A MODEL FOR CONTENT AND LANGUAGE INTEGRATED LEARNING FOR ENGLISH PROGRAMS IN SAINT PAUL DE CHARTRES SCHOOLS IN THAILAND

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Abstract. Teaching and learning practices were examined across three English programs in St Paul De Chartres Schools in Thailand to develop an effective CLIL framework, for teaching and learning math, science and social studies. Quantitative & qualitative data collection methods were employed including content analysis of documents and websites. Findings from this revealed that for any CLIL plan to be successful, eight key administrative and teaching practices have to be planned for and in advance of teaching these content subjects. These eight constructs relate to the best methods for teaching content where English is a foreign language and lead to more successful teaching of these subjects. It begins by integrating the language and content curriculum, where content and language teachers communicate, cooperate and prioritize their content and language items so that students receive planned language content support lessons prior to and during content subjects through differentiation, critical thinking skills, questioning and by the use of appropriate materials. Questionnaires for teachers and students and interview data from teachers and program leaders were also employed and the results revealed mostly low scores for these constructs. The findings provide a suitable framework to bridge the gap between these constructs and their results. Further to this, the study suggests a model could contribute to increased academic support for student's content development of subjects where language teachers preload students with appropriate academic background language knowledge and study skills that they can build on as an aid, prior to and during the periods of content study.

Keywords: content language integrated learning (CLIL), English programs, Model.

Introduction

For the past few decades, a great deal of attention has been paid to how content and English has been taught. As a result, a number of theories have developed, and become increasingly important, in the world of English language instruction, namely content language integrated learning (CLIL), that relates directly to the actual teaching and the integration of language and content subjects in the same class. Consequently, when considering the ways in which this is taught, teachers instructional practices often fall into two main groups the *"content"* or "*language"* paradigms and each teacher is more likely to focus on only their own paradigm with little regard to the other. So the reality of teaching content subjects to English language students is that they learn exactly what they are taught. If teachers teach key parts of the English language together with the academic facts of their content subjects, they will learn that, but if they are taught these subjects separately, they will also learn that too. To suppose anything else would be incompatible (Humphreys 1981, p. xi). Content subjects are important for a multitude of reasons math, science and physics are important because they also help to advance developments in the world in many fields of study, like health, disease medicine and manufacturing to increase the quality of life for everyone. However, at present there appears to be no models for CLIL aimed at English language high school students. But how is all this to be achieved?

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There have been wide ranging issues of learning and the teaching of content subjects in English language teaching for a long time and many educators and other professionals cannot really agree on the best methods for content teaching (Tissington and Lacour, 1996).

This is supported by the fact that a major feature of many linguistic articles are related to one core interest; that of the elusive search for new and innovative ways which enhance instructional pedagogy of content teaching in English which maximizes teachers time more efficiently. Efficiently that is, in the better understanding and completion of tasks related to the learning of content subjects using the English language (Qi, 2009). Considering this, the most prominent factor that directly influences what they do, and how they do it are the instructional techniques. This gives rise to the idea that suitable educational tools should be devised in order to improve the instruction for content classes. So that teaching is more efficient. The results could create new opportunities for teaching to improve, which in turn, may also improve students test scores. What is needed, and the aim of this research was to propose a model for content teaching for high school students. So that they start to benefit from the research to make it work for them and so that teachers can create opportunities to expand student's knowledge base to increase their academic experiences and to start to think critically about the content of their studies by enhancing the content materials that they already have. Therefore this research had 4 objectives thus. 1. To explore the instructional methods used in content subjects in English. 2. To identify the instructional methods used in content subjects in English. 3. To identify how students learn content subjects in English.

Differentiated Instruction

Differentiating instruction means creating multiple ways so that students of different abilities, interest or learning needs can experience equally appropriate ways to help them study use, develop and present their learning of concepts as a part of the daily learning process. It allows students to take a greater responsibility and ownership for their own learning, and provides opportunities for peer teaching in groups to have the maximum effects on a diverse group of students and also encourages cooperative learning among them. Differentiated instruction has been categorized by a 3-stage process namely; content, process, product (Tomlinson, 2008).

Content Language Integrated Learning

The term CLIL was first devised by David Marsh, at the University of Jyväskylä, Finland in 1994. It refers specifically to teaching subjects, for example math, science and social studies, using a foreign language to teach it. It has a dual purpose. First and foremost it is to teach the main points of the subject (content), but at the same time, using a target language. CLIL is often implemented in different ways depending on the ages of the learners and which also may involve periods of learning some items of language or language encounters prior to actual content learning, that helps to build student confidence (Marsh, 1994, 2002). Furthermore: Marsh, et.al. state: that CLIL is a kind of language learning, but it is not, a technique for actually teaching the language. The main purpose of a CLIL class is the teaching of content and not the language per se. Marsh continues to state that although language teaching plays a big part in the teaching of content, it has to be done in conjunction with authentic content subjects. However this involves a certain learning curve by all teachers involved in the program. This is because CLIL is most often viewed in many schools not only in Thailand as subject specific and is taught that way, as opposed to the language being taught. The ideal situation, is to first, recognise any language in the text and pre-teach that prior to the content, but also to allow students to have equal access to both language and content and where give their attention simultaneously, to both topic and language (Marsh, Jesús, and Martín, 2010). Coyle takes a similar approach, for her CLIL is a term used to describe any activity in which a foreign language is used as a tool in the learning of a content subject such as math or science where language and subject have a joint role. Content means integrating content from across the curriculum. Cognition means engaging learners through higher order thinking and knowledge processing. Communication means using language to learn and mediate ideas. Culture means interpreting and understanding the significance of content and language and their contribution to identity and citizenship (Coyle, 2014).

Building Background Knowledge

The use of background knowledge is also related to increasing student's engagement and concentration

time while studying (Tze-Ming Chou, 2011). Activating prior knowledge is a valuable learning strategy as it provides students with an opportunity to connect to previously taught information. It has two main effects; one it makes learning easier for them and two; it makes teaching easier too (Alexander-Shea, 2011). Marzano emphasizes that what students already know about something strongly correlates to how well they learn new information. The emphasis is also how students acquire background knowledge. Example, when a student hears the word "store," that student will pull all the background knowledge that connects "store" to grocery store, department store, etc., only if the student has a memory of that word will it allow them to explore the different kinds of stores (Marzano, 2004).

Critical Thinking

Critical thinking is one of the buzzwords in education today. It consists of a myriad of theories like analyzing, inferences, inductive or deductive reasoning, judging and evaluating. But to do this effectively students also need to possess a certain amount of background knowledge. This background knowledge is classified as being part of the student's disposition, a habit or an attitude one might say and also the student's ability to develop a fair and open mind. This is also connected to the willingness to accept diverse viewpoints reasoning & facts. This is all part of being well informed (Lai, 2011). Although a popular theme, it has also been difficult for many educators to define exactly what it means, and also to determine its most appropriate method of instruction which has given rise to many definitions Facione, (2011), Broom, (2011), Heong, Othman, Yunos, and Kiong, (2011), Scriven and Paul, (2007), Paul and Elder, (2008). For secondary school students it is an important part academic life because these skills help to shape a wide variety of thinking skills as opposed to having students simply remember facts from reading. It is also important to practice hypothetical and deductive thinking, prediction, using reasoning for proof, analysis of information, refutation and debate when dealing with arguments, along with self-assessment and analysis of themselves and others (Shakirova, 2007). What hinders this are the beliefs and attitudes of teachers. But for those who can devise them critical thinking can encourage students to become more engaged in their studies by using instructional models and questioning techniques critical thinking (Snyder and Snyder, 2008). Krathwohl's revised version of the original taxonomy explains 6 essential elements thus; Creating that builds structures and patterns from various elements. Putting the various parts together to form a whole. Evaluating means making valued and informed judgments from facts. Analyzing is separating ideas into their component parts by distinguishing facts & inferences. Applying is using learned concepts in a new situation. Understanding is the comprehending of various meanings, and also translations, interpretation instructions & problems and paraphrasing. Remembering is recalling the previous learned information (Krathwohl, 2002).

Advance Organizers

Advanced organizers are related to preparation of lessons. Joyce, Weil and Calhoun quote Ausubel that advanced organizers are designed to strengthen student's thinking and their knowledge of a particular subject (Joyce, Weil and Calhoun, 2004). They help to process new knowledge in a creative way and embed new information into student's long-term memory. They are best used when the students don't possess the relevant information or concepts in the study (Ivie, 1998). Organizers are best used to pre-teach complex and difficult subjects they should be:

- Organizational cues
- Tools that help connect the known to the unknown
- Frameworks for helping students understand what they'll be learning (Chen and Hirumi, 2009)

Instructional Design & Planning

Gagne states the importance of instruction as a sequence, of planned events. He devised a nine-stage instructional process & places emphasis on planning & application of activities promoting cognitive & intellectual skills: 1. Gaining attention (reception). 2. Informing learners of the objective (expectancy). 3. Stimulating recall of prior learning (retrieval). 4. Presenting the stimulus (selective perception). 5. Providing learning guidance (semantic encoding). 6. Eliciting performance (responding). 7. Providing feedback (reinforcement). 8. Assessing performance (retrieval). 9. Enhancing retention and transfer (generalization) (Gagne, Briggs and Wager, 1992).

Transformational Leadership

First publicized by James McGregor Burns transformational leadership is a process whereby a person engages with others to complete a task and at the same time raises the motivation of the follower and leader emphasizing the collective good for the community. For this study transformational leadership is applied to encouraging teachers to develop methodologies in teaching content. Transformational leadership is divided in to various factors that describe four particular theories (Bass, 1999). Factor 1. Idealized influence or charisma describes those leaders who act as strong examples and role models for followers and followers try to emulate them. Factor 2. Inspirational motivation, describes leaders who utilize the advantage of discussion and emotional appeals to motivate people to contribute to the development of progress using tools that enhance the theory of team spirit. Factor 3. Intellectual stimulation is the idea that a leader inspires others to be creative and innovative and to challenge current practices and beliefs. Factor 4. Individualized means consideration to allow leaders a supportive climate in their management by listening to the needs of their followers and allow followers to grow by giving them personal challenges (Northhouse, 2012).

Sheltered Instructional Observational Protocol

CLIL for this study is closely aligned with the core elements of the SIOP model. The Sheltered Instruction Observation Protocol (SIOP) Model was developed to provide teachers with an instructional base, to facilitate instruction for English learners in content teaching. By organizing methods and techniques, that, were effective & implemented across the curriculum. The SIOP model is used widely across the United States where strong curriculums allow it to be implemented. It implies strong commitment between administrators and teachers to plan and implement a range of strategies to increase the academic levels. It is a well research-based model and especially effective in the lower secondary (Echevarria, Vogt and Short, 2000).

Conceptual Framework

This figure below gives information about the conceptual framework that is at the heart of this study and is related to the concept of instruction as a process. The conceptual framework here has its foundation in the best practices for the preparation and planning of instructional design and the ultimate processing of information in a systematic and methodical manner.

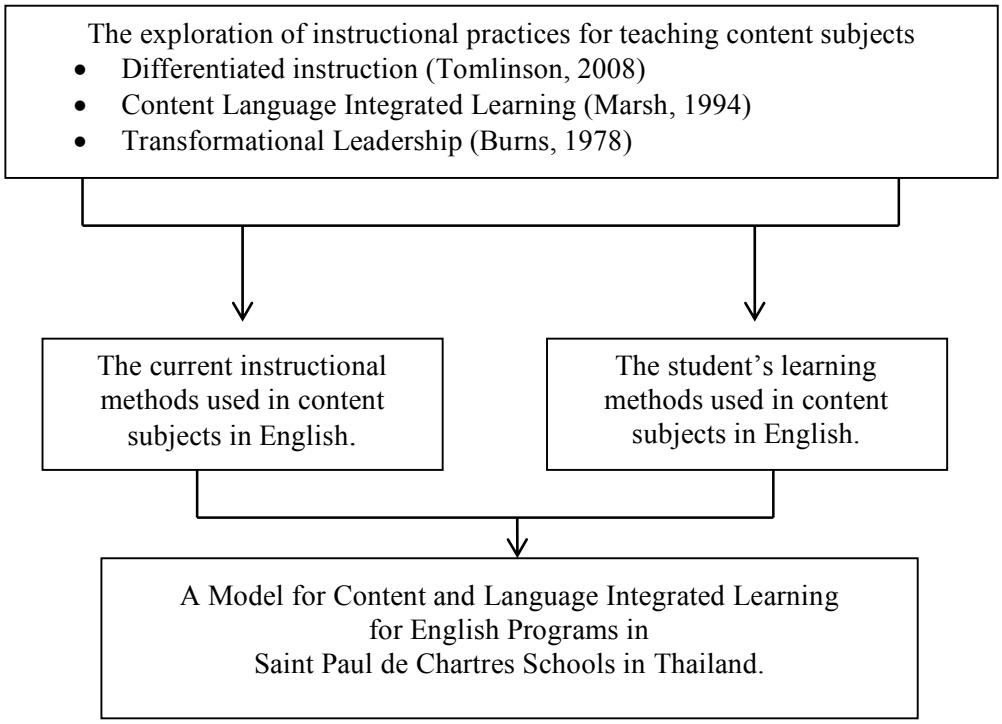

Figure 1. Conceptual Framework

Research Methodology

Research procedure. For objective 1 a content analysis study was conducted on articles, books and websites. For objective 2, questionnaires and interviews were used to determine what teaching practices teachers used for their subjects. For objective 3 questionnaires were used to determine what learning practices students used in their respective classes. Supporting interviews were also used for objectives 2 and 3. Objective 4 was completed by studying data from objectives 1, 2 & 3 and using the results from these scores to develop a model for content and language integrated learning which was then validated by twenty expert teachers.

Instruments. A content analysis study was devised using 354 articles, books, and websites. These items were all related to language and content teaching of math, science & social studies, key themes were identified that related to good teaching methods. These in turn formed the basis for the second main instrument for this study, that of questionnaires for teachers and students from the 3 schools. To support these, interviews were also carried out on the English program managers at each of the schools and also on one math teacher, one science teacher and one social studies teacher who taught these classes. The interview questions were also based on the themes from the content analysis study. They covered questions related to how teachers were monitored and what practices teachers use when teaching their respective subjects.

Participants. The participants for this study included 128 teachers and 306 students from three selected Catholic schools in Thailand. All students were studying in English programs. All the teachers were native speaking, British and American with some Philippine teachers who all had similar teaching backgrounds with similar teaching qualifications & experiences.

Results

Research Objective 1.

To explore the instructional methods used in content subjects. The results of this objective indicated that for any English program to be successful, 8 major themes should be present prior to and during instructional practice in English programs where math, science and social studies are taught. These 8 major themes are academic language, communication strategies, curriculum integration, materials design, critical thinking skills, differentiation, questioning & cuing strategies & cooperative learning strategies.

Data Analysis.

The results of the content analysis produced 8 themes as constructs. To ensure the validity and reliability of the research instrument the researcher procured the help of five independent teachers to validate the content analysis process and during discussions adjustments were made according to their advice and comments.

Research Objective 2.

To identify the instructional methods used in content subjects in English. In total 140 questionnaires were sent out to content teachers at the same school and 128 were returned. Of the total number of questionnaires School 1 responded with 28, School 2 responded with 52 and School 3 responded with 48. Analysis of the demographic data obtained showed that there were 53 female teachers and 75 male teachers.

Reliability.

To confirm the reliability of the research instrument for question two the researcher gave the questionnaire to sixty teachers from two of the schools prior to the survey. Then by using the Chronbach's Alpha calculated a score of .92. Frequency and percentage tables were used to examine the data for the teachers.

Data Analysis.
Frequency, mean, and standard deviation were used to analyze the data for this objective. Table 1 sets out a summary of the data for this objective.

Table 1: The interpretation teacher's data.

Teachers	Math		Science		Social Studies	
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation
Academic language	2.28	Very rare	2.32	Very rare	2.0	Very rare
Communication strategies	2.46	Very rare	2.57	Sometimes	2.56	Sometimes
Curriculum integration	2.54	Very rare	2.46	Very rare	2.22	Very rare
Materials	2.39	Very rare	2.35	Very rare	2.20	Very rare
Critical thinking skills	2.31	Very rare	2.25	Very rare	2.13	Very rare
Differentiation	2.35	Very rare	2.20	Very rare	2.34	Very rare
Questioning and cuing	2.43	Very rare	2.20	Very rare	2.56	Sometimes
Cooperative learning	1.98	Very rare	2.05	Very rare	2.22	Very rare

Research Objective 3.
To identify how students learn content subjects in English. In total 1,500 questionnaires were sent to three English program schools 306 were returned. The grade levels of the students ranged from grade 7 to grade 9 in junior-high-school, with ages between twelve-to fifteen years old.

Reliability.
To confirm the reliability of the research instrument for question two the researcher gave the questionnaire to sixty students from one of the schools prior to the survey. Then by using Chronbach's Alpha produced a score of .93. Frequency and percentage were used to collect raw data on the students.

Data analysis.
Frequency, mean, and standard deviation were used to analyze the data for this objective. Table 2 sets out a summary of the data for this objective

Table 2: The interpretation of student's data.

Students	Math		Science		Social Studies	
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation
Academic language	2.41	Very rare	2.16	Very rare	2.47	Very rare
Communication strategies	2.45	Very rare	2.42	Very rare	2.47	Very rare
Curriculum integration	2.44	Very rare	2.47	Very rare	2.41	Very rare
Materials	2.42	Very rare	2.44	Very rare	2.50	Very rare
Critical thinking skills	2.49	Very rare	2.34	Very rare	2.49	Very rare
Differentiation	2.39	Very rare	2.44	Very rare	2.45	Very rare
Questioning & cuing	2.36	Very rare	2.30	Very rare	2.47	Very rare
Cooperative learning	2.39	Very rare	2.42	Very rare	2.4	Very rare

Research Objective 4.
To develop a model for content and language integrated learning. The researcher designed the model based on the highest scores from the data tables of teacher's activities to demonstrate best practices. The model, once compiled was evaluated, by twenty experienced content and language teachers. They commented on its construction and contents and verified that they saw the model as a potential and viable instrument. Figure 1 sets out the content and language integrated model for this study.

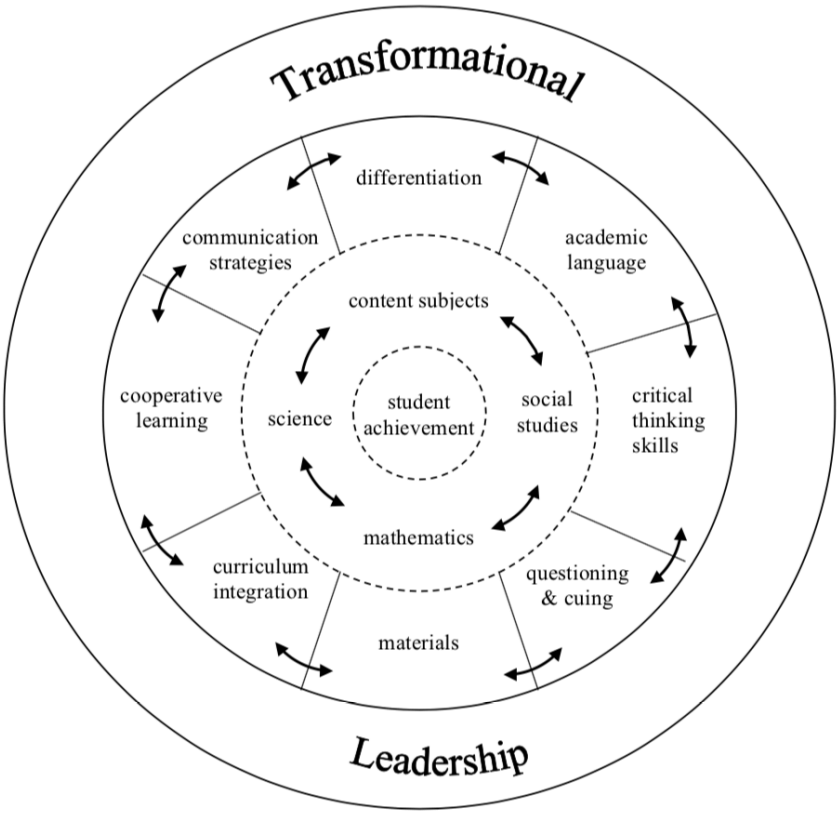

Figure 2. The model for content and language integrated learning.

Explanation of the model.
The components of the model and their application is expressed in figure 1. The model contains all of the essential components of a well designed lesson plan(s) and its up to the content and language teachers to meet and discuss to decide which part(s) they consider to be the most important. The content teacher should be the lead person in this because he/she knows which are the major language elements that should be pre-taught using as much of the other elements by the language teacher prior to the content lesson.

Conclusion
Based on the summary of objective one demonstrated how best practices relate to what students and teachers should be doing in an English program. These themes were instrumental in forming the basis for all of the other remaining questions. Based on the summary of the findings for question two, research data determined that existing classroom practices within the schools are not supportive of the implementation of these best practices in content classes and are not perceived as routine. It seems that most students have little background knowledge before content study commences, and don't get in to the habit of learning through cooperative learning practices as habit. Data suggests a lack of academic preparedness, study skills and habits for these subjects like studying contextualized vocabulary, grammar, reading and writing especially in math & science before or during content classes from the wide ranging data provided by the students and teachers. This relates to a similar conclusion that during content study, data supported the fact that there is also a general lack of a supportive infrastructure for example meetings between teachers and utilizing their effects for co-teaching vocabulary, grammar,

reading & writing prior to content classes. Based on the summary of the findings for question three, it seems that the schools miss out on the opportunities to practice co-operative governance to such an extent that all subjects are treated as separate items. This is evident because of a lack of collaboration between language and content teachers to work together. This allows some thought to suggest that content teachers concentrate on teaching pure content with not enough supportive elements like the pre-teaching of contextualized vocabulary that leaves students unprepared for math, science and social studies.

This is also related to a lack of exploiting the best teaching methods, practices so essential for content subjects. Data suggests that differentiation of content seems to be a very underdeveloped skill for all teachers likewise the value of critical thinking. Key components in the pursuit of developing all this is of course, the value of teamwork and effective communication. It should be understood by all teachers that the principles of teamwork and communication be practiced by everyone for their and their students benefit. The practices that guide differentiation are based on the ideas that content teachers should learn to maximize students potential by getting to know their students limitations in content and linguistic knowledge together and develop practices in accordance with this (Tomlinson, 2001).

Coyle states that for any CLIL program to be successful teachers need to communicate, & cooperate so they can build curriculum communities supporting content and language awareness (Coyle, 2014). In this regard the conclusions reached for time used for planning and preparation of lessons are not put to the best economical use, simply because lessons are not coordinated between teachers at all. As for the materials development, data suggests that they have little time to adapt any of the written texts to suit the various levels of their students. This assumes that most of the instruction is of a direct instructional nature with too much emphasis placed on the teacher as a lecturer and not enough emphasis placed on student centered learning or differentiated instruction using cooperative teaching approaches and critical thinking skills. Based on the summary of the findings for question four, this research concluded with a model based on the scores from the practices from the teacher's instructional methods from the survey & exemplified as such. The model for this study; was developed, by consolidating the findings from the questions and data stated above. The results of the data were collected and synthesized into a model bringing together all the best practices into one functional model to aid teaching in English programs. The model, was then evaluated, by twenty experienced content & language teachers. They were given a copy of the model & asked to commented on its construction and when they were satisfied with it signed to verify it as a potential and viable instrument.

Discussion

The primary intention of this model was to spark an interest in collective participation in leading change for the improvement of academic study. Teachers can become leaders and start to develop a more cooperative and communicative approach to their work so that models that perpetrate best practices can start to work for them to self-develop and for students to achieve more too. Three major findings emerged from this study. The first one was the results of the content analysis study that produced eight major themes that formed the basis of instructional practices in an English program. The second was that the practices used by students and teachers in content classes are not related sufficiently with these themes stated above. Data states that all of the results were low. Data revealed that the degree of relationship was sufficient to justify a model for improvement. Thirdly, a model was developed, by consolidating the findings and the data from the research questions and utilizing best practices by teachers. The results from each of the data, were evaluated by twenty content & language teachers, to validate the model.

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