Coding for Everyone

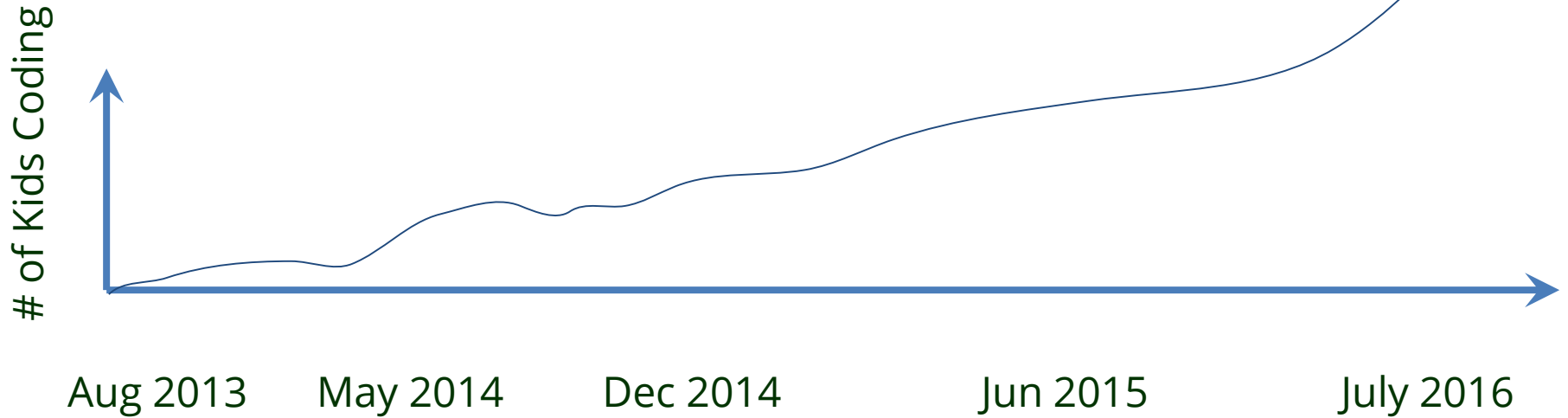How your library can help *anyone* learn to code
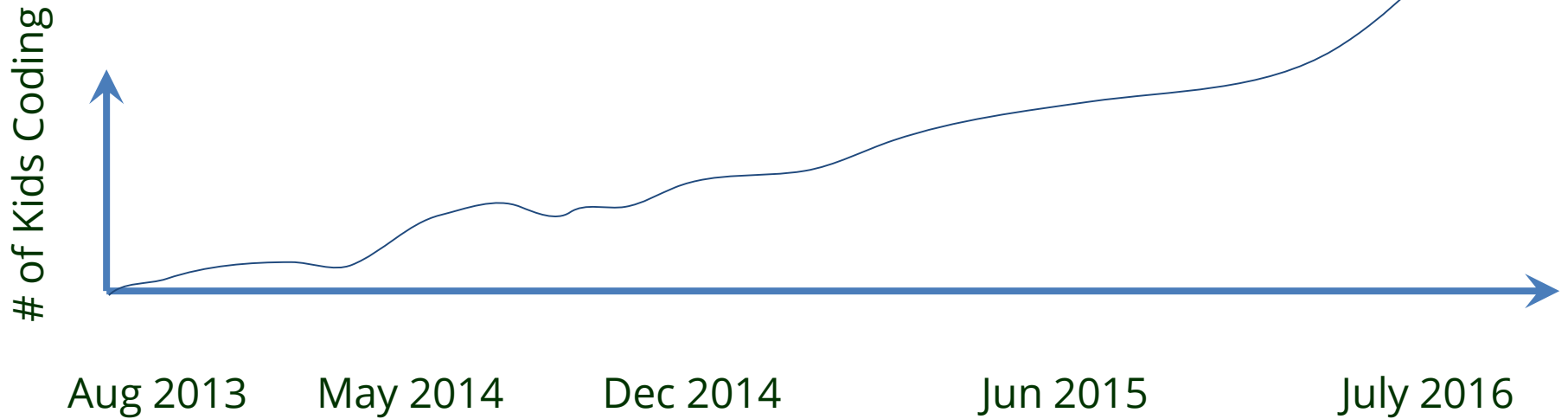
July 19, 2016
Kelly Smith

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Coding for Everyone

- Code Club Story
- Guiding Principles
- Coding for Pre-readers (3-7)
- Coding for Tweens (8-12)
- Coding for Teens (13-18)
- Coding for Young Adults
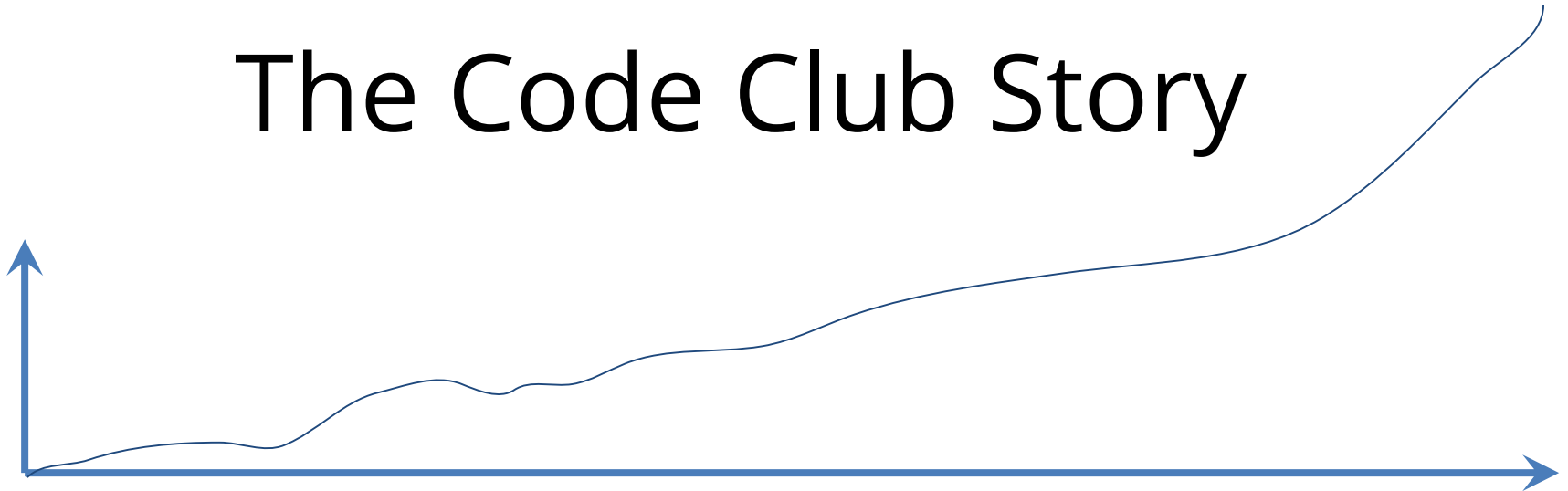- Coding for Older Adults
- Summary and Questions

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The Code Club Story

# of Kids Coding

Aug 2013   May 2014   Dec 2014   Jun 2015   July 2016

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The Code Club Story

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Mesa Code Club

$2,836 USD

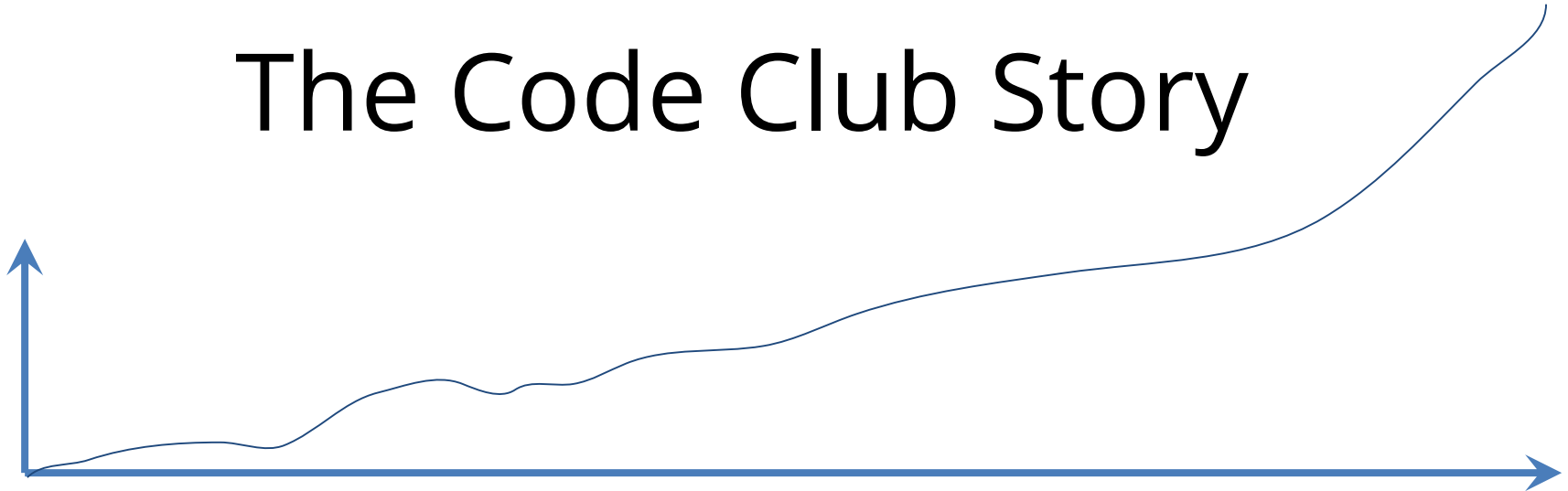Lil hackers: Where AZ kids learn to code

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The Code Club Story

# of Kids Coding

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The Code Club Story

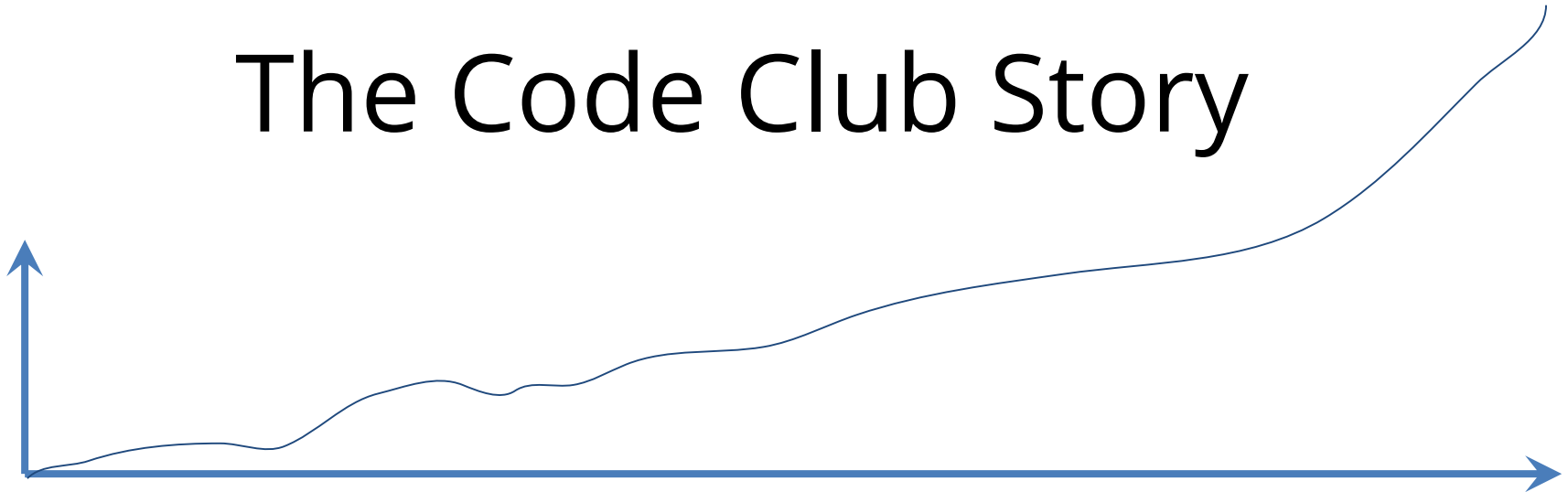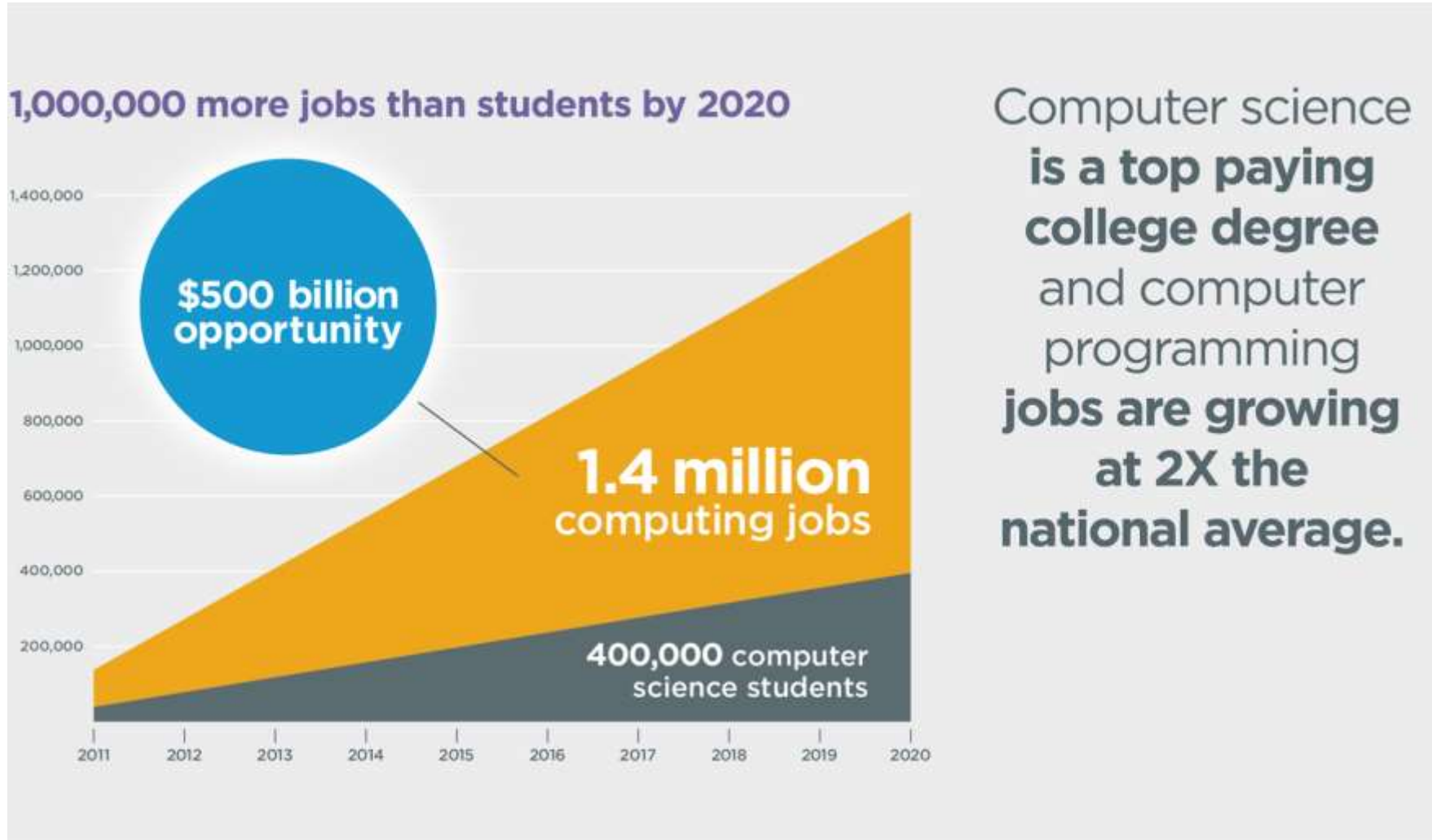**# of Kids Coding**

Aug 2013   May 2014   Dec 2014   Jun 2015   July 2016

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The Code Club Story

of Kids Coding

Aug 2013　　May 2014　　Dec 2014　　Jun 2015　　July 2016

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Why Coding?

1,000,000 more jobs than students by 2020

$500 billion opportunity

1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000

1.4 million computing jobs

400,000 computer science students

2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

Computer science **is a top paying college degree** and computer programming **jobs are growing at 2X the national average.**

Source: code.org

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"Coding is the closest thing we have to a superpower."

-Drew Houston
Founder of Dropbox

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Why Libraries?

Community Resource. Trusted place for families to be. Learning to code is like learning to read.

Open to All. Everyone is invited to learn for free. Equalizing opportunity through tech skills.

21st Century Learning. No obstacles between learner and information. History of mastery.

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Guiding Principle #1

The best way to learn coding is by doing it

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Guiding Principle #1

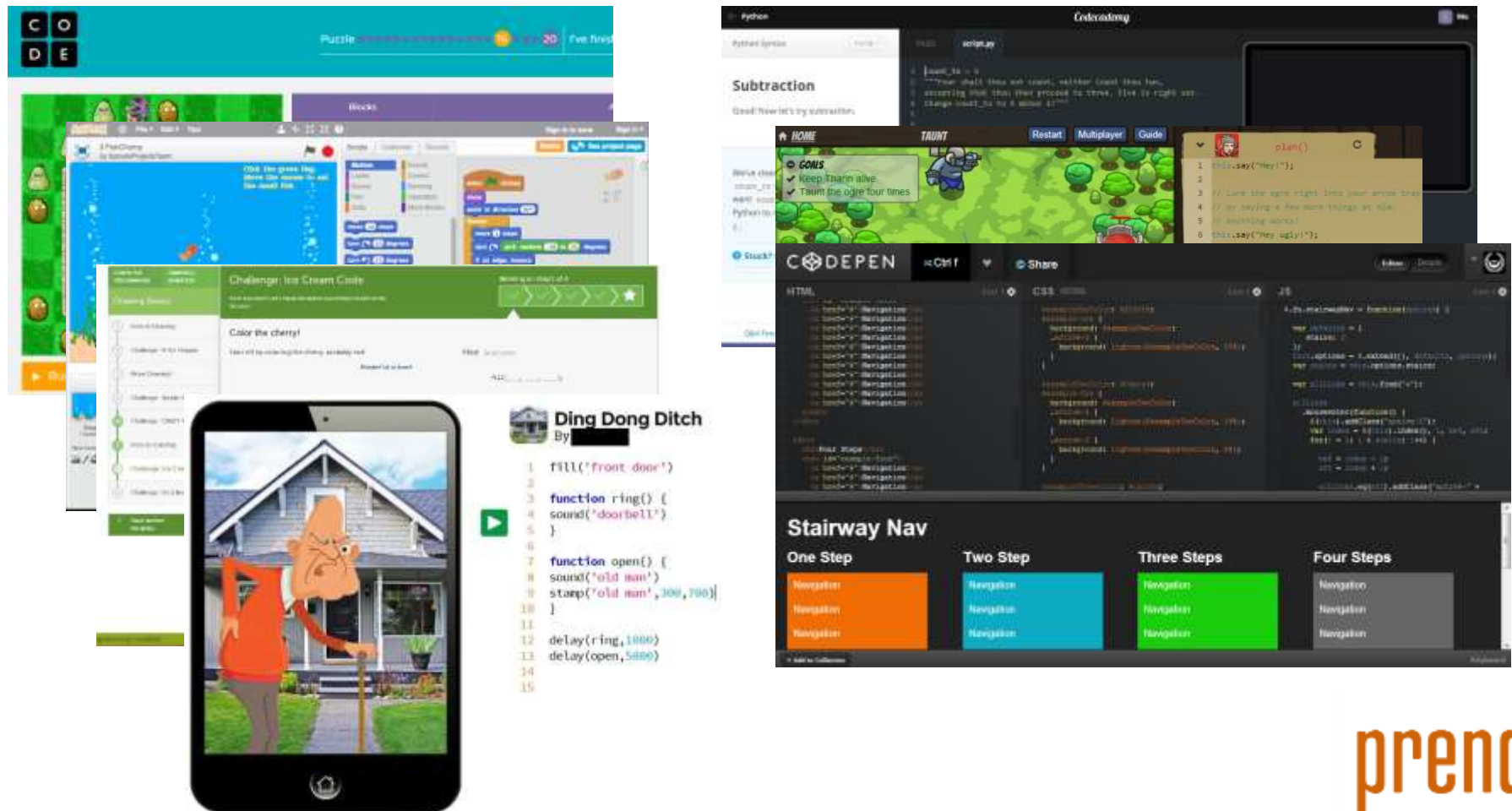The best way to learn coding is by doing it

Formal Learning
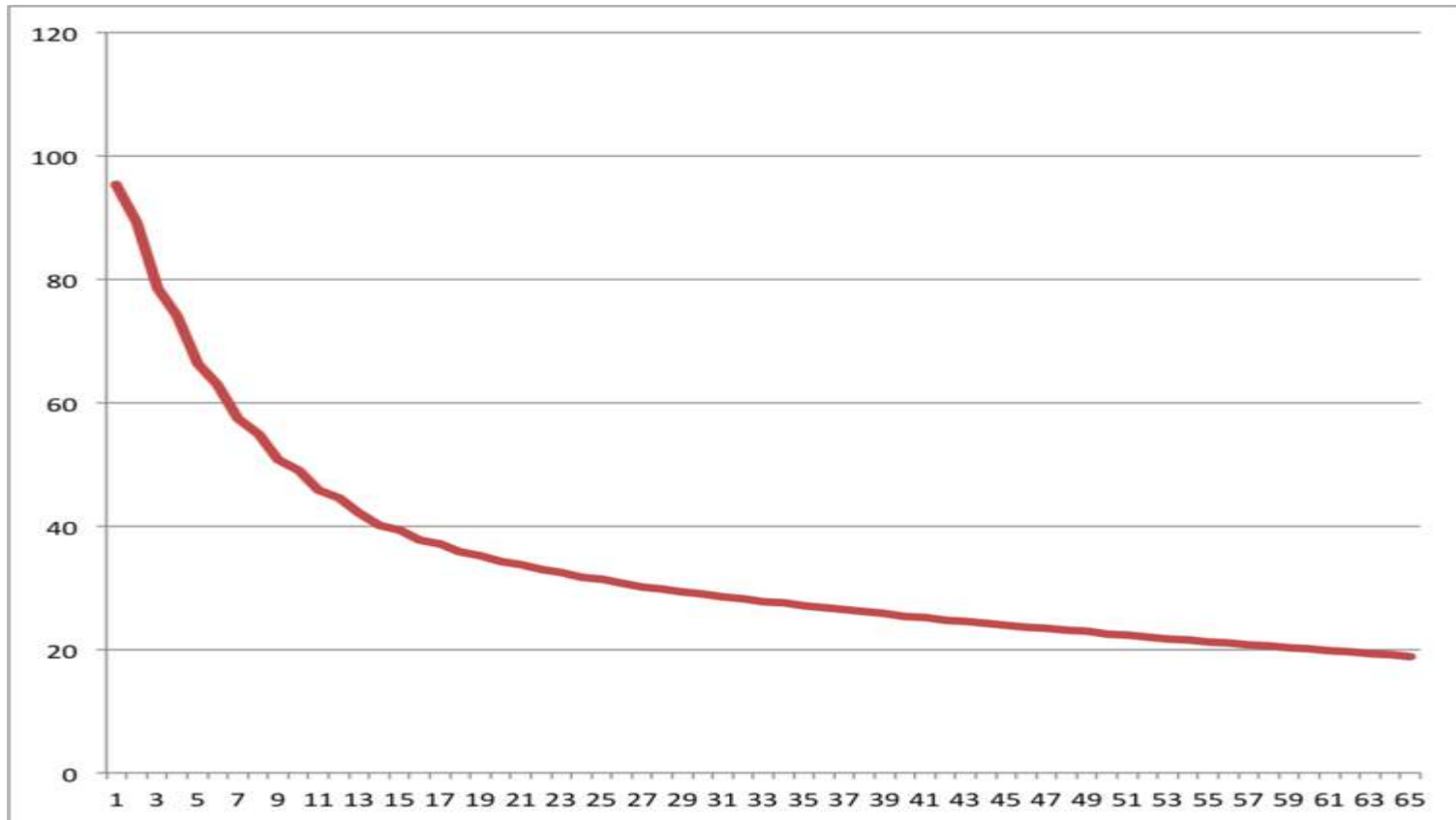
Informal Learning

Google

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Guiding Principle #2
Anyone can go online and teach themselves coding, for free. (But most people won't)

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Guiding Principle #2
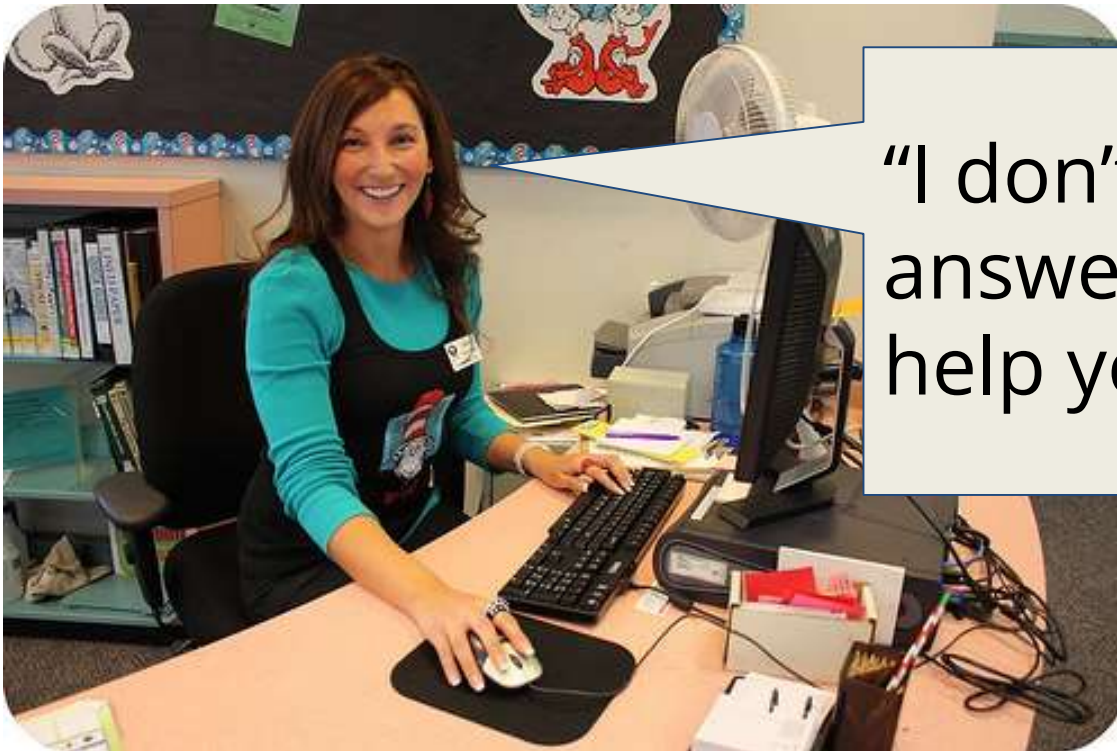## Anyone can go online and teach themselves coding, for free. (But most people won't)

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Guiding Principle #3
Librarians have all the right skills to run a coding program

"I don't know the answer, but I can help you find it."

Source: Escondido Library

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Guiding Principle #3
Librarians have all the right skills to run a coding program

The Method of the Grandmother

"Just stand behind them and admire them all the time. Say to them, 'That's cool!' 'That's fantastic!' 'What is that?' 'Can you do that again?'"

Golden Question:
"What are you working on?"

Source: Sugata Mitra on TED

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Code Club: Hybrid Learning Model

Traditional Classroom   +   Online Learning

- Regular meetings
- In person
- 1-2 coders per computer
- 15-20 coders per facilitator
- Heavy peer interaction
- Using online resources
- Informal learning
- Emphasis on projects

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Code Club in Action

Video Link: codeclub.prenda.co

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Code Club in Action

Parker Public Library's
CODE CLUB

Come make your own
VIDEO GAMES & WEBSITES

Where: Parker Library - 1001 Navajo Ave
When: June & July- Every Thursday
Time: 2:00-3:00pm

Free, fun & great for the brain!
- Bring a friend!
- 10-18yrs old
- FREE!

"In fifteen years we'll be teaching programming just like reading and writing...and wondering why we didn't do it sooner."
— Mark Zuckerberg

Ak-Chin Community Library

Library kids learn computer coding, thanks to state funds

Community   Community News   Youth   by Raquel Hendrickson - Feb 11, 2016   💬 0

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Coding for Pre-readers (ages 3-7)

- Tablets are best
- Parents stay and help
- 1 hour attention span
- Encourage creativity
- Lots of fun!
- Best tools: Scratch Jr, Tynker

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Coding for Tweens (ages 8-12)

- Cheap laptops with wifi
- Start easy (Code.org)
- Move to Scratch
- Focus on fun projects
- Make it social
  - Buddies for newbies
  - Help each other
  - Show and tell
- Expand to javascript, HTML/CSS

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Coding for Teens (ages 13-18)

- Laptop/desktop
- Wide variance in skill
- Encourage self-learning
- Force peer interaction
- Move to phone apps
- Front end dev (javascript, HTML, CSS)
- Additional options
  - Udacity nanodegree
  - Thinkful mentors
  - Local internships

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Coding for Young Adults

Coding for Older Adults

Julie Clark — Code Club Participant

- "Exercise your mind"
- Growth mindset
- Embrace awkward
- Multi-generational

Maricopa County Library District
where curiosity leads

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Ready to start a Code Club?

Space. Find a place in your library where coders can be loud and creative (think explosion sound effects)

Facilitators. Find a sponsor and some backup, people that feel comfortable with people and can be there every week. No coding expertise required!

Computers. You can ask people to bring laptops from home, but you will likely find a lot that need to borrow a computer. Any type of computer works, as long as it connects to the web.

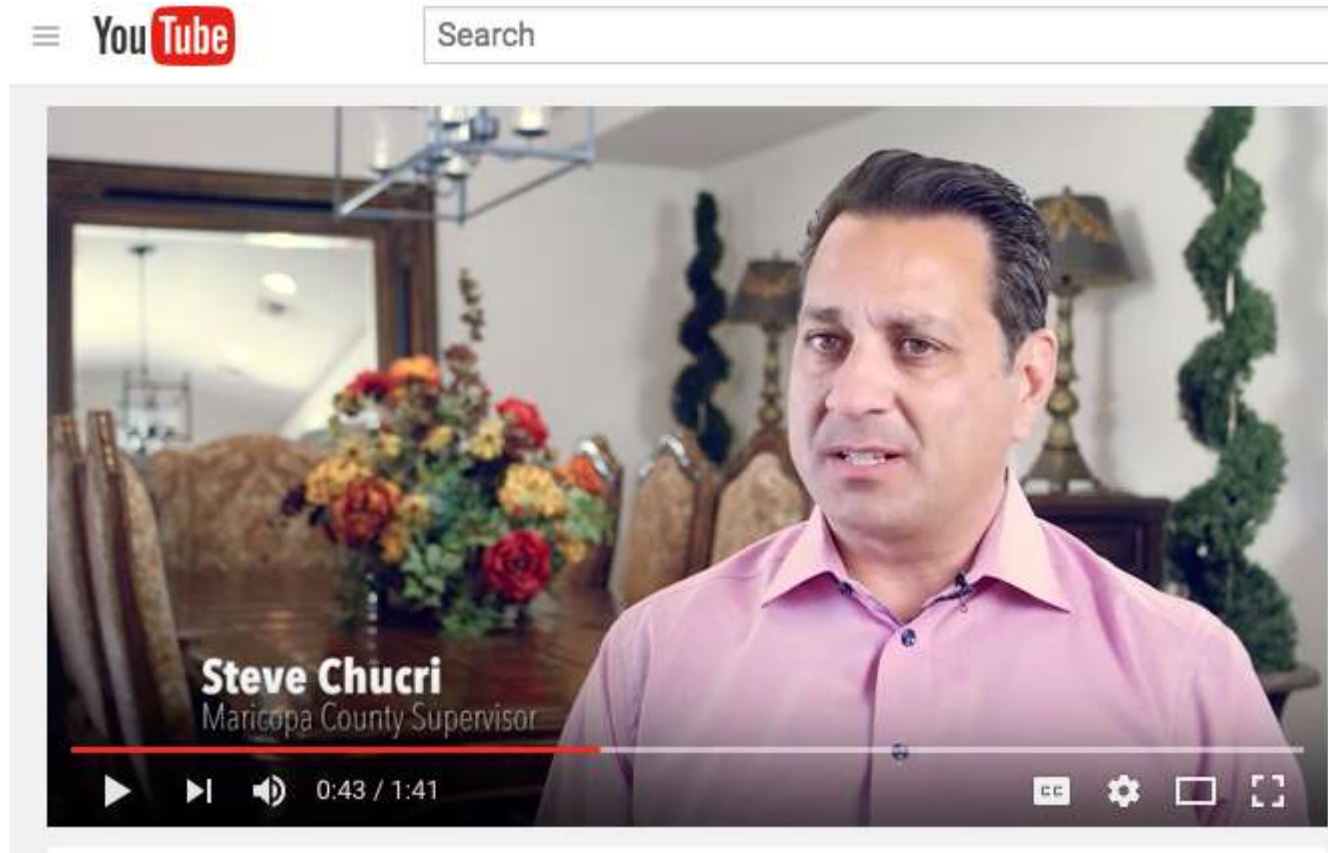**Day and Time.** Weekly meetings are best. Consistency is key!

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Tactical Advice #1

Our mindset is the biggest obstacle.

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Tactical Advice #2

Don't underestimate the power of PR

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Tactical Advice #3

Let someone else pay for it!

Questions?

library.prenda.co

kelly@prenda.co

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