

# **Is Learning Content and a Second Language Simultaneously a Good Idea?**

Stéphanie Roussel, University of Bordeaux, France

André Tricot, University of Toulouse, France

John Sweller, UNSW, Sydney, Australia

# Layout

- 1) Context of the Study: CLIL in Question
- 2) Cognitive Load Theory and Language Learning
- 3) Experiments: design, participants, results
- 4) Conclusion

# CLIL: a definition

"Content and Language Integrated Learning is a **dual-focused** educational approach in which an additional language is used for the learning and teaching of **both content and language** (...)".  
(Coyle, Hood & Marsh, 2010)

# One term for many practices

Dual Focused  
Instruction

Teaching Content  
through a Foreign  
Language

Content Based  
Language Teaching

Bilingual Content  
Teaching

Teaching English  
Through Content

Teaching Content  
Through English

More emphasis on the content or more emphasis on the language, early, late, total partial, soft, weak.

# Some political reasons (Dalton-Puffer, 2011)

- Globalization: English as the medium of instruction + other languages
- European commission language policy
- Worldwide competition between universities
- Internationally-mobile students
- Advantage in the employment market-place
- International programs are attractive

# Some instructional reasons

- Beneficial for language learning  
Dalton-Puffer, 2011; Lo & Murphy, 2010; Ruiz de Zarobe, 2010;  
Zydati, 2007
- No disadvantage in content learning  
Admiraal et al.'s (2006); (Huibregtse 2001) (Stohler 2006: 44)  
*“neither positive or negative consequences on the acquisition of  
knowledge”*
- « *Two-for the price of one* » (Bruton, 2013)

# Why CLIL works is not clear...

## (Bruton, 2013)

### **On a methodological level**

- Comparison of CLIL and non-CLIL students performances?

- Students' selection and motivation
- Teachers' engagement
- Intensive exposure to the language

### **On a political level**

- Is changing the medium of instruction beneficial for all the actors?
- CLIL-approach is promoted by the European Union (Bruton, 2013)...

# Our Context

- Language for specific purposes: language learning and content learning
  - Law students, learning German as a second language
  - Law students, learning English as a second language
  - Computer science students, learning English as a second language



# CLIL: a CLT point of view

- Distinction between: biologically secondary and primary knowledge (Geary, 2008; Sweller, 2015)
- Foreign language and content are both biologically secondary knowledge
- Learning two biologically secondary knowledge at the same time can overwhelm the working memory capacity

# 3 Experiments

# Research questions

- CLIL hypothesis: it is possible to learn content and second language simultaneously
- CLT hypothesis: it is NOT possible

# Overview and Design

	Experiment 1 (n=102)
Pre-tests	German Language + Academic level in Law
Domain	European court of Justice
Control condition	text in French
CLIL condition	text in German
CLT condition	text in German with translation in French
Post-tests	Language + Content + Transfer

# Material: CLT condition

Der **Sitz** des Gerichtshofs der Europäischen Union ist in Luxemburg.

Le siège de la Cour de Justice de l'Union européenne est au Luxembourg.

Der Gerichtshof der Europäischen Union **darf nicht** mit dem Europäischen Gerichtshof für Menschenrechte, der sich in Straßburg befindet, und auch nicht mit dem Internationalen Gerichtshof mit Sitz in Den Haag, **verwechselt werden**.

La Cour de Justice de l'Union européenne **ne doit pas être confondue** avec la Cour européenne des Droits de l'Homme, qui se trouve à Strasbourg, ni avec la Cour internationale de Justice, siégeant à La Haye.

Der Gerichtshof der Europäischen Union **besteht aus 28 Richtern**, ein Richter pro **Mitgliedstaat**.

La Cour de Justice de l'Union européenne se compose de 28 juges, un juge par **Etat membre**.

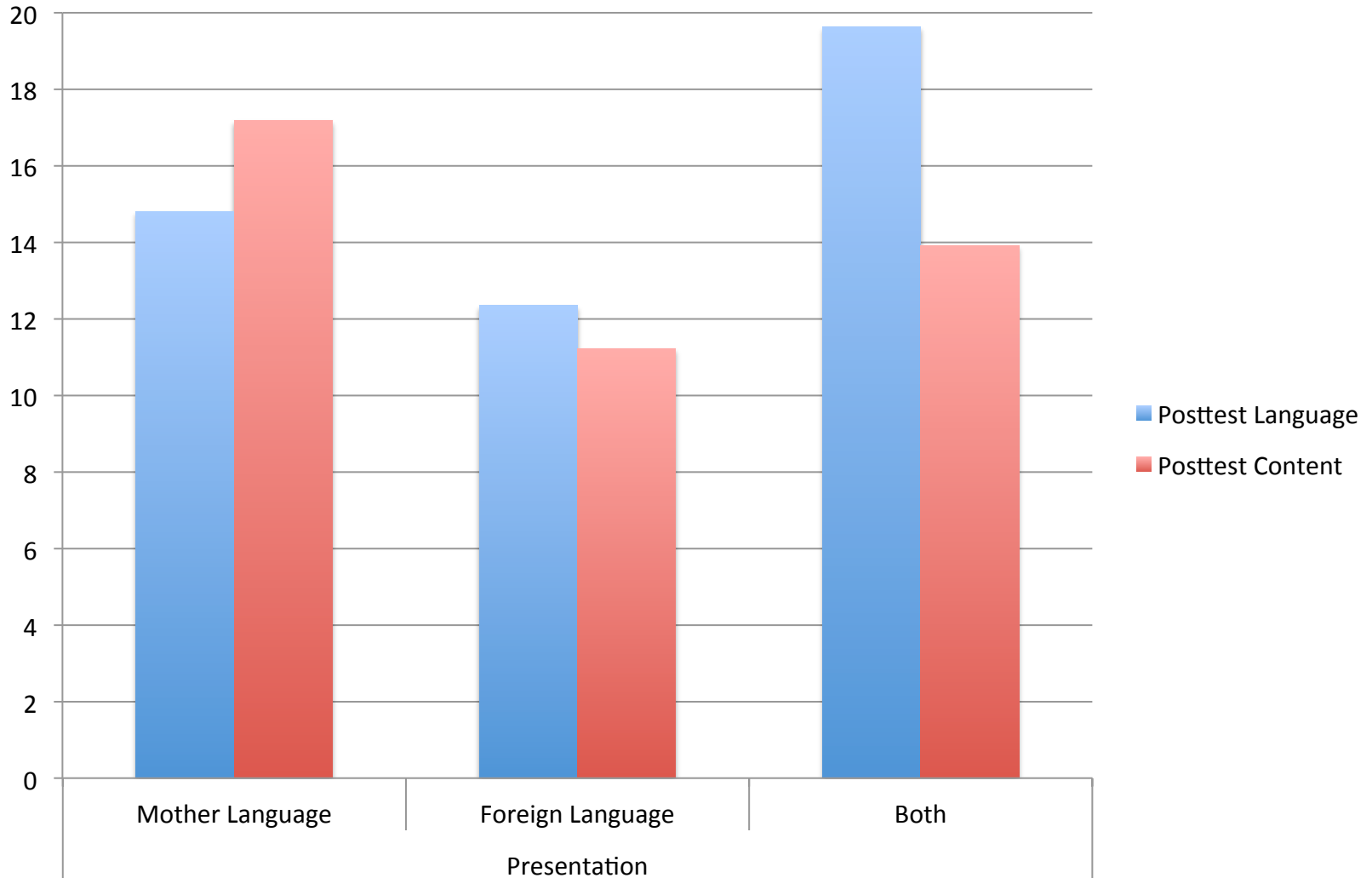
# Overview and Design

	Experiment 1 (n=102)	Experiment 2 (n=84)
Pre-tests	German Language + Academic level in Law	English Language + Academic level in Law
Domain	European court of Justice	European court of Justice
Control condition	text in French	text in French
CLIL condition	text in German	text in English
CLT condition	text in German with translation in French	text in English with translation in French
Post-tests	Language + Content + Transfer	Language + Content + Transfer

# Overview and Design

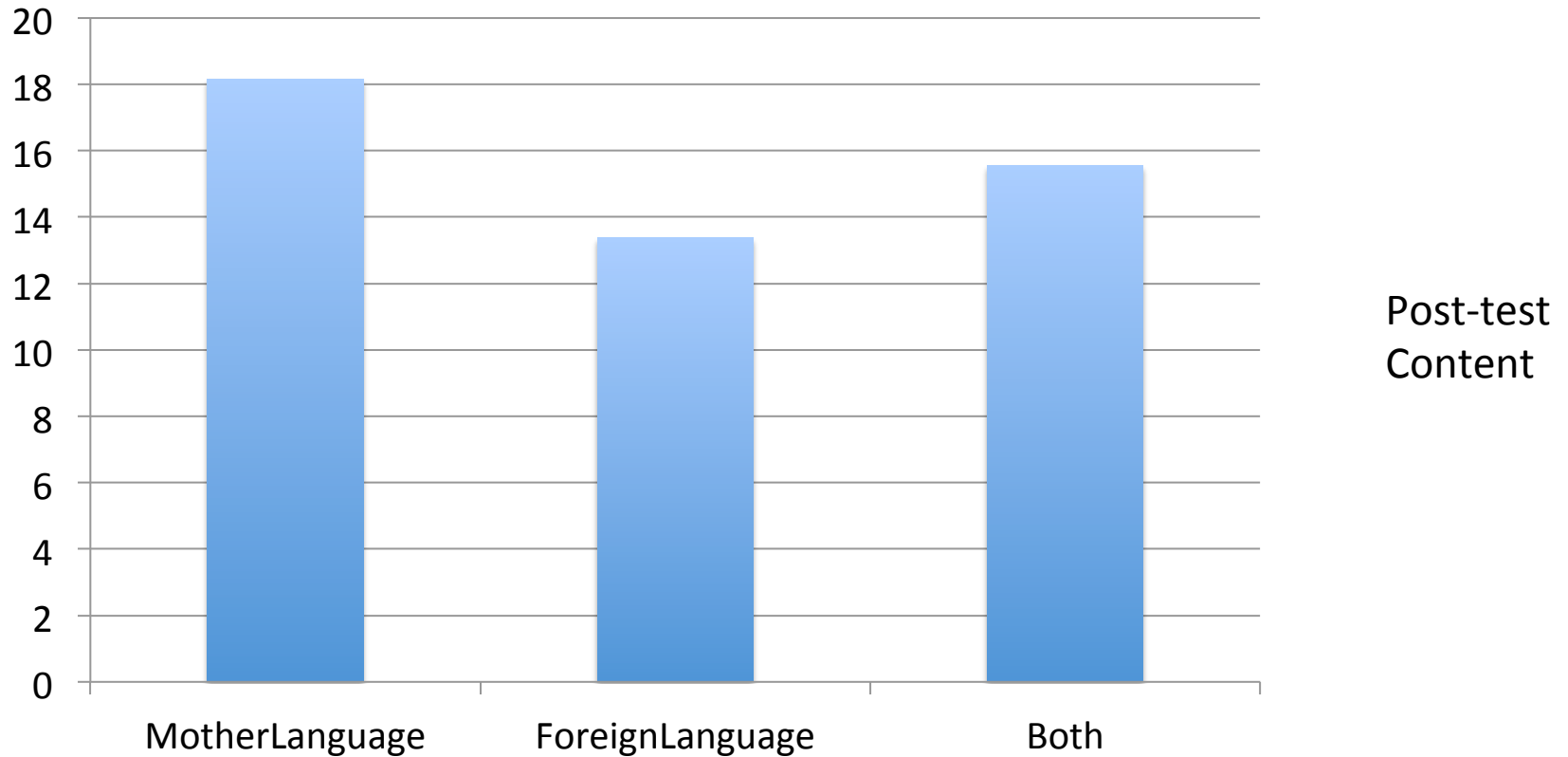
	Experiment 1 (n=102)	Experiment 2 (n=84)	Experiment 3 (n=108)
Pre-tests	German Language + Academic level in Law	English Language + Academic level in Law	English Language + Academic level in Computer science
Domain	European court of Justice	European court of Justice	Assembly Language
Control condition	text in French	text in French	text in French
CLIL condition	text in German	text in English	text in English
CLT condition	text in German with translation in French	text in English with translation in French	text in English with translation in French
Post-tests	Language + Content + Transfer	Language + Content + Transfer	Language + Content + Transfer

# Results : Experiment 1

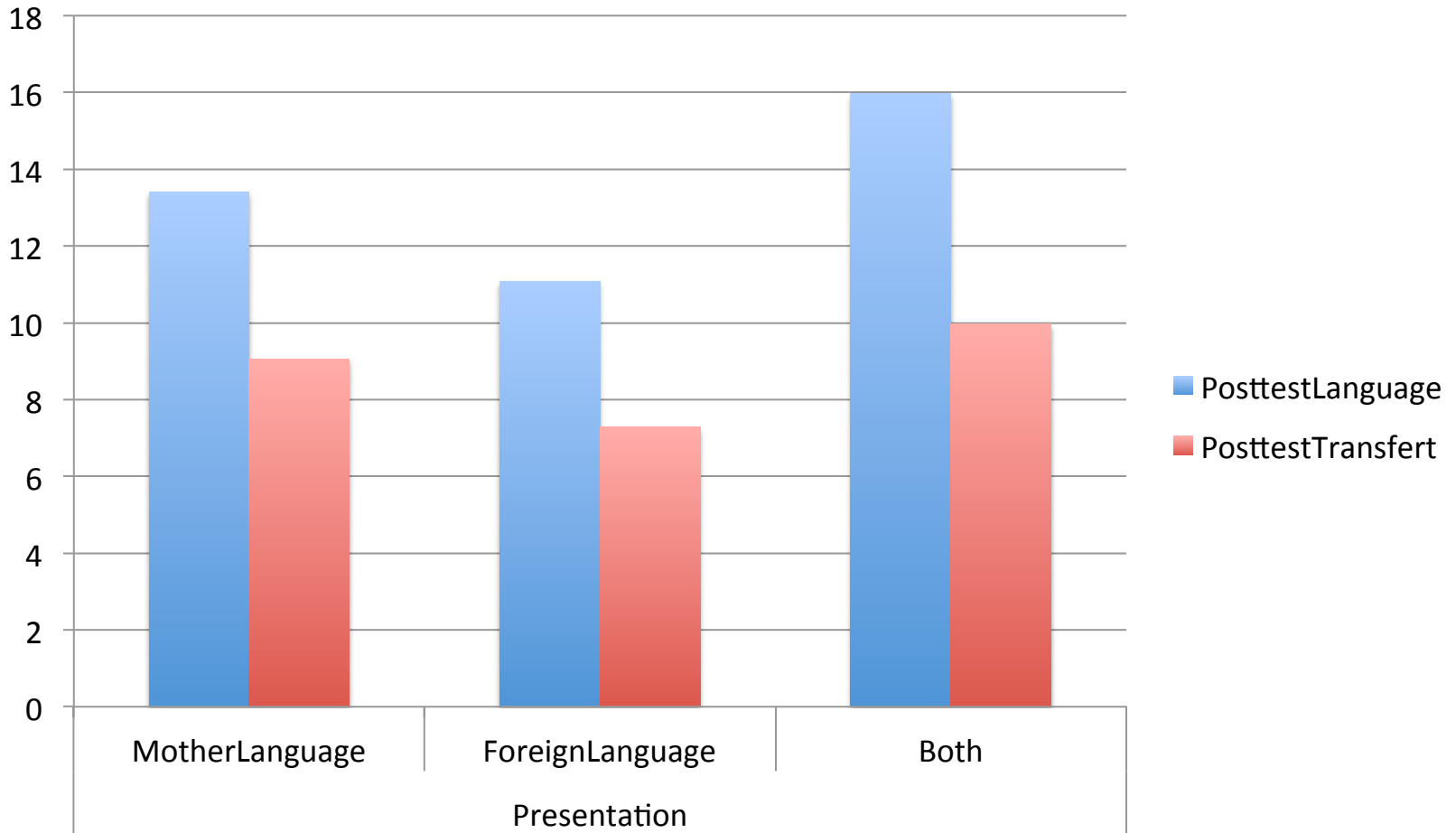




# Results : Experiment 2



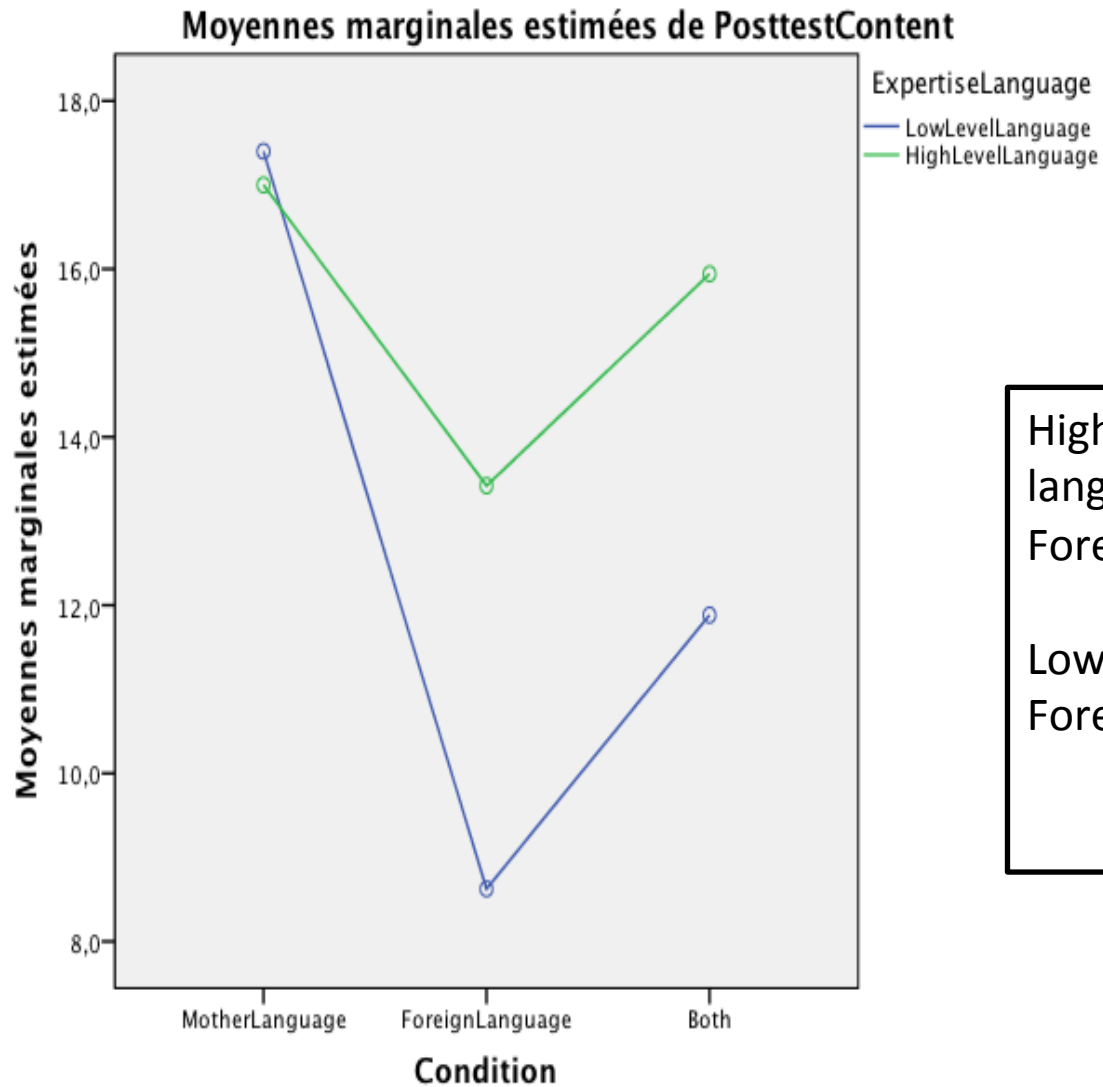
# Results : Experiment 3



# Discussion

- Significant effect of presentation for the 3 experiments
- Each time we obtained a significant effect, “foreign language” condition was the worst
- We explored the interaction between condition and prior knowledge
  - No clear expertise reversal effect, but the differences between the conditions are more important for low-level students

# Exp 1



High-level students in second language:  
Foreign < Both = Mother language

Low level students:  
Foreign < Both < Mother language

Thank you for your attention

[stephanie.roussel@u-bordeaux.fr](mailto:stephanie.roussel@u-bordeaux.fr)

[andre.tricot@univ-tlse2.fr](mailto:andre.tricot@univ-tlse2.fr)

[j.sweller@unsw.edu.au](mailto:j.sweller@unsw.edu.au)