

# BLOCK 4.

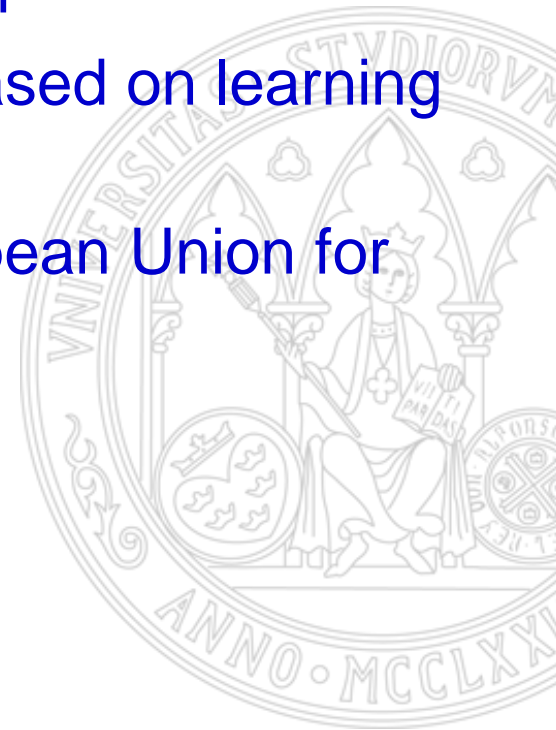
## The past meets the present: Language teaching methods in the 20<sup>th</sup> and 21<sup>st</sup> centuries

### Sub-block 4.3. Communicative approaches

#### Unit 4.3.5. Content and Language Integrated Learning (CLIL) / Content-Based Instruction (CBI)

# Outline

1. Objectives of this unit
2. Goal of CLIL
3. Historical background and rationale behind CLIL
  - 3.1. Definition. Terminological clarification
  - 3.2. Origins and educational initiatives based on learning content through language
  - 3.3. Boosting and funding from the European Union for CLIL programmes in the 2000s
  - 3.4. Models of CLIL
4. Analysis of the components of CLIL
5. Critical assessment of CLIL



# 1. Objectives of this unit

1. Report on the foundations and fundamentals of language learning by learning the content being studied.
2. Learn about the different models of CLIL available.
3. Learn about the European Union support for CLIL.
4. Analyse the pedagogical implications of teaching “through content”.



# 2. Goal of CLIL

To develop both language and content knowledge



# 3. Historical background and rationale behind CLIL

## 3.1. Definition. Terminological clarification

- ✓ Several terms:
  - ❑ CLIL (Content and Language Integrated Learning). Mostly used in Europe. Term coined by Marsh in 1994 (Marsh, Maljers & Hartiala, 2001)
  - ❑ CBI (Content-based Instruction). Mostly used in the USA
  - ❑ In Spanish: AICLE (*Aprendizaje Integrado de Contenidos y Lenguas Extranjeras*)
  
- ✓ Spin-off of CLT
  
- ✓ *Like the principles of CLT from which it derives, CBI cannot be conceptualized as a fixed, immovable method; quite contrarily, it is commonly perceived as a flexible operational framework for language instruction, with a heterogeneity of prototype models and application options available for different contexts and pedagogical needs.*

(Dueñas, 2004: 75)

# 3. Historical background and rationale behind CLIL

## 3.1. Definition. Terminological clarification

*[...] the teaching of content or information in the language being learned with little or no direct or explicit effort to teaching the language itself separately from the content being taught.*

(Krahnke, 1987: 65)

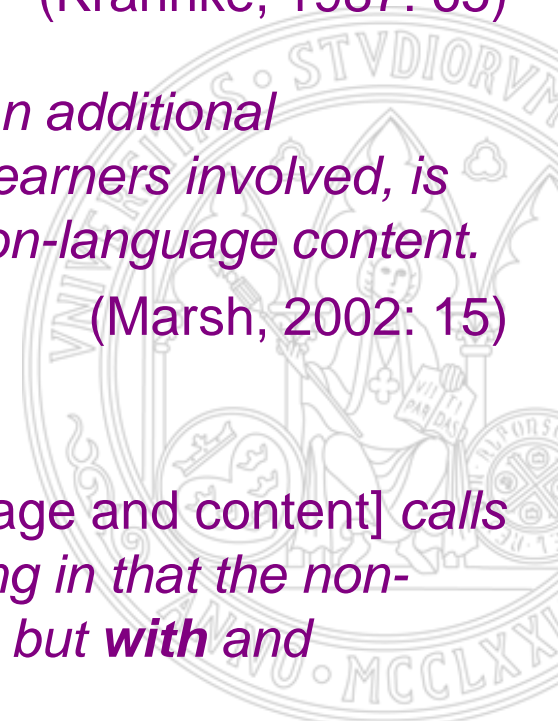
*[...] any dual-focused educational context in which an additional language, thus not usually the first language of the learners involved, is used as a medium in the teaching and learning of non-language content.*

(Marsh, 2002: 15)

*What is an additional language?*

*[A]chieving this two-fold aim [attention to both language and content] calls for the development of a special approach to teaching in that the non-language subject is not taught **in** a foreign language but **with** and **through** a foreign language.*

(Eurydice, 2006: 8. Emphasis in the original)




# 3. Historical background and rationale behind CLIL

## 3.1. Definition. Terminological clarification

*Content and Language Integrated Learning (CLIL) involves teaching a curricular subject through the medium of a language other than that normally used. The subject can be entirely unrelated to language learning, such as history lessons being taught in English in a school in Spain. CLIL is taking place and has been found to be effective in all sectors of education from primary through to adult and higher education. Its success has been growing over the past 10 years and continues to do so.*

*Teachers working with CLIL are specialists in their own discipline rather than traditional language teachers. They are usually fluent speakers of the target language, bilingual or native speakers. In many institutions language teachers work in partnership with other departments to offer CLIL in various subjects. The key issue is that the learner is gaining new knowledge about the 'non-language' subject while encountering, using and learning the foreign language. The methodologies and approaches used are often linked to the subject area with the content leading the activities.*

[http://ec.europa.eu/languages/language-teaching/content-and-language-integrated-learning\\_en.htm](http://ec.europa.eu/languages/language-teaching/content-and-language-integrated-learning_en.htm)

- 
- a) Which version of CLT do you think that CLIL belongs to?
  - b) What do you think is meant by “content” here? How does it differ from the other conceptualizations of content made in earlier methods?

# 3. Historical background and rationale behind CLIL

## 3.1. Definition. Terminological clarification

### Benefits of CLIL. It...

1. *Builds intercultural knowledge and understanding*
2. *Develops intercultural communication skills*
3. *Improves language competence and oral communication skills*
4. *Develops multilingual interests and attitudes*
5. *Provides opportunities to study content through different perspectives*
6. *Allows learners more contact with the target language*
7. *Does not require extra teaching hours*
8. *Complements other subjects rather than competes with them*
9. *Diversifies methods and forms of classroom practice*
10. *Increases learners' motivation and confidence in both the language and the subject being taught*

[http://ec.europa.eu/languages/language-teaching/content-and-language-integrated-learning\\_en.htm](http://ec.europa.eu/languages/language-teaching/content-and-language-integrated-learning_en.htm)



### 3. Historical background and rationale behind CLIL

#### 3.2. Origins and educational initiatives based on learning content through language

- ✓ Two thousand years ago, middle-upper classes in Roman empire educated their children in Greek to learn the language and to enjoy the social and professional opportunities of mastering a second language and being able to work in Greek-speaking territories.
- ✓ “Throughout the history of formal education the use of an L2 as a medium of instruction has been the rule rather than the exception” (Cummins, 2000).
- ✓ More recent educational initiatives (1960s-nowadays) emphasising learning content through language (Richards & Rodgers, 2001: 205-207):

##### 1. Immersion Education



*We will study Immersion Education in more detail than the others given the plethora of studies evaluating its effectiveness and derived instructional measures adopted.*

2. Language across the Curriculum
3. Immigrant On-Arrival Programmes
4. Programs for Students with Limited English Proficiency (SLEP)
5. Language for Specific Purposes (LSP)

### 3. Historical background and rationale behind CLIL

#### 3.2. Origins and educational initiatives based on learning content through language

##### 1. Immersion Education

- ❑ First immersion programmes in Canada in the 1960s. Aim: to provide English-speaking children with the opportunities to learn French. Other languages incorporated: French, German, Spanish, Japanese, and Chinese.
- ❑ The SL/FL is the vehicle for content instruction in the curriculum but not the subject of instruction. E.g. History taught through L2 English.
- ❑ Several studies showed that French-immersion students developed fluency and high levels of aural comprehension abilities, as well as confidence in using the L2. However, many researchers pointed out that such benefits were not accompanied by high levels of accuracy in morphosyntactic features (Harley & Swain, 1984; Swain, 1985, among others).



*Can you have a guess as to why this happened?*



*Remember from Unit 4.3.3 that immersion programmes were driven by meaningful exposure (Krashen's Comprehensible Input Hypothesis)*

# 3. Historical background and rationale behind CLIL

## 3.2. Origins and educational initiatives based on learning content through language

### 1. Immersion Education

- *Students cannot develop academic knowledge and skills without access to the language in which that knowledge is embedded, discussed, constructed, or evaluated. Nor can they acquire academic language skills in a context devoid of [academic] content.*

(Crandall, 1994: 256)

- More and more researchers are advocating a focus on form or on linguistic objectives besides a focus on meaning or content objectives (Lightbown & Spada, 2006; Lyster, 2007, 2011; Spada & Lightbown, 2008, among others).

# 3. Historical background and rationale behind CLIL

## 3.2. Origins and educational initiatives based on learning content through language

### 1. Immersion Education

Lyster (2007: 135; 2011: 616):

#### Instructional options to counterbalance

Content-based options	Form-focused options
Comprehensible input through exposure to subject matter	Enhanced input through noticing and awareness tasks
Content-based tasks for production	Practice activities for production
Negotiation as scaffolding	Negotiation as feedback

### 3. Historical background and rationale behind CLIL

#### 3.2. Origins and educational initiatives based on learning content through language

##### 2. Language across the Curriculum

- ❑ Mid 1970s.
- ❑ A proposal for native-language education in Britain out of the recommendations of a governmental commission.
- ❑ Focus: Reading and writing in all subject areas in the curriculum.
- ❑ “Every teacher an English teacher”: in the content subject lesson English language skills were taught as well.

##### 3. Immigrant On-Arrival Programmes

- ❑ Initial programmes developed in Australia.
- ❑ Devised to address the survival needs of Asian immigrants arriving in Australia: integration in the labour market.
- ❑ First accounts of syllabuses which included formal specifications built around specific themes and situations.
- ❑ Techniques from DM and Competency-based Language Teaching.



*What do you think that competencies are?*

### 3. Historical background and rationale behind CLIL

#### 3.2. Origins and educational initiatives based on learning content through language

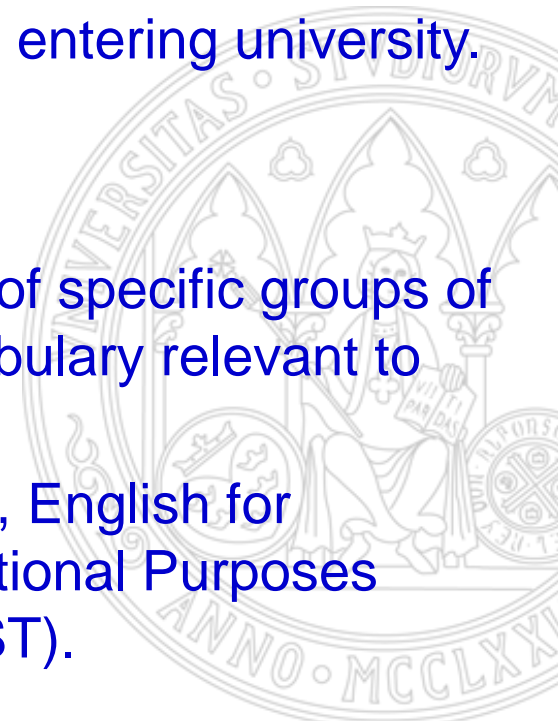
#### 4. Programs for Students with Limited English Proficiency (SLEP)

Targeted at any school children whose language proficiency is not enough to follow regular classes. Current versions include academic skill training for international students entering university.

#### 5. Language for Specific Purposes (LSP)

Addresses the immediate and particular needs of specific groups of learners who need to master L2 skills and vocabulary relevant to their fields of education or jobs.

Examples: English for Specific Purposes (ESP), English for Academic Purposes (EAP), English for Occupational Purposes (EOP), English for Science and Technology (EST).



### 3. Historical background and rationale behind CLIL

#### 3.3. Boosting and funding from the European Union for CLIL programmes in the 2000s

*During 1980-1995, in particular, the foreign language teaching profession, and other stakeholders, sought educational solutions that would provide more young people with better skills in foreign languages. Some twenty or more teaching 'types' surfaced, nearly all of which highlighted the need to focus on meaning alongside form to achieve best practice with a majority of young people.*

*The hallmark of these initiatives was an integrated, process-oriented approach to language learning. The requisites for success lay in exposure. The need to provide more opportunities for foreign language exposure within a given school curriculum resulted in examining additional platforms to support and influence formalized language teaching.*

*This approach came to be termed Content and Language Integrated Learning (CLIL). (Enseignement d'une Matière par l'Intégration d'une Langue Etrangère - EMILE).*

*[...] CLIL/EMILE has emerged as a pragmatic European solution to a European need. [...] It is widely acknowledged that foreign languages are not sufficiently taught or learned in schools and that a considerable investment in this field is needed. A cost-effective, practical and sustainable solution may be found in this approach.*

(Marsh, 2002: 9-10)

### 3. Historical background and rationale behind CLIL

#### 3.3. Boosting and funding from the European Union for CLIL programmes in the 2000s

- ✓ Rapid development in the mainstream education in the 1990s, from primary to vocational training settings.
- ✓ European Union initiatives to foster the implementation of CLIL in the European educational arena:

1. Marsh, D. (Ed.). (2002). *CLIL/EMILE European Dimension: Actions, Trends and Foresight Potential*. European Commission, Public Services Contract DG 3406/001-00
2. Commission of the European Communities (2003). *Promoting Language Learning and Linguistic Diversity: An Action Plan 2004 – 2006*. Brussels: European Communities.

Pages 15-16: *SECTION 2: ACTIONS PROPOSED FOR 2004 – 2006*

- *Language Learning in secondary education and training: Promoting Content and Language Integrated Learning (CLIL) (Actions 1.2.4-1.2.7)*
  - Action 1.2.7: Report in charge of EURYDICE, the information network on education in Europe
3. Eurydice (2006). *Content and Language Integrated Learning (CLIL) at School in Europe*. Brussels: Eurydice European Unit.

Information about the availability of CLIL in European education and training systems



# 3. Historical background and rationale behind CLIL

## 3.3. Boosting and funding from the European Union for CLIL programmes in the 2000s

Commission of the European Communities (2003). *Promoting Language Learning and Linguistic Diversity: An Action Plan 2004 – 2006*. Brussels: European Communities.

Page 8:

*Content and Language Integrated Learning (CLIL), in which pupils learn a subject through the medium of a foreign language, has a major contribution to make to the Union's language learning goals. It can provide effective opportunities for pupils to use their new language skills now, rather than learn them now for use later. It opens doors on languages for a broader range of learners, nurturing self-confidence in young learners and those who have not responded well to formal language instruction in general education. It provides exposure to the language without requiring extra time in the curriculum, which can be of particular interest in vocational settings. The introduction of CLIL approaches into an institution can be facilitated by the presence of trained teachers who are native speakers of the vehicular language.*

# 3. Historical background and rationale behind CLIL

## 3.4. Models of CLIL

- ✓ Weak and strong versions of CLIL (Brinton, Snow & Wesche, 1989).



*Any idea as to how you would define the weak and strong version of CLIL?*

- ✓ From more content-based to more language-based models (Met, 1999):
  - 1) Immersion programmes (see above). Especially targeted at primary and secondary education.
  - 2) Sheltered content instruction. University level.
  - 3) Adjunct language instruction. Elementary, secondary and university levels.
  - 4) Theme-based language instruction. Elementary, secondary and university levels.



*See Dueñas, 2004, and Richards & Rodgers, 2001, for excellent summarised accounts of models.*

# 3. Historical background and rationale behind CLIL

## 3.4. Models of CLIL

- ✓ From more content-based to less-content based models (see Dueñas, 2004 and Richards & Rodgers, 2001):
  - 1) Immersion programmes (see slides 10-12)
  - 2) Sheltered content instruction.
    - "A sheltered content-based course is taught in a second language by a content specialist to a group of learners who have been segregated or 'sheltered' from native speakers" (Brinton *et al.*, 1989: 15)
    - Subject taught in the L2 by a content area or specialist, who should present the content in a comprehensible way for the students. E.g. ESP for business, economics and computer science (Richards & Rodgers, 2001: 216)

# 3. Historical background and rationale behind CLIL

## 3.4. Models of CLIL

✓ From more content-based to less-content based models:

- 1) Immersion programmes (see slides 10-12)
- 2) Sheltered content instruction
- 3) Adjunct language instruction
  - Content and language courses complement each other by sharing the same content base.
  - Content instructor and language instructor.
- 4) Theme-based language instruction.
  - The teaching is organised around unrelated topics (e.g. pollution, women's rights, marketing).
  - L2 learners are mixed with L1 learners.
  - Strong language focus
  - The language syllabus is subordinated to the themes.
  - Teachers are language specialists rather than subject specialists.

*Which contexts do you think that these models are mostly used?: Second language contexts or foreign language contexts?*

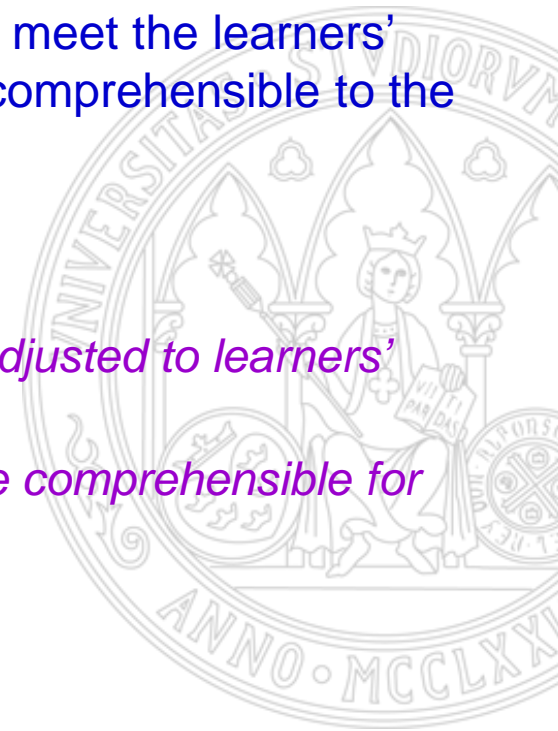


# 3. Historical background and rationale behind CLIL

## 3.4. Models of CLIL

- ✓ Common characteristics of CLIL models (Brinton, Snow & Wesche, 2003):
  - 1) Learning is facilitated by focusing on content.
  - 2) Authentic materials, which can also be adapted or supplemented by the teacher.
  - 3) The teachers should give some assistance in order to meet the learners' language level; i.e. teachers should make their input comprehensible to the students.

- a) *Which approach does this remind you of?*
- b) *What is the name of the type of discourse which is adjusted to learners' linguistic profile and thus becomes simplified?*
- c) *How do you think that teachers can make input more comprehensible for learners?*



# 4. Analysis of the components of CLIL

## Axis 1. The Why. Underlying principles and beliefs

- Theory of language (nature of language, including approach to culture)
  - Emphasis on the meaningful nature of language. Language is used to convey meaning. Interactive view of language.
  - Language is a medium through which content is learned.
  - Language is text- and discourse-based (Richards & Rodgers, 2001)
  - Language use draws on integrated skills. (Richards & Rodgers, 2001). Holistic view of language.
  - Culture:
    - a) “Addressed in teaching to the extent that it is present in the content area being studied” (Larsen-Freeman & Anderson, 2011: 140).
    - b) “Self” and “other” awareness, identity, citizenship, pluricultural understanding (Coyle, Hood & Marsh, 2010)

# 4. Analysis of the components of CLIL

## Axis 1. The Why. Underlying principles and beliefs

### □ Theory of learning (learning principles)

1) People learn a language more successfully when they use the language as a means of acquiring information, rather than as an end in itself (Richards, 2005: 28).

Thus, people learn a second language more successfully when the information they are acquiring is perceived as interesting, useful, and leading to a desired goal (Richards & Rodgers, 2001: 209-211).

However, more and more emphasis from CLIL advocates on not only *language through learning* but also *language for learning* (Coyle et al., 2010)

2) Students learn best when instruction addresses students' needs (Richards & Rodgers, 2001)

3) Motivation as triggered by 1) and 2) aids to learning (Dueñas, 2004; Muñoz, 2002).

4) Importance of comprehensible input (Grabe & Stoller, 1997; Muñoz, 2002; Richards & Rodgers, 2001)

# 4. Analysis of the components of CLIL

## Axis 1. The Why. Underlying principles and beliefs

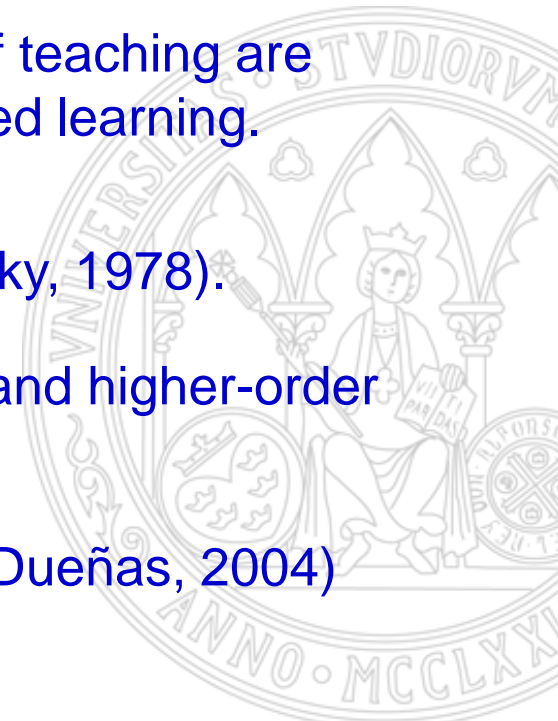
### ❑ Theory of learning (learning principles)

#### 5) Social-constructivist learning theory (Vygotsky, 1978):

- Learning is achieved collaboratively between teacher and students.
- Language, thinking and culture as objectives of teaching are attained by interactive, mediated and student-led learning.
- “Scaffolded” learning.
- “Zone of proximal development” (ZPD) (Vygotsky, 1978).

#### 6) Cognitive engagement: Problem solving, creative and higher-order thinking (Coyle *et al.*, 2010).

#### 7) In all: Students' *deep learning* (Coyle *et al.*, 2010; Dueñas, 2004)

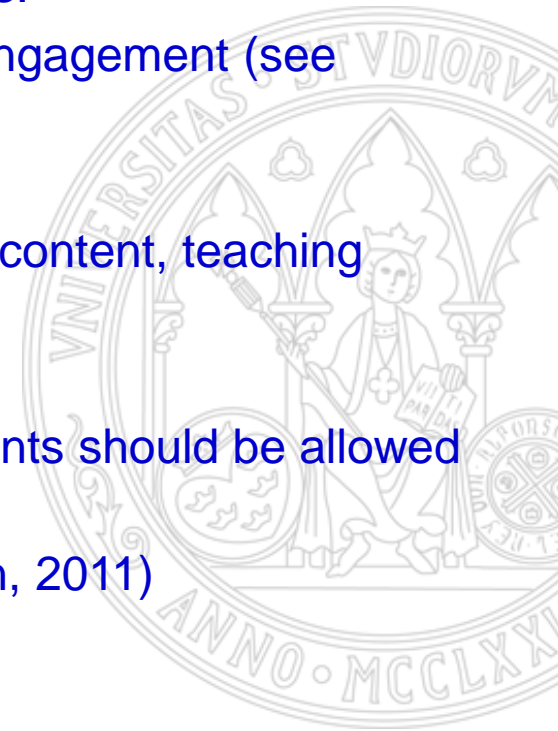




# 4. Analysis of the components of CLIL

## Axis 1. The Why. Underlying principles and beliefs

- Theory of teaching (pedagogical principles)
  - From the late 1990s onwards: Counterbalanced instruction (Lyster, 2007, 2011). Content-based options and form-focused options.
  - Teaching should encourage interaction and cognitive engagement (see previous slide)
  - Emphasis on group-work activities
  - In order to motivate students and make them learn the content, teaching should draw on authentic materials.
  - Integrated approach to skill teaching.
  - Error correction: Explicit and implicit procedures. Students should be allowed to self-correct.
  - No explicit role for the L1 (Larsen-Freeman & Anderson, 2011)



# 4. Analysis of the components of CLIL

## Axis 1. The Why. Underlying principles and beliefs


### □ Theory of teaching (pedagogical principles)

*In a content-based approach, the activities of the language class are specific to the subject being taught, and are geared to stimulate students to think and learn through the target language. Such an approach lends itself quite naturally to the **integrated teaching of the four traditional language skills**. For example, it employs authentic reading materials which require students not only to understand information but to interpret and evaluate it as well. It provides a forum in which students can respond orally to reading and lecture materials. It recognizes that academic writing follows from listening, and reading, and thus requires students to synthesize facts and ideas from multiple sources as preparation for writing. In this approach, students are exposed to study skills and learn a variety of language skills which prepare them for a range of academic tasks they will encounter.*

(Brinton et al., 1989: 2. Our highlighting)

# 4. Analysis of the components of CLIL

## Axis 2. The What. Objectives of teaching. Syllabus specifications

- ❑ Academic content (subject)
- ❑ Communication: Language knowledge and skills. Counterbalanced instruction (Lyster, 2007, 2011).
- ❑ Cognitive skills: Creative thinking, problem solving and cognitive challenge (Coyle *et al.*, 2010)
- ❑ Cultural skills: Knowing about self, otherness and intercultural awareness (Coyle *et al.*, 2010).  *Block 5 and section 6.3 in Block 6*
- ❑ Study skills (very popular in LSP courses)
- ❑ Emphasised language: The content determines the language areas to work on. Not only grammar and vocabulary but also discourse organisation of texts. (Larsen-Freeman & Anderson, 2011)
- ❑ Prioritised skills: All of them.
- ❑ Syllabus: Derived from content.

For instance, in the theme-based model there exists a topical syllabus.

## 4. Analysis of the components of CLIL

**Axis 2. The What.** Contents as objectives of teaching. Syllabus specifications

- ❑ Syllabus: Derived from content.

An example from a theme-based model: Intensive language course at the Free University of Berlin (Brinton *et al.*, 1989). Topical syllabus with both a micro and macrostructures. List of topical themes:

1. Drugs
2. Religious Persuasion
3. Advertising
4. Drugs
5. Britain and the Race Question
6. Native Americans
7. Modern Architecture
8. Microchip Technology
9. Ecology
10. Alternative Energy
11. Nuclear Energy
12. Dracula in Myth, Novel, and Films
13. Professional Ethics



## 4. Analysis of the components of CLIL

**Axis 3. The How.** Activities through which the selected content is transmitted to the students and other procedural aspects

### □ Activities



*Dueñas' quotation (2004) in section 3.1. →*

CLIL: An approach rather than a method. No specific activities or procedure specified. Activities should emphasise interaction and groupwork and integration of skills. Several possible types of activities (Coyle *et al.*, 2010; Lyster, 2007, 2011; Richards & Rodgers, 2001):

- a) Vocabulary building
- b) Language development exercises (consciousness-raising activities and practice activities)
- c) Discussion and debate
- d) Discourse organisation activities for reading and writing. For instance: Writing activities devised following the process-approach to writing
- e) Webquests
- f) Games
- g) Jigsaw activities
- h) Information-gap activities
- i) Jumble activities

# 4. Analysis of the components of CLIL

**Axis 3. The How.** Activities through which the selected content is transmitted to the students and other procedural aspects

## ❑ Procedure

An example from Evans (1986: 7). ESL in Australia. “The topic framework”.

Stage 1: Visual presentation.

Pictures, maps, diagrams and other visuals are used to introduce new language key to the topic being studied

Stage 2. Building a reading passage

Students answer True and False questions about the visuals and use such responses as a basis for writing the passage in stage 4; they build and sequence their own true statements

Stage 3: Analysing and extending the reading passage

Students focus on linguistic elements necessary to produce the written passage in Stage 4; for example, they complete vocabulary worksheets.

Stage 4: Creating a passage

Students produce their own written passage by drawing on all the linguistic and content resources they have learned in the previous stages.

# 4. Analysis of the components of CLIL

**Axis 3. The How.** Activities through which the selected content is transmitted to the students and other procedural aspects

- ❑ Roles of teachers
  - ❑ “Instructors must be more than just good language teachers. They must be knowledgeable in the subject matter and able to elicit that knowledge from their students” (Stryker & Leaver, 1993: 292).
  - ❑ Responsible for selecting, creating and adapting content materials
  - ❑ Providers of timely and adequate comprehensible input and of balanced instructional options between content focus and linguistic focus
  - ❑ Providers of scaffolded learning
  - ❑ Facilitate the learners’ roles indicated in the next slide



*What do you think about the roles that CLIL demands for teachers? In other words, are all teachers prepared to be CLIL instructors?*

# 4. Analysis of the components of CLIL

**Axis 3. The How.** Activities through which the selected content is transmitted to the students and other procedural aspects

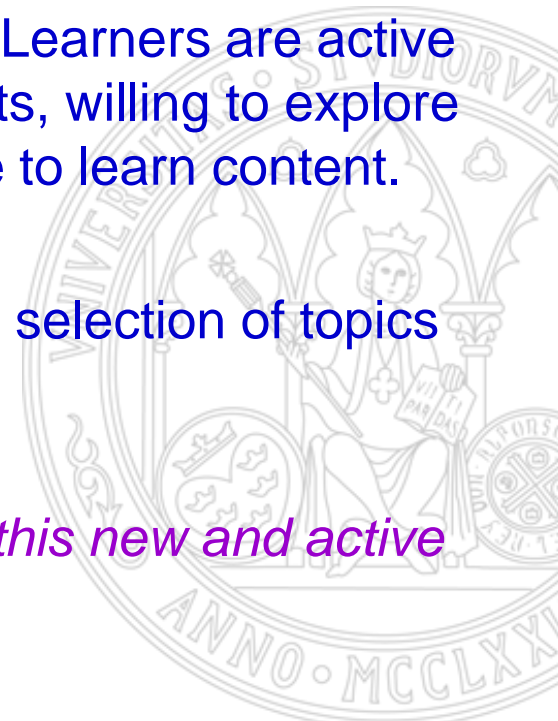
- ❑ Roles of learners (Richards & Rodgers, 2001: 213)

An active role

- CLIL: “learning-by-doing” school of pedagogy. Learners are active interpreters of input and of oral and written texts, willing to explore alternative learning strategies. Using language to learn content.
- Autonomous and collaborative learners
- Sources of content and joint participants in the selection of topics and activities



*What are the psychological consequences of this new and active role for learners?*





# 4. Analysis of the components of CLIL

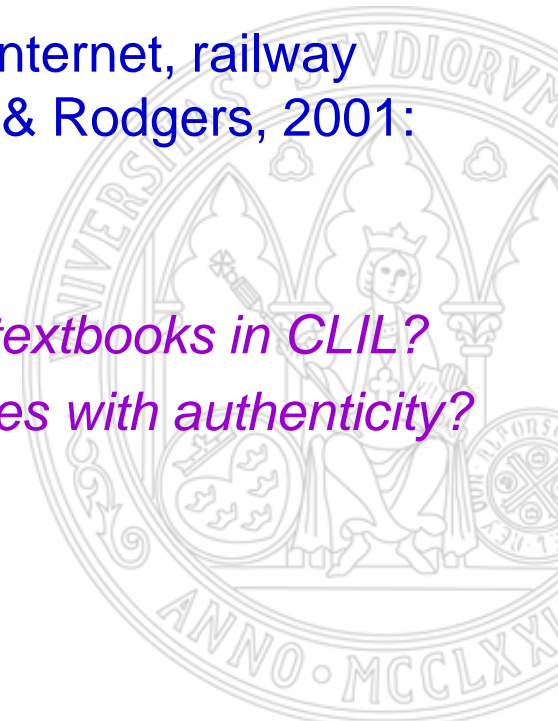
**Axis 3. The How.** Activities through which the selected content is transmitted to the students and other procedural aspects

## □ Roles of instructional materials

- Authentic materials: Newspapers, television, internet, railway timetables, tourist guidebooks, etc. (Richards & Rodgers, 2001: 237).



- What do you think is the attitude towards textbooks in CLIL?*
- Which pedagogical criterion of CLIL clashes with authenticity?*



# 5. Critical assessment of CLIL



*Can you think of any advantages and disadvantages of CLIL?*



# 5. Critical assessment of CLIL

## □ Positive aspects

- Motivation is increased because materials are adapted or created to suit students' needs (Lightbown & Spada, 2006)
- Genuine, immediate need for learning (Lightbown & Spada, 2006)
- Language is learned in context
- Range of vocabulary and language structures is wider than that found in regular EFL courses (Lightbown & Spada, 2006)
- Good for developing study skills (note-taking, summarising, etc.) and intellectual skills (analysing, restructuring, re-evaluating, etc.), which can be transferred to other domains
- Social value: Group work develops collaborative skills, which can also be transferred to other subjects



*See slide 8*

# 5. Critical assessment of CLIL

## ❑ Negative aspects:

1. *Teachers have found that content and language and language integrated learning is about far more than simply teaching non-language subject matter in an additional language in the same way as the mother tongue. [It] is not a matter of simply changing the language of instruction.*

(Marsch, Enner & Sygmund, 1999: 17)

2. Is teaching content the same as teaching language?
3. How to balance focus on meaning/content and focus on form?
4. Very demanding roles for learners, who may feel overwhelmed by all the amount of information received and may not be willing to accept the active role implied by this approach (Richards & Rodgers, 2001)
5. Very demanding roles for teachers: Most language teachers have been trained to teach language as a skill rather than content (Richards & Rodgers, 2001). Collaboration between language teacher and content teacher is essential.
6. Assessment issues: What to assess –content knowledge, language use or both? How much weighting should be assigned to both? (Richards, 2005)

# 5. Critical assessment of CLIL

## □ Influence of CLIL on FLT

- Widely used in a variety of different settings since the 1980s: programmes for ESL students, university language teaching programmes, business and vocational courses in EFL settings (Richards & Rodgers, 2001)
- Presumably CLIL will continue to be a very popular educational alternative in European educational contexts for a long time thanks to EU funding



2, 3