

21st century bunkum: What do we value about kids learning to code, and why?

Summary of article

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With computer programming (coding) finding its way into mandated curricula in Canada, the United States and other countries, we are overdue for an honest, informed, and broad-based public debate about whether coding as a universal skill is something that a substantial proportion of parents, teachers and educators really value, why they value it, and what they are willing to invest to make it happen.

Today’s promoters of coding for all students assume that skills in coding may do three things for students: 1) make them more employable; 2) turn them into more generally skilled problem-solvers; or 3) give them a greater appreciation of the technological world in which they live. The first two assumptions are debatable based on available evidence, though we currently see little public debate about them. To foster such debate, I examine the merits of these assumptions in light of past research on the teaching of general problem-solving skills, observations about trends in the labour market for computer programmers, and literature on the all-but-forgotten “kid coding” craze of the 1980s.

I argue that the only convincing basis on which to argue the value of all children learning to code is that it may help them to understand a little more about the makings of the technological environment that surrounds them. The value of coding as a method for learning general problem-solving skills was pretty decisively disproven in the 1980s, and the value of coding for employability is questionable, both because jobs in computing require a lot more than simple coding skills alone, and because high-tech employers are working hard to reduce the market value of coding as a skill.

The current “kid coding” craze is an eerie echo of both the 1980s coding craze (which fizzled within a few years) and the earlier Sputnik era, in which large-scale curriculum revisions were based on a combination of fear and blind hope. My own hope is that we can use these experiences to make more rational decisions about what all students should be taught, what benefits we can reasonably expect them to derive from these skills and knowledge, and what we are willing to invest in ensuring that these skills and knowledge are taught well. Teaching coding universally in a way that is worth doing will require a large investment in both teacher education and ongoing professional development. Whether we are prepared to do this remains an open question.

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