Positioning Computer Science in Flemish K-12 Education: a Reflection
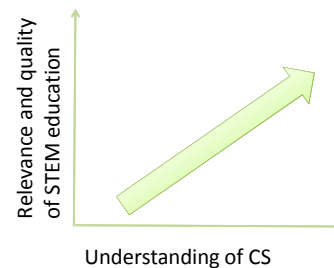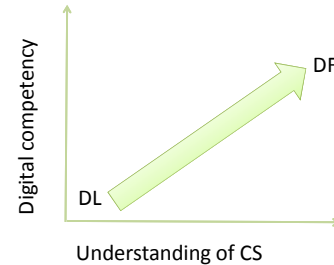
B. Martens, T. Hofkens

The concepts of computing education (CE)

DC = Digital Competency
  = competence level in using IT
DL = Digital Literacy
  = ability to work with today's IT
DF = Digital Fluency
  = ability to adapt to changes in IT

IT = Information Technology
CS = Computer Science

STEM = Science, Technology, Engineering and Mathematics

Current situation in Flemish education

Grade	Fields	Legally binding	Level of CE "on paper"	Level of CE in most classes
5-8	all	yes	DL	DL
9-10	most	no	DL + CS	DL
11-12	option in Economy field	no	DL + CS	DL + CS
11-12	STEM field	no	none	none

Need for CS educational standards

Need for CS educated teachers

UK

"*I was flabbergasted to learn that today computer science isn't even taught as standard in UK schools. Your IT curriculum focuses on teaching how to use software, but gives no insight into how it's made.*"
(Eric Schmidt, 08/2011)

Shut down or restart?
The way forward for computing in UK schools
Executive summary
January 2012
THE ROYAL SOCIETY

"*We're encouraging rigorous Computer Science courses.*
...
Although individual technologies change day by day, they are underpinned by foundational concepts and principles that have endured for decades. Long after today's pupils leave school and enter the workplace – long after the technologies they used at school are obsolete – the principles learnt in Computer Science will still hold true."

(Michael Gove, Secretary of State for education, 01/2012)

And more

Informatics + ACM Europe: *Informatics education: Europe cannot afford to miss the boat (04/2013)*

France: *L'enseignement de l'informatique en France: Il est urgent de ne plus attendre (05/2013)*

The Netherlands: *Digitale geletterdheid in het voortgezet onderwijs (12/2012)*

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February 2013: Educational policy makers propose to integrate CE in other subjects in grades 9-10, thus effectively eliminating (any prospect of better) CS education from the 9-10 curriculum.

Paving the road ahead

May 2013: all 5 Flemish universities jointly found i22n, Forum for Computer Science

Main objective: correct treatment of CS at all levels of Flemish education

Short term objectives:
- United we stand
- Course plans and materials

Long term objectives:
- CS in DL/F and STEM
- Legally binding Competence profiles

Achievements and prospects…

October 2013:
- > 300 members
- kick-off event: 67 participants
- first meeting with Ministry of Education policy makers
- participation in newly formed National Science Academy working group on "CS in Flemish Education"