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Classical Argument

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The Most Important Class that Doesn’t Exist: Computer Science in Utah Classrooms

In a world where we hear a lot about unemployment it may be surprising to hear that there is a career where there are so many jobs needed that employers struggle to fill those jobs. This is exactly what is happening in the computer science field, especially in the state of Utah. Utah colleges only produce around 500 computer science graduates every year, yet there are over 7000 employers in Utah that are looking to hire computer science majors on a regular basis. (“The Problem”) There is an obvious disconnect somewhere. This disconnect is happening in Utah high schools. In order to bridge the gap, Utah high schools should require coursework in computer science to qualify for graduation. Less than a third of Utah high schools even offer computer science courses.

All throughout high school, the fact that we would eventually go to college and start a career was relentlessly beaten over our heads. Every year our student advisor would meet with us to remind us that we needed to be thinking about what we wanted to study. We would go to computer labs and research different careers and what the requirements were. Naturally, the first career that popped up was “doctor”. In the course of our investigation, teachers hovered overhead answering any questions about the various careers, but there was never any discussion about software developers or network analysts. The point is that career decisions are made in high school. I graduated high school with a firm conviction that I was going to make money doing music because of the exposure to music I received during high school. Following this same concept, if more students were exposed to computer science in high school, it would result in a greater influx of computer science majors to Utah colleges and in turn would help fill the numerous jobs available.

What would be appealing about computer science to high school students anyway? For starters, the average salary of a software developer during 2012 according to the Bureau of Labor Statics was $93,350. To put that in comparison, the average salary of an optometrist is $97,820. Software developers only go to school for 4 years, optometrists go for 8. (“Summary”) Never in history has such a high paying job been available to those with anything less than Doctorate degree. According to Dan Watson, who is the department head at Utah State University for computer science, not only do computer science majors have the highest graduating pay at USU, they always get the jobs. He explained, “This year at [the USU] STEM fair, there will be over 50 employers looking to hire computer science majors and there will only be 49 graduates attending the fair. You do the math.”(Watson) With the allure of high pay and high demand, it’s difficult to understand why more of an emphasis isn’t made on computer science at an early age and why not a single state requires computer science courses. (Cameron)

Computer science at a college level can be very difficult to the under exposed student, which is another great example of why getting experience early on is so important. 1000 lines of perfect code can be ruined by 1 misplaced semi-colon. This can be a very discouraging issue in a fast-paced college environment. The benefits of small class sizes and one-on-one interaction between student and teacher cannot be overstated. These discouraging issues quickly become learning experiences as teachers help students overcome error in a controlled environment. High school computer science classes will give students the problem solving skills necessary in order to succeed at a college level.

Like stated before, I recognize that computer science can be very difficult. Parents and schools boards alike may wonder if students can handle the pressure of being required to take additional math heavy courses and still succeed in school. While yes, requiring computer science courses will put an increased work load on students, there is another edge to the sword. These classes would be designed to help students practice the math concepts they are already required to learn. Not only will it improve math competency, it will provide students with a real world application to those math concepts. How times a year does a math teacher hear, “When are we ever going to use this stuff?” Computer science is a simple yet completely satisfying answer to that question. Michelle Lagos, who is a board member of the Computer Science Teachers of America (CSTA) says this about the difficulty of computer science:

“[The students] are experts at downloading apps, creating movies with iMovie or moviemaker, downloading songs from YouTube (copyright infringement is whole separate topic). I do not want to discredit these skills or applications, but my [students] are also completely capable of coding or designing their own games. We just have to give them a chance!”(Lagos)

Other concerns may arise about the cost of implementing such programs. Teachers would have to be hired that is true, but these teachers will have a knowledge base that would extent much beyond teaching. They would have the skills necessary to troubleshoot and fix issues with school computers. They would maintain and support school or district websites and applications. They could also double as network administrators. Their usefulness doesn’t end in the classroom. The other expense that may arise would come in the form of equipment or software. Depending on the current status or age of school computers, new computers may be necessary, but the computers required for doing what high schools students would be developing for their classes would be far less than fancy. Similarly, excellent software is often available for free for educators and students so the out of pocket costs would be minimal.

By implementing requirements in computer science, Utah schools will lead the nation into a new age of education. Their influence will spread and cause similar changes to curriculum in schools across the country. Utah employers will at last be provided with the skill sets need to move their technology forward. All this, because of a small seed planted in our high schools.

Works Cited

“The Problem.” *WIT The Problem Comments.* Wasatch Institute of Technology, 1 Jan. 2014. Web. 10 Sept 2014.

Lagos, Michelle. "Computer Science Teachers Association." *: Are Parents Supporters or a Challenge for Computer Science in K-12?* Computer Science Teachers Association, 17 Apr. Web. 6 Oct. 2014

Wilson, Cameron. "Running On Empty:." *Running on Empty*. CSTA, 1 Jan. 2010. Web. 9 Oct. 2014.

Dan Watson. Personal interview. Oct. 4. 2014.

"Summary." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, 8 Jan. 2014. Web. 17 Oct. 2014.