



Berlin, July 15th 2020

Comments

of the German Informatics Society (GI)
on the roadmap for an update of the Digital education action plan (update) of
the European Commission

Society is becoming more and more digital, and the discipline known as Informatics (or Computer Science) is its scientific core, shapes the digital world, and explains how it works and evolves. Early knowledge of scientific principles of Informatics is necessary to prepare citizens of the Digital Society to be able to understand everyday phenomena and take informed decisions about their future. Informatics education is a constitutive factor of any kind of Digital Education and has to be taught in School since early years to enable all children to take part in active shaping the digital world and to prevent them from becoming a passive user of technology that others invent.

We think that the following measures should be contained in the activities of the renewed Digital Education Action Plan:

- *a policy statement that, similar to what is written in the "Key Competences for Lifelong Learning" recommendation, highlights the importance for a digital society to have an essential knowledge of the basic scientific principles of Informatics.*
- *communication actions towards the Member States so that the importance of appropriate scientific education in Informatics is recognized as a key pillar to prepare well informed digital citizens.*
- *supporting through relevant and sustained co-funding to the Member States the development of four key areas for Informatics Education:*
 1. **Curriculum, competences and subject:** *Define school's curricula and a detailed list of competences that progressively develop appropriate knowledge and skills that address understanding and constructing parts of the digital world, alike, and that accommodate the cognitive development of pupils. Produce effective learning materials supporting the defined curricula. And ultimately strive for informatics as a subject in school for all children, since this is a very effective way to teach, test and to give feedback about digital knowledge, skills and competences.*



2. **Teachers:** *Appropriately educate teachers and all pedagogical staff at all levels to teach within their subject a discipline which, differently from any other discipline taught in schools, most of them have never studied either at school or at university. Furthermore, every teacher and every pedagogical professional despite her or his subjects, needs a fundamental education of principles of informatics. Additionally, Informatics teachers must be educated to teach fundamental principles of Informatics at all levels and to support the teachers of other subjects, too. Support them by providing appropriate scaffolding for them to properly and effectively do their work.*
3. **Principals and administration:** *Prepare people at managerial level for school development in the digital age. Provide guidelines and support trainings that equip them with a sound knowledge about the principles of Informatics and also with a good overview on the functional concepts of educational technology (not only products) to be used for collaboration in school. Give room for experiments to enable them to develop the work-flows among the pedagogical staff and in class.*
4. **Research:** *Test and verify that both teaching methods and content, and teachers education methods and content, are appropriate for the various levels of education and are sequenced in a way able to engage students. Test and verify that a vast and gender balanced majority of them develop appropriate competences, avoiding the detachment that too often characterizes the studying of math and science in school. Test and verify the essential role of informatics education as a sustainable basis of a rational, competent and self-conscious participation in the digital world.*