

Project 2

Technology Use Proposal

Linda L. Lampert

New Jersey City University

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Teaching Elementary Kids to Code Using Code.org

Rationale

Have you ever thought about how we live in a world that is controlled by software?

“Your telephone calls go over software-controlled networks; your television is delivered over the internet; people don’t buy maps anymore, they use the web; we all shop online” (Crow, 2014).

When people think about computer science, they usually do not think about these things. Instead, they automatically computer programmers or game developers usually comes to mind. However, as we all know, computer science is much more than that. According to a White House fact sheet (2016), computer science is not only necessary for the tech sector, it is also important for a growing number of various industries, including transportation, healthcare, education, and financial services, that are using software to transform their businesses.

This is why “Every student should have a fair chance to take part in building the technology that will change our world.” (Partovi, 2014). In previous years, the Lemone Public School district has encouraged the Elementary Technology Facilitators to take part in the worldwide Hour of Code initiative with their kindergarten through grade six classes, but is that enough to really give the children a ‘fair chance’?

It is believed that “Computer science provides foundational learning benefiting every child” (Nelson, Sahami, & Wilson, 2016). In fact, Harrell (2015) points out that, “The earlier we introduce children to coding, the more comfortable they will be when presented with more in-depth learning opportunities in middle and high school.” While we are indeed introducing coding to students as young as kindergarten, one week a year, is simply not enough. Beyond that

week, there has been no additional guided exposure to coding during the school year. As an educational institution, we should be doing a better job of preparing the children of today for the jobs that will be available for them when they graduate. We need to prepare them for the future. Especially since, “The next generation’s world will be even more online and digital. Soon, your house will be controlled with software, some of your medical care will be delivered over the web and your car may even drive itself” (Crow, 2014).

The purpose of this proposal is to suggest that we expose the Sanderson Public School children to coding earlier in the year and continue activities and lessons throughout the year. Children should have repeated exposure to the key ideas of computer science. It will not only empower them, but will help in every facet of their academic career and beyond. According to Wilson (2013), “We need to shift students from being simply consumers of the technology to creators of it. Imparting students with these computational thinking skills starts with ensuring access to engaging and rigorous K–12 computer science education.” By implementing a better computer science initiative, our students will not only be able to make the shift from consumers to creators, they will learn to persevere and become better problem solvers.

In the beginning of October, students in grades kindergarten through grade six will be given their Code.org login information. Each week when they come to the computer lab for their assigned time, a minimum of thirty minutes will be dedicated to coding.

As the student progress through the program, they may find that this is something that they really love. Anyone that has a desire to take their interest of coding further will be encouraged to do so. Additionally, if there is enough interest, implementation of a coding club

should be considered so that students will either meet during recess or after school with a teacher or technology facilitator. Lastly, the option to log in from home is always available.

Background Research

“Computer science gives students a set of essential knowledge and skills important for students’ learning and for their future careers and interests” (Nelson et al., 2016). Code.org is a free website that is helping to make a big difference in how kids can learn computer science. Its vision is “that every student in every school should have the opportunity to learn computer science” (Code.org, 2017). Through their lessons, students will be able to “create computer programs that will help them learn to collaborate with others, develop problem-solving skills, and persist through difficult tasks. They will study programming concepts, computational thinking, digital citizenship, and develop interactive games or stories they can share” (Code.org, 2017).

Policy Consideration

Students and their parents have already signed the district’s Acceptable Use Policy (AUP). Using a website such as Code.org falls under the AUP. Code.org. There is no cost to this initiate this proposal since Code.org is free to students and teachers. If there is an interest to start an after school coding club, parents would need to sign a permission slip for their child since it would take place outside of school hours. There would also be a cost factor that would have to be considered in order to pay the club advisor.

Current State of the Field

Educational institutions have started to incorporate computer science more and more. In fact, since Code.org began a little more than three years ago, “11 countries, 31 U.S. states, and

over 120 U.S. cities and school districts have announced efforts to expand access to computer science as part of the K-12 curriculum” (Code.org, 2017).

There has been a lot of enthusiasm regarding coding, however, there is a lot of apprehension on the part of educators. However, with Code.org being such the user friendly site, it is helping pave the way for educators to feel more comfortable about introducing and teaching computer science to children..

Assessment Plan

Students will be given their own account and assigned to a classroom in Code.org. Through their account, their teacher will be able to monitor their progress online. Teachers will also circulate the room to observe behaviors, work with children, and provide assistance when needed. Towards the end of the year, students will also take part in a survey to get their feedback about the coding activities that they participated in throughout the year.

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