



**BLDD**  
ARCHITECTS

# HACKING

# THE SCHOOL BUILDING

*An innovator's guide to future-ready learning environments*

BLDD Architects, Inc.  
Charles City Community Schools

think **BIG**  
BUILD  
INNOVATE  
GROW





**WHAT'S  
THAT?!!**

**MAVERICKS** 215

Use name, middle  
name, last  
+ print M025HF  
Student ID#

311-452  
400-452  
311-1052  
400-1052

# TRADITIONAL PLANNING FAILS

## – Visits to new schools

- Shopping for cars
- Bigger better versions of old models

## – Interviews

- Limited value of input
- Lost in translation

## – Charrettes

- Limited time to develop expectations
- Chasm between what users **THINK** they want, and **LEARNING** what they want through experience

# WHO WE ARE



**Dr. Dan Cox**  
Superintendent  
Charles City Schools

**Ryan Rahmiller**  
Charles City Schools

**Amanda Rahmiller**  
Charles City Schools

**SUPERINTENDENT**

**MIDDLE SCHOOL  
TEACHER**

**MIDDLE SCHOOL  
TEACHER**



**Sam Johnson, AIA**  
LEED AP, REFP  
Principal

**Jean Underwood, AIA**  
LEED AP O + M  
Senior Associate

**PK12 DESIGN  
EXPERT**

**PROJECT  
ARCHITECT**

magnetic  
**VISION**

new  
**APPROACH**

freewill of  
**TEACHERS**



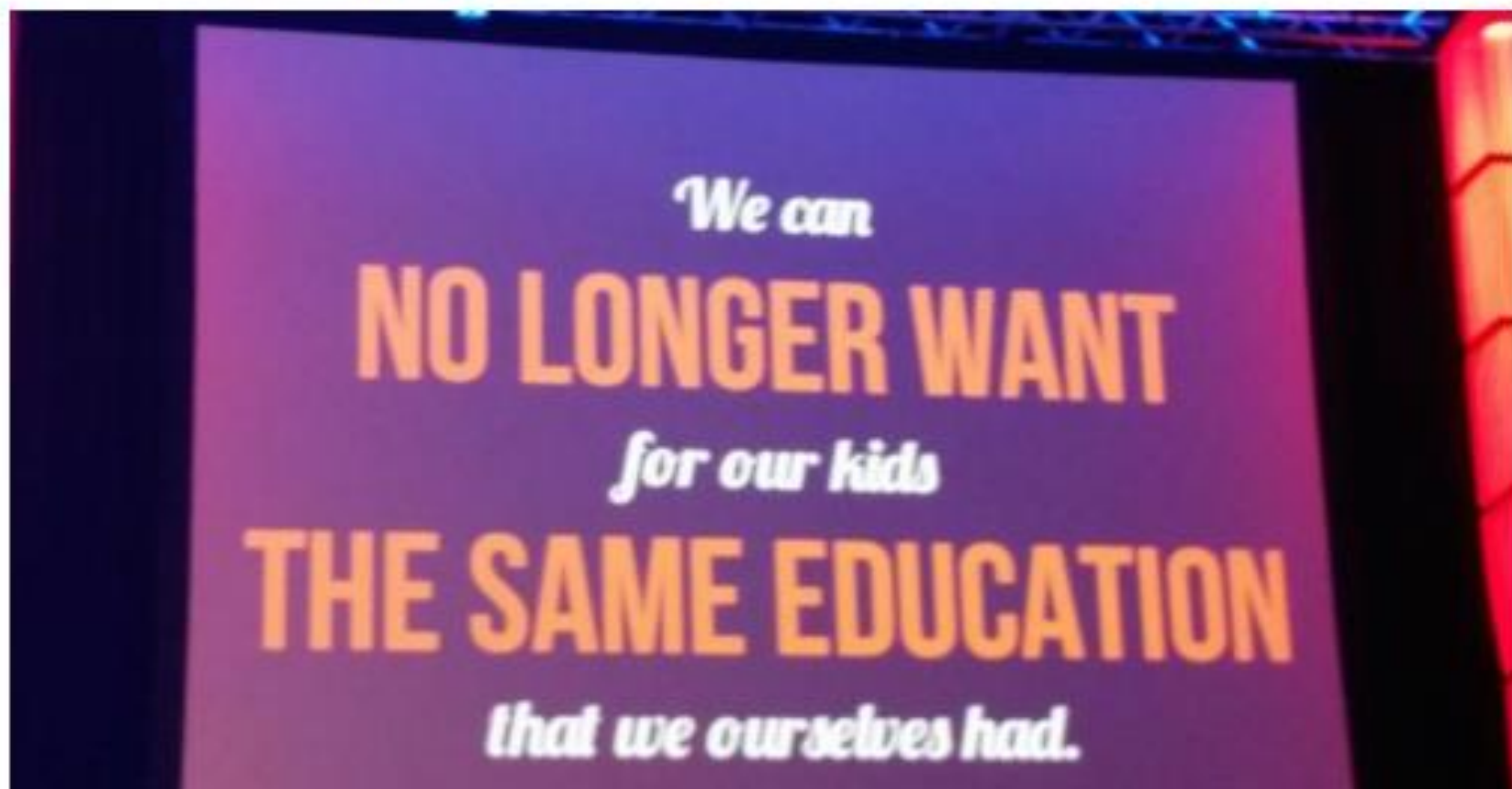
magnetic

**VISION**



**Dr. Dan Cox** @DanCoxPhD · Nov 20

We can no longer want for our kids the same education that we ourselves had. #IASB14







**This captures what I think of regarding 21<sup>st</sup> century schools:**

- **Lots of natural light**
- **Wide corridors that double as learning spaces**
- **Glass walls**
- **Exhibition space**

**Beyond the physical attributes, it's also the focus on the design principles:**

- **Personalization**
- **adult world connection**
- **common intellectual mission**
- **teacher as designer**

**Dr. Dan Cox, Superintendent  
Charles City Community Schools**

# LOBBY

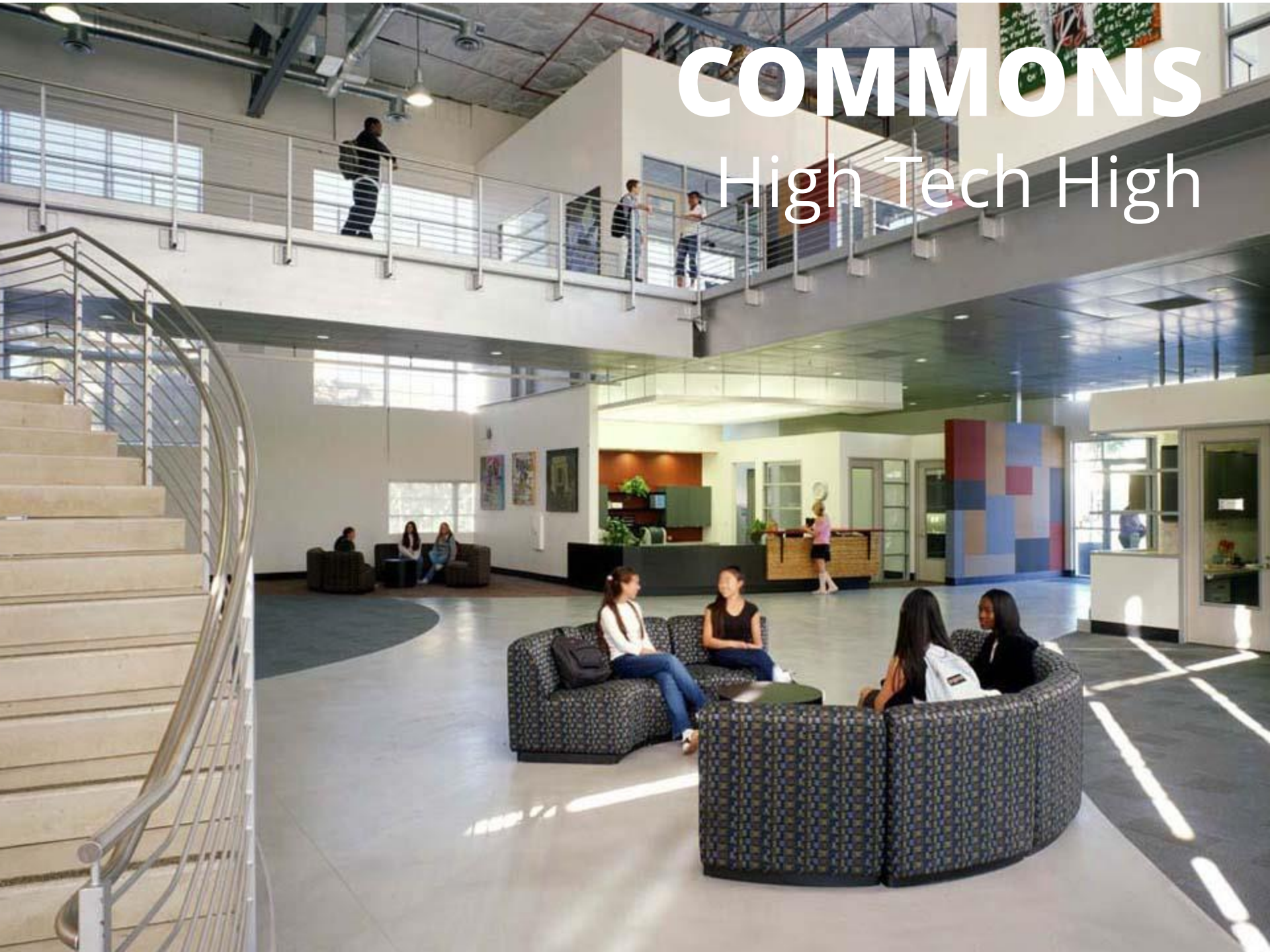
## High Tech High





# COMMONS

## High Tech High

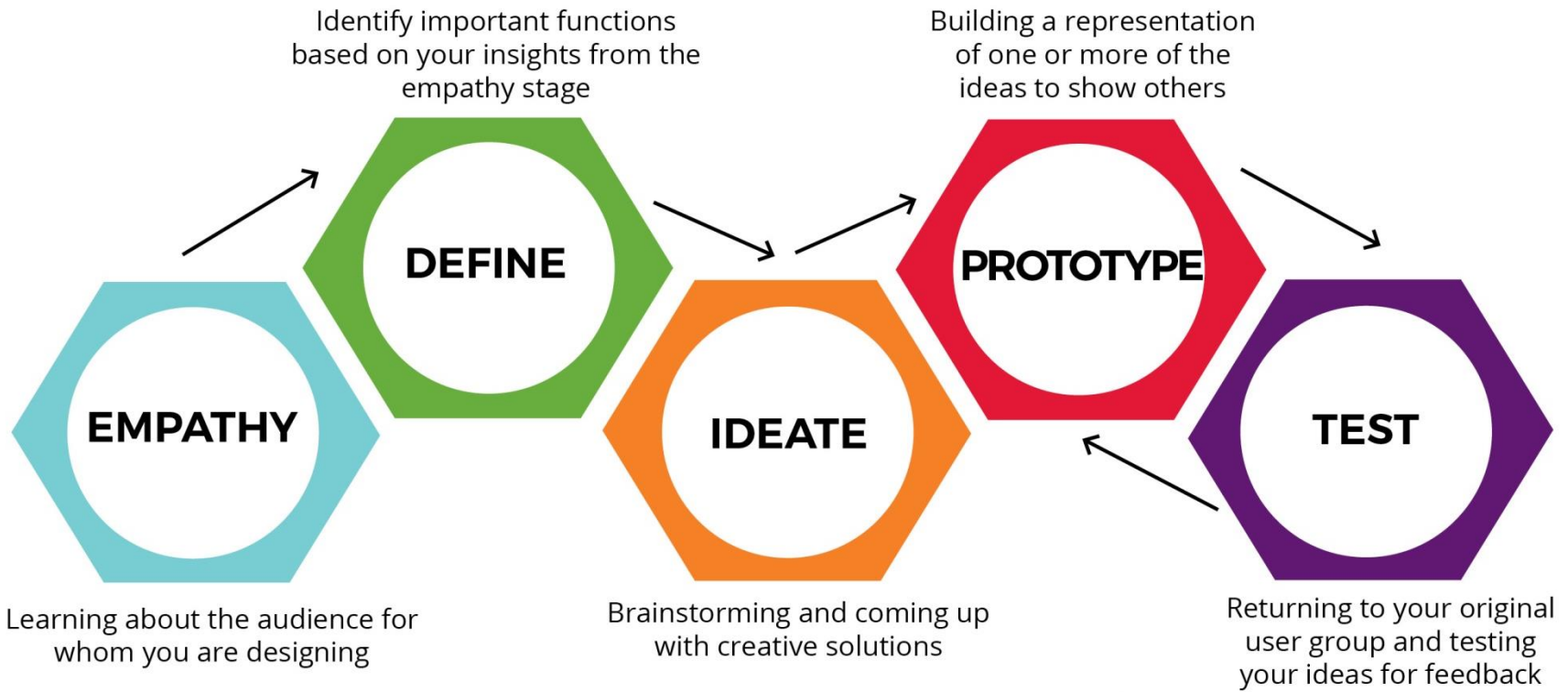


new

**APPROACH**



# DESIGN THINKING PROCESS



think

**BIG**

BUILD  
INNOVATE  
GROW



**VISIONING**

**EDUCATORS**  
as designers

**PROTOTYPING**





**VISIONING**



STAFF ONLY????



EXEMPLAR TOURS





**CO-LECTURERS  
WORKING WITH  
COHORT OF  
STUDENTS**





**HOW DOES  
THAT REALLY  
WORK?**



**DOCENT**



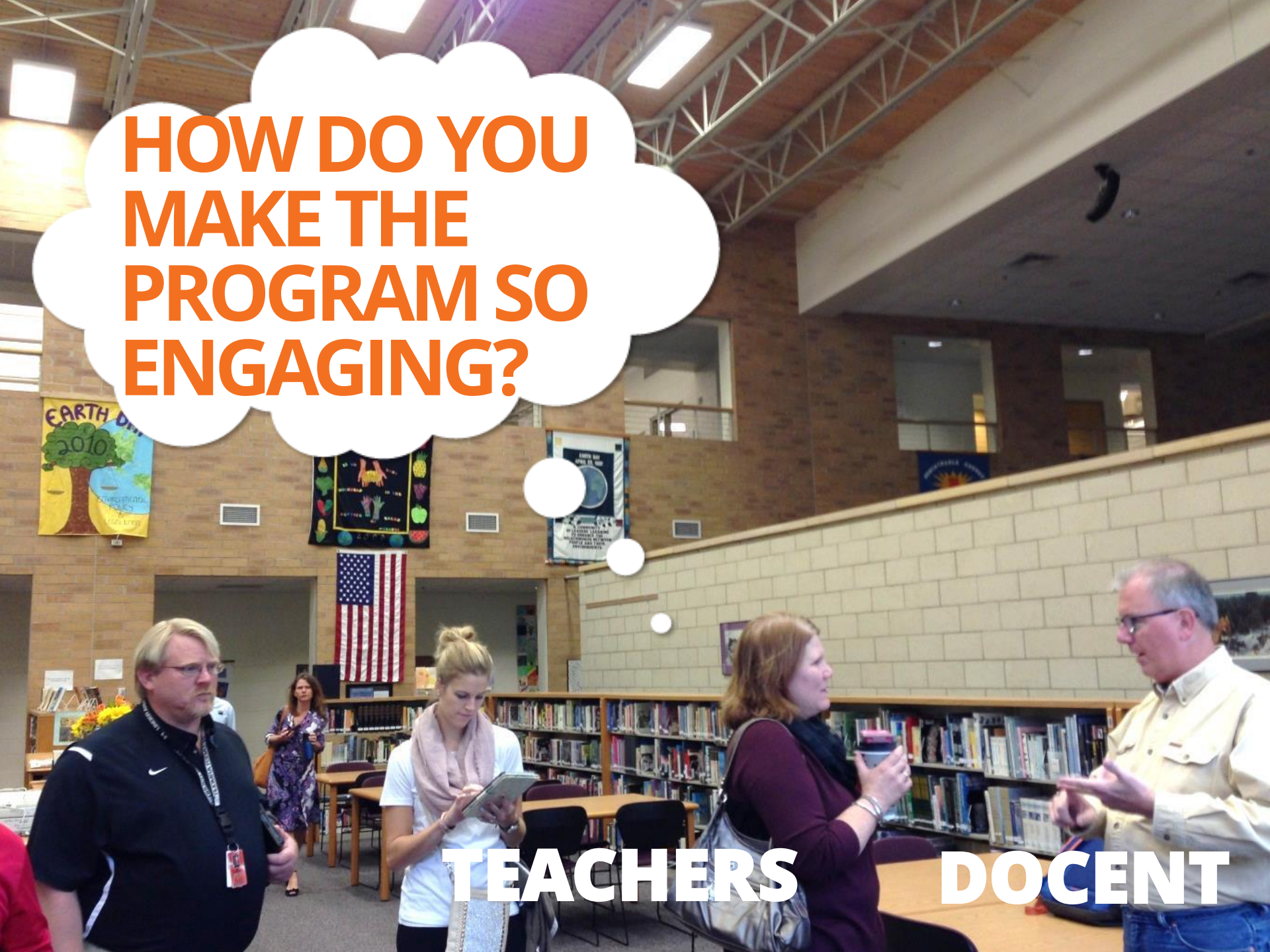
**TEACHER**



**HOW DO YOU  
MAKE THE  
PROGRAM SO  
ENGAGING?**

**TEACHERS**

**DOCENT**



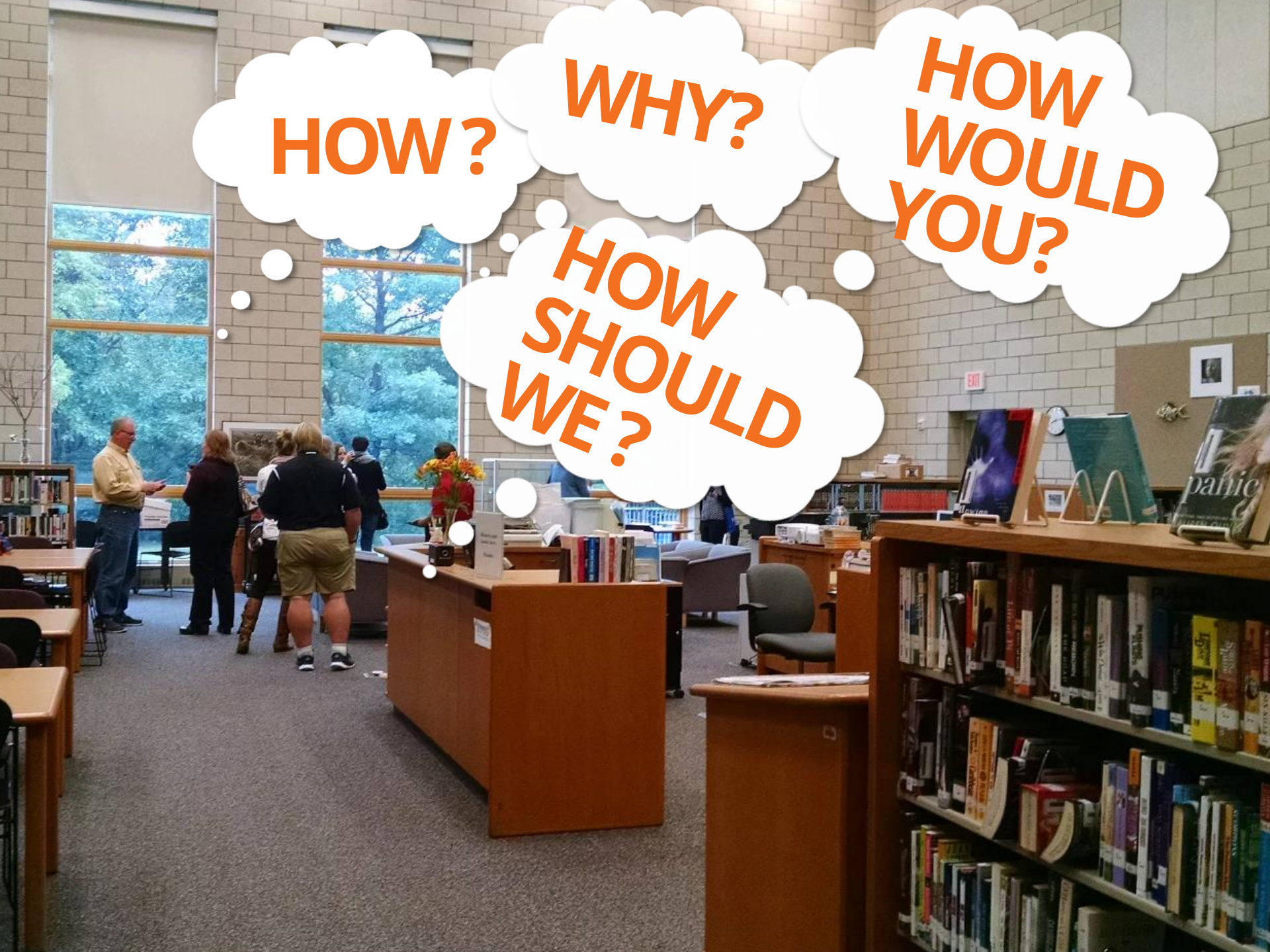


**HOW?**

**WHY?**

**HOW  
WOULD  
YOU?**

**HOW  
SHOULD  
WE?**





# Teacher Video

# TAKEAWAYS

- **Teachers getting to observe other teachers and ask questions is a MUST!!!!**
  - Send a “Frenchman to speak with the French”
- **Discovery is more powerful than persuasion**
  - “We’ve got to do things differently!”  
(Julie Holub exhorting her colleagues after touring SES and FAIR)



**EDUCATORS**  
as designers

The graphic consists of a large orange hexagon. In the center, the word "EDUCATORS" is written in a large, bold, white, sans-serif font. Below it, the words "as designers" are written in a smaller, white, lowercase, sans-serif font. A thin blue line extends from the top-left corner of the hexagon to a small blue-outlined square. A thin yellow line extends from the bottom-right corner of the hexagon to a small yellow-outlined square.



# BUILDING A FAMILY

# CO-PARENT = CO-TEACH

## LIVING ROOM

- MONIE
- DISCUSS

## TREE HOUSE

- ELEV.
- NATURIS
- SEP.
- FUN
- VISIBILITY
- SEMI-PRIVATE

## BUILDING A FAMILY

### DAY IN LIFE

- 1 INDIV - PLAN
- 2 GATHER
- 3 INDV - WORK STUDY
- 4 GATHER - ROBERT EAT
- 5 INDV - PLAY COMM KNIGHT
- 6 GATHER - MONIE GAMES PLAY
- 7 INDV - SLEEP READ WATCH

## KITCHEN TABLE

- LESS FORMAL
- OPEN
- PERSONAL
- SM GRP
- INDV.

## GARAGE

- STORAGE
- EQUIP.

## DINING ROOM

- LG GRP
- MORE FORMAL
- PRESENT
- GATHER
- CULDS

## KITCHEN

- COOK
- PLAN
- EXPER.
- GATHER
- GROW OWN

## FAMILY ROOM

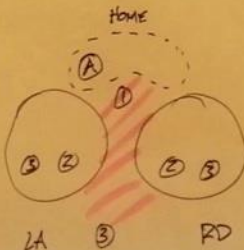
- IN FORMAL
- "STUFF"
- TECH
- ACCESS
- GAMES
- RELAX
- PERSONAL

## OUTDOOR

- LEARN
- GATHER
- PLAY

## BEDROOM

- STUDY
- PERSONAL
- STUFF



Charles City (IA) Middle School

# AMANDA'S WANT LIST

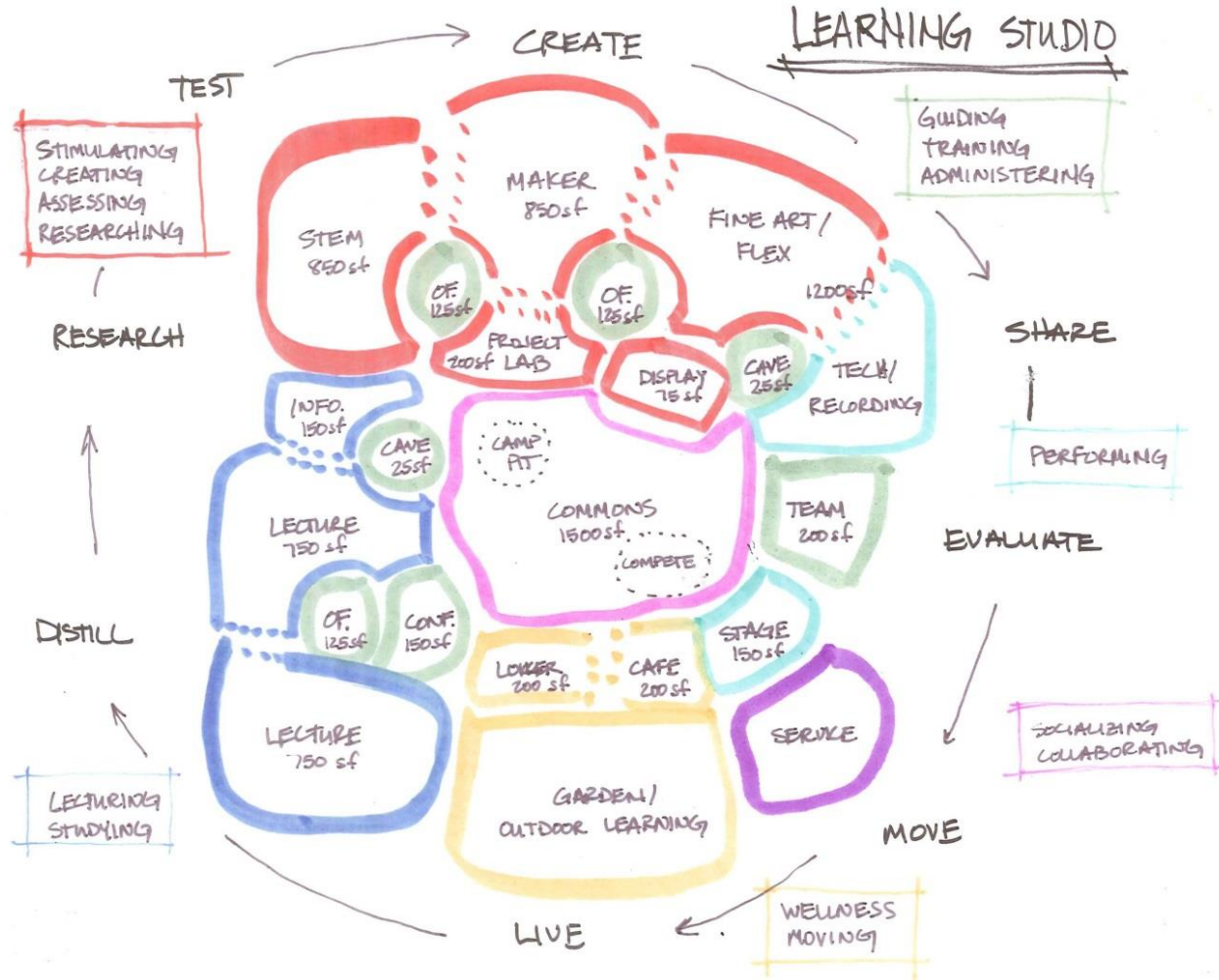
## Before HTH tour

- sink

## After HTH tour

- Organizational Systems for Student Projects
- Display Options for Curated Student Work
- Industrial Tech Machinery and Space
- Lumber Yard
- Reconfigurable Stage
- Science Lab with Advanced Equipment
- Pond
- Rooftop Gardens
- Kitchen

# LEARNING ENVIRONMENT DEFINED

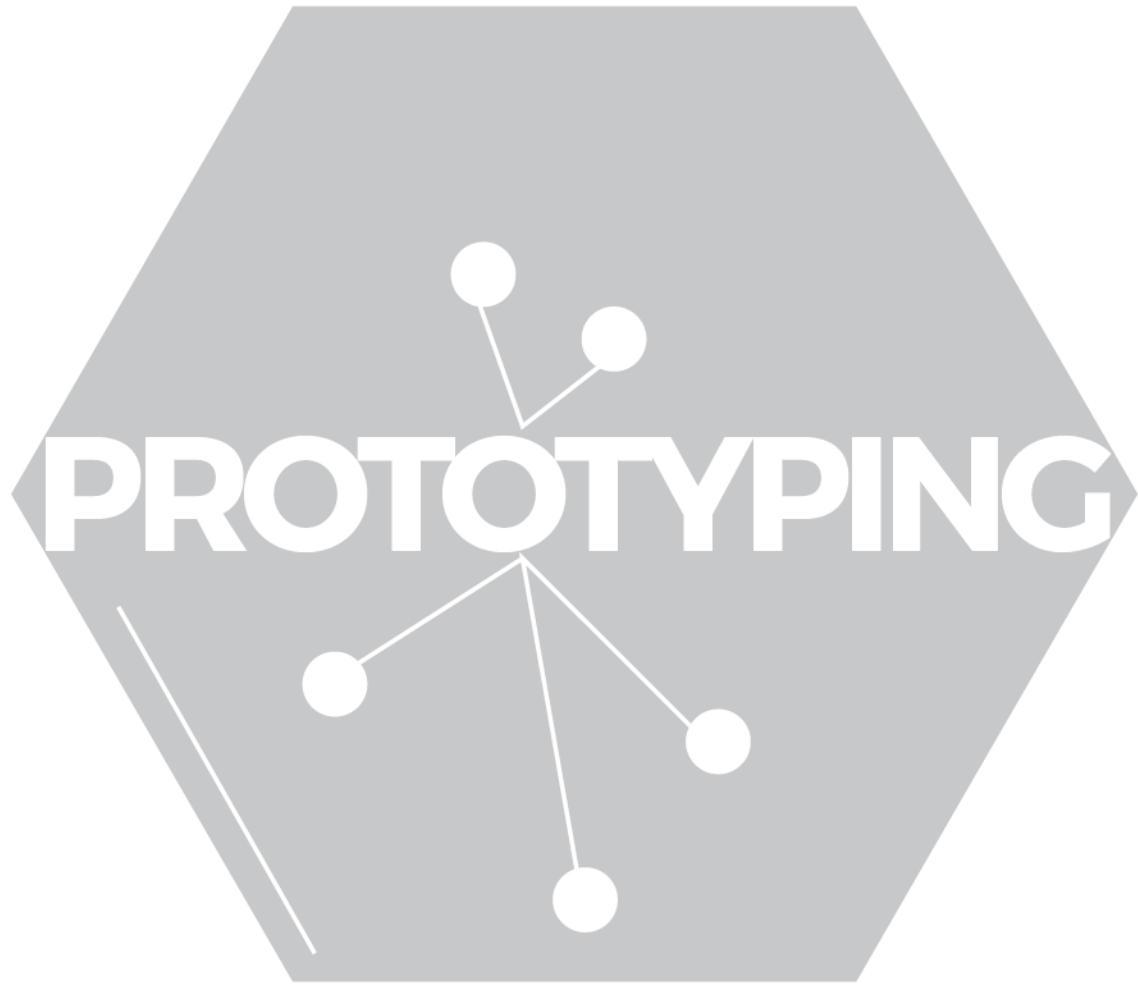














# think BIG

- **3 Days**
- **1 empty warehouse**
- **Raw materials**
- **2 concepts**
- **Truly engaged students & faculty**







**Prototyping**





Charles City (IA) Middle School



WHAT WORKED?

use of space

WHAT WORK?

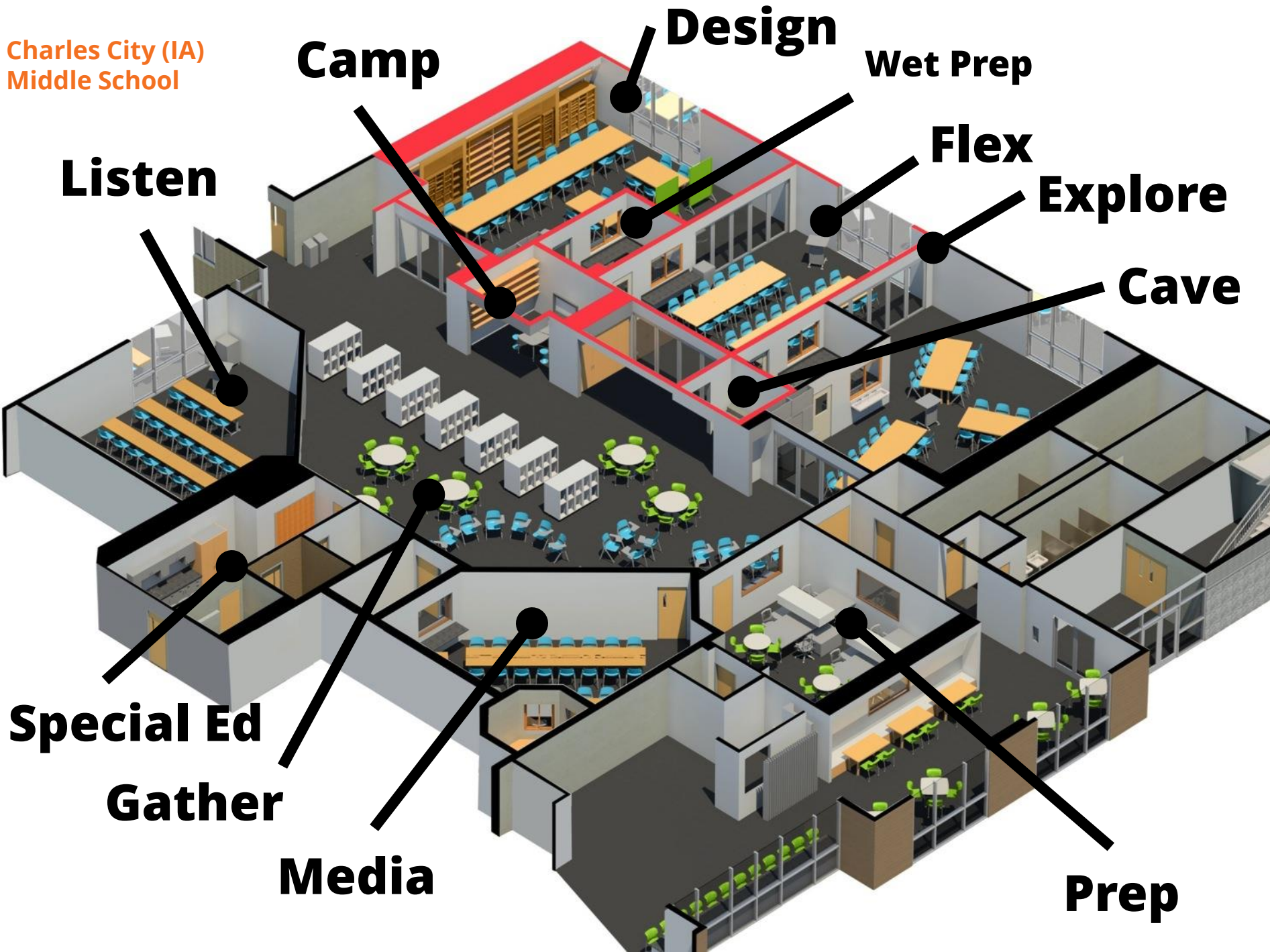


# News Video

# TAKEAWAYS

- STUDENT PERSPECTIVE
  - Autonomy is a driver of student engagement
  - Whiteboards in work areas really help them become work areas
- TEACHER PERSPECTIVE
  - Breaking kids up and moving them helped them stay focused on their work
  - Having a stage or place to share, present, play, perform, film will create presentation and personal skills that will set the kids apart in the future

Charles City (IA)  
Middle School



**Camp**

**Design**

**Wet Prep**

**Flex**

**Explore**

**Cave**

**Listen**

**Special Ed**

**Gather**

**Media**

**Prep**

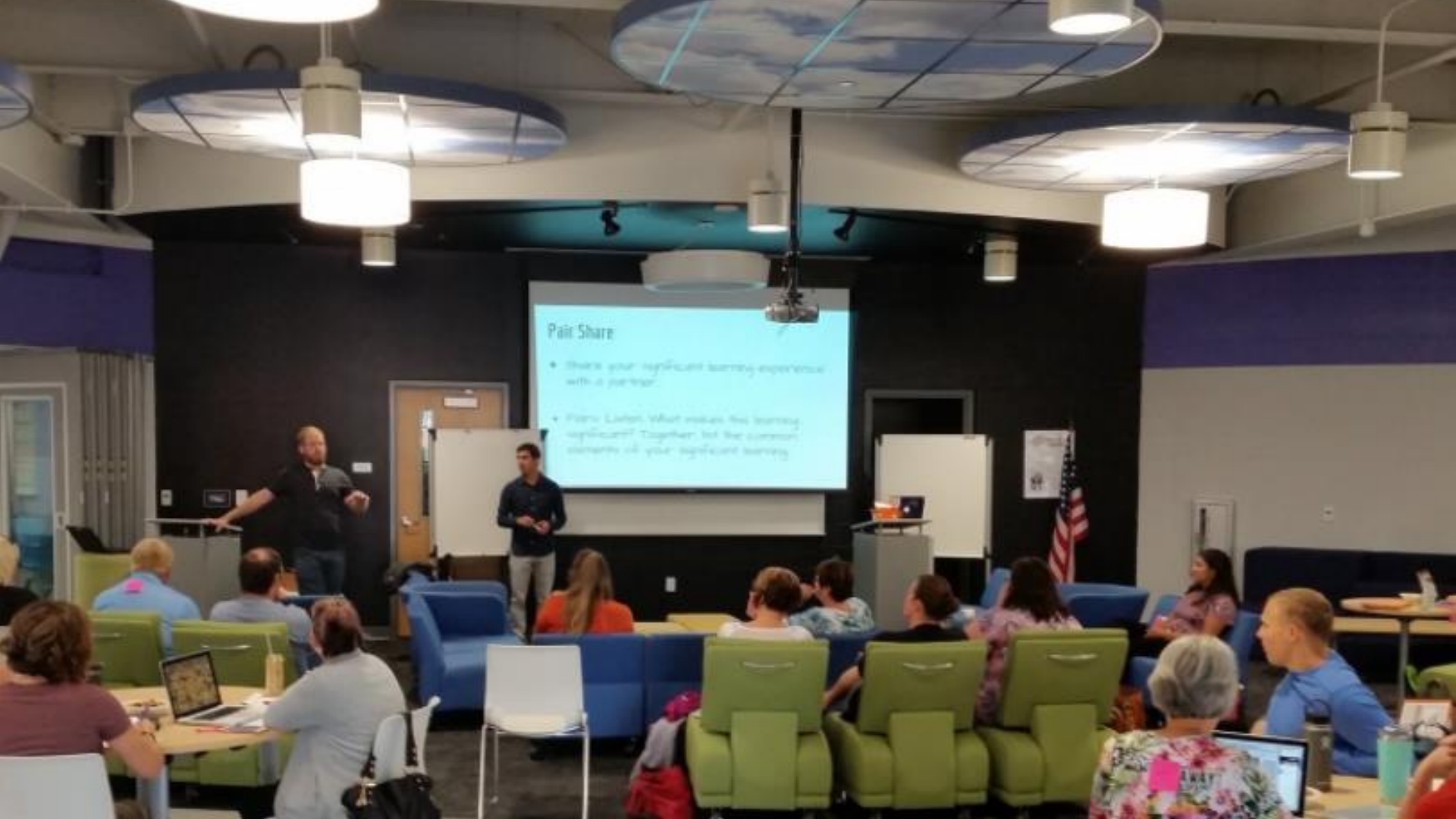


freewill of

**TEACHERS**

# SETTING THE STAGE FOR SUCCESS

- Professional development
- Trips to visit exemplar schools



Pair Share

- Share your significant learning experience with a partner
- Flip: Listen. What makes the learning significant? Together, list the common elements of your significant learning.

# Professional Development

Dr. Dan Cox @DanCoxPhD · Aug 14  
Ts and admins from @CharlesCityCSD and New Hampton learning #PBL from  
@hightechhigh staff. #CCedFuture #WeAreCC



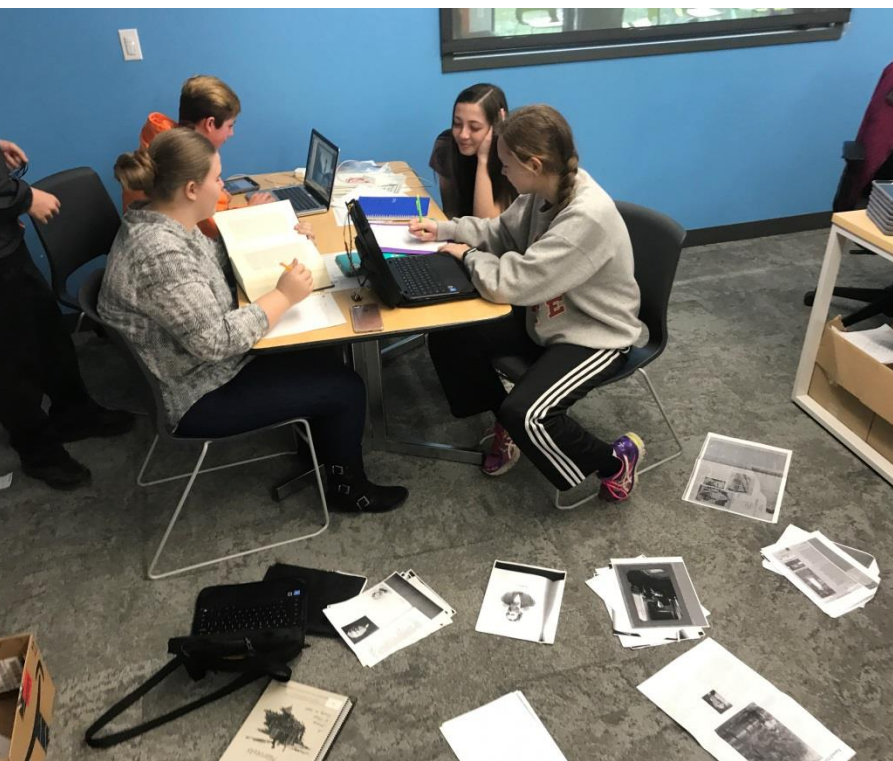
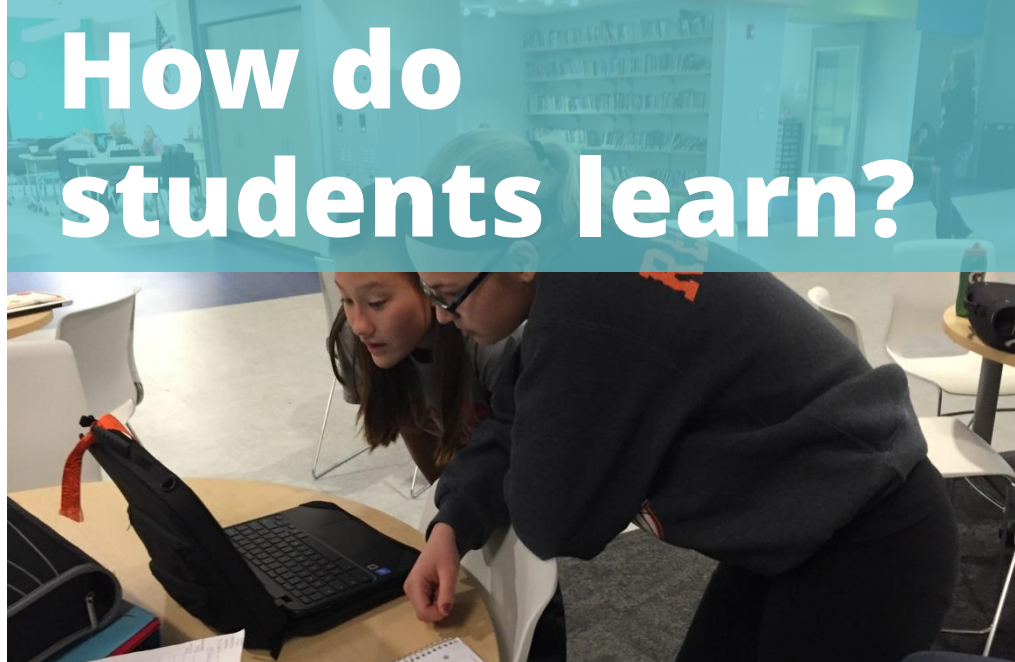


**Charles City Schools @CharlesCityCSD · Aug 15**

**Teachers from @hightechhigh work with @CharlesCityCSD teachers as if they are new HTH teachers. Getting ready to advance CC education.**



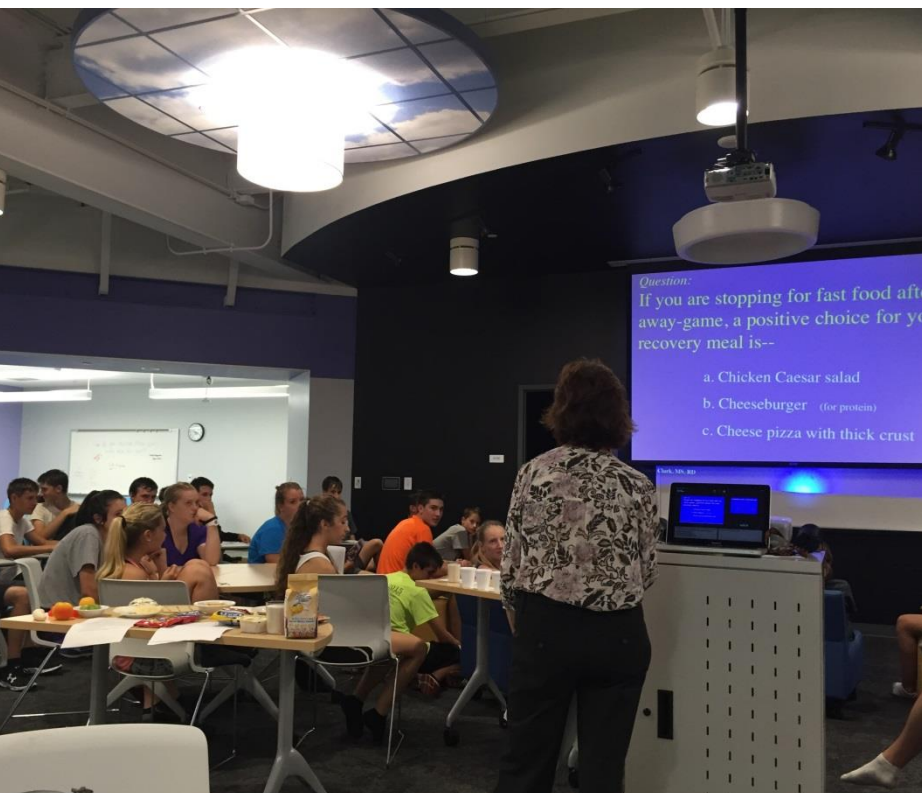
# How do students learn?







# How the building works for us



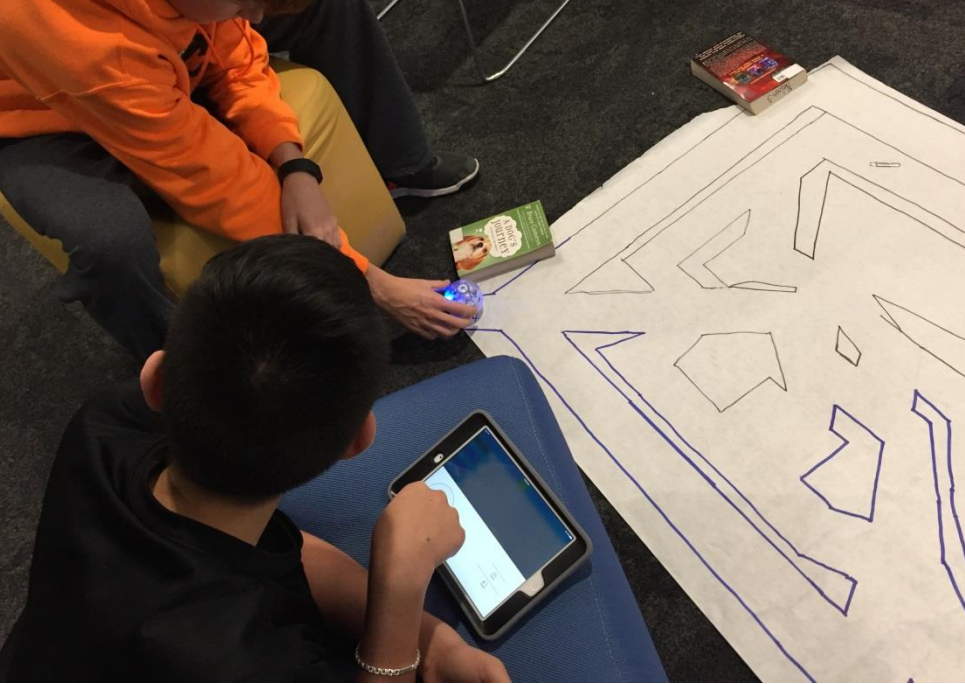
Question:  
If you are stopping for fast food after an away-game, a positive choice for your recovery meal is--

- a. Chicken Caesar salad
- b. Cheeseburger (for protein)
- c. Cheese pizza with thick crust





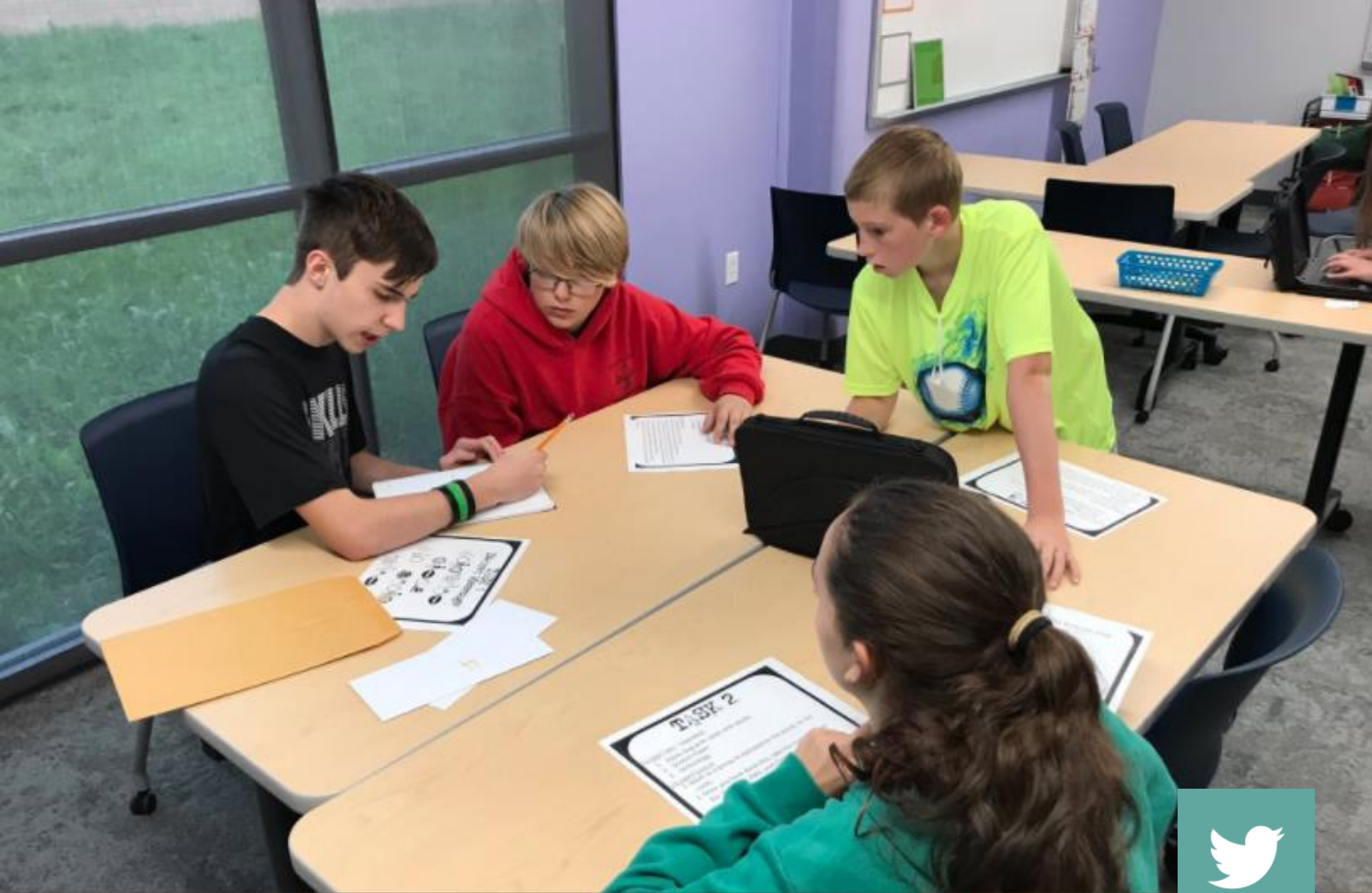
# Project Based Learning





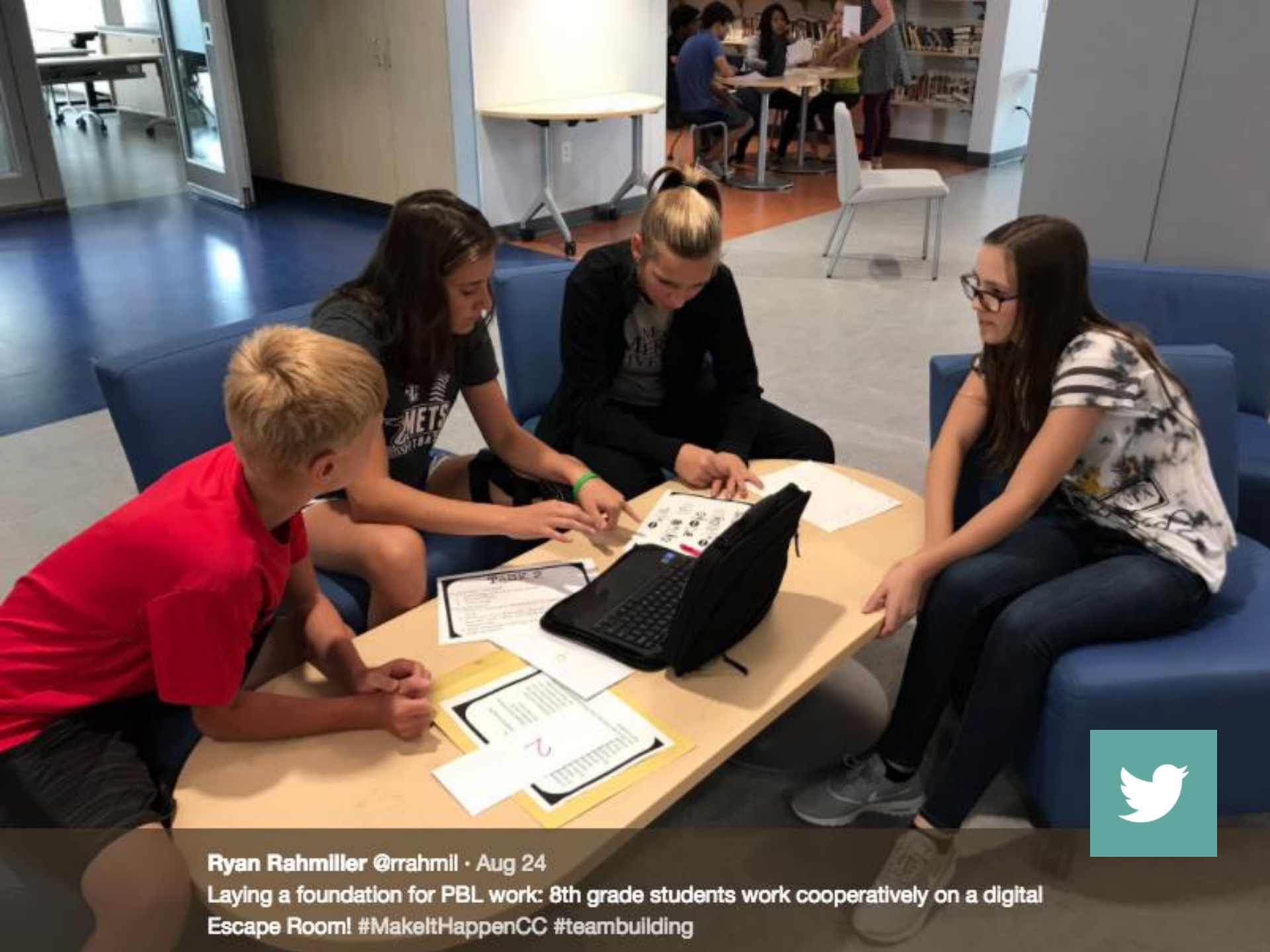


**Naomi Yaddof @nyaddof · Aug 30**  
Charles City 8th graders loving their new coding class! #collaboration #coding #STEM  
#MakeltHappenCC



**Ryan Rahmiller @rrahmil · Aug 24**  
Laying a foundation for PBL work: 8th grade students work cooperatively on a digital Escape Room! #MakeltHappenCC #teambuilding





**Ryan Rahmiller @rrahmil · Aug 24**  
Laying a foundation for PBL work: 8th grade students work cooperatively on a digital  
Escape Room! #MakethHappenCC #teambuilding



**Alyssa Kruger @akruger91 · Sep 8**

When it's too nice out to be inside, we read on the balcony. They were begging to do it again next week. #cultureofreaders #8thgradersdoread



**Charles City Comets @CC\_Comets · Jun 2**

Last day at Charles City Middle School the balcony is used for learning. Build something to protect the egg from the fall. #EggDrop







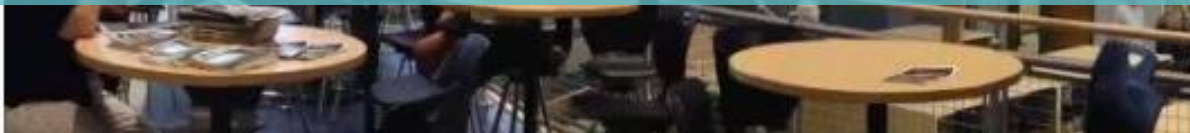
Nancy Simerson shared your video.

17 hrs · 🌐

I was really impressed while subbing in this building! The acoustics are wonderful! You can walk through any grade and see students and teachers using this space the way it should be. It is all business! They are utilizing all areas of the building in their classes. We were testing airplanes they built out on the balcony! Perfect place to lay out the tape to measure distances. Later they went to the gym to test another flight theory. I say bravo to these teachers and kids!



**You can walk through any grade and see students and teachers using this space the way it should be. It is all business! They are utilizing all areas of the building in their classes.**





# **Student Video**

# DEEPER **DIVES**

- Educators
- Administrators
- Architects

WHOLE GROUP

**Q & A**



a magnetic  
**VISION**

a new  
**APPROACH**

the freewill of  
**TEACHERS**





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# THE SCHOOL BUILDING

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*thank you*

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