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Generating Talent and Sustainable Multilingualism

Tools for Talent and Skill Development

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Piet Van de Craen, Ph.D., Vrije Universiteit Brussel (VUB), Multilingual Research Unit (MuRe), Centre for the Neurosciences (C4N) and the European Language Council / Conseil européen pour les langues (ELC-CEL)

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Position

Main position of this paper:

Talent is something that can be fostered through *sustainable* education. One tool to develop talent is by way *of deliberate practice* through *implicit (language learning)…* otherwise called the CLIL approach (content and language integrated learning).

***Concrete examples of research results* are given and *wider implications* for education are presented and discussed. CLIL (Content and Language Integrated Learning) can be considered as major educational a *tool for talent development*.**

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Outline

1. What is ***Talent?***...
2. ***Sustainable Education*** and ***Sustainable Learning***…
3. ***What Learning Really Is***…
4. ***Sustainable Education Policies***…
5. Conclusions

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What is talent?

There is ***bad*** and ***good*** news…

1. The ***bad*** news…

   there might well be no such thing like innate talent or gift…

2. The ***good*** news…

   "learning [is] a way of creating abilities rather than […] take advantage of their innate ones" **(Ericsson & Pool 2016:xx)**

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What, if anything, is sustainable education?

- ***'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs'*** (Our Common Future, The Brundtland Report 1987:41)
- **Implications : *foresight, to plan in advance, to look beyond the horizon,…***
- **On the level of education *insight in / knowledge of learning processes…***

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Sustainable education

- ***Sustainable education*** **refers to those forms of education that take into account *the most successful learning strategies…***
- ***Sustainable learning*** **refers to those learning strategies that *guarantee success*… and as a result foster talent…**
- **For example: *equity* (learning for all), *values* (learning that matters) and also *sustainability* (learning that lasts)** (Graham *et al*. 2016)

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Examples…

- **Mozart…**
- **The *amazing story* of the *Polgar sisters…*** (Forbes 1992)
- **About Paul Keres, famous Estonian chess grandmaster, *"if a proper coach had found him at an early age he would have become a prodigy"*** (Grents 2016)
- ***All kids* in multilingual schools in Europe (and the rest of the world) speak the target languages properly…**

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Sustainable education

Evaluation **of these ideas…**

- **slogans are *not enough…***
- **rarely we get to know *how* this should be achieved…**
- **results are *controversial* and *not generally accepted…***
- **often *local* initiatives…**
- **the focus is either on *highly* or *underprivileged groups…***
- **often presented as *highly complex problems…***

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The Learning Process

Hill (Hill 1980) **claims that a learning theory has**

- **(i) to deal with the *complexities of human symbolic learning* and *insightful problem solving***
- **(ii) to allow for the *flexibility* of behaviour**
- **(iii) to explain *cognitive flexibility* and its far from universal aspects**
- **(iv) to take into account *developmental* processes**
- **(v) to consider the *influence of earlier on later learning***
- **(vi) to deal with *motivation* and *reinforcement***

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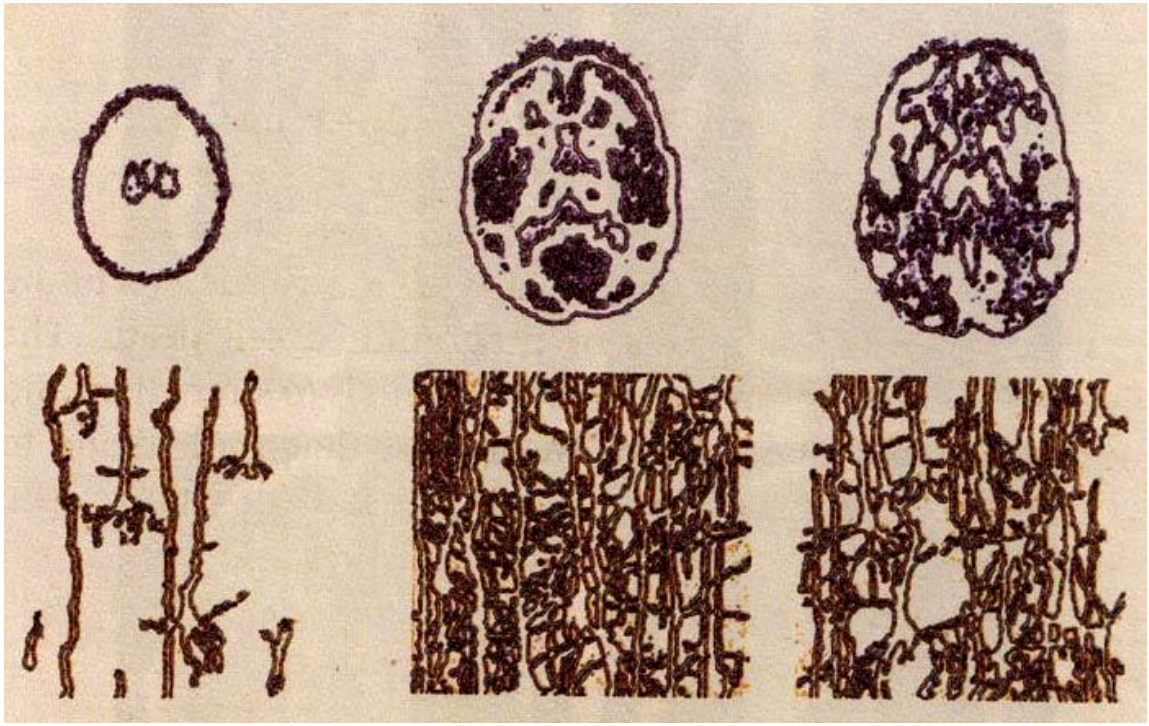
The Learning Process



Connections in the brain of a new-born brain, left, a six-year-old child, middle, a 25-year-old adult, right (cf. Carter 1998 : 18)

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The Learning Process

Learning is *making connections* in the brain…

Recalling what has been learned (memorizing) is the active process of *reconstructing these connections*…

The strength of a connection determines an *individual's capacity for recalling*…

How to make connections *stronger?*

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The Learning Process

Major idea:

- **Learning success is the fruit of *deliberate practice…*** (Ericsson *et al.* 1993, Ericsson & Pool 2016)

- **Deliberate practice**

  - ***Is a very specialized form of practice…***
  - ***A teacher or coach assigns practice techniques…***
  - ***Drawing from a highly developed body of knowledge…***

  (Ericsson & Pool 2016:100)

- **Is it this simple?**

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The Learning Process

In any case ***deliberate practice*** is controversial

- **only 4% of the variance can be explained by it one meta-analysis claims…** (MacNamare *et al*. 2014)

- **it refers only to *expert learners*… not the aim of education in general…**

- **BUT**

Deliberate practice can be reinforced by another form of learning, usually treated rather shabbily, namely *implicit learning…*

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Implicit learning

Implicit learning: ***"[complex information] is [learned] without complete verbalisable knowledge of what is learned"*** (Seger 1994:164).

Characteristics of implicit learning are… (Reber 1993)

- ***robust…***
- ***less prone to variation…***
- ***more adapted to group learning…***
- ***IQ independent…***
- ***age independent …***

(cf. learning how to play an instrument …)

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Implicit learning

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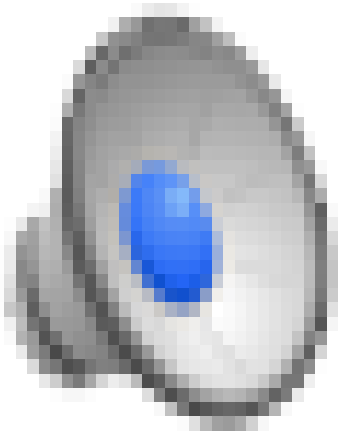
Implicit learning



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Research questions

Major research questions:

- ***In what way*** **can (language) learning (pedagogy)** ***positively influence learners' results*****…?**
- **How to be compatible with** ***developmental aspects as described by the neurosciences*****…**
- **in line with the** ***political recommendations*** **issued by the EC, for example, the importance of** ***skills*****…?**
- **How to aim at** ***sustainable development*** **of European citizens in a knowledge society?**

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Language learning

- **(Language) learning is an *interaction process* between incidental and/or implicit activities vs. intentional and/or explicit ones** (cf. DeKeyser 2003; Hulstijn 2003).
- **Learning more than one language at the same time has *implications for the cognitive abilities* of learners** (cf. Bialystok 2005).
- **These cognitive abilities have *neural correlates* in the brain** (cf. Fabbro 1999, Edelman & Tononi 2000, Bialystok *et al.* 2005, Mondt 2005, Mondt et al. 2011).

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Content and Language Integrated Learning (CLIL)

- **The European Union has adopted multilingual education as one of its *core policy items*** (cf. Commission 2005, High Level Group 2007, Group of Intellectuals 2008).
- ***Content and Language Integrated Learning* (CLIL): a dual approach whereby the *curriculum is taught in two languages*** (Coyle *et al*. 2010).
- **Research issues such as *the processes underlying CLIL learning and the effects of CLIL learning* at different levels of education, is a recent challenge** (Van de Craen 2007 *et al.* a,b,c).

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CLIL and sustainable learning

Effects of CLIL education have been remarkable…

- ***Target language*** **skills improve…**
- **Skills in the *mother tongue* improve…**
- ***Subject matter*** **is better mastered…**
- ***Attitudes*** **and *motivation* improve…**
- ***Positive cognitive effects*** **can be measured…**
- ***Brain effects*** **can be measured and made visible…**

(Jäppinen 2005, Van de Craen *et al*. 2007a,b,c, 2013, 2014, 2015, Lorenzo *et al*. 2010, Murray 2010, Linares *et al*. 2012)

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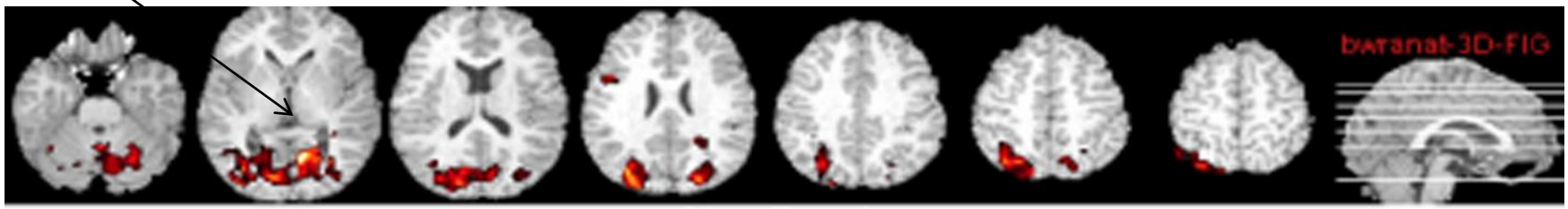
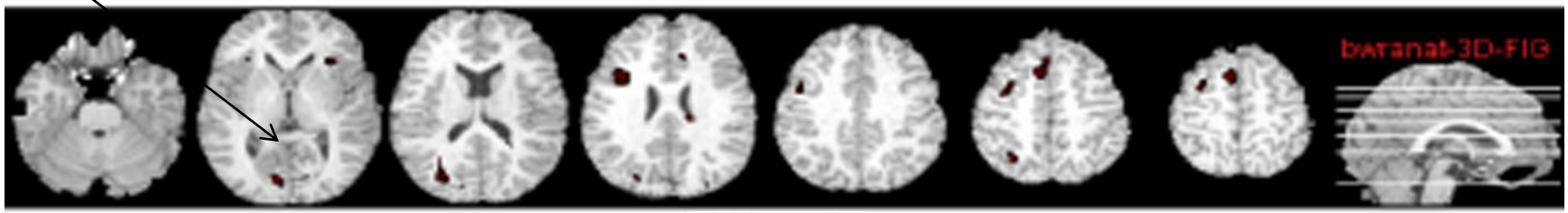
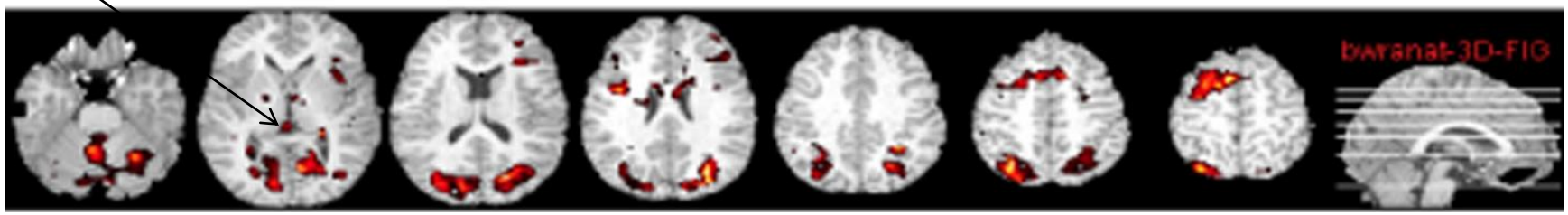
CLIL and sustainable learning



Monolinguals (school language)



Early, highly proficient bilinguals



Early-late, proficient bilinguals in school language

(Data from Mondt *et al,* 2008, 2011)

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CLIL and sustainable learning

The CLIL success explained… Two aspects:

- ***Communicative*** **approach…**

  Remark*: meaningful* and *contextualized*

- ***Implicit learning*** **effects…**

  Remark : made *explicit*, if necessary, later on in the learning process

It is not an exaggeration to say that CLIL is the most significant change in language pedagogy in the past twenty years and a wonderful example of sustainable learning

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Sustainable educational policies

Characteristics

- Policies that ***last…***
- In line with results of ***scientific research…***
- In line with ***educational traditions…***

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Sustainable education and policies

- **CLIL is implemented in *nearly all* European countries**
- **Acceptance and implementation are often a *product of the historical and economic evolution* of a particular country or region…**
- **Important parameters include standardization, dominance, threats and legislation…** (Van de Craen *et al.* 2013) (

Examples…

- **Spain…**
- **Italy…**
- **Belgium…**
- **Estonia…**

- **Results are *strikingly different* from traditional language classes and reach out *beyond languages…***

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Sustainable education and policies

- **Solutions for the multilingual challenge are to be found in *'wise and well-informed policy design'*** (Grin *et al*. 2014:14).

- **Policy design cannot work without *education* and its results, in other words *learning processes* and their *significance…***

- **And *how eventually this will lead to a change in the protagonists themselves* according to the mechanism described by *G.H. Mead* in *Mind, Self and Society* (1934)…**

- ***The study of the multilingual challenge is the study of individual and societal change through education…***

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Sustainable education and policies

- We know ***the best roads leading to multilingualism…***
- ***The study of the multilingual challenge is the study of individual and societal change through education fostering talent through the development of skills …***
- ***Multilingual education through CLIL is the tool to use...no talent should be left unexploited…***

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Ďakujem za tvoju pozornosť

Thank you for your attention

Merci de votre attention

Ich danke Ihnen für Ihre Aufmerksamkeit