



# “Counting” on the Community- a Video Problem of the Day Project

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# How do we make mathematics relevant for our students?

- We give them problems that have a real-world context, but...
- How much experience do our students have with real-world problems?
- Do they even know how math is used in everyday life?

# A Student's Perspective

How would your students respond to this question:  
How do these people use math in their everyday  
lives?



# From an adult's perspective...

**Go to** <https://padlet.com/robinhiatt/nctm>

**or scan**



# What about more familiar jobs?



# Common Core Connection

## MP4, Model with Mathematics

“Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose” (CCSS, 2010).

# What does research say?

Students do not readily transfer classroom knowledge of mathematics to real world situations.

(Boaler, 1993; Stocker, 2006; Ryan et al., 2007)

# What has been tried so far?

- Tasks have been modified by adding an artificial “real-world” context.
- These problems include contrived and irrelevant situations to problems that adults face (Palm, 2008).
- These types of problems have little relevance to students’ lives and generally do not transfer over to solving similar type problems.



# Example problems

- Mike went to sticker station. He bought 28 animal stickers. How many more does he need to have 100 animal stickers? (3<sup>rd</sup> grade Investigations).
- Johnny weighs 97.356 pounds. Read and write this number using base-ten numerals, number names, and expanded form.
- 4 friends want to share 3 loaves of bread. How much of a whole loaf does each person get? (5th grade Envisions math)

# Example problems

- Uncle Ben has 440 chickens on his farm. 39 are roosters and the rest are hens. 15 of his hens do not lay eggs. The rest lay eggs. How many egg-laying hens does Uncle Ben have on his farm?
- If a beaver weighs over 55 lbs, about how many beavers weigh the same as a 155lb adult? (4th grade Envision math)

# What do students think?

- Many students do not believe that the mathematics used in school, and the mathematics used in the real world, are consistent. “When am I ever going to use this?”
- They tend to approach school mathematics in a superficial, procedural way, rather than through reasoning (Palm, 2008)

# Student Beliefs

- Math problems have only one solution
- Problems include all relevant information
- Easily solvable

# What's the “problem”?

- Lack of real world experience (Palm, 2008).
- They do not know the types of problems that adults solve, or the context within which they solve them.

How can teachers help students understand how math is used in the real world?

Show them! Video

Do your own Video Problem of the Day!

# How it worked

- Problems were recorded, then loaded onto a Google Site that was linked to our school web page.
- New problems were announced during morning announcements.
- Teachers could access the videos at any time during the day.
- Selected students recorded their solutions using Doceri®

## What did students say?

“You don’t just add up numbers. The Eiffel Tower problem used meters. She didn’t just say you add numbers. She told a story.”

“It was fun because you get to see what it was like to be in other people’s jobs.”

“It’s pretty cool because other people get to make up their own math problems. It’s a great way to show problem solving.”



# Second Grade Student Attitudes Towards Math

Average Student Response

<b>Category</b>	<b>Pre- assessment</b>	<b>Post- Assessment</b>	<b>Change</b>
Importance	4.2	4.6	0.4
Usefulness	3.6	4.3	0.7

Values were based on a scoring system from 1 to 5, going from very negative (1) to very positive (5), and 3 being neutral. Values above 3 were considered positive.

## What did administration say?

“The Good Morning Powhatan Initiative has been a wonderful addition to our school. It has opened doors to the community and allowed business leaders to become a part of our instructional program.”

Sharon Johnson, Principal

# How can you implement your own VPOD?

- Tell your teachers, PTA and community all about it!
- Send out a form letter
- Enlist help from your Chamber of Commerce
- Set up video booth during open house and PTA meetings
- Encourage students to make the videos themselves

# Technology

- Google site
- Youtube
- Doceri, Showme, Educreations apps
- Ipads or mini ipads
- Grant

# Resources

- **Boaler J. (1993). Encouraging the transfer of "school" mathematics to the 'real world' through the integration of process and content, context and culture. *Educational Studies in Mathematics*, 25 (4), 341-373**
- **National Governors Association Center for Best Practices, C. o. (2010). Common Core State Standards. Retrieved from Common Core State Standards Initiative: <http://www.corestandards.org/>**
- **Palm, T. (2008). Impact of authenticity on sense making in word problem solving. *Educational Studies in Mathematics*, 67 (1), 37 - 58.**
- **Ryan, K. E., Ryan, A. M., Arbuthnot, K., & Samuels, M. (2007). Students' motivation for standardized math exams. *Educational Researcher*, 36 (1), 5 - 13.**
- **Stocker, D. (2006). Re-thinking real-world mathematics. *For the Learning of Mathematics*, 26(2), 29 - 30.**

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# Questions and Comments

