Informatics Education in Germany

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ICILS 2013 results influenced political situation

Bos et al. 2014

Frequency of computer usage by teachers in the classroom

Frequency of computer usage by students in the classroom

Germany

Intern. average

Bos et al. 2014
Strategy of the German Standing Conference of Ministers of Education and Cultural Affairs (KMK): Education in the digital world

"European Framework"

http://bit.do/kmkstrat

Recommendations of the KMK for media education in school (2012)

Informatik

Document was searched. No matches.
In progress: integration of learning with and about digital media in all subjects (KMK strategy), includes:

- Informatics as a **mandatory** school subject
- Informatics4all
- InformaticsNot4all

**German situation**

Informatics as a **mandatory** or **optional** school subject
Do we need a separate mandatory subject in addition to the integration of learning with and about digital media in all subjects?
Do we need a separate mandatory subject in addition to the integration of learning with and about digital media in all subjects?

**Counter arguments mostly refutable**

- Rejection of content and goals
- Job qualification
- Integration vs. subject
- Term „Informatics“
- Unwanted continuation

**pro**

- Systematic competency development
- Co-create, not just consume
- Educational value
- Deal with commonsense conceptions
- Societal needs
- Equal opportunities
- Increasing the productivity potential
- Innovation of society
- Elect. subject dep. on local contexts
- Concepts for teacher education
- Competences for the digital world

**contra**

- Rejection of new compul. subjects
- Learning time
- Not enough qualified teachers
- Unwanted binding of responsibilities
- CS = Media Education
- Developmental-psychol. reasons
- Autodidactics argument
- Handling vs. concepts
- CS = Media Education
- Educational value
- Systematise technical concepts
- Non-integrable content
- Demand for professionals
- Uncertainty: terminology
- Educational value
- Unwanted continuation
Further challenges

- Teacher professional development (All teachers, CS teachers)
- Media education representatives
  - are better networked with educational politics than representatives from the computer science education community
  - have key positions in the ministries of education and thereby presumably prevent the extension of computer science education at school
- Educational politicians
  - Lack of understanding, what Informatics/CS
  - Tendency to avoid conflicts → competencies abstractly delegated into other subjects
- Many stakeholders: other stuff is more important (reading, writing, maths, …)
  - CSE should only be part of vocational training
  - Students learn a lot about the use of computing systems during their spare time with peers – why therefore waste lessons in schools

Webb et al. 2019
(Recommendations for) Actions

• Make sure, Ministers are reached with recommendations
• Provide some concrete recommendations, how to overcome the problem of limited resources concerning time etc.
• Decide on a qualification framework for teachers, who teach computer science
  o Maybe also for those, who have to integrate CS aspects in the ordinary teaching of their subjects
  o Fundamental CS competences for teachers
• Write a paper from the educational politicians’ perspective: what are the benefits for them, …, how to avoid conflict, …
• Make recommendations available in different languages
Thank you for your attention!
References