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Ximena Miranda 5

As an adult, I can think of several advantages of being able to create your own programs in everyday life. First, the process of creating the program itself will be a different way of looking at the problem you want to solve. Looking at a problem from a different angle often makes you find new solutions to old problems, or simpler solutions than the first thought of, and it will probably make you understand better something about the problem. If you are able to create your own program, it can also respond to the specific needs of your problem, and therefore be more effective in solving it.

If I think about the everyday professional life, I find it hard that everyone will have the time to create his own software for something. And there is of course the "expertise" factor, you have to go through a long learning process to be able to make your own software. Just like Andrea A. di Sessa wrote that "reasoning is sometimes expensive, and we just can't afford to reason from basic principles each time" for theorems and symbol systems, it is also "expensive" to build a tool from zero every time we need it. It will probably be more practical to look for software that is already developed and can be used, or to hire an expert that knows how to do it so that they can work as a team to develop what is needed.

However, I still think that programming should be part of what we describe as "literacy" with computers. Not all students are going to be interested in becoming expert computer programmers, and we actually don't want all of them to become experts (just like we don't want all of them to become doctors). But in the world of the future, understanding the basic language and reasoning of programming will give an advantage to a student. I'm not an expert in technology, but I definitely think that LOGO, Scratch, and Crickets are the kind of tools we need to promote an education that gives the students a basic understanding of the language and reasoning of programming that they can take with them and use it during the rest of their lives. Even if they decide not to become experts, this kind of learning will help them think in a different way and understand better the world they live in.