What is the impact of programming on our world? Does everyone need to learn programming? How might individual lives and society as a whole be changed if we found a way to include programming and technology at all levels of education? It is acceptable in your essay to disagree and say that programming should not be for everybody. Make sure that whatever position you take, that you support your argument.

The impact of programming on our world is seen in nearly every aspect of our daily lives. Java code may be running the functions of your alarm clock and coffee maker, awakening you and brewing your morning coffee at a preset time. Today, people use their smartphones to check the weather, email, news and social media – all before getting out of bed. In our lifetimes we have seen an explosion in the capabilities of technology all brought about by the skills of programmers who developed the software to drive these devices.

This leads to the topic of whether everyone needs to learn programming. Everyone has heard Steve Jobs’ infamous quote stating, “I think everyone should learn how to program a computer, because it teaches you how to think. I view computer science as a liberal art, something everyone should learn to do." The Huffington Post article entitled, “Why Teach Computer Science in High School” described the benefits of learning programming to include attention to detail, applying logic, persistence, collaboration, and the ability to ask good questions. Mark Zuckerberg and Bill Gates, are featured in the Code.org and Hour of Code video campaigns to encourage more people to pursue programming. The advocates for it are many and are very outspoken.

Mark Zuckerberg’s comments in the Code.org video provide important insights to the benefits of teaching programming at all levels of education. He said, “When I needed to learn something new I looked it up either in a book or on the internet and I added something to it [the program].” Zuckerberg expanded on Steve Jobs’ concept of programming teaching you how to think. In essence, learning programming teaches you how to self-educate. The student learns how to seek answers and consume multiple sources of information in that effort.

Multiple paths to the same conclusion.

Teaches that exploration is valuable.

Learning is not wrote but fluid.

Failure is positive and part of the process.

In the world of preschool education there is a methodology of teaching called Developmentally Appropriate Practice. This methodology focuses on play as a tool for toddlers to learn. While I’m greatly simplifying the practice, in essence the children learn by experiencing different things. It’s effective because it’s a natural process of learning.

Learning to program is quite similar in that we “play” with different pieces of code to see their outcome or result. We have successes and failures, but those failures are not seen as detrimental, but simply as part of the process. Most importantly, when something doesn’t work as expected, we go back to the text or the internet and search for the clues to the answer. It’s fun to make the code work and see tangible results from your efforts, making the learning process more rewarding.

Programming education is useful at all levels of education because it requires both understanding the material presented and applying it. The application

References:

Code.org video <http://www.youtube.com/watch?v=nKIu9yen5nc>

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Hour of Code <http://hourofcode.com/us>

Computers Are The Future, But Does Everyone Need To Code? <http://www.npr.org/blogs/alltechconsidered/2014/01/25/266162832/computers-are-the-future-but-does-everyone-need-to-code>