Informatics for All

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Chair of Working Group on Informatics Education
Informatics for All (precursors)

- 2012-2013
- Joint IE and ACM-E Working Group on Informatics Education

Informatics education:
Europe cannot afford to miss the boat

Report of the joint
Informatics Europe & ACM Europe Working Group
on Informatics Education
April 2013

Working group members
Informatics Europe:
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Antoine Petit, Inria & ENS Cachan, France
Gérard Berry, Collège de France
Barbara Demo, University of Turin, Italy
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ACM Europe:
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Roger Boyle, University of Aberystwyth, Wales
Michele Drechsler, INRP, Lyon, France
Avi Mendelson, Microsoft, Israel
Chris Stephenson, Computer Science Teachers Association, USA

ACM Europe and Informatics Europe liaison:
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Executive Overview

1. All of Europe’s citizens need to be educated in both digital literacy and informatics.
2. Digital literacy covers fluency with computer tools and the Internet.
3. Informatics covers the science behind information technology. Informatics is a distinct science, characterized by its own concepts, methods, body of knowledge and open issues. It has emerged, in a role similar to that of mathematics, as a cross-discipline field underlying today's scientific, engineering and economic progress.
4. Informatics is a major enabler of technology innovation, the principal resource for Europe’s drive to become an information society, and the key to the future of Europe’s economy.
5. European countries are making good progress in including digital literacy in the curriculum. The teaching of this topic should emphasize the proper use of information technology resources and cover matters of ethics, such as privacy and plagiarism.
6. Informatics education, unlike digital literacy education, is sorely lacking in most European countries. The situation has paradoxically worsened since the 70s and 80s.
7. Not offering appropriate informatics education means that Europe is harming its new generation of citizens, educationally and economically.
8. Unless Europe takes decisive steps to change that situation, it will turn into a mere consumer of information technology and miss its goal of being a major player.

Based on an analysis of the current situation and of experiences in many countries, this report makes four key recommendations:

- Recommendation 1. All students should benefit from education in digital literacy, starting from an early age and mastering the basic concepts by age 12. Digital literacy education should emphasize not only skills but also the principles and practices of using them effectively and ethically.
- Recommendation 2. All students should benefit from education in informatics as an independent scientific subject, studied both for its intrinsic intellectual and educational value and for its applications to other disciplines.
- Recommendation 3. A large-scale teacher training program should urgently be started. To bootstrap the process in the short term, creative solutions should be developed involving school teachers paired with experts from academia and industry.
- Recommendation 4. The definition of Informatics curricula should rely on the considerable body of existing work on the topic and the specific recommendations of the present report (section 4).
Informatics for All (precursor, cont’d)

• 2014-2017
  • Committee on European Computing Education (CECE)
  • *Informatics Education in Europe: Are We All In The Same Boat?*

Committee
Jan Vahrenhold  Michael E. Caspersen
Enrico Nardelli  Judith Gal-Ezer
Cristina Pereira  Michael Kölling
Gérard Berry  Andrew McGettrick

Research assistant: Mirko Westermeier
Informatics for All (2018)

- Informatics for All: The Strategy
- Discussed with the EU Commission in Brussels (see IE news)
- Establishment of the Informatics for All Coalition
  - Current Steering Committee
    Dame Wendy Hall (chair)
    Judith Gal-Ezer
    Andrew McGettrick
    Gerald Futschek
    Austeja Trinkunaite
    Enrico Nardelli
    Michael E. Caspersen
    Bobby Schnabel (advisor)
Communications of the ACM
Special Section on Europe Region

Informatics as a Fundamental Discipline for the 21st Century

BY MICHAEL E. CASPASCHEN, JUDITH G. BILL, ANDREW McKEITH, AND ENRICO MARCELLI

A "big trends" article
Informatics for All (2019, cont’d)

- Workshop in Brussels (20th Feb 2019)
  - National Informatics Associations, 50+ participants: [Report, Action plan]

- Website: [informaticsforall.org](http://informaticsforall.org)

- **Rome Declaration**
  - Signing process
  - University, Faculty or Department / Company

- **EU COST Action**: Network Proposal
  - Research on Informatics Education in School — 27 countries across Europe

- Dialogue with PISA/OECD
  - Pushing for Informatics to be part of the Science framework

- Invited by the EU Commission, DG EAC (24th Sep 2019)
  - Discuss CS/Informatics for All