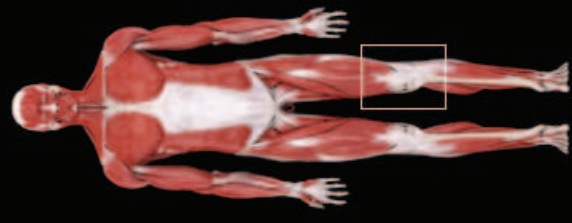


**“In his working life, my son will be expected to solve real world problems, create and share meaningful work with the world, make sense of reams of unedited digital information, and regularly work with others a half a world away using computers and mobile devices.”**

*- Will Richardson, Speaker & author*

# Driving Innovation in the Classroom

Joe Morelock  
Director, Technology & Innovation  
Canby School District, Canby, OR USA  
[morelocj@canby.k12.or.us](mailto:morelocj@canby.k12.or.us)



Anterior



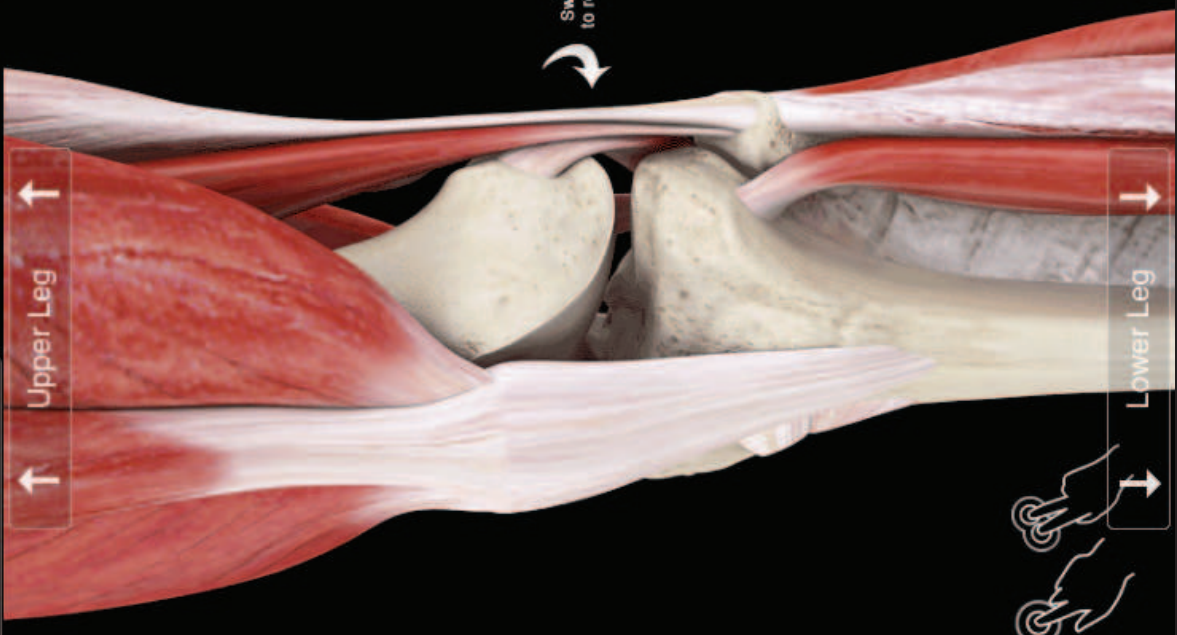
Lateral



Posterior



Medial



Upper Leg

Lower Leg

Swipe to rotate

Double tap to zoom in  
Double tap to zoom out

- Add Layer
- Remove Layer
- Mix Layers
- Pics
- Video
- Pen
- I/O Map

ON Hints

## Canby

**4,750**

Students

**8**

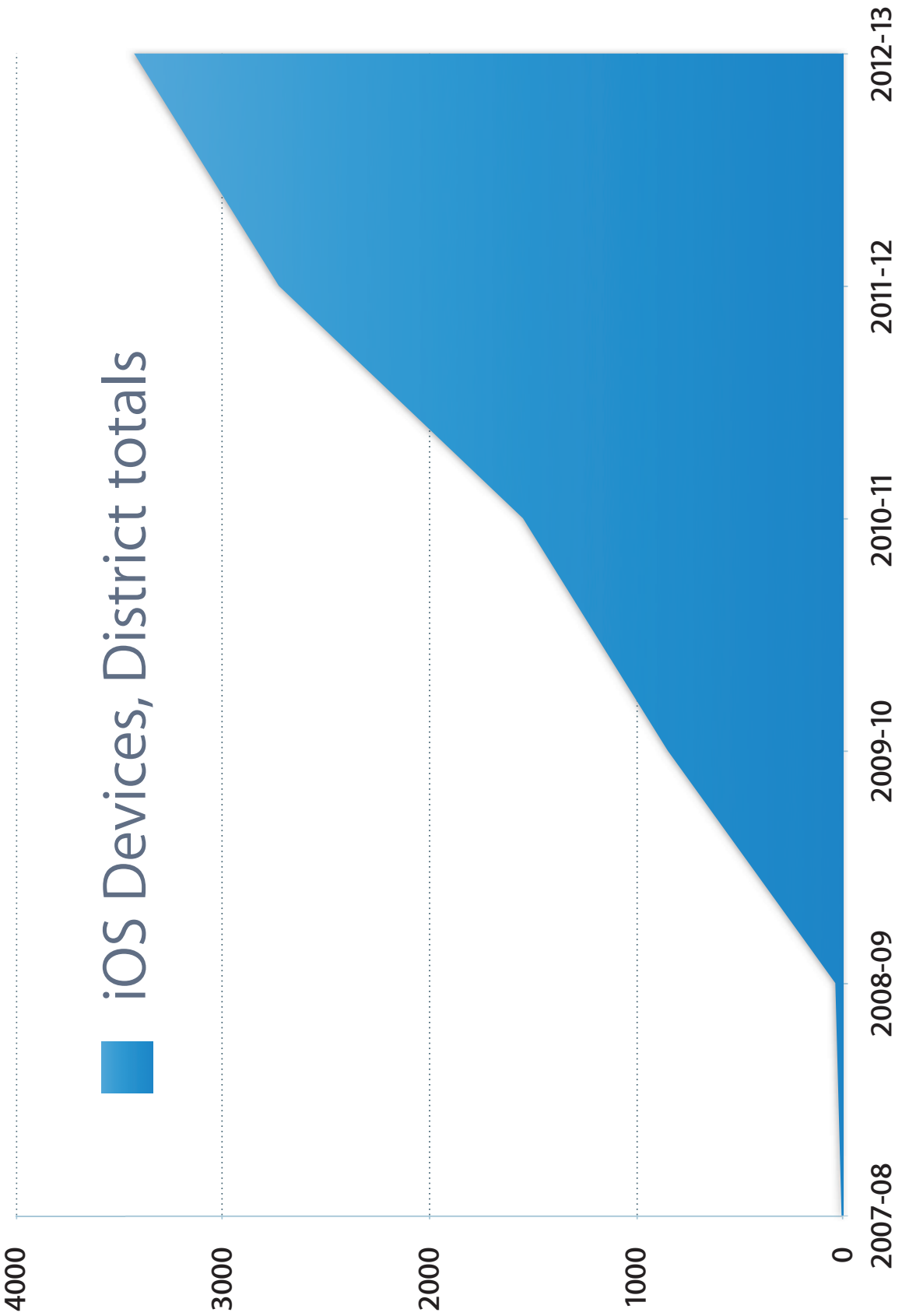
Number of schools

**15%**

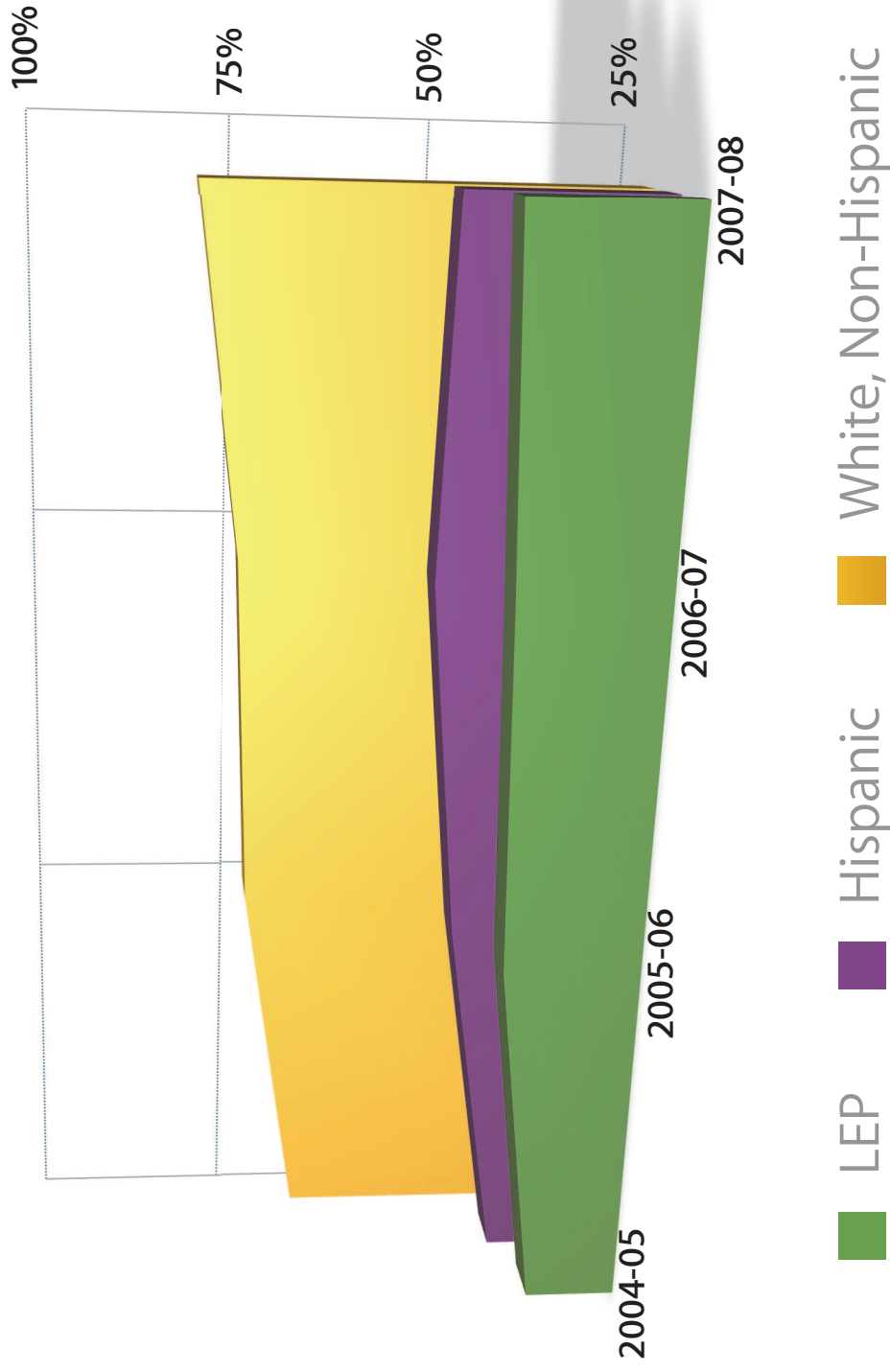
English Lang. Learners

**43%**

Economically  
Disadvantaged



# Reading Gap, High School





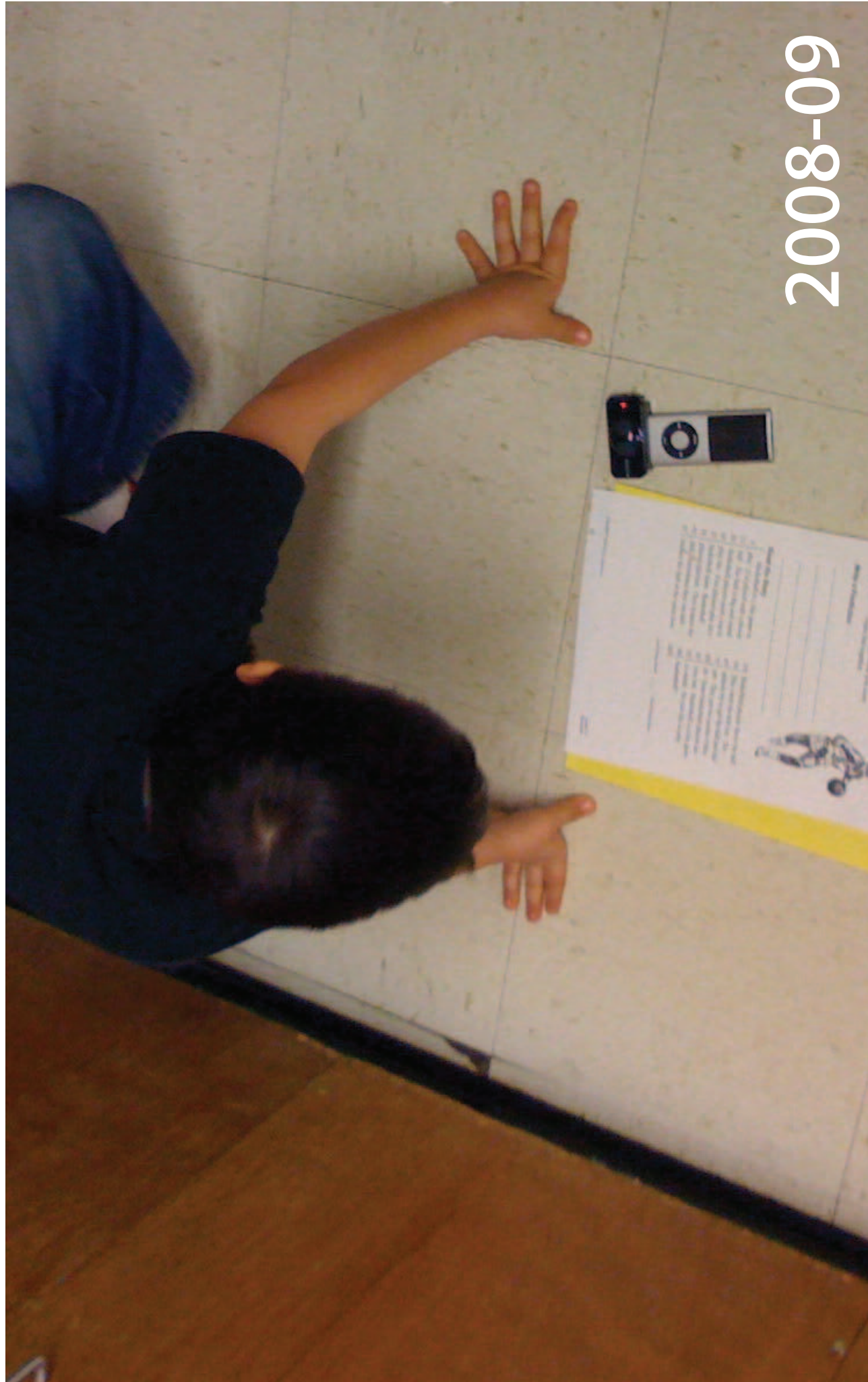
**Learning first**

**Invest in teachers**

**Tools & Infrastructure**

# Timeline of the Innovation Revolution





2008-09

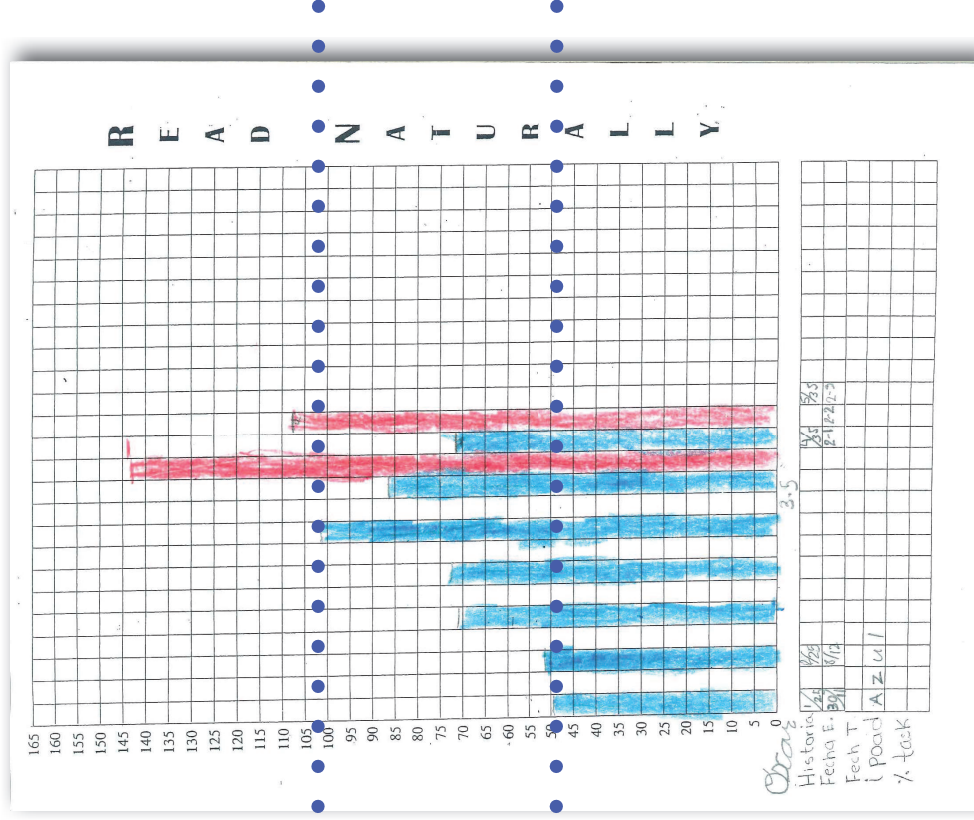
# Feedback Loop: Student Driven

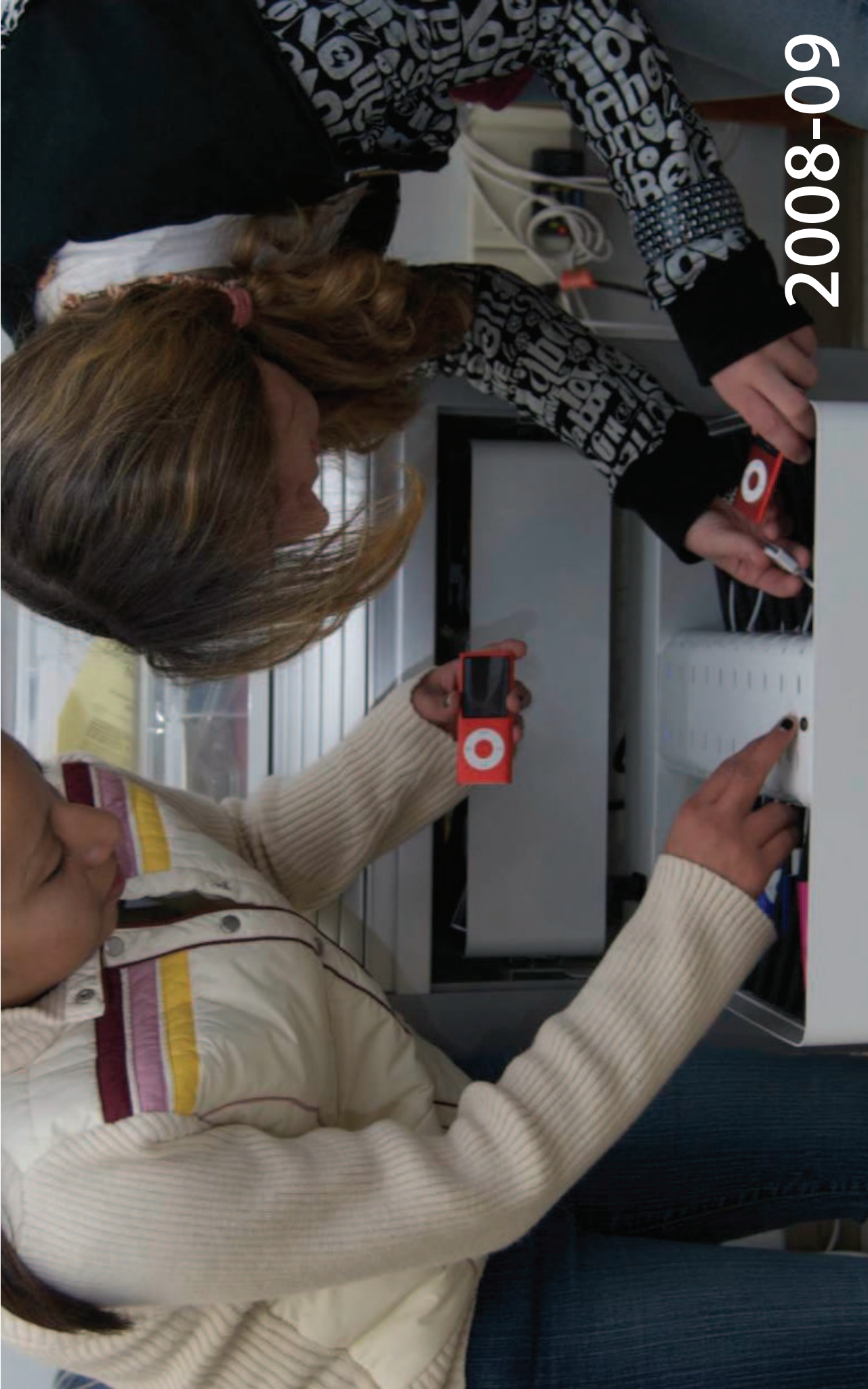


**50+ WCPM  
growth in  
5 weeks**



**10-15 WCPM growth is  
“normal” progress in 6  
week period**





2008-09



2008-09



2008-09

# Canby School District Reading Scores



● Meets
 ● Nearly Meets
 ● Does Not Meet

Data from 2009–2010 Oregon Assessment of Knowledge & Skills (OAKS)

# Canby School District Math Scores



● Meets

● Nearly Meets

● Does Not Meet

Data from 2009–2010 Oregon Assessment of Knowledge & Skills (OAKS)





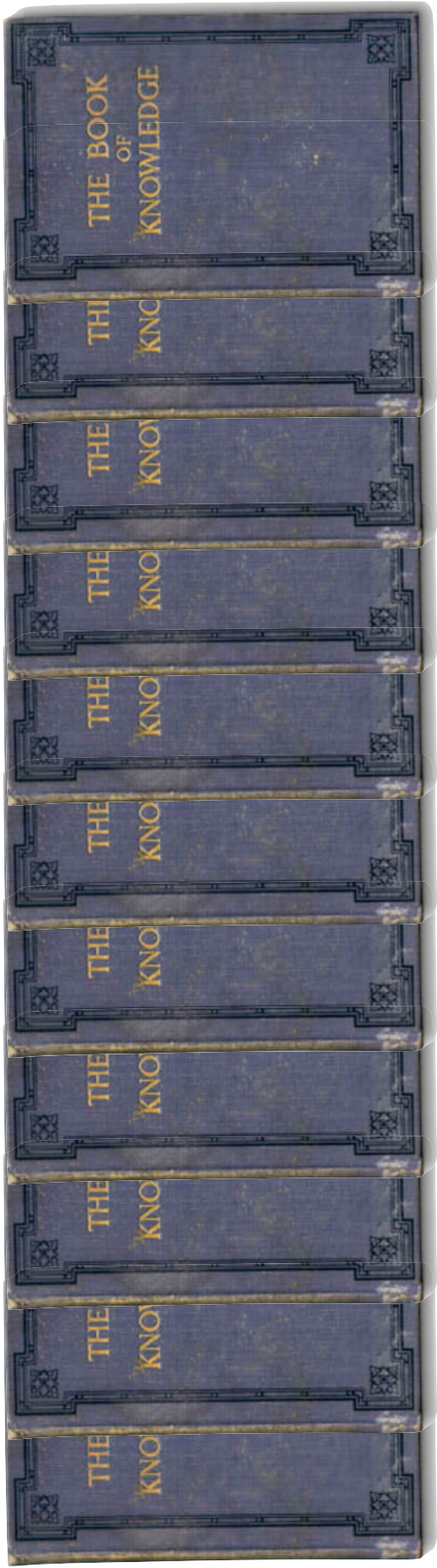
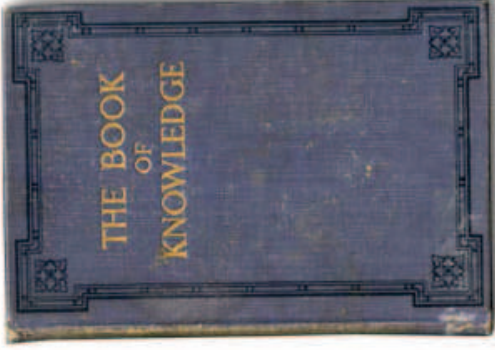
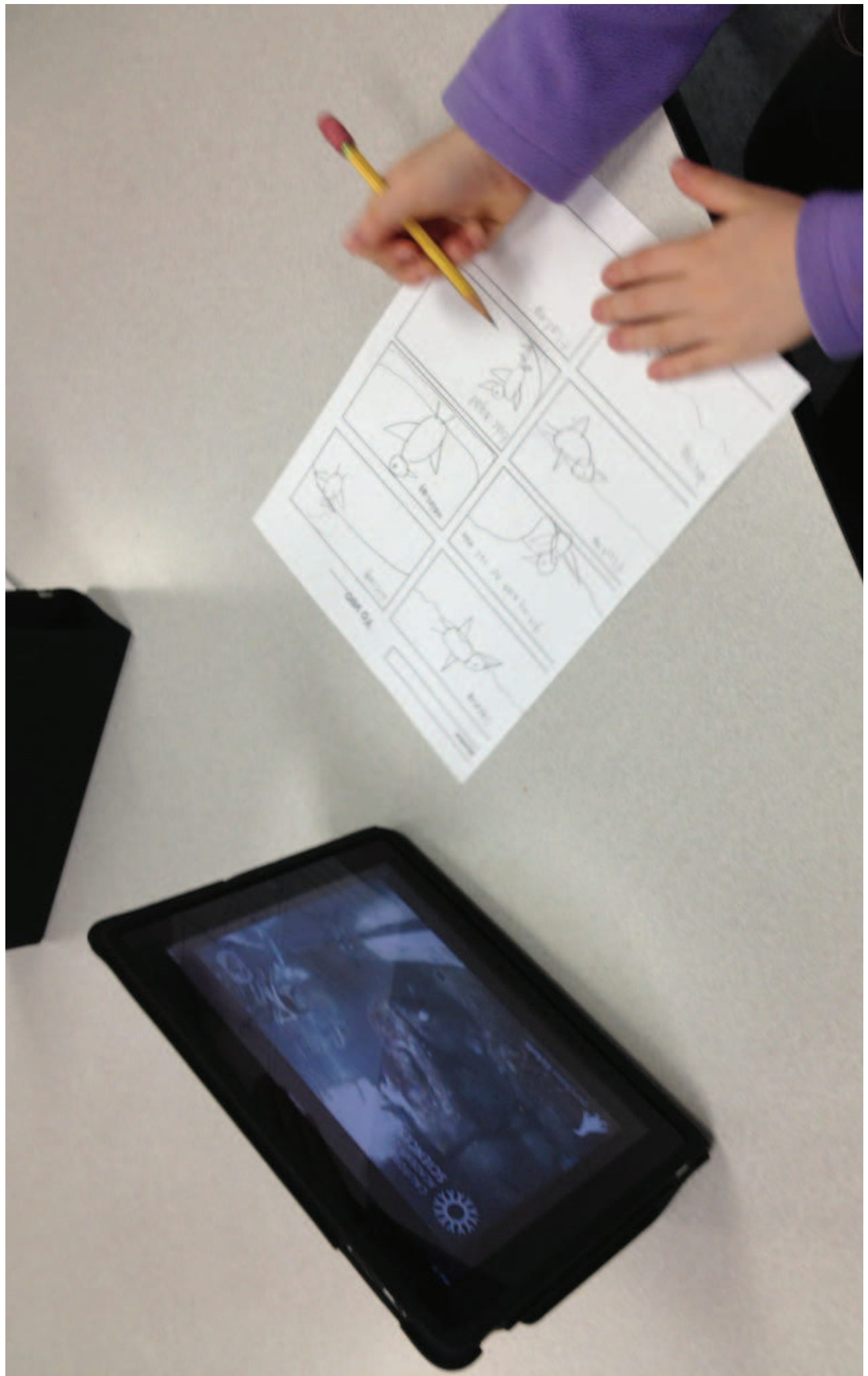
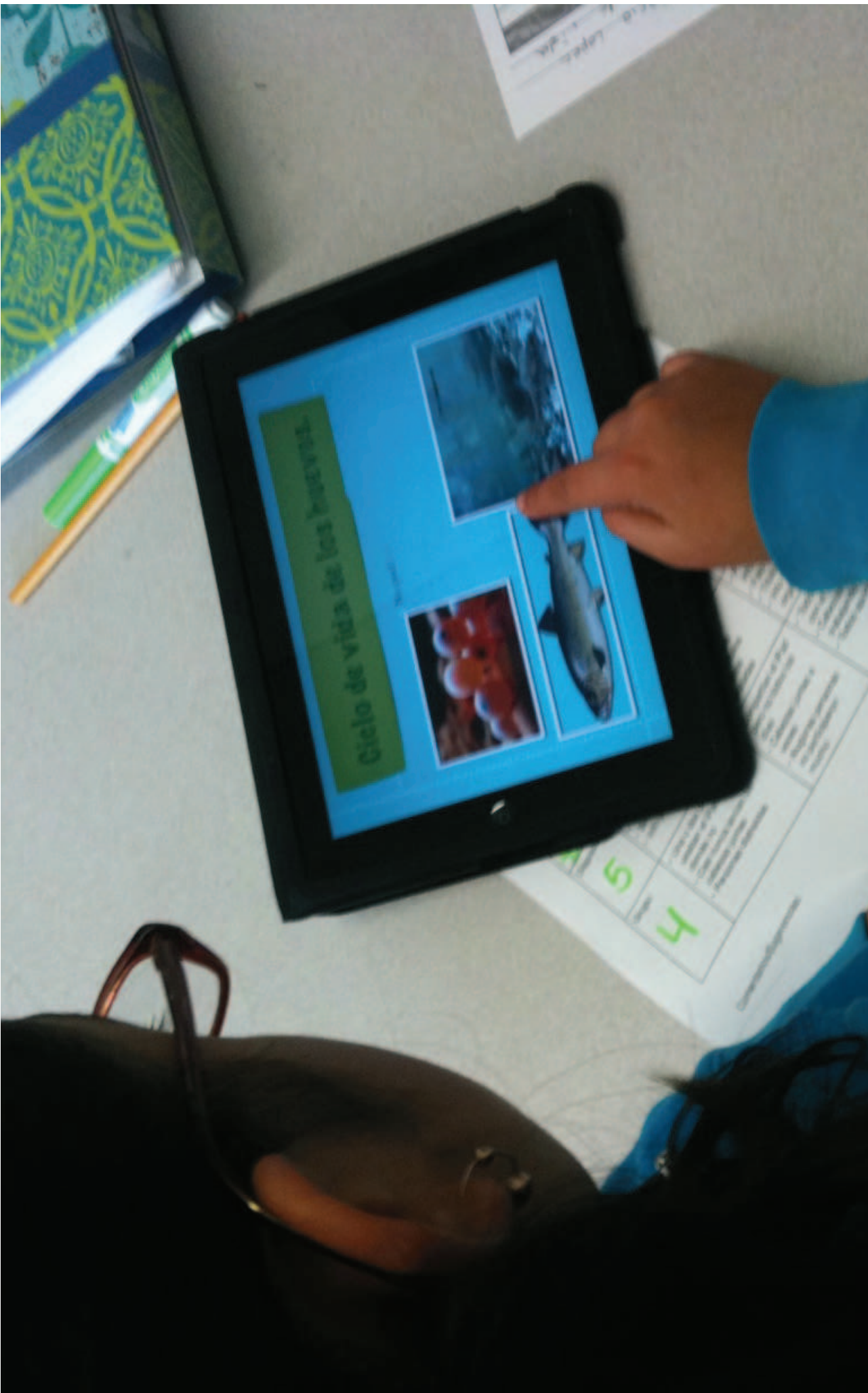






Photo credit: @coursa, Alec Couros









Pondering Classroom Activities

Activity	Duration	Materials
Brainstorming	10-15 min	Markers, Paper
Group Discussion	15-20 min	None
Role-playing	20-30 min	Props, Scenarios
Case Studies	30-45 min	Case Files, Handouts
Guest Lectures	45-60 min	Guests, Presentation Slides
Field Trips	1-2 hours	Transportation, Site Visits
Workshops	2-3 hours	Workshop Materials, Tools
Conferences	1-2 days	Registration, Venue, Agenda

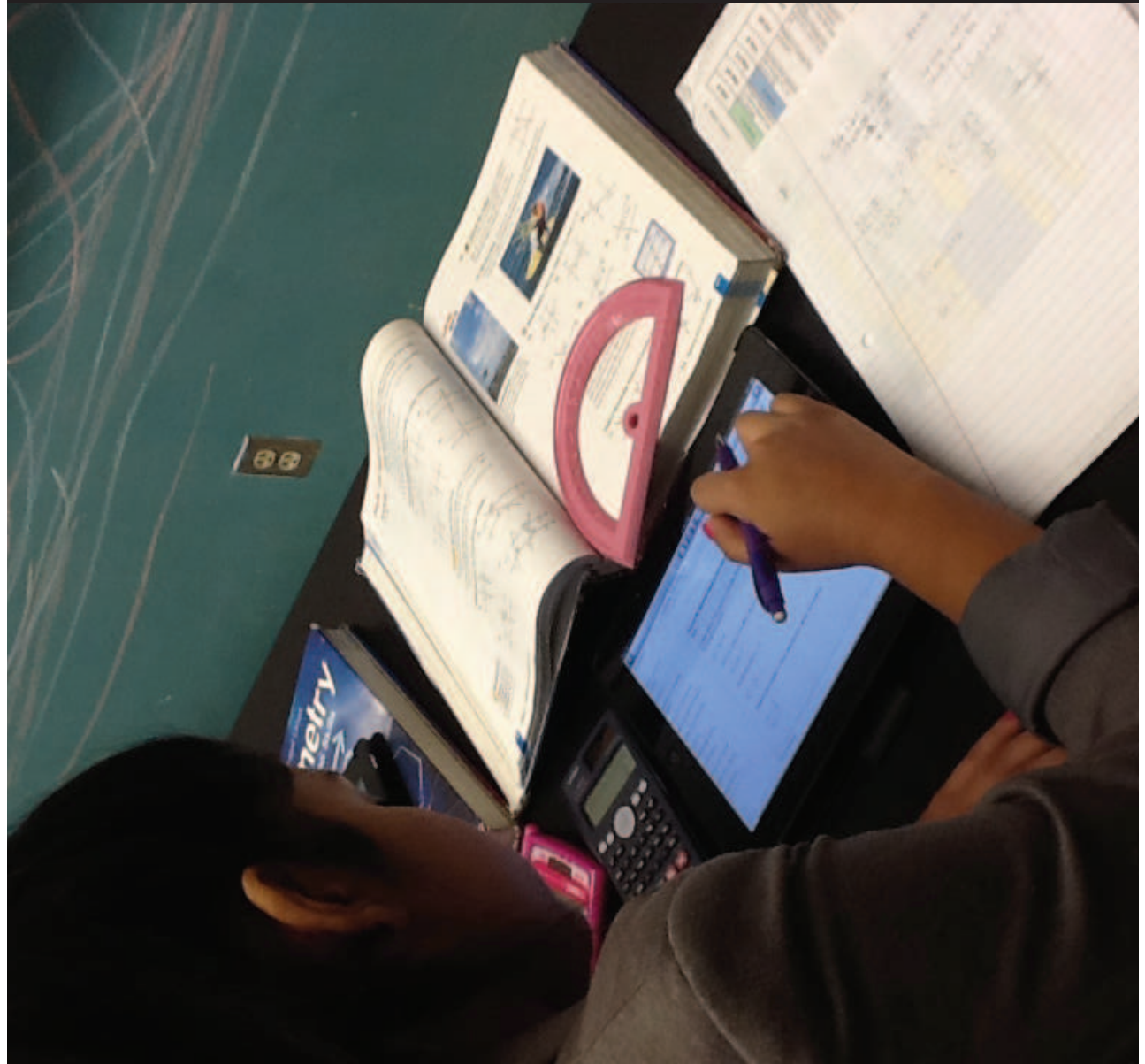




$\frac{d}{dt} \int_V \rho \mathbf{v} dV = \int_V \rho \frac{d\mathbf{v}}{dt} dV + \int_{\partial V} \rho \mathbf{v} \mathbf{v} \cdot \mathbf{n} dA$   
 $\int_V \rho \frac{d\mathbf{v}}{dt} dV = \int_V \rho \left( \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} \right) dV$   
 $\int_{\partial V} \rho \mathbf{v} \mathbf{v} \cdot \mathbf{n} dA = \int_V \nabla \cdot (\rho \mathbf{v} \mathbf{v}) dV$   
 $\frac{d}{dt} \int_V \rho \mathbf{v} dV = \int_V \rho \left( \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} - \nabla \cdot (\rho \mathbf{v} \mathbf{v}) \right) dV$   
 $\frac{d}{dt} \int_V \rho \mathbf{v} dV = \int_V \rho \left( \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} - \nabla \cdot (\rho \mathbf{v} \mathbf{v}) \right) dV$   
 $\frac{d}{dt} \int_V \rho \mathbf{v} dV = \int_V \rho \left( \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} - \nabla \cdot (\rho \mathbf{v} \mathbf{v}) \right) dV$

$\frac{d}{dt} \int_V \rho \mathbf{v} dV = \int_V \rho \left( \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} - \nabla \cdot (\rho \mathbf{v} \mathbf{v}) \right) dV$   
 $\frac{d}{dt} \int_V \rho \mathbf{v} dV = \int_V \rho \left( \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} - \nabla \cdot (\rho \mathbf{v} \mathbf{v}) \right) dV$   
 $\frac{d}{dt} \int_V \rho \mathbf{v} dV = \int_V \rho \left( \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \nabla \mathbf{v} - \nabla \cdot (\rho \mathbf{v} \mathbf{v}) \right) dV$







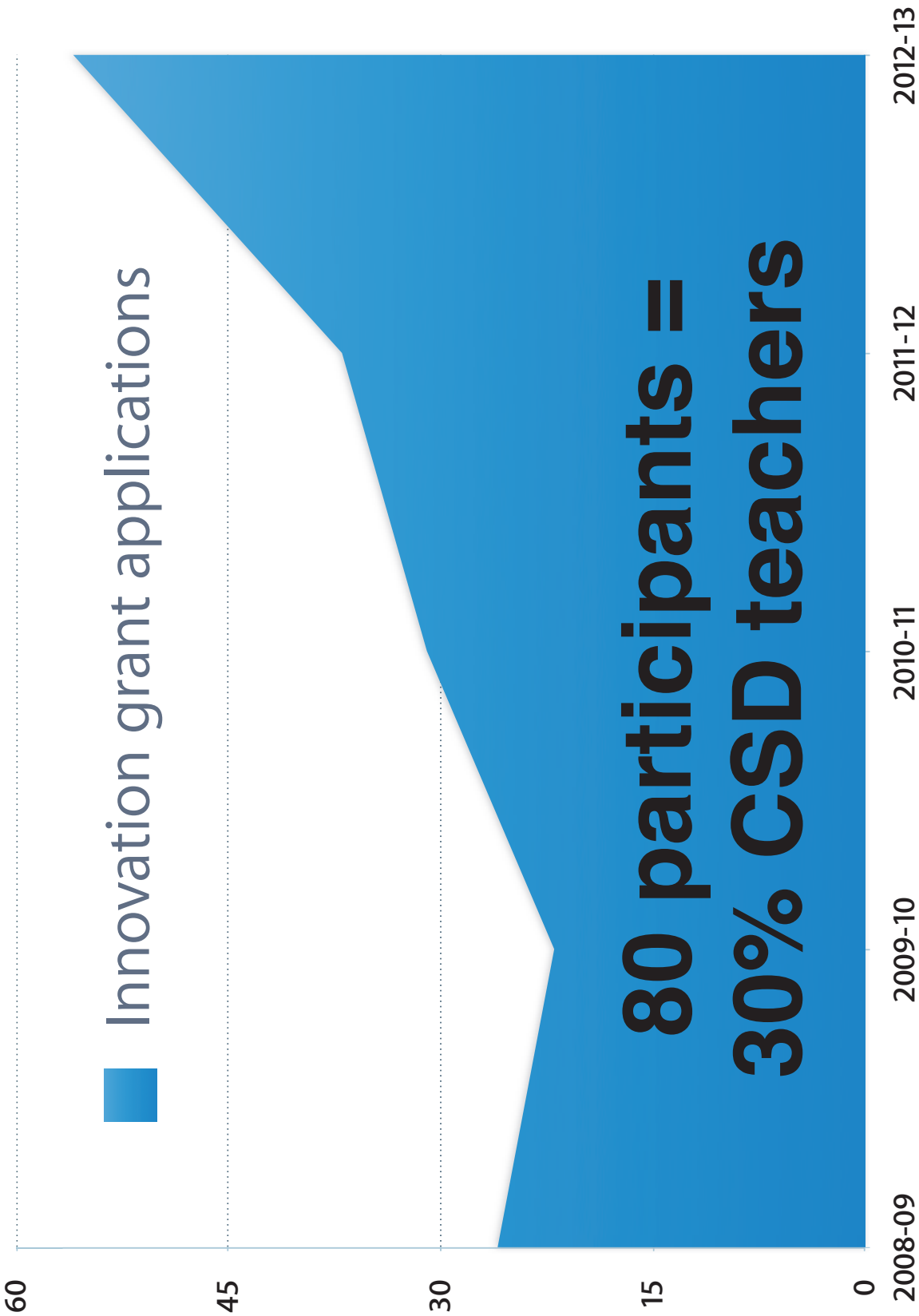
# Teacher-directed Innovation

# Innovation

Fund the “dreams”

**\$50K**

**Funds innovation in 25-30 classrooms**



# Diffusion of Innovations - E. Morgan (1962)





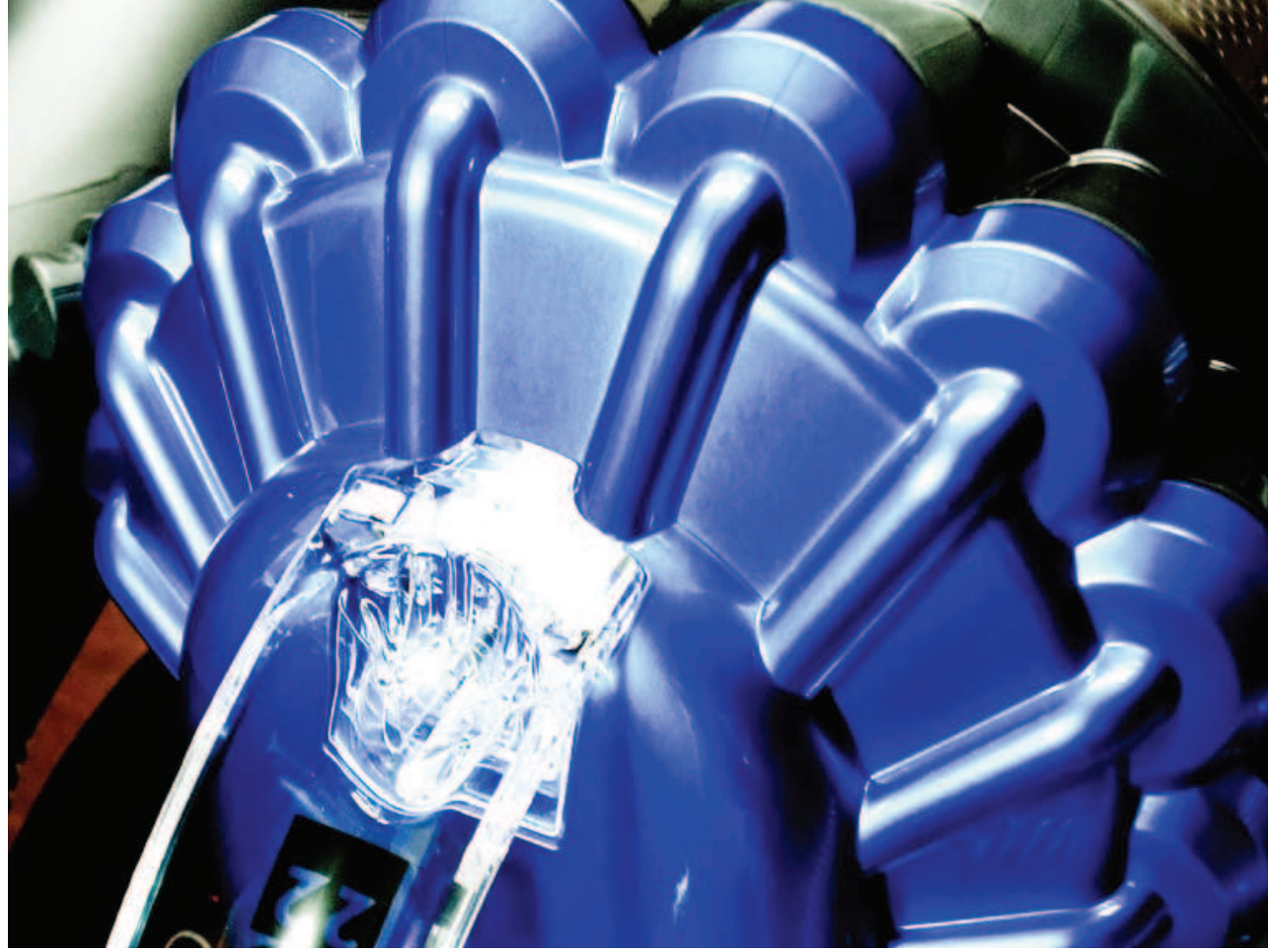
**“If you set your goals ridiculously high  
and it’s a failure, you will fail above  
everyone else’s success.”**

**James Cameron, *film director***

**Failure is okay.**

**Get over it.**

James Dyson  
famously worked  
through 5,127  
prototypes of his first  
vacuum cleaner  
before he took it to  
market.



Guess

Check

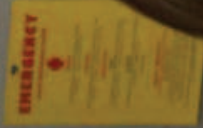
Refine



bit.ly/

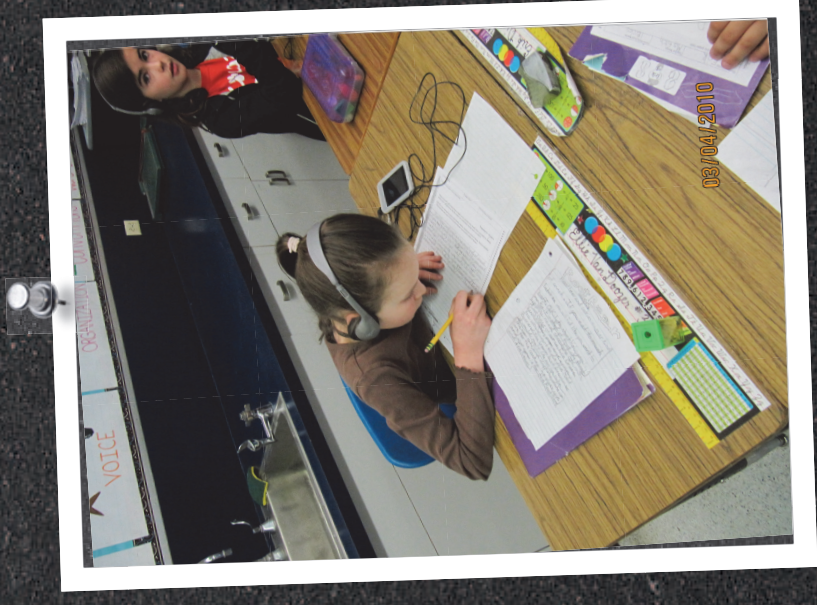
What happens when  
students are immersed  
in a digital "iPod classroom?"

What happens when  
students in the Supported  
Learning Center (middle school level)  
use iPod Touch devices to learn  
new words and word meanings?



# Surprise Findings

Written language scores in the area of conventions and sentence fluency have improved. Students record their writing as a voice memo and listen to correct errors. Students also use the spell check and thesaurus more frequently with the iPod touch.



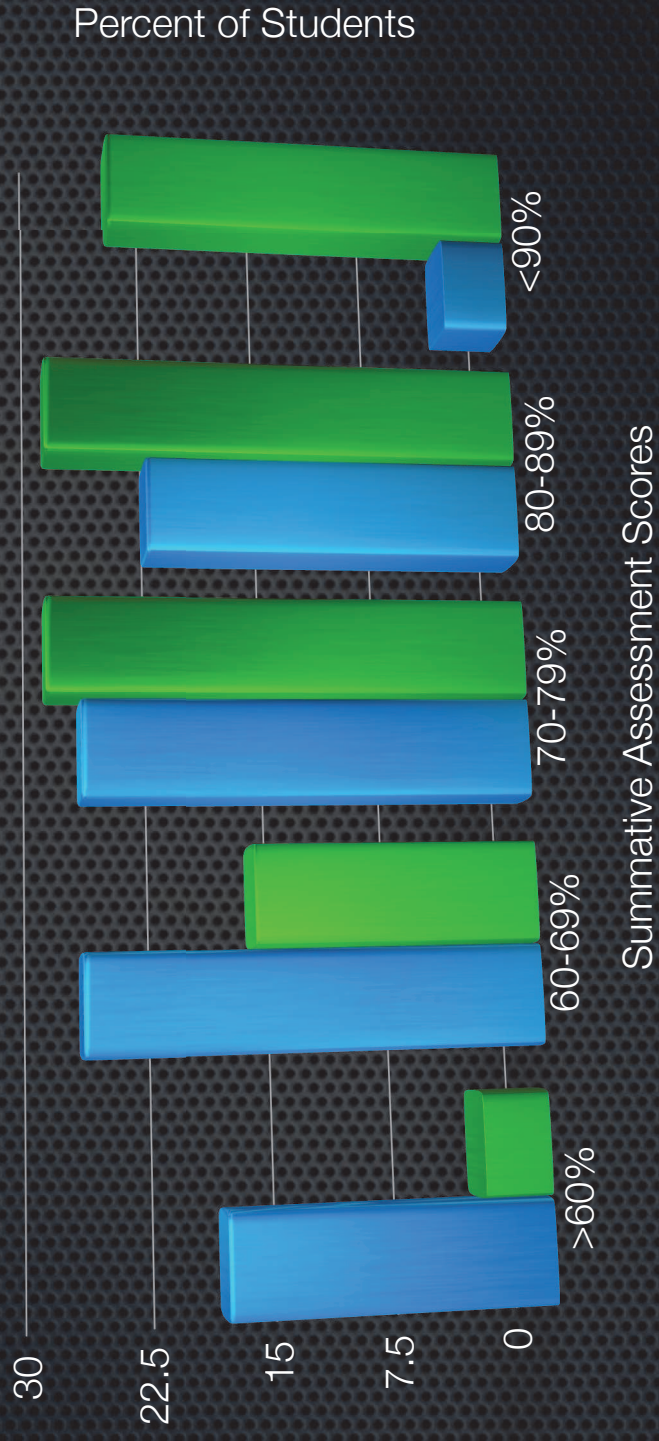
# Comparing Classes

iPad classes showed more improvement between pre-test and post test assessments.



# Comparing Classes

Students performed better on the Final.



Non-iPad Classes

iPad Classes



# STUDENT 2

*“I LIKE READING WITH THE IPODS, I DON’T  
FEEL SO DUMB”*

WWPM 170-193

Miscue 7-4



# All Students



**\$50K & R D**

# Innovation

Tags: 2011-12 elementary facetime ipad literacy literature +

Edited Jun 18, 2012 3:57 PM by Joseph Morelock..

## Jacque Fitch & Kelly Turcotte: FaceTime & literature via iPads in elementary school

Email Kelly Turcotte [turcottk@canby.k12.or.us](mailto:turcottk@canby.k12.or.us), and Jacqueline Fitch: [fitchj@canby.k12.or.us](mailto:fitchj@canby.k12.or.us)

Download a PDF of our presentation:



We have thoroughly enjoyed this tech grant experiment with our students. We've learned that no matter the place (across town, across the state, or across the country) the students LOVE working via FaceTime. Regardless of the task, they just love that they are out there in cyberspace. We were able to find a great way to work together on several projects. The students met 1-2 times a week with each other and developed friendships.

We learned that allowing the students time to explore on FaceTime was incredibly important. Just like anyone who sees themselves on camera for the first time, the students had to get the awkwardness out. Giggling at themselves, covering the camera with their fingers, zooming in and out, flashing signs, you name it, they needed to do it. As teachers, we found ourselves giddy the first time we FaceTimed together. Our students certainly needed that. That first meeting between the classes had one purpose, find out your new partners' names. They spent 15 minutes getting to that point. The second meeting they had to find out some things about each other and begin to focus in learning something. Finally, they were comfortable enough to begin work.

The first week of discussions was disastrous! Groups were off task, giving short, uninteresting answers. We were pretty dissatisfied with the outcome. We brainstormed how to improve this and came up with a fishbowl activity in our own rooms. We picked kids and rehearsed what the group should look like and what an interesting conversation would sound like: no one raising their hands, taking turns to talk, exploring the topic while staying on topic, and making sure everyone was participating. The fishbowl went well and we immediately began to see improvements in the way the groups were working. By the final meetings, the groups were well-oiled machines. They were giving us feedback on each others' performance. They were completely self-managing! It was awesome!

Now as we anticipate expanding this experiment across the country, and even the world, we are eager for the experience our students will have! Again, they'll need time to get the giggles out, but we're sure that like everything else that is new in our technology rich rooms, this soon will be old hat. We are looking forward to collaborating with teachers we've met from Texas, Utah, New Mexico, South Dakota, Nova Scotia and Singapore. The possibilities and opportunities for our students are endless.



Comments

# Innovation Recipe

1

Allow & expect failure

2

Open the learning network

3

Give time for teachers to work it out

4

Provide support when necessary

5

Make innovation sustainable



# KHANACADEMY

Browse our library of over 3,000 educational videos...

- Math
- Science
- Humanities & Other
- Test Prep
- Talks and Interviews

[View standard site](#)

# Distribution



$$3 * 3 * (2 + 5)$$

See how we're matching up with every part of the sum? Drag the slider across to distribute.

Back

Show Me



Explain

Practice



# Bibliion

THE BOUNDLESS LIBRARY

RECENTLY VIEWED

The Electric Kitchen

By Elizabeth Ram

Mad Science

A Photo Gallery

New York Haute

Cuisine

By Amy Azzarito

CHECK THESE OUT

A Monument to a King  
and a Nation

By Bogdan Horbal

War and the Czech  
Pavilion

A Story

"New York is  
Calling..."

A Photo Gallery

THE WORLD OF TOMORROW  
EXPLORING THE 1939-40 WORLD'S FAIR COLLECTION

An NYPL Digital Publication





Mr. Fleck

Latest Posts

- Direct
- By Students
- Assignments

more

Groups [Join or Create](#)

- 20 Ways to use Edmodo
- Canby Innovation Grant
- CSD Tech Tribe
- Elementary iPod/iPad Classroom
- Group1
- iREAD
- Lectores

Lectura

- Secondary iPod/iPad Classroom

Show Fewer

Lectura

Post:

type your note here...

Filter posts by

- Note
- Alert
- Assignment
- Quiz
- Poll

Lectura

Public Page

Grades

Withdraw

Show Notifications

**Benjamin B. to Lectura**

Mi monstros color es verde.

Oct 7, 2011 | [Reply](#) | [Tag](#) | [More](#)

**Brookelynn T. to Lectura**

Mi monstrro colio es morado y el nombre es mader la color de su ojos es negro tiene pelo el color es blond

Oct 7, 2011 | [Reply](#) | [Tag](#) | [More](#)

**Yaire P. to Lectura**

El mio se aver con una cabezota y hojitos chiquito

Oct 7, 2011 | [Reply](#) | [Tag](#) | [More](#)

**Benjamin B. - Me gustis.**

Oct 7, 2011

**Jair V. - chichiquilote y baila mucho**

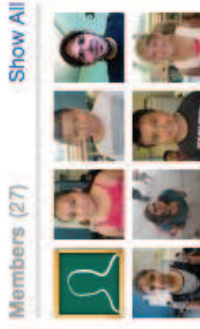
Oct 7, 2011

Type a reply...

**Enrique M. to Lectura**

Mi mostro se va a ver muj grantee.

Members (27)



Show All

**LATEST:** Third victim of Ohio school shooting dies, hospital officials say, hours after a second is declared brain dead

TOP STORIES



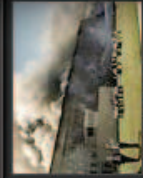
**Sarkozy orders new genocide law**



**Romney faces key test in Michigan**



**Syria toll passes 7,500, UN says**



**9/11 remains 'went to landfill'**

US & CANADA



**Briton Tappin appears in US court**



**Obama creates US trade task force**



**US denies Mexico drug war failure**



**Obama welcomes partial pipeline**

TECHNOLOGY



**Apple iPad 3 expected within days**



**Google 'fails EU privacy rules'**

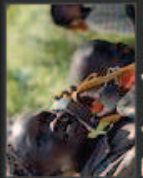


**New teacher computer skills call**



**Police detain Anonymous suspects**

FEATURES & ANALYSIS



**The joy of shortwave**



**How jeans conquered the world**



**Waking up to the war in Balochistan**



**A first glimpse inside Fukushima**

Page last updated at 08:51 CST, Tuesday, 28 February 2012

# New teacher computer skills call

The UK needs a new "infrastructure" to support the teaching of computing in schools, the chancellor has been told.



Next Gen Skills is an alliance of groups who want UK schools to teach world class computing skills

Leading education and industry groups have signed a letter asking George Osborne to fund new computer training for teachers.

Next Gen Skills, which organised the call, said teachers would need support ahead of possible curriculum changes.

The government is consulting on a new flexible curriculum more focused on computer science and programming.

Ahead of this year's budget on 21 March, the letter asks the chancellor: "To support the development of a new computer science and information and communications technology teaching infrastructure... so the UK can truly take advantage of the curriculum reforms proposed in January this year by the secretary of state for education."

Backers of the letter include UKIE - representing the UK games industry, NIME, the trade body of the UK non-mainstream industries, and

**Your trip begins at BBC.com/travel**

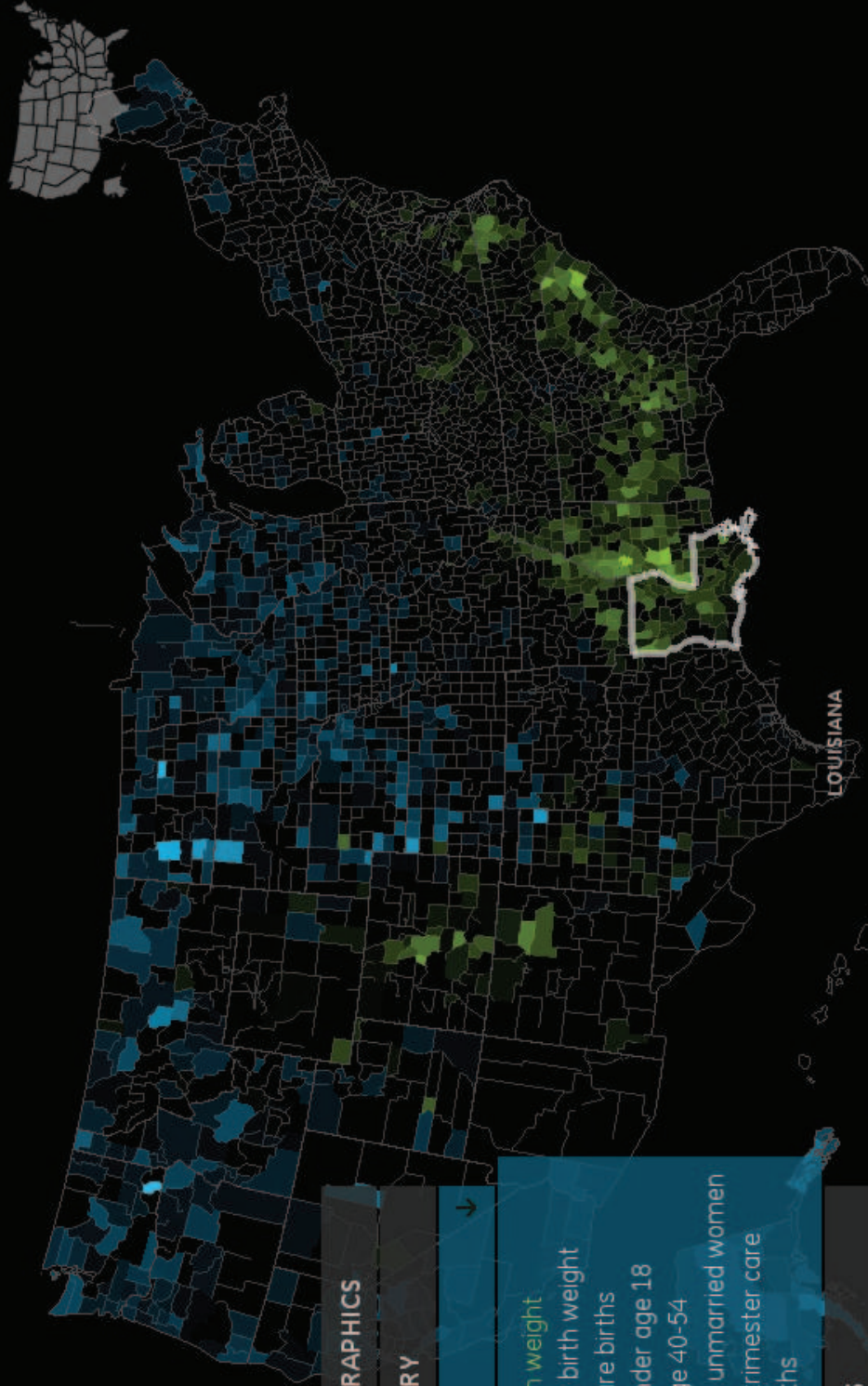
— START YOUR JOURNEY HERE —





# Stats of the Union

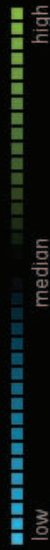
→ SNAPSHOT ? ABOUT



- DEMOGRAPHICS
- SUMMARY
- BIRTHS**
  - Low birth weight
  - Very low birth weight
  - Premature births
  - Births under age 18
  - Births age 40-54
  - Births to unmarried women
  - No first trimester care
  - Total births
- DEATHS
- AT-RISK GROUPS
- DISEASES
- RISK FACTORS

## Low birth weight

Birth weight of less than 2500 g



### HISTORY



**Published:**  
**1999**

## SECTION 1

# Pocahontas

## Section Questions

1. Why might historical accounts of events change over time, even if from the same author?



*Id malesuada lectus. Suspendisse potenti. Etiam fus. Id malesuada lectus. Suspendisse potenti.*

In April 1607, colonists from the Virginia Company of London landed in Virginia. They would formally establish the Jamestown Colony there the following year. Among the men was John Smith, a seasoned 27-year old adventurer. Smith became one of the leaders of the colony, but in December 2007 he was captured by a party of soldiers.

con•tro•ver•sy | 'käntrə, vɜrsē |

noun (pl. **controversies**)

disagreement, typically when prolonged, public, and heated: *he sometimes caused controversy because of his forceful views* | *the announcement ended a protracted controversy.*

ORIGIN late Middle English: from Latin

**controversia**, from **controversus** 'turned against, disputed,' from **contro-** (variant of **contra-** 'against') + **versus**, past participle of **vertere** 'to turn.'

Search Web

Search Wikipedia

The story has become a significant part of American lore, but there is controversy among historians about whether the events actually happened

Library



CS 05-499/899: Developing iPad Applications for Visualization and Insight

All

14

POSTS

ASSIGNMENTS

Lecture 1: Introductions 1

Lecture 2: Objective-C 2

Lecture 3: InfoViz with Map... 1

Lecture 4: Protocols, Deleg... 2

Lecture 5: Visualizing Conv... 1

Lecture 6: MapKit (and Zom... 2

Lecture 7: Info Seeking / Ta... 1

Lecture 8: Persistence and... 2

Lecture 9: Twitter Framewo... 1

Lecture 10: Custom Views... 1

Lecture 1: Introductions

Lecture 1: Introduction

An introduction to data visualization and iOS development.

1/27/12

Lecture 1 Video

Lecture 1 Slides

Reading: iOS Overview

Reading: Creating Your First iOS App

Lecture 2: Objective-C

Lecture 2: Objective-C

An introductory discussion of the Objective-C programming language.

1/27/12

Lecture 2 Video

Lecture 2 Slides

Reading: Object Oriented Refresher

Reading: Learning Objective-C

Reading: The Objective-C Programming Language

Reading: Xcode Unit Testing Guide

**“Never memorize  
what you can look  
up in books.”**



*Albert Einstein, Really smart guy*

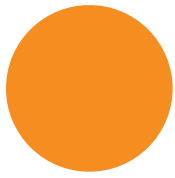
# Critical thinking skills

**What would happen** if the capital of Oregon moved from Salem to Portland?

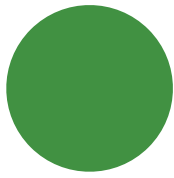




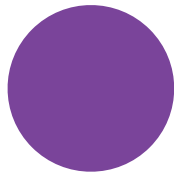




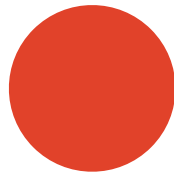
Information fluency



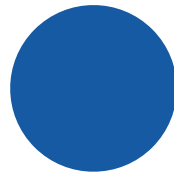
Solution fluency



Creativity fluency



Collaboration fluency



Media fluency



# Final Considerations

14%

**Of what?**

st/

1

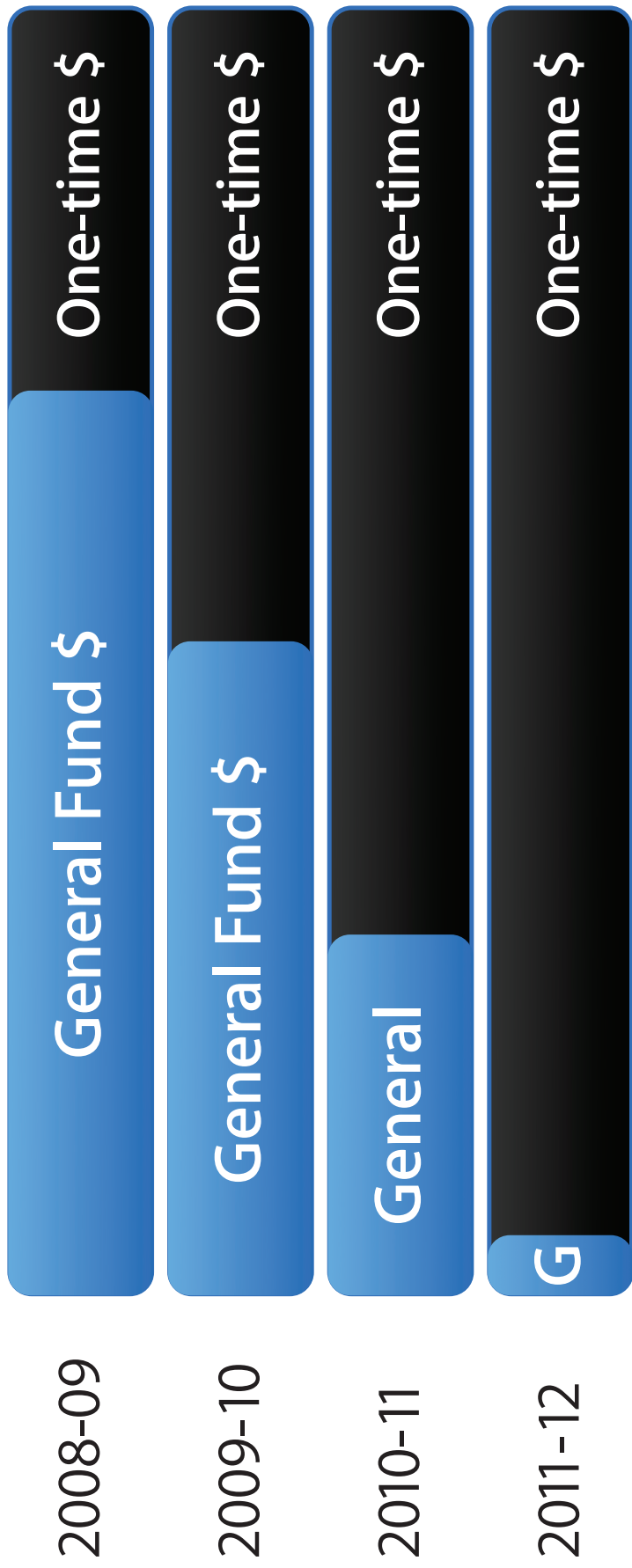
2

**Century.**



**Now what?**

# Technology Funding



# Priorities



Running water



Books



Technology





**Policy**



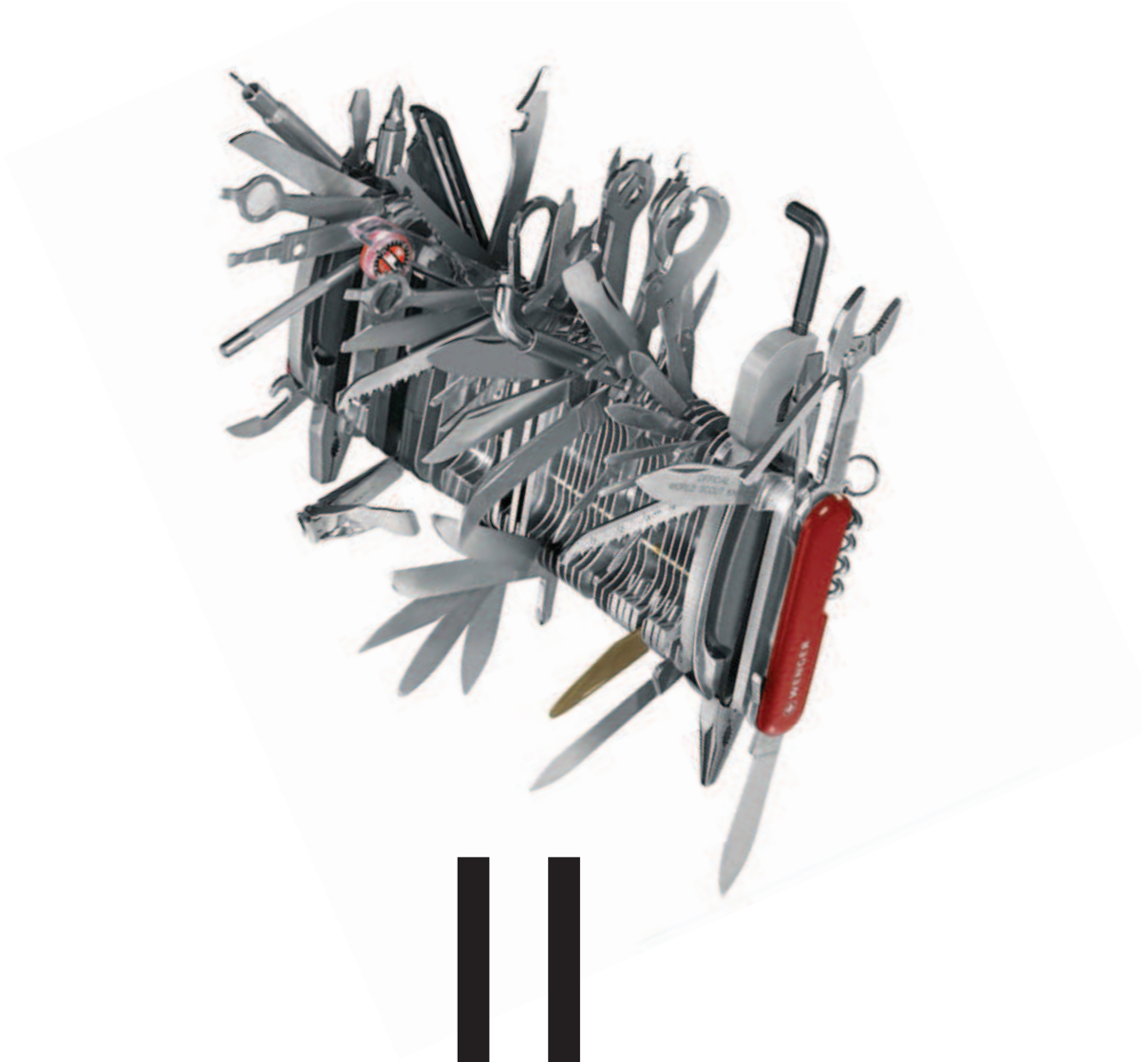
**Remember:**



**Remember:**



**=**



**“It's easy to come up with new ideas; the hard part is letting go of what worked for you two years ago, but will soon be out of date.”**

- Roger von Oech, *Creative Think*



2008-09



**Learning first**

**Invest in teachers**

**Tools & Infrastructure**

**"As for the future, your task is not to foresee it, but to enable it."**

- Antoine de Saint Exupéry, *Author, The Little Prince*



## **Links for technology in the classroom**

**All Innovation Grant presentations (including last year's):**

**[wiki.canby.k12.or.us/groups/innovation](http://wiki.canby.k12.or.us/groups/innovation)**

**Deployment processes for iPods & iPads:**

**[wiki.canby.k12.or.us/groups/ipodusergroup](http://wiki.canby.k12.or.us/groups/ipodusergroup)**

**Contact:**

**Joe Morelock, Director of Technology & Innovation**

**[morelocj@canby.k12.or.us](mailto:morelocj@canby.k12.or.us)**