

21st Century Classroom

NDMU ACES Program

Gail Donahue, Ph.D.

gdonahue@ndm.edu

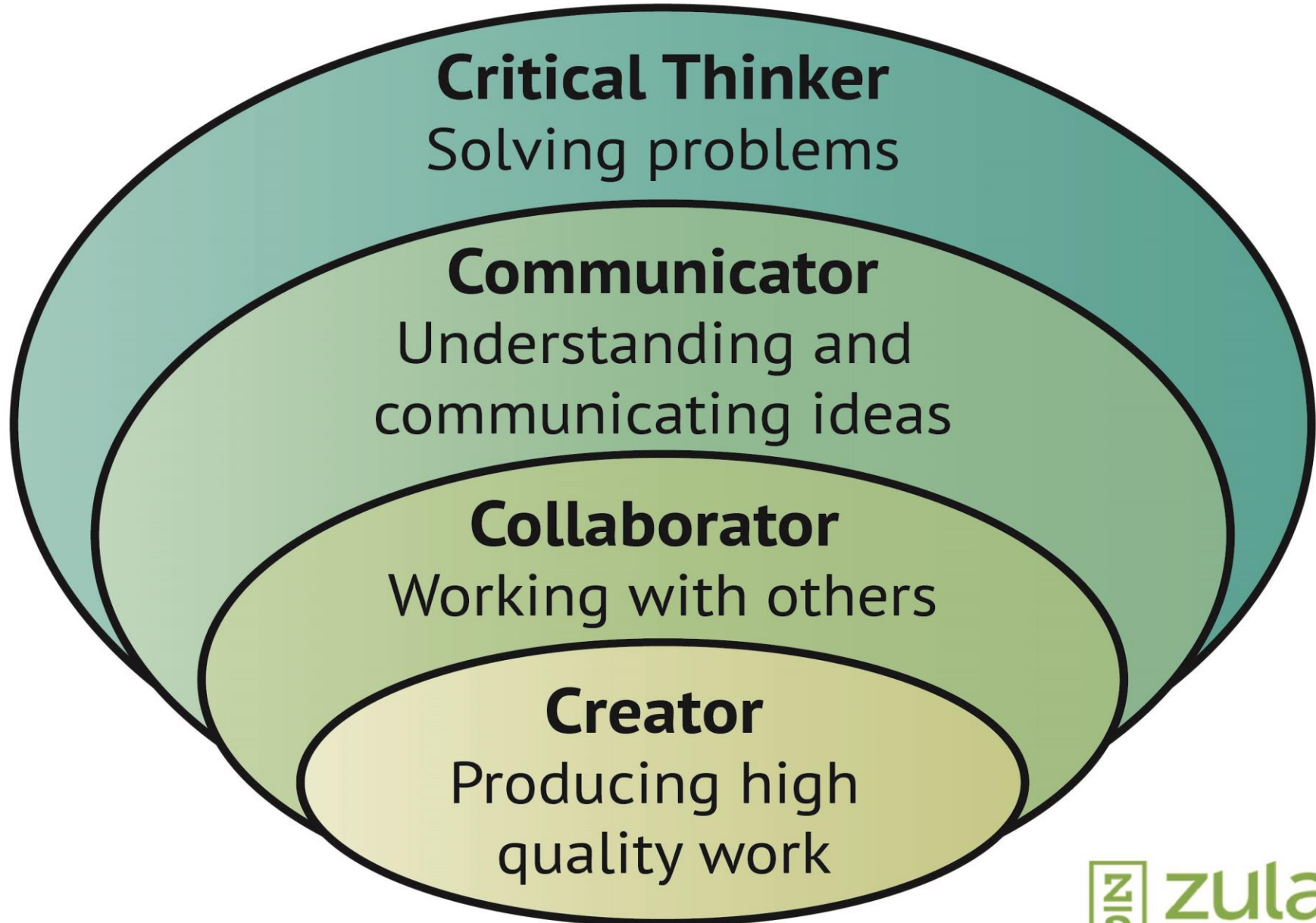
+ Catholic School Standards



7.4 Curriculum and instruction for 21st century learning prepares students to *become* **expert users of technology, able to create, publish, and critique digital products** that reflect their understanding of the content and their technological skills.

7.6 Classroom **instruction is designed to engage and motivate** all students, **addressing the diverse needs and capabilities** of each student, and accommodating students with special needs as fully as possible.

The Four Cs of 21st Century Skills





2028

65%*

*Jim Carroll 2015

+ So...What's the big deal?



We are currently preparing students for jobs that exist

using technologies that haven't been invented

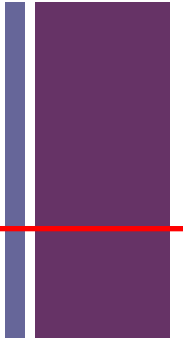
to solve problems that we don't even know are problems yet.

+ In other words...

We must prepare them for **their future** rather than our past.



+ In other words...



What is the capital of Maryland?

Why was Annapolis a good choice for the capital of Maryland?

If Maryland was to move the capital in 2017 what city or location would be a good choice?

+

A New Age



18th Century
Agricultural Age
(farmers)



19th Century
Industrial Age
(factory workers)



20th Century
Information Age
(knowledge
workers)

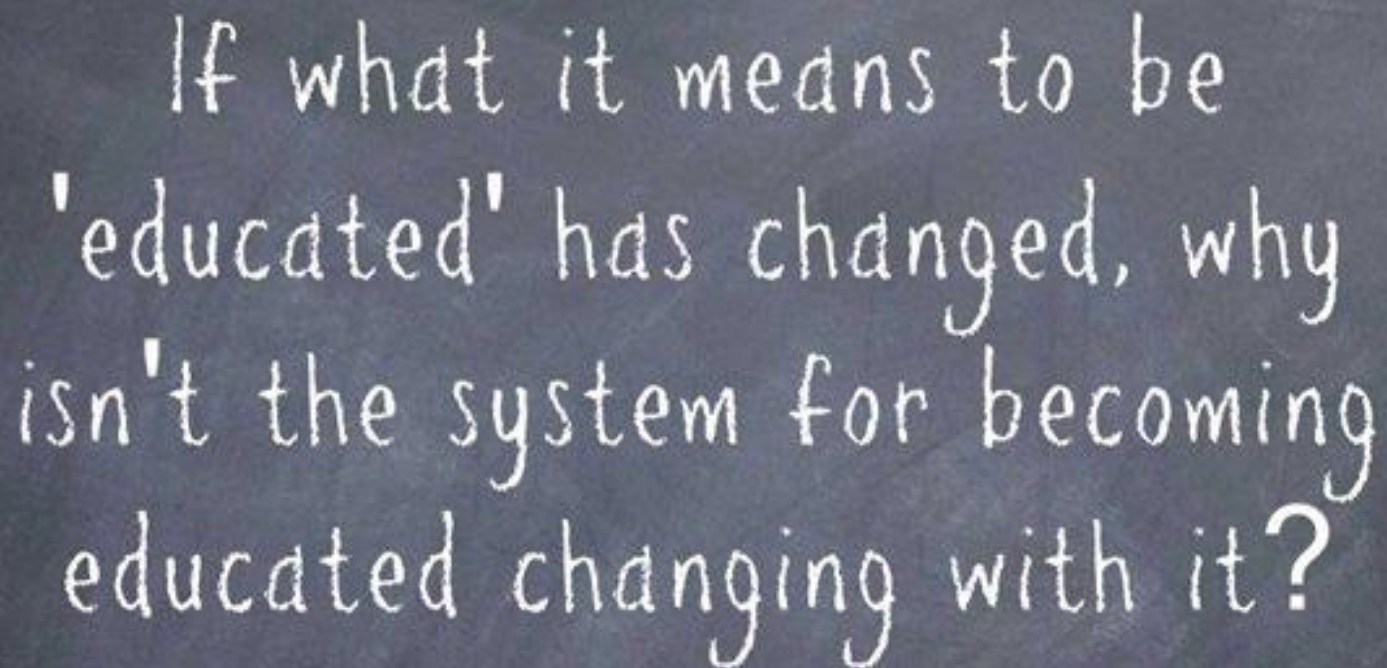
21st Century
Conceptual Age
(creators and empathizers)

Top Workforce Skills 2015 & 2020

In 2015

In 2020





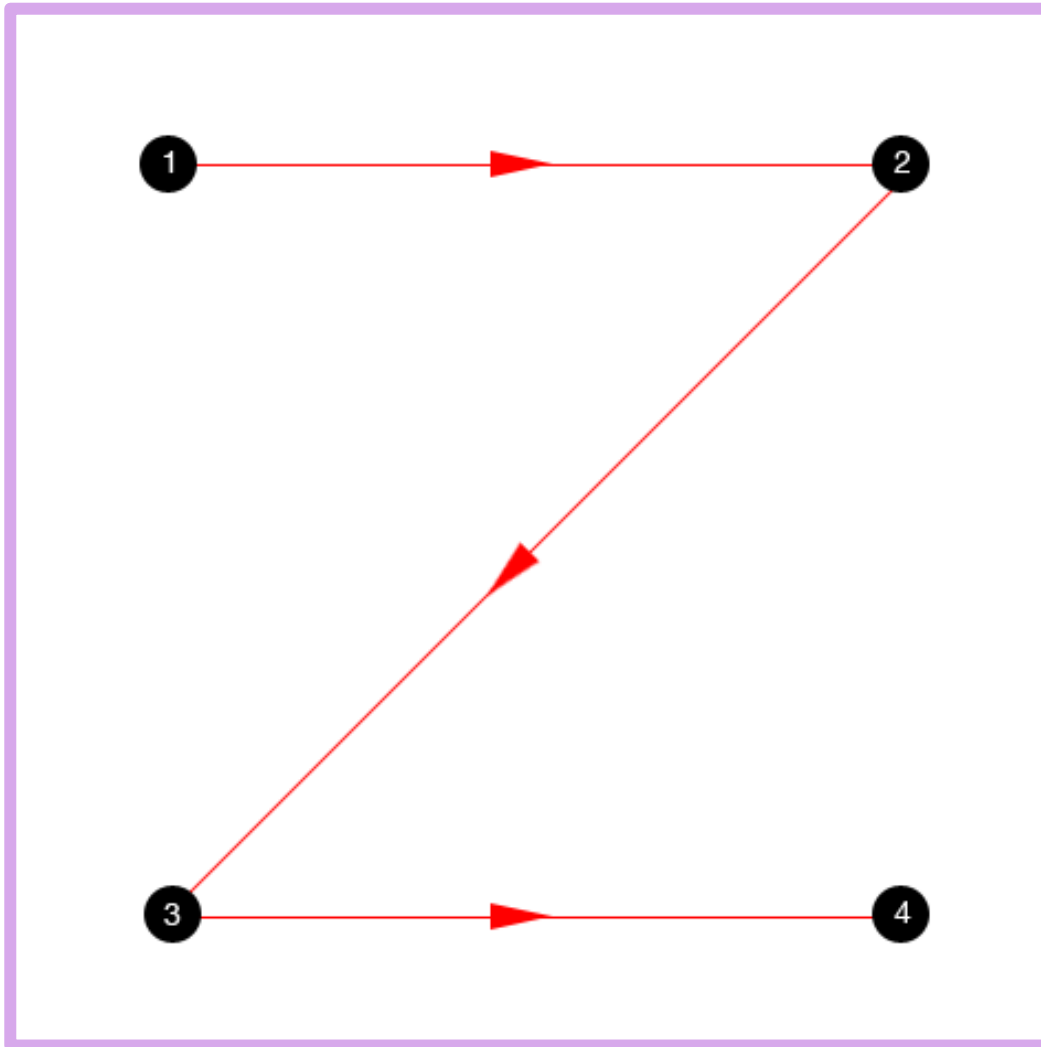
If what it means to be
'educated' has changed, why
isn't the system for becoming
educated changing with it?

+ Brain Research: we are teaching a different brain



+

Adult Reading Pattern



+

Child's Reading Pattern



Uh...hello? Can you hear me now?



Technology is...



...ubiquitous





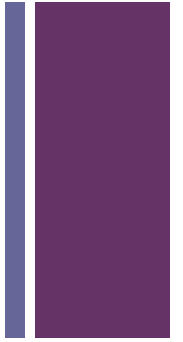
Students have the world at their fingertips.

Teachers are working to create lessons that are compelling – **real, rich, relevant.**



+

21st Century Classroom

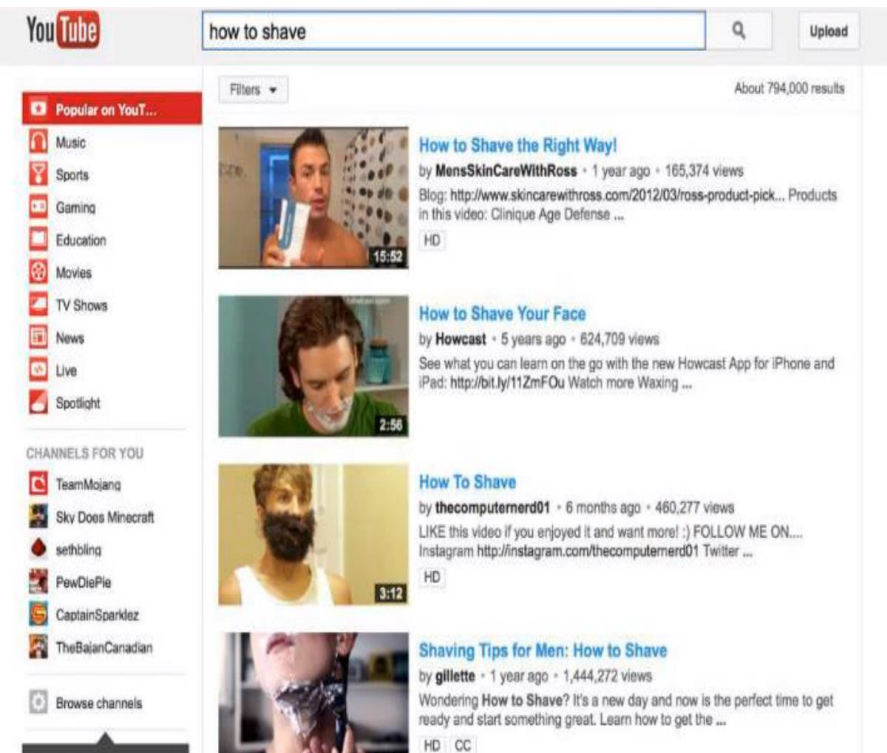


Learners are **engaged and connected** in a collaborative learning process.

The classroom is an **active** place where all students contribute.

How do they learn something new?

In a Google minute...

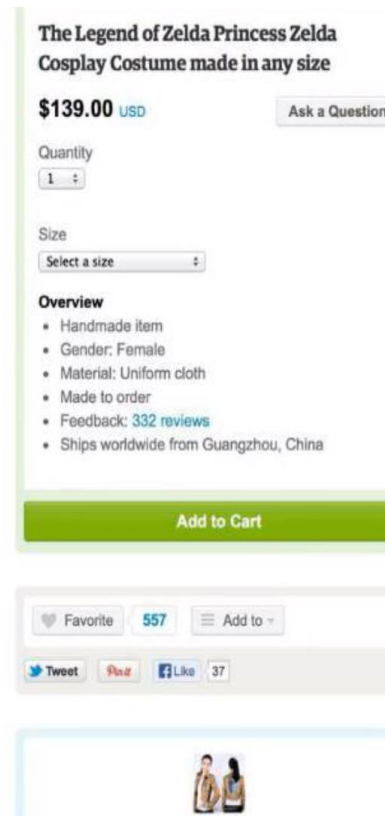


YouTube search results for "how to shave". The search bar shows "how to shave" and "About 794,000 results". The left sidebar lists categories like Music, Sports, Gaming, Education, Movies, TV Shows, News, Live, and Spotlight. The main content area shows three video thumbnails:

- How to Shave the Right Way!** by MensSkinCareWithRoss • 1 year ago • 165,374 views. Blog: <http://www.skincarewithross.com/2012/03/ross-product-pick...> Products in this video: Clinique Age Defense ...
- How to Shave Your Face** by Howcast • 5 years ago • 624,709 views. See what you can learn on the go with the new Howcast App for iPhone and iPad: <http://bit.ly/11ZmFOu> Watch more Waxing ...
- How To Shave** by thecomputermerd01 • 6 months ago • 460,277 views. LIKE this video if you enjoyed it and want more! :) FOLLOW ME ON... Instagram <http://instagram.com/thecomputermerd01> Twitter ...
- Shaving Tips for Men: How to Shave** by gillette • 1 year ago • 1,444,272 views. Wondering **How to Shave**? It's a new day and now is the perfect time to get ready and start something great. Learn how to get the ...



Product page for "The Legend of Zelda Princess Zelda Cosplay Costume". The page features a "Like this item?" section with a "Favorites" button and the text "Add it to your favorites to revisit it later." Below this is a large image of the costume, which is a purple and white dress with gold accents, displayed on a mannequin and next to a 3D model of the character Princess Zelda. The watermark "Redstar Cosplay ©" is visible on the image.



Product details for "The Legend of Zelda Princess Zelda Cosplay Costume". The price is \$139.00 USD. The quantity is set to 1. The size is set to "Select a size". The overview includes:

- Handmade item
- Gender: Female
- Material: Uniform cloth
- Made to order
- Feedback: 332 reviews
- Ships worldwide from Guangzhou, China


There is an "Add to Cart" button and a "Favorite" button with 557 favorites. Social media sharing options for Tweet, Pin, and Like are also visible.

+ Let's Talk Math...

Number Sense is


“...good intuition about numbers and their relationships. It develops gradually as a result of exploring numbers, **visualizing them in a variety of contexts**, and relating them in ways that are not limited by traditional algorithms.”

HOWDEN, 1989



“...students don’t get the opportunity to see math as a growth subject if they mainly work on short, closed questions accompanied by frequent tests that communicate to them that math is all about performance and there is no room for failure.”

Jo Boaler, Ph. D.
Professor of Mathematics
Stanford University



“Mathematicians define their subject as the study of patterns. They say it is an aesthetic, creative, and beautiful subject. Knowledge of mathematical patterns have helped people navigate oceans, chart missions to space, develop technology that powers cellphones and social networks and create new scientific and medical knowledge.”

Jo Boaler, Ph. D.
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How can parents help their children to be successful in math?

Here is some advice adapted and excerpted from information on the youcubed [website](#):

1. Encourage children to play math puzzles and games. ... Puzzles and games – anything with dice, really – will help kids enjoy math, and develop number sense, which is critically important.
2. Always be encouraging and never tell kids they are wrong when they are working on math problems. Instead find the logic in their thinking
3. Never associate math with speed. It is not important to work quickly, and we now know that forcing kids to work quickly on math is the best way to start math anxiety for children, especially girls.
4. Never share with your children the idea that you were bad at math at school or you dislike it – especially if you are a mother. Researchers found that as soon as mothers shared that idea with their daughters, their daughters' achievement went down.
5. Encourage number sense ... having an idea of the size of numbers and being able to separate and combine numbers flexibly
6. Perhaps most important of all – encourage a “growth mindset” – let students know that they have unlimited math potential and that being good at math is all about working hard... use growth praise such as “It is great that you have learned that;” “I really like your thinking about that;” “You have worked really hard to learn that.”



you to our
and Partners
AMtrax
covery
ICATION
S HICKINS
TEPEN
YOTA

Catholic Schools
ARCHDIOCESE OF BALTIMORE

FUEL YOUR
CURIOSITY
2018 EXPO MAP
#SCIFEST

STEM blog at
stlouisparish.org

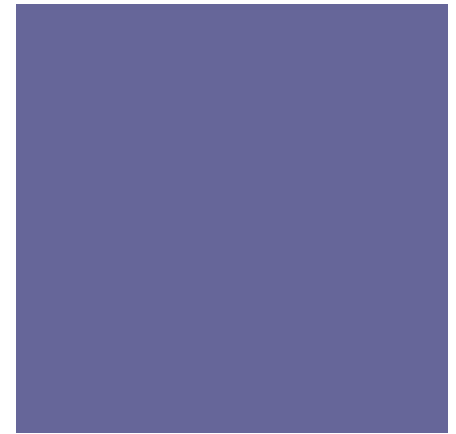
Lifelong Learners
Ethical Digital Citizens
Leaders of Faith

DRAW YOUR
OWN
CODE!

STEM
ST. LOUIS SCHOOL
USARISE
STEM Family Fun Night

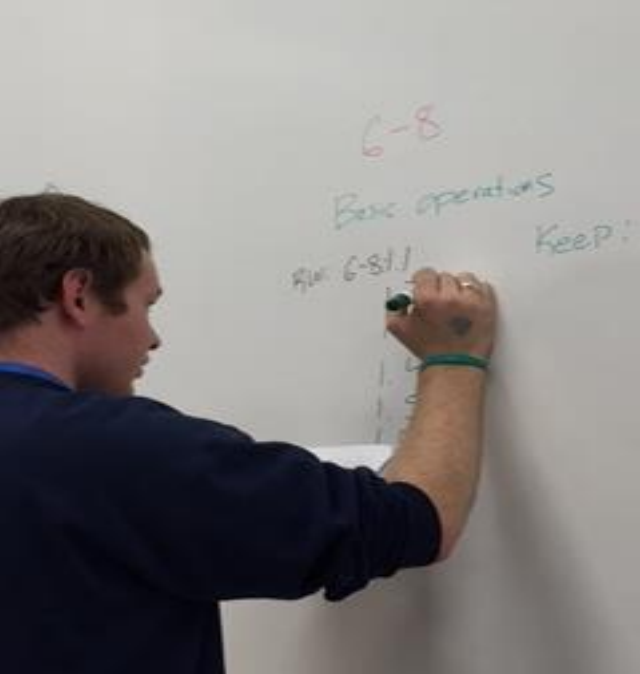






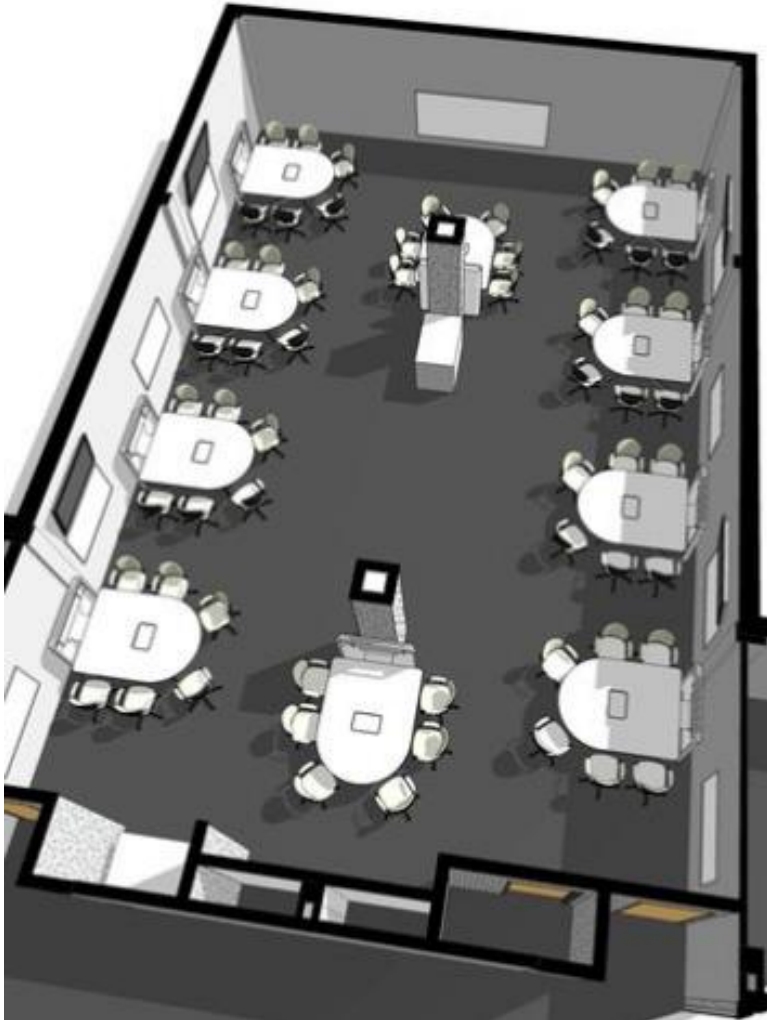
Ozobots

Collaborative spaces at universities





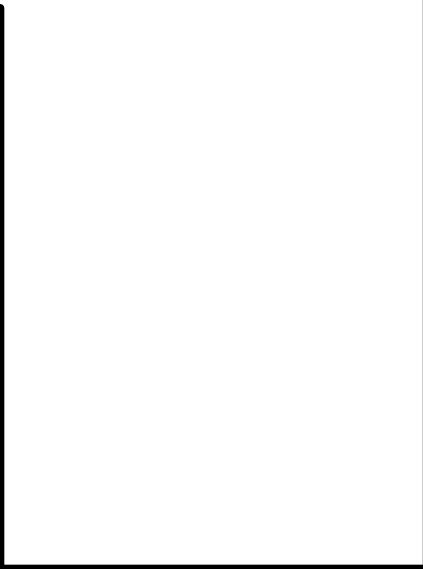


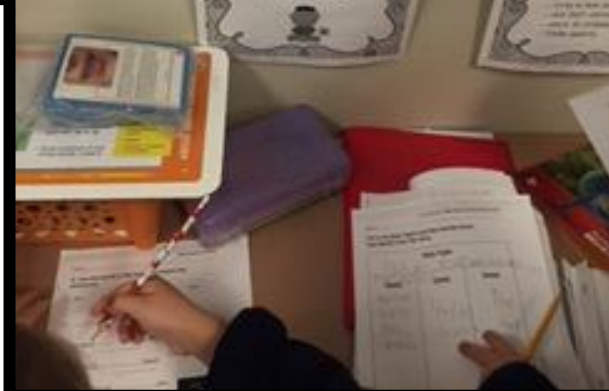
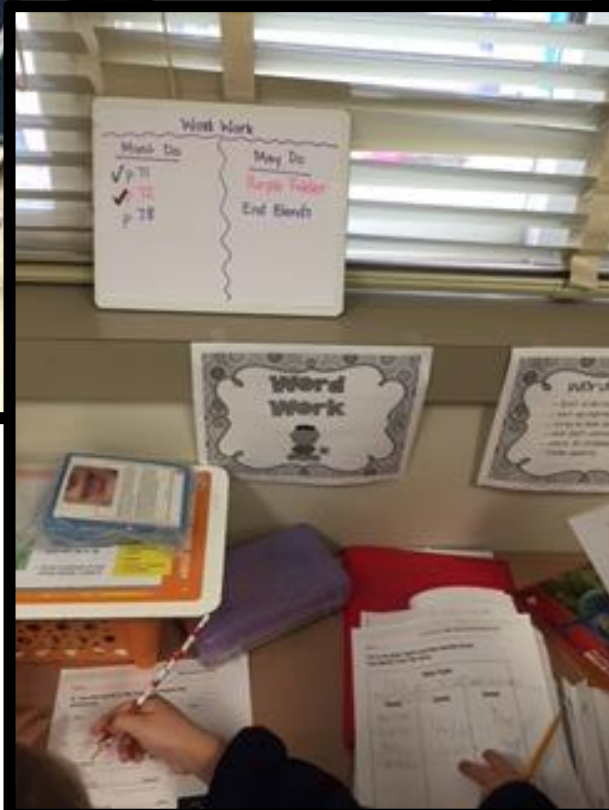
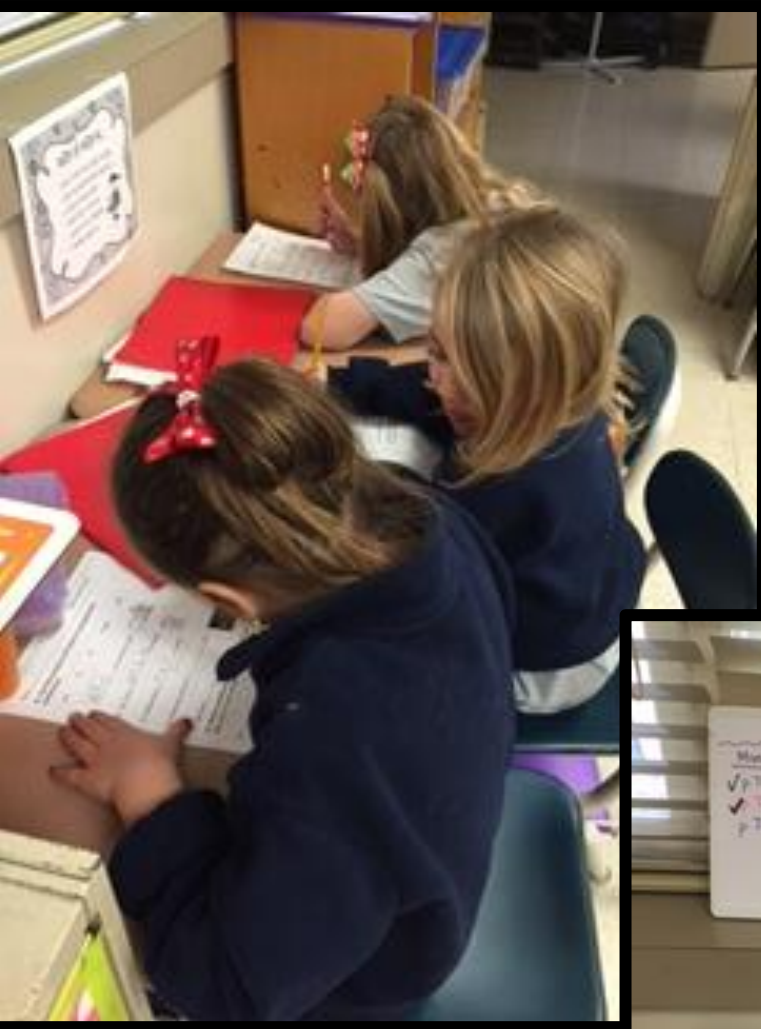


Flexible Seating









516
y
x
y
x
y
x



What is the QR code?



