Cracking the Code

Coding in the Library

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What is Hour of Code?

Every December, during Computer Science Education Week, every student is encouraged to code for one hour.

But why?

Why the Library? Why Now?

Libraries offer the perfect environment for students to learn coding! Think about it: we have the potential to reach every student (patron), provide around the clock access (not just one 45 minute period), and are experts at pointing patrons in the right direction in regard to resources.

Not a coding expert? You don't have to be!

For more information on why we need coding, click here.

To see how Texas measures, click here.

My Coding Background

*Programmed a talking fire alarm for an Invention Convention with the help of my programmer dad.

*Took a CS course in high school and programmed a car driving across the screen in Basic.

That's.it.

Let’s Get Started!

Ask these questions before you begin:

1. "When will I do this?"

2. "Who will I do this with?"

3. "How often do I want to do this?"

4. "How involved do I want to be?

Also consider these ideas:

1.Give the idea of "computer programmer" a makeover!

2. Find a partner. It's always more fun to code with a buddy!

3. Never underestimate the power of Social Media for ideas!

4. Let an expert host- trust me, you know one!

Overcoming Challenges

Challenges for me have included:

1. Staff buy-in

2. Getting kids, and adults, out of their comfort zone.

3. Moving kids from "user" to "maker" mentality.

4. Getting kids familiar with Design Thinking (http://dschool.stanford.edu/use-our-methods/) and the Engineering Design Process (http://www.sciencebuddies.org/engineering-design-process/engineering-design-process-steps.shtml).

Great for All Levels (Free)

Google CS First (http://www.cs-first.com)

Code.org (http://code.org)

Tynker (https://www.tynker.com)

Great for All Levels (Paid)

MinecraftEDU (https://minecraftedu.com)

Lego (https://education.lego.com/en-us/lesi/)

MakeyMakey (http://makeymakey.com)

Sphero and Ollie (http://www.gosphero.com/education/)

Ardusat (https://www.ardusat.com)

Coding for Primary/Elementary Students

Kodable (https://www.kodable.com)

The Foos (http://thefoos.com)

Daisy the Dinosaur (App-based)

Hopscotch (App-based)

Scratch, Jr. (http://www.scratchjr.org)

Lightbot (http://lightbot.com)

Dash and Dot (https://www.makewonder.com)

Bee Bot (https://www.bee-bot.us)

Roamer (http://www.valiant-technology.com/uk/pages/roamer_home.php?cat=1&1)

Kibo (http://kinderlabrobotics.com)

Coding for Intermediate Students

Scratch (https://scratch.mit.edu)

Mozilla (https://webmaker.org/en-US/explore)

Made with Code (https://www.madewithcode.com)

Mozilla Thimble (https://thimble.webmaker.org)

Cargo Bot (iPad only App)

Coding for Secondary

App Inventor (http://www.appinventor.org)

Codecademy (also an app) (http://www.codecademy.com/learn)

Codecombat (https://codecombat.com)

Additional Resources

http://www.edutopia.org/blog/teach-kids-coding-resources-parents-matt-davis

BrainPop (a paid subscription) (https://www.brainpop.com/search/search.weml?keyword=Computer+Programming)

http://www.edutopia.org/blog/15-ways-teaching-students-coding-vicki-davis

Coding Across the Curriculum

Language Arts- literacy tie-ins galore!

Social Studies- Oregon Trail!

Math- Coding IS Math!

Science- Robotics, and Physical & Earth Sciences