

Making Computer Science Normal

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(The presenter did not use overheads or prepared materials. The following is an outline of the discussion and of notes written on the white board.)

The real meaning of the title is "Making the teaching of computer science normal" or "Making computer science a normal part of K-12 education."

Reasons why K-12 CS is not now normal

Intrinsic to CS: close tie to technology, requires much abstract thinking

Extrinsic to CS: relatively new, lack of training and accreditation, AP and too much reliance on college-level curriculum

What does normal look like? Looking at other K-12 subjects

English: perhaps the "most normal" subject. A good model for K-12 CS teaching. English as taught has three aspects, which have corresponding CS aspects:

English	Computer Science
Learning to read, and reading existing literature e.g. The Red Pony, The Raven	Becoming computer literate and using existing information technology e.g. word processors, browsers, content creation software
Writing (at all levels from spelling to sentences to paragraphs to long essays)	Programming (including all aspects of software engineering)
Theory, e.g. poetic meter, story genres	Theory, e.g. user interface design, types of algorithms

These aspects are (for English) or should be (for CS) taught in an integrated, continuous manner from Kindergarten through 12th grade.

Similar analogies and comparisons were discussed for mathematics, social sciences, foreign languages, and music.