Panel on Informatics Education

Georgi Dimitrov, European Commission, DG Education and Culture
Hilde G. Corneliussen, Western Norway Research Institute
Gianfranco Basti, Pontificia Università Lateranense
Michael E. Caspersen, It-vest – networking universities, Denmark (chair)

European Computer Science Summit
Gothenburg, Sweden, 9th October 2018
Contents

Executive Summary

1. Introduction ................................................. 3
   1.1 The Committee on European Computing Education .......... 3
   1.2 Case Studies .............................................. 4
      1.2.1 Initiatives in the US .................................. 4
      1.2.2 Initiatives in the UK .................................. 4

2. Informatics for All .......................................... 5
   2.1 Initiative Statement ..................................... 5
   2.2 Two-tier strategy at all educational levels ................. 5
      2.2.1 Specialisation ......................................... 6
      2.2.2 Integration ............................................. 6
      2.3 A Grand Educational Challenge .......................... 6

3. Curriculum matters ......................................... 7
   3.1 Findings from CECE report ............................... 7
   3.2 Curriculum considerations ................................ 7
   3.3 Comments on Digital Literacy ............................ 8

4. Teachers ..................................................... 9
   4.1 Availability of teachers .................................. 9
   4.2 Preparing teachers ....................................... 9

5. Research .................................................... 10
   5.1 Curriculum ............................................... 10
   5.2 Teaching methods and tools ............................. 10
   5.3 Teaching the teachers ................................... 11

6. Towards Implementation .................................. 11

Acknowledgements ............................................ 12

Informatics for All: The Strategy
Two-tier strategy:

Informatics

- as subject (specialisation)
- in all subjects (integration)

[ at all educational levels ]
Some challenges

Specialisation: "Import" of more and more diverse students

- How can we recruit more students to Informatics – e.g. students who are already set on a humanities path?
- How can we improve diversity among Informatics students to better reflect the entire population (gender, ethnicity, ...)?

Integration: "Export" of elements of Informatics

- Which elements of Informatics should be integrated in other study programmes, particularly in the humanities, but also in the social sciences (law, economy, ...)?
C.P. Snow (1905-1980)

Article in New Statesman from 1956
Lecture at Cambridge University in 1959
Published as a book in 1961

Those who don't understand algorithms, can't understand how decisions are made.

A handful of people, having no relation to the will of society, having no communication with the rest of society, will be taking decisions in secret which are going to affect our lives in the deepest sense.

Discussion of the split between science and the humanities; the split doesn't contribute to solutions to the problems of the world
How the Enlightenment Ends

Philosophically, intellectually—in every way—human society is unprepared for the rise of artificial intelligence.

HENRY A. KISSINGER  JUNE 2018 ISSUE

The Enlightenment started with essentially philosophical insights spread by a new technology. Our period is moving in the opposite direction. It has generated a potentially dominating technology in search of a guiding philosophy. Other countries have made AI a major national project. The United States has not yet, as a nation, systematically explored its full scope, studied its implications, or begun the process of ultimate learning. This should be given a high national priority, above all, from the point of view of relating AI to humanistic traditions.
Schedule

Initial statements

- Georgi Dimitrov (talk: EU Perspectives on Digital Education)
- Hilde G. Corneliussen
- Gianfranco Basti

Reactions from all three panellists

Open discussion, panellists/auditorium