |
| | | Academic Year: First Term |
| | | International organizations |
| | | International Law |
| | | International Communication Arts for Tourism |
| | Graduate College of Management | Human resource Economics |

#### *Table 2. Classroom Observation*

| Categories | Course name | No of learners |
|---|---|---|
| Sciences | Dissertation Seminar on Biochemistry | 15 M.Sc. students |

*Classroom Observations:* The classroom observations were done in March 2015. The framework of the observation consisted of *Language of Learning, Language for Learning,* and *Language through Learning*. At the same time, one interview was conducted with each of the teacher and a student in the particular case study reported here.

### Data Analysis

Content analysis was used to analyze all the obtained qualitative data in both the analysis of the syllabi and the observations from the classroom. To analyze the information in each course syllabus, the researcher grouped the learning objectives of each course under the five Domains of Learning: *ethical and moral development, knowledge, cognitive skills, interpersonal skills and responsibility, and analytical and communicative skills.* Moreover, the Content and the Cognition of each course syllabus was carefully considered (how it get along with the Communication and Culture identified in classroom activities and assessment).

To analyze the observations and interview, content analysis was used also as a research tool to determine the presence of certain words or concepts within the texts and sets of texts. Researcher quantified and analyzed the presence, meanings and relationships of such words and concepts, then made inferences about the messages within the texts. Firstly, the researcher transcribed all the collected data from the document analysis field notes, classroom observation rubric and checklist, and interviews to get a general sense of the whole and the ideas presented. To conduct a content analysis on such text, the text is coded, or broken down into manageable categories on a variety of levels, i.e. word, word sense, phrase, sentence, or theme, and then examined using conceptual analysis (Creswell, 2002).

### Results and Discussion

The purpose of this study was to investigate how to implement the Content and Language Integrated Learning by focusing on speaking skill in a graduate class. Document analysis and classroom observation were used. The following are the major findings with respect to the three research questions.

### CLIL Implementation

Evidence for the implementation of the CLIL approach can be ascertained from the integration of the content and the language focus of the course. This can be observed from the way the learning outcomes are stated from the activities chosen and the assessment adopted. These will be discussed in turn.

### Learning Outcomes

It was found that most learning outcomes of each course covered the Domain of Learning from TQF:HEd. According to the 4Cs framework, this study found that the expected outcomes provided in the CLIL classroom mostly focused on *content and cognition* rather than *communication*. Even if the vocabularies and patterns of language were provided, the opportunity to practice individual communicative skill were very limited. However, there were few learning objectives focusing explicitly on Communication. For example:

> The aims of this course are to enable students to:
>
> *Apply* research principles and *design* a concept paper on biochemistry.
>
> *(Course syllabus: Dissertation Seminar on Biochemistry: italics added for emphasis)*

### Classroom Activities

In addition, the findings indicated that classroom activities generally consisted of lectures, group discussion, laboratory, game-based learning, research-based learning, presentations and critique, and seminars. There were some instances where the lecturers specifically integrated content and language in their classroom. For example, in the masters level Dissertation Seminar in Biochemistry, students would

take turns in preparing and presenting their research manuscripts. A visiting professor and the lecturers in the course would edit their manuscripts and comment on their presentations. Similarly, many teachers used diverse activities to highlight aspects of the language using textbook, and power point presentations. Scaffolding techniques used included highlighting the difficult vocabularies, linking the additional photos or pictures to help the learners' understanding, and asking questions then letting the learners discuss in group to clarify the meaning of the vocabularies.

**Diverse uses of Language**

Findings from the field notes indicated that the classroom activities were grouped into three aspects, which were *language of learning, language for learning, and language through learning* as follows.

*Language of Learning:* For the key vocabularies and phrases of language of describing and discussing, learners explained the operational definition as a classroom activity. Focusing on the language of presentation phrases, the learners started the introduction sentence by using "*Today I would like to present the content which composed of Introduction, Hypothesis, Conceptual Framework, and Conclusion*". Moreover, the learners could be able to choose the useful beginning with: "I am going to talk about…" "I'd like to talk about…." "The main focus of this presentation is…". To order the presentation, the learners used: *"Next, I would like to…" "I will show the evidence that…" "Moreover, they take a…" "So…"*, and "*Then we go to analyze…"*.The learners used" First of all", "Then", "Secondly", "Lastly", "To sum up", "In conclusion" as transitions to order their ideas. In terms of grammatical progression, the learners still mixed between present tense and past tense. Noticeably, one of the weak points of Thai learners is to pronounce ending sound, and they should be aware of the mistake in using tenses.

*Language for Learning:* In their interactions in the group activity, students were able to use language for asking and answering questions or inviting further clarification for providing evidence. For example, following questions were rather common from teachers and/or students:

"*Could you please explain…*?"

"*My question is…?," and*

"*What does it mean…?"*

In this context, the research team noted some difference between how such requests were used by the teachers and the students. A native speaker, or a well-verse speaker, both in English and Thai languages, would use indirect requests with a tone of voice that shows respect to the person being addressed. In contrast to the teachers, students' requests were more direct, and what can be at times misinterpreted as abrupt commands. It is worthy to note that such practices were modeled by the teachers' speech, but not directly discussed in classes.

*Language through Learning:* According to the Seminar Evaluation Form (as shown in Table 3), the teaching team gave systematic reflection and evaluation on the learners' content knowledge, presentation, and responses to comments and questions. The comments and suggestions for further study were provided. Also, rubric scoring was used to evaluate the learners' paper and presentation. Thus, the learners learned from the feedback and had better presentations. In learners' presentation, the presenters had to study about the vocabularies used in their presentation, from which may be inferred that the learners used dictionary or had dictionary skills.

> To extend presentation and presenting evidence ,the coordinator of this teaching was a moderator in each presentation. It was a responsibility of the thesis advisor to correct the content of the paper being presenting. Each student had to present twice literature review and progress report. After the presenter submitted the abstract the week before, the expert (visiting professor) edited the manuscript, and the advisor commented on content. Then, the presenter had to practice presentation with the advisor. In terms of recycling discussion, in each period, there were

*at least two learners (audiences) who prepared questions about the presentation.*

*(Observation: Dissertation Seminar on Biochemistry, March 2015)*

## Assessment

Assessment in CLIL context needs to reflect both content and language development of learners. This was reflected in the classes observed. To assess the students' Oral presentation for the Seminar Course, the course team designed the evaluation form (see Appendix A). The form provides a 60:40 proportion between 'assessment for learning' and 'assessment of learning'. In other words, the lecturers gave priority to the learning process rather than learning output. Focusing on the learning objective, it was recognized that assessment emphasized higher order thinking including apply, analyze, evaluate and create rather than lower order thinking including remember and understand only. Even though the speaking and listening skills assessments were restricted by the nature of each course and the class size, in this case, speaking and listening skills were explicitly assessed.

## Benefits of Using the CLIL

There were four benefits of using the CLIL found in this study. As English is a foreign language in Thailand, the student have less chances of using language than native speakers. In CLIL classroom, learners could acquire language more naturally and had an opportunity to use English skills during activities in class. Hence, the first benefit of using CLIL is the *language acquisition*. Second, as CLIL tries to integrate content knowledge and language learning(Hood, 2005). Besides language learning, they also got new *content knowledge* in both native and English language at the same time that helped learners to get ready to work internationally. Third, CLIL classroom could support learners to *achieve diversity of Learning outcome*. Learners in CLIL classroom would get both content knowledge and language learning in accord with learning outcomes in TQF: HEd. This could enable lecturers achieve three learning outcomes which are knowledge, cognitive

skills, and analytical and communicative skills. Lastly, in order to provide *diversity in assessment practices,* lecturers gave learners classroom activity and assignments in task-based. Then learners could show their potential in language of learning in terms of writing skills or skills of presenting the data which enable lecturers assess both content knowledge and language learning. There are five domains of learning outcome lecturers have to assess in TQF: HEd. CLIL could help lecturers to think thoroughly how to assess each domains of learning outcome, especially in terms of knowledge content, interpersonal skills and communicative skills in order to conform to TQF: HEd (TOHEC, 2006).

## Problems and Challenges in Implementing CLIL

According to the data analysis, the five problems and challenges in implementing CLIL were found. First, learners were from different schools and their language backgrounds varied that affects their interactions in the class. Those whose English competence was good would be confident to interact or participate in classroom activities. On the other hand, learners who were not good in English would be hesitant to participate in classroom activities. Hence, *language background* is the first identified problem.

*I enjoyed the class that the lecturer allow us to discuss while learning"*

*(Interviewing: learner, finish high school from a bilingual school)*

Learners in large classrooms had less opportunity to engage in class activities. KKU has different class size: up to 30, 30-50, and 50 above. Therefore, the class size is the second problem in teaching and instruction.

*As class size is only 15 students, the lecturer could assign the turn to everyone to be a presenter or the audience. Moreover, they have to ask the questions during the presentation. These well-prepared classroom activities improved the speaking and listening skills of the learner*

*(Observation: Dissertation Seminar on Biochemistry, 2015)*

Third, Thai *learning culture* also affects the achievement of learning objectives of the class. Since Thai learners are usually taught to obey and respect their teachers, some might not dare to ask questions which makes them passive learners. The fourth problem is lacking of focus on all language skills. Although lectures in CLIL classroom were expected to provide activities using English skills to students, in reality, learners rarely had the opportunity to use speaking skill which is in communicative skill according to TQF: HEd. Similarly, as noted above, pronunciation and the subtle way of posing questions were not addressed in the observed classes.

The last problem is to focusing on content more than language. Because of content teachers, they usually focused on content knowledge but less focused on language learning in terms of language of learning, language for learning, and language through learning. Similarly, according to the documentary study and classroom observation, the findings were shown that learning objective of each course was focused on content rather than language. Thus, the assessment was less focused on the balance between scores of content and language ability.

## Conclusion and Discussion

The purpose of this study was to investigate how to implement the Content and Language Integrated Learning by focusing on speaking skill in graduated class. It was found that the key success factors in implementing CLIL including well-designed classroom activities, the class size, and the assessment method. These factors were partly related factors identified by Nav´es (2009) for the success in CLIL Program. The process in developing the draft before the presentation was very important as it needed the course team, or external expert's support.

The particular techniques used in implementing the Content and Language Integrated Learning, the classroom activities provided in CLIL classroom mostly focused on research-based learning, critique and presenting in seminar course. Even if the vocabularies and patterns of language were provided, the opportunity to practice communicative skill individually was very limited. These techniques were also similar to the techniques suggested by Coonan(2002). It was noticed that there were a few learning objectives focused on communication. However, learning outcomes of each course covered the Domain of Learning from TQF: HEd. More importantly, efforts in CLIL program implementation should be aware of students' language background, classroom context and culture.

Based on the findings of this study we identify two types of recommendations, for the practice of CLIL classrooms and for further research. One problem identified in this study is that all four skills of language learning should be focused equally. All of them are important in learning language, particularly speaking skill. As Thai learners have less chance to speak English in the context, speaking skill development should not be neglected. In particular, most of the assessment methods observed were found to focus more on reading and writing skills than speaking and listening skills. Similarly, because being content teachers, most learning objectives adopted in the courses focused on the content knowledge of the students. However, in CLIL classroom, communicative skill aspect identified by the TQF: HEd is also important, so teachers should pay more attention to communication and language skills.

Perhaps further research is needed in this area. In particular, it would be quite interesting to study the other factors, such as social context and classroom culture leading for the success in CLIL classroom in Higher Education level. Lastly, comparative study methods could be useful between different countries attempting to teach English as a second/foreign language.

• • •

## References

ASEAN Secretariat. (1967). The ASEAN Declaration (Bangkok Declaration). Bangkok, ASEAN.

Coyle, D., Hood, P., & Marsh, D. (2010). *Content and Language Integrated Learning*. Cambridge: Cambridge University Press.

Creswell, J. (2002). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. New Jersey: Pearson Education, Inc.

Graddol, D. (2006). *English Next. Why Global English May Mean the End of 'English as a Foreign Language'*. London: The British Council

Hood, P. (2005). *CLIL Models in the CLIP Report*. London: CILT

Horwitz, E.,K. (2008). *Becoming a Language Teacher: Practical Guide to Second Language Learning and Teaching*. Boston: Pearson Education, Inc.

Less, P. (2003). *Academic and nonacademic skills needed for success by international students in a master's of business administration program*. Unpublished doctoral dissertation, University of Arkansas, Little Rock.

Marsh, D. & Woff, D. (Eds.). (2007). *Diverse Context-Converging Goals: CLIL in Europe.* Franfurt: Peterlang

Marsh, D., Maljers, A. and A. K., Hartiala. (2001) (Eds.).*Profiling European CLIL Classrooms: Languages Open Doors*. University of Jyväskylä, Jyväskylä.

Thailand Office of Higher Education Commission (2006). National Qualifications Framework for Higher Education in Thailand Implementation Handbook. Retrieved from http://www.mua.go.th/users/tqfhed/news/FilesNews/FilesNews8/NQF-HEd.pdf

Yin, R. (1994). *Case Study Research: Design and Methods* (2nd ed). Thousand Oaks: Sage Publications

# Appendix A

## Seminar evaluation form

| Speaker name: | Date: | | | | | Weight | Outcome |
|---|---|---|---|---|---|---|---|
| | Point from poor to excellent | | | | | Weight | Outcome |
| | 1 | 2 | 3 | 4 | 5 | | |
| Abstract | | | | | | 1 | |
| Content (clear, interesting, suitable) | | | | | | 4 | |
| Presentation (in order, easy to understand, good performance) | | | | | | 5 | |
| Response to question (scientific-based thinking, clear and correct) | | | | | | 5 | |
| Presentation in time | | | | | | 1 | |
| Total | | | | | | | /80 |

For advisor only: Student's perseverance and improvement (10%)

Evaluator: ………………………………………

Comment performance of the speaker's presentation: