

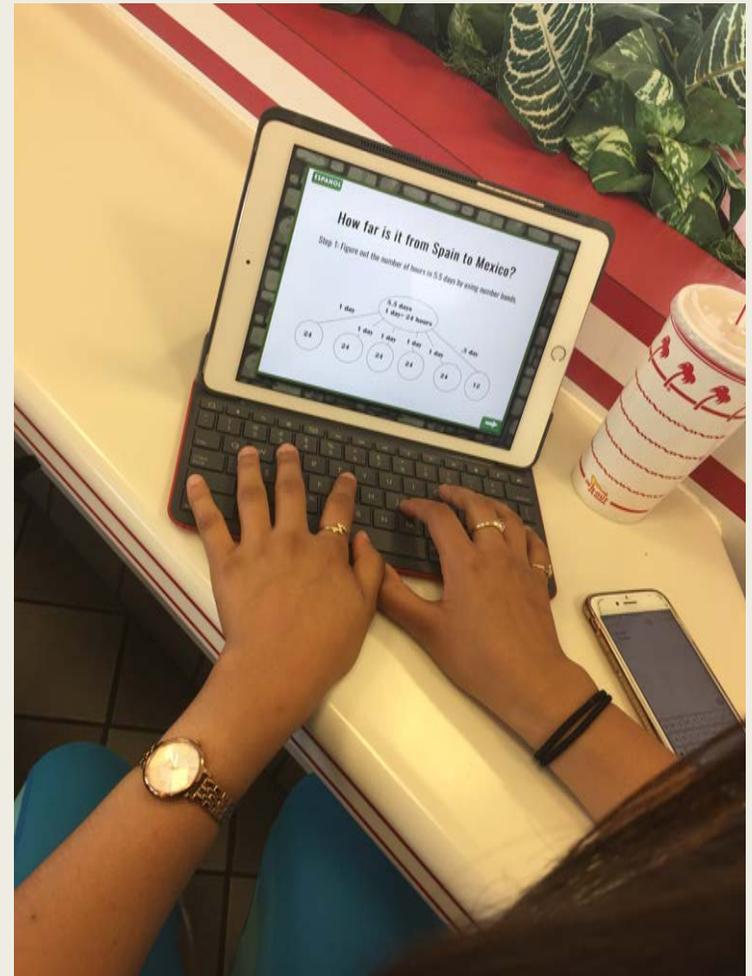
# HELPING YOUTH TO BECOME PRODUCERS (NOT CONSUMERS) OF TECHNOLOGY

ANNMARIA DE MARS, PH.D.  
7 GENERATION GAMES

What percent of youth play video games?



What percent of youth want to make video games as a career?



# Never Alone



“We paired world class game makers with Alaska Native storytellers and elders to create a game”

“...the game was developed inclusively with the development team and Alaska Native people working hand-in-hand ”

# WHY CAN'T THE DEVELOPMENT TEAM BE NATIVE?

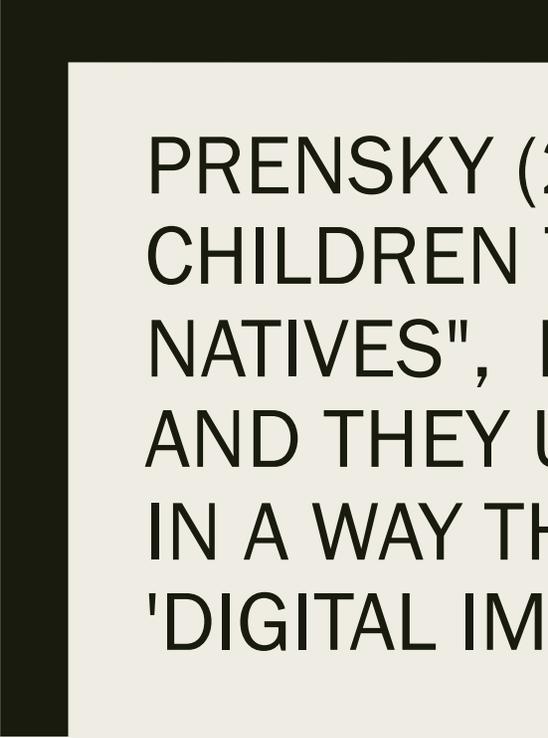


## More questions ...

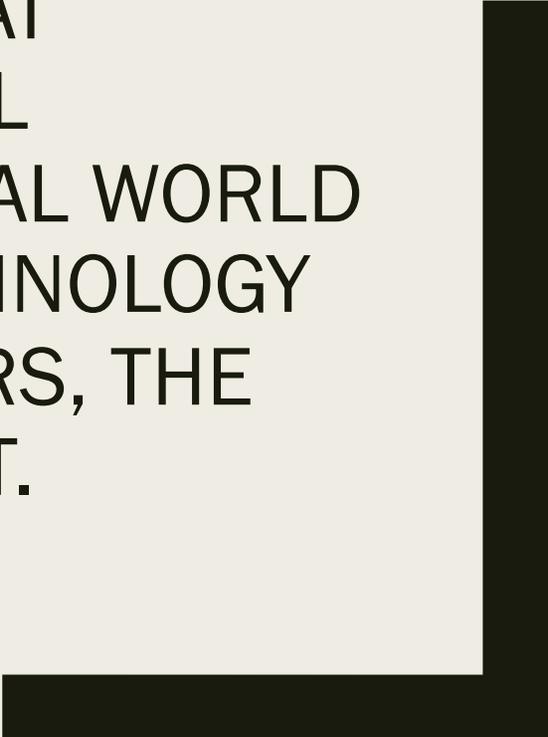
- How much do you think your students know about technology?
- Do you think they know more than you?
- Do you think your own children or grandchildren are more knowledgeable about technology than you?
- Why do you think that? What are your reasons?

# Digital Natives? (Not these guys!)





PRENSKY (2001) ARGUED THAT CHILDREN TODAY ARE "DIGITAL NATIVES", BORN INTO A DIGITAL WORLD AND THEY UNDERSTAND TECHNOLOGY IN A WAY THAT THEIR TEACHERS, THE 'DIGITAL IMMIGRANTS' DO NOT.

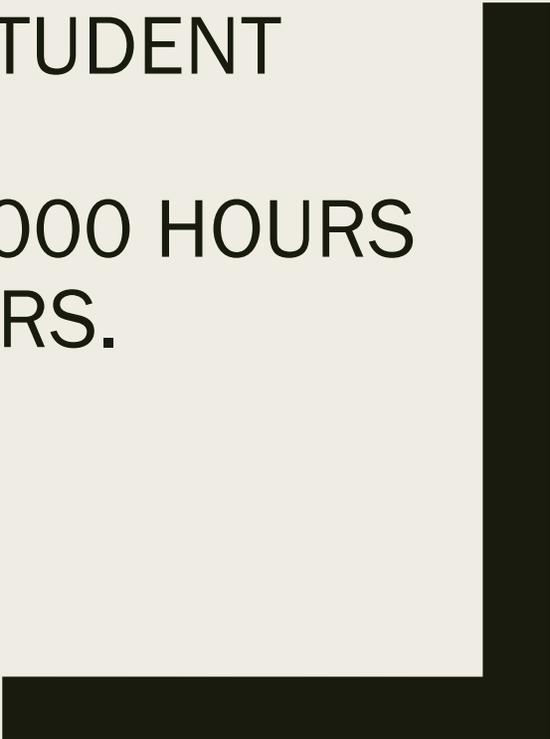


# My points

1. “Digital natives” is a load of garbage. Posting how wasted you got last night on Facebook and designing the replacement for Facebook are a world apart
2. Low-income children in general, and Latino, Native American and African-American children particularly are more likely to be consumers of technology than producers
3. How we CAN change that in our classrooms.



## THE AVERAGE HIGH SCHOOL STUDENT

- \* READ < 5,000 HOURS
  - \* PLAYED VIDEO GAMES >10,000 HOURS
  - \* WATCHED TV > 20,000 HOURS.
- 

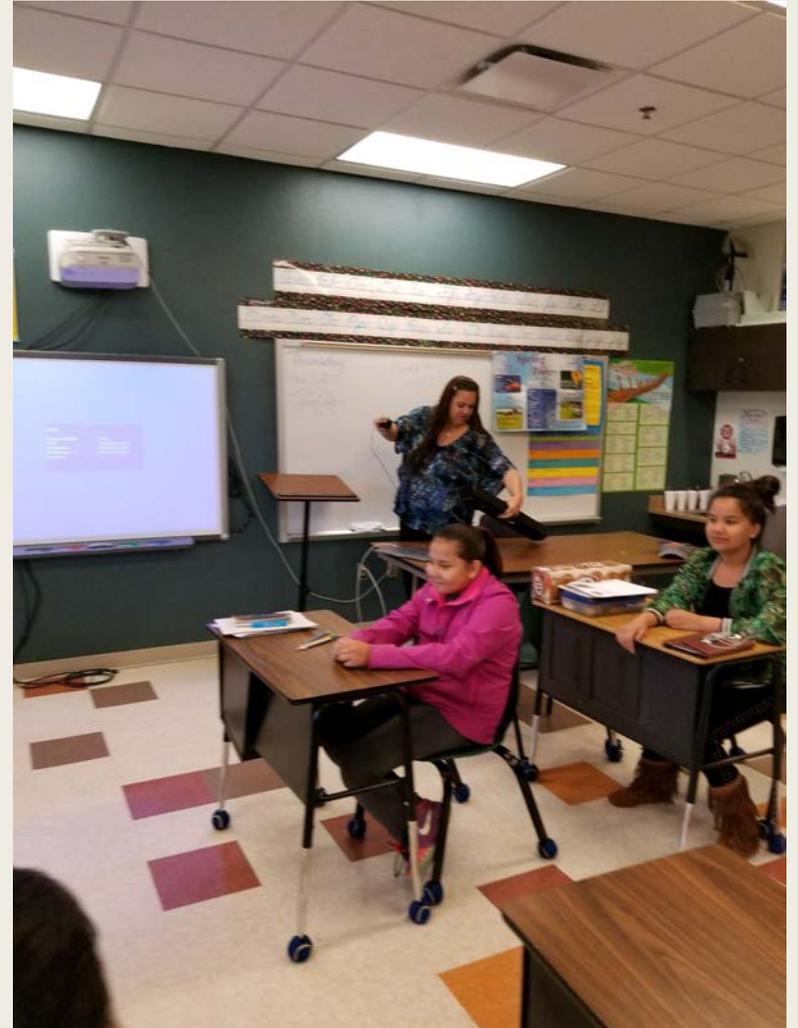
Why aren't more youth interested in CAREERS in technology?



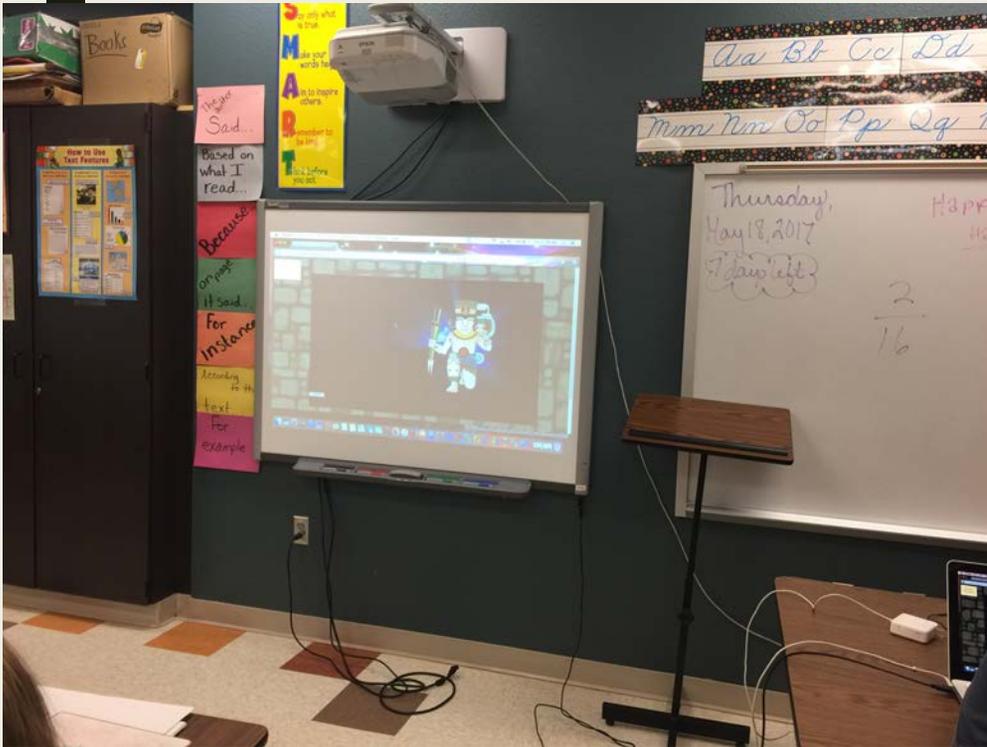
Youth aren't as familiar  
with technology as you  
might think



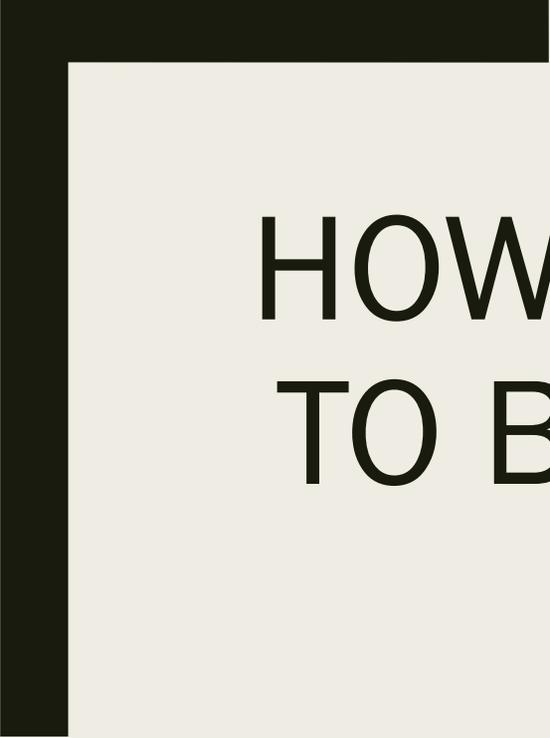
# Digital immigrants vs digital natives?



# Why I care (and you should, too)



- Stereotypes older people
- Stereotypes teachers
- Misses students' needs



# HOW TO GET YOUTH TO BE PRODUCERS

NOT CONSUMERS



# GRADE 6 PROJECT



# Integrate subjects

- Math – play games
- Social studies – play games with historical story line
- Computer proficiency – games on computer (we'll get back to this)
- Language arts – writing professional letters
- Computer proficiency – create presentation
- Language arts – present to company

# Language Arts activity

1. Students draft letter following guidelines for professional correspondence
2. Students revise and edit letter either with teacher assistance or in peer groups
3. Mail/ email / deliver letters to company
4. Students receive written response from design or development team

# Computer / Language Arts

- Student groups create PowerPoint or Google Slides presentation
- Present to development or design team via Skype
- Present to development/ design team in person (yes, I'm the old lady)

# Computer proficiency for a 9-year-old?

- Keyboarding skills
- Basic navigation; scrolling, arrow keys, dragging and dropping
- Use non-character keys such as control, for functions
- Use computer-based aids to solve math problems, such as models, graphing and calculators.

## Why make life more difficult for children?!

- Practice for standardized exams taken on line
- Level the playing field – give students the same computer skills and practice more affluent students have
- With practice, less anxiety taking similar tests

# Keyboarding/typing skills

```
function playAudio(scene) {  
  
    $('#audio1').attr('data-src', "../sounds/quiz5_" + scene + "_eng.mp3");  
    audio_e.src = $('#audio1').attr('data-src');  
    $('#audio1').attr('data-src', "../sounds/quiz5_" + scene + "_sp.mp3");  
    audio_s.src = $('#audio1').attr('data-src');  
  
    if ($("#scenetext_s").hasClass("noshow")) {  
        audio_e.play();  
    }  
    else {  
        audio_s.play();  
    }  
}
```

# The result: Fish Lake



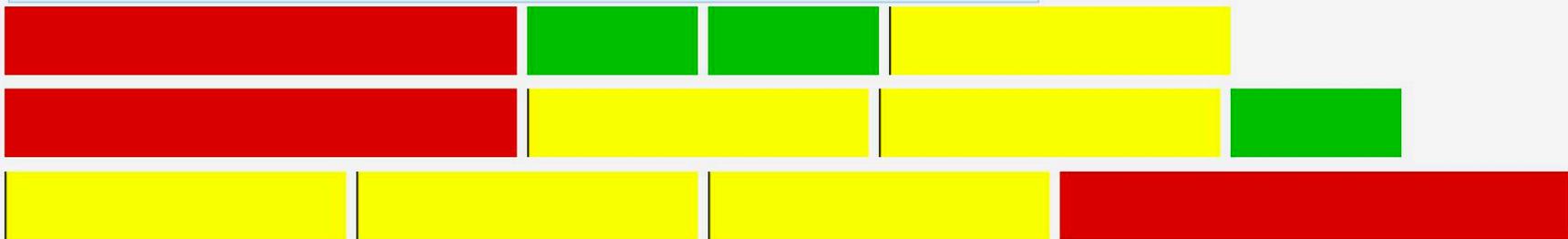
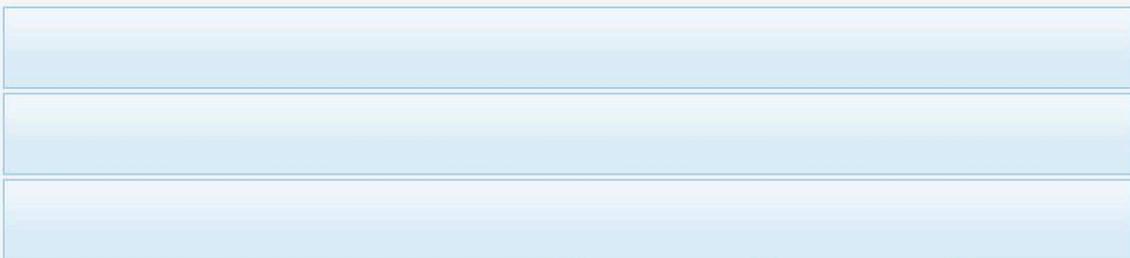
## Sixth-grader suggestions in the game

- Canoeing game activity
- Ribbon shirt activity to teach fractions
- Cooking stew activity to teach fractions
- Hunting deer activity
- Fishing activity

Suggestions were  
reviewed by teachers  
and tribal elders



Amaris' mother is making a ribbon shirt. She wants all the ribbons to be one foot long. The black ribbon is one foot long. The red ribbons are half as long. The yellow ribbons are one-third as long. The green ribbons are one-sixth as long. Drag ribbons in the space below to sew them together.



## Fifth-grade activity

Students in Trinidad played games designed and developed with students from Turtle Mountain



# Fifth-grade lesson plan

- Social studies and math – Play Fish Lake
- Language arts - write an outline of suggestions for new or improved game
- Add a sentence or two under each point in your outline
- Work in groups to have other students read your paper

## GENRE

Make a first-person shooting game. It does not have to be a war game.

## GAME DESIGN

The game would be educational, with calculations of angle and power percentages. Add the feature that players can use a game controller to play as well as the keyboard controls. As players level up, they could be shooting in different places or different scenes within the same location. With higher scores, players could upgrade their weapons and accessories.

## CUSTOMIZATION

Players should be able to select harder or easier levels. They should be allowed to select among different weapons they want to use and different people that they can play as their character.

## More typical papers

Have a fast car game like Fast and Furious, using the iPhone or iPad to race. Your games should have zombies, also air craft. You should be able to earn money and points. \* You should have hunting people.

- (we have added that in Aztech and Making Camp)

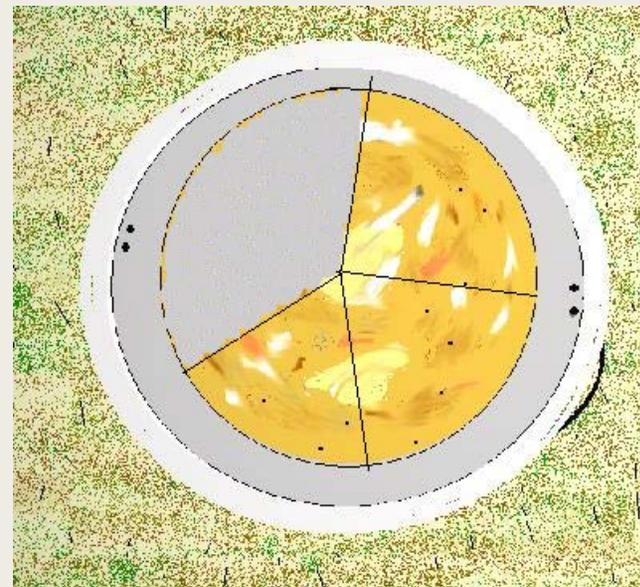
## More suggestions

I think instead of being in the forest, it should have the hunters on the ice. The hunters should hunt for fish and multiply the family's amount by four.

A cooking game. You should measure the ingredients, put it into a bowl and cook it. You could use fractions.

Cooking activity – How much stew?

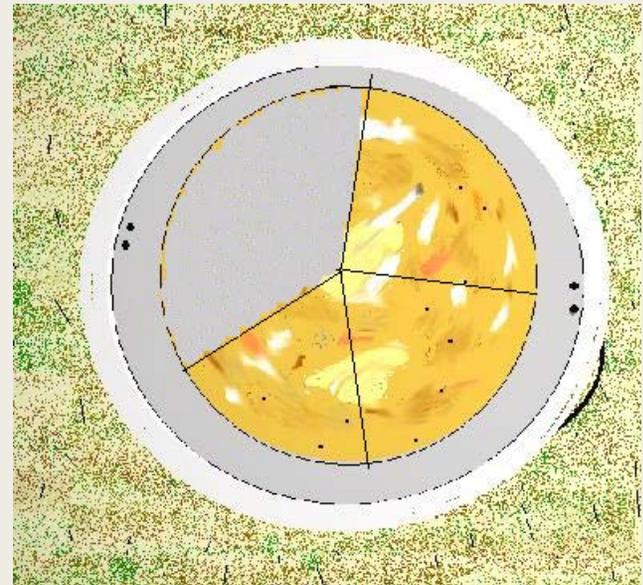
Equivalent fractions



# Cooking activity – How much stew?

## Equivalent fractions

If two boys eat  $\frac{2}{5}$  of a bowl of stew, how much stew will you need if you are having 15 visitors?



# What works

- Having real assignments – someone is going to read this letter / paper besides your teacher. It has a purpose.
- Attention. To set up an activity you can have people from the design and development team come into your classroom in person or via Skype, Google Hangout or call in on speaker phone
- Response. (More attention) This can be an email reply, coming into the classroom, posting the better papers on a company blog or even reading the best papers and suggestions in a youtube video.

# What Works

- Getting involved in beta testing – see other people's first drafts
- Internships!
- Having the basic skills to get those internships – REAL computer proficiency

# What teachers have used

- Powerpoint
- Skype
- Word
- Google Hangout
- Email

# What teachers haven't used (but I wish they would)

- Photoshop/ Gimp
- Illustrator
- Google docs/ Google drive
- iMovie / Final Cut/
- Garageband / Audacity

# What makes the MOST difference

1. YOU, repeatedly telling a student he /she can be a producer
2. Giving the child from the beginning the tools to do it.