#### ACTIVATING LEARNERS' COGNITIVE POTENTIAL IN CLIL

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# OUTLINE

- CLIL Challenges
- Cognitive Architecture of the Learner
- Cognitive Load Theory
- Framework for Activating Learner's Cognitive Potential in CLIL
- Application of Framework

## **CLIL AT TERTIARY LEVEL**





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# LANGUAGE LEARNING IN CLIL

" [...] language learning within CLIL does not just happen all by itself, but [...] it has to be **planned**, **extended** and **continuously exercised** within the framework **defined by the subject or topic**..."

Vollmer (cited in Bongartz & Rymarczyk 2010:35)

# CONTENT LEARNING IN CLIL

"effective content learning has to take account not only of the defined knowledge and skills within the curriculum or thematic plan, but also

how to apply these through creative thinking, problem solving and cognitive challenge"

Coyle, Hood and Marsh (2010:29)

# MULTIPERSPECTIVAL VIEW

"...an understanding of CLIL as fusion implies a multiperspectival view on both language and content, which, taken together, should help us understand the fusion of language and content"

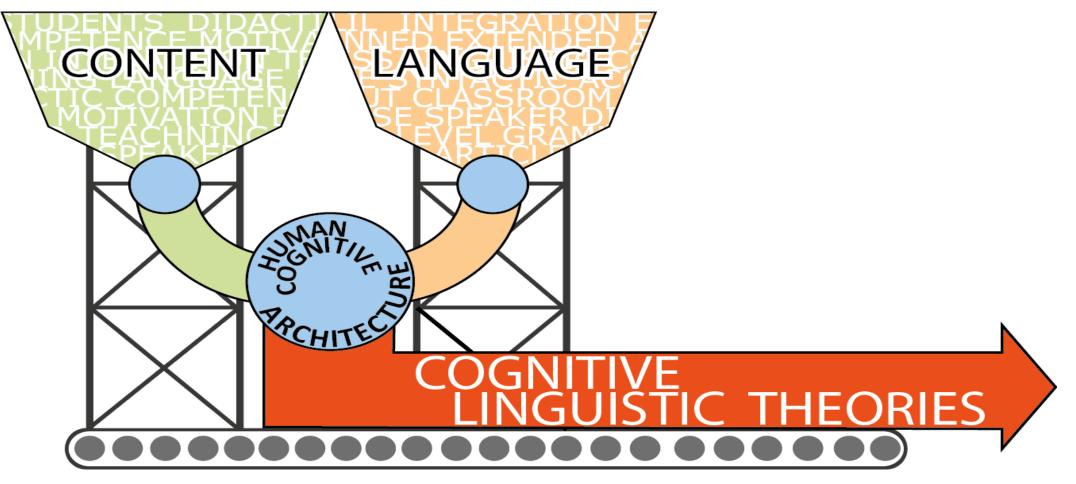
Dalton-Puffer et al. (2010: 289)

## CLIL CHALLENGES

- getting the balance between content and language
- time needed for the acquisition of content and language (key vocabulary)
- additional workload for students and teachers
- Iack of didactic competences
- less interaction with students

- teachers' own linguistic / content competence
- uncertainty in dialogic classroom situations
- teacher identity
- students' expectations
- authenticity
- internationalization
- translanguaging

## ACTIVATING LEARNERS' COGNITIVE POTENTIAL IN CLIL



## **COGNITIVE-LINGUISTIC TURN**

# THE COGNITIVE ARCHITECTURE OF THE LEARNER

Language and conceptual thought interact closely

The use of an L2 as working language can even enhance this effect (cf. Heine 2010)

#### 5 BASIC PRINCIPLES (ROUSSEL, 2017:72)

Information Store Principle

Borrowing and Reorganizing Principle

Randomness as Genesis Principle

Narrow Limits of Change Principle

Environmental Organizing and Linking Principle

## COGNITIVE LOAD THEORY

#### three types of cognitive load (Sweller et al., 1998)

\*amount of effort used in the working memory

#### extraneous cognitive load

•way information or tasks are presented to a learner

#### 💠 intrinsic cognitive load

effort associated with task

#### germane cognitive load

• work put into creating a permanent store of knowledge, or a schema

### INFORMATION STORE PRINCIPLE

#### Roussel et al. (2017:73)

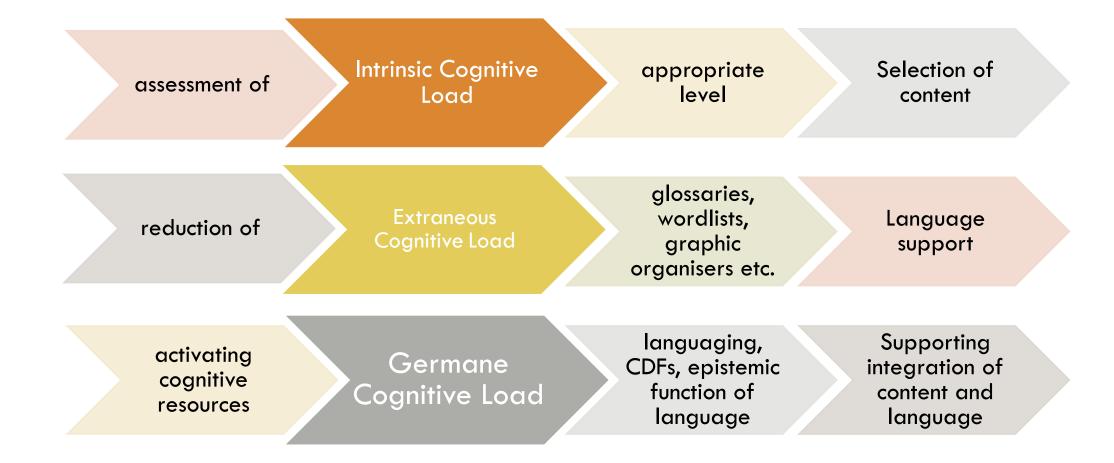
[...] Once linguistic information, either associated with a biologically primary native language or a biologically secondary foreign language has been stored in long-term memory via the information store principle, elements of that information appropriate to the context can be transferred into working memory

#### REDUCTION OF GERMANE COGNITIVE LOAD ARGUMENT FOR EXPLICIT LANGUAGE INSTRUCTION

"Until that information has been stored in long-term memory, neither listening nor speaking can be used effectively. For this reason, **the foreign language instructional component of CLIL**, which is often missing in higher education and which aims to support second language learning while learning content, **is crucial**." (Roussel et al., 2017:73)

## LEARNERS' COGNITIVE POTENTIAL IN CLIL

## "ACTIVATION" FRAMEWORK



## **GERMANE COGNITIVE LOAD**

#### Activating cognitive resources

selections of task

implementation

Cognitive Discourse Function

#### Languaging

Epistemic Function of Language



## **APPLICATION OF FRAMEWORK**

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Cognitive Load Theory – "the single most important thing for teachers to know" Greg Ashman

## SOURCES

Ashman, Greg (2018). The Truth about teaching. SAGE Publication.

Ashman, Greg. Cognitive Load Theory: The single most important theory for teachers to know. Online Blog. <u>https://gregashman.wordpress.com/2017/01/27/cognitive-load-theory-the-single-most-important-theory-for-teachers-to-know/</u>

Reitbauer, M., Fürstenberg, U., Kletzenbauer, P., & Marko, K. (2018). Towards a Cognitive-Linguistic Turn in CLIL: Unfolding Integration. Latin American Journal of Content and Language Integrated Learning, 11(1), 87-107.

Rosenshine, Bark (2012). Princples of Instruction. Retrieved from <a href="https://www.aft.org/sites/default/files/periodicals/Rosenshine.pdf">https://www.aft.org/sites/default/files/periodicals/Rosenshine.pdf</a>

## SOURCES (2)

Bongartz, C. M., & Rymarczyk, J. (Eds.). (2010). Languages across the curriculum: ein multiperspektivischer Zugang (Vol. 18). Peter Lang.

Dalton—Puffer, C., Nikula, T., & Smit, U. (2010). Language use and language learning in CLIL: Current findings and contentious issues. Language use and language learning in CLIL classrooms, 7, 279.

Coyle, D., Hood, P., & Marsh, D. (2010). Content and language integrated learning. Ernst Klett Sprachen.

Roussel, S. et al. (2017). Learning Subject content through a foreign language should not ignore human cognitive architecture: A cognitive load theory approach. Learning and Instruction:1016/https;//doi.org/10.1016/j.learninstruc.2017.04.007

Swain, M. (2006). Languaging, agency and collaboration in second language learning. In plenary address at BAAL Language Learning and Teaching SIG Conference: Language Use, Language Processing and Language Learning, University of Southampton, UK, 19th-20th April.

Sweller, J., Van Merrienboer, J. & Paas, F. (1998). Cognitive Architecture and Instructional Design. Educational Psychology Review, 10 (3), 251-296.