

Used with permission.

Student2(5)

I think that there is a lot to be gained by learning how to program. There are many types of critical thinking/ problem solving skills that can be developed in the design, development and testing/debugging cycle of computer programming. Personally, learning how to program was a great experience for me and it taints (in a positive way) how I approach problems in just about any field, but I would also assume it is possible to acquire the critical thinking skills gained through programming in other ways.

However, what really makes me think that learning how to program is important comes from my experience in the work place, and working with people who are very uncomfortable around computers. We live in a world that relies more and more on technology all the time, and those that are not technological fluent will have a harder and harder time adapting. Although, most jobs may not require someone to do actual programming, most careers now do require one to both interact with and understand various technologies. As the work place comes to depend more and more on technology, those who have trouble understanding new technologies or are afraid of them will have a hard time advancing and getting to where they want in their careers. I think that teaching children how to program can give them a feeling of control over the computer that they wouldn't otherwise have, and once you understand that it is you that has control over the computer and not vice versa, it becomes something that you can assimilate and use effectively. I have had many experiences working with people who are afraid of computers, and it greatly limits what they are able to do.

[Laurie Naccara: This is a great point about a feeling of control and confidence when approaching technology. However, I think it may be possible for people to develop algorithmic thinking skills from something other than programming (cooking maybe, as Bella pointed out in her writeup) and have this understanding transfer to a level of comfort with computers and other technologies without ever having touched a program.]

[Kristin Allen: I have to agree with Laurie here. My grandfather (who turns 79 this week) has no clue how a program is written, but he navigates and uses a computer with no problems. He developed this type of thinking through manufacturing and fixing cars. I believe for some people it is the way they think "naturally". However, as computers progress and change, I agree with your argument for future generations. I think it is going to become more important for them as they are able to change the interface more, and are able to construct their own tools to learn with.]