

# WHEN BUILDINGS ARE BROKEN

*Seizing the Opportunity for Total Transformation*



cefp*i* PNW 2015 Annual Conference

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# Overcoming Reluctance

Strategies for transforming educator reluctance through engagement in the adoption of new educational and facility models.

# Community Participation

Techniques for eliciting broad community participation and interactive dialogue in the school planning and design process.

today's objectives

# Building Consensus

Facility planning and design development activities that organically build consensus through hands-on, meaningful stakeholder participation.

# Maximizing Capital Budgets

Facility design strategies that maximize a conservative budget and enhance long-term educational relevance.

today's objectives





SETTING  
the stage

a need for change

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# existing PHYSICAL ENVIRONMENT



a need for change

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Antiquated building  
systems

Safety and security  
concerns

Energy inefficiency

Obsolete learning  
environments

existing physical environment



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Opened in 1973

Design based on the  
“factory model” of the  
industrial age...

“cells and bells”

20th century school



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# existing EDUCATIONAL MODEL

20th century school

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A wide-angle photograph of a classroom. In the foreground, several students are seated at their desks, facing away from the camera towards the front of the room. They are working on papers or looking towards the front. The desks are arranged in rows. In the background, a teacher is standing at a whiteboard, writing on it. To the right of the whiteboard is a large projection screen. The room has large windows on the left side, letting in natural light. There are some plants on a shelf near the windows. The ceiling has fluorescent lights and a projector mounted on it.

TEACHER  
centered

20th century learning

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University of Massachusetts  
Cambridge Seven Associates

STUDENT  
centered

21st century learning

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# a process for CHANGE


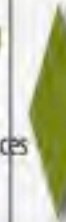
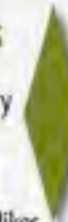




# VISIONING – PROGRAMMING & PLANNING

CHARTIERS VALLEY MIDDLE SCHOOL & HIGH SCHOOL // CHARTIERS VALLEY SCHOOL DISTRICT

SEPTEMBER 2014

|  | 2014  |   |   |  |  |   |  |   |  |  |  |  | 2015 |   |   |  |  |
|--|---|---|---|--|--|---|--|---|--|--|--|--|------|---|---|--|--|
|  | AUGUST  |   | SEPTEMBER   |  |  | OCTOBER   |  |   | NOVEMBER   |  |  | DECEMBER   |      |   | JANUARY   |  |  |
| MIDDLE SCHOOL<br>SCHOOL DESIGN<br>ADVISORY TEAM<br>(SDAT) MEETINGS |   |   |   |  |     | SEPT. 29th<br>21st CENTURY LEARNING<br>> Contemporary MS Pedagogy & Learning<br>> Attribute of Successful Middle Schools<br>> Contemporary Organizational Model |  |   |   | NOV. 11th<br>EDUCATIONAL VISION<br>> Education Plan<br>> Program Elements<br>• Type & Qty. of Spaces<br>> Site Amenities |   | DEC. 2nd<br>CONCEPTUAL<br>DESIGN CHARETTE<br>> Learning Settings<br>> Building & Site Organization |      |    | JAN. 12th - 16th<br>DESIGN STUDIO<br>> At Middle School with IKM/BLRB   |  |  |
| HIGH SCHOOL<br>SCHOOL DESIGN<br>ADVISORY TEAM<br>(SDAT) MEETINGS   |   |   |   |  |     | SEPT. 30th<br>21st CENTURY LEARNING<br>> Contemporary HS Pedagogy & Learning<br>> Attribute of Successful High Schools<br>> Contemporary Organizational Model   |  |   |   | NOV. 12th<br>EDUCATIONAL VISION<br>> Education Plan<br>> Program Elements<br>• Type & Qty. of Spaces<br>> Site Amenities |   | DEC. 3rd<br>CONCEPTUAL<br>DESIGN CHARETTE<br>> Learning Settings<br>> Building & Site Organization |      |    | JAN. 12th - 16th<br>DESIGN STUDIO<br>> At High School with IKM/BLRB   |  |  |
| JOINT<br>MIDDLE SCHOOL<br>& HIGH SCHOOL<br>SDAT MEETINGS           |   |   |   | SEPT. 17th<br>JOINT VISIONING WORKSHOP<br>> Process Overview<br>> Break-Out Group Activities<br>• "Now Activity"<br>• "Future Thinking"<br>• Planning Exercise |  | OCT. 14-16<br>STUDY TOURS<br>> Visitations of Exemplary Schools<br>• Lessons Learned<br>• Likes/Dislikes  |    | OCT. 29th<br>DEVELOP GUIDING PRINCIPLES<br>> Values & Concepts for Success            |  |  |  | DEC. 17th<br>JOINT MS/HS<br>SDAT MTG.<br>> Review & Evaluate MS & HS Concept Design                |      |   | JAN. 28th<br>JOINT MS/HS<br>SDAT MTG.<br>> Discuss & Evaluate Staff, Student and Community Feedback of MS/HS Design |  |  |
| MIDDLE SCHOOL<br>& HIGH SCHOOL<br>STAFF MEETINGS                   |  | AUG. 19th<br>INTRODUCE IKM/BLRB<br>> Introduce Visioning Process<br>> Encourage Involvement |   |  |  |   |  |  | NOV. 3rd-5th<br>EDUCATIONAL SPECIFICATIONS<br>STAFF CONFERRING<br>(MS & HS STAFF)<br>> Review Programmatic and Functional Requirements |  |  |  |      |   |   |  |  |
| COMMUNITY<br>OUTREACH  |   |   |  | SEPT. 6th<br>STRATEGIC ACTION<br>PLANNING SESSION<br>> Team Introductions<br>> Process Overview<br>> Break-Out Groups Exercises                                |  |    | OCT. 13th<br>COMMUNITY SUMMIT<br>> Share Info from Sept. 6th Mtg.<br>> Discuss 21st Century Learning<br>> Break-Out Group Exercise |   |   | NOV. 10th<br>COMMUNITY SUMMIT<br>> Share Guiding Principles<br>> Solicit Feedback/Input                                  |  |  |      |  | JAN. 13th<br>COMMUNITY SUMMIT<br>> Share Concept Designs for MS and HS<br>> Solicit Feedback                        |  |  |

a process for change





empowerment through  
meaningful involvement

a process for change

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# Make It New

Look at your **learning** space with 21st Century eyes...

Does it work for what we know about **learning** today...

Or just what we knew about **learning** in the past?

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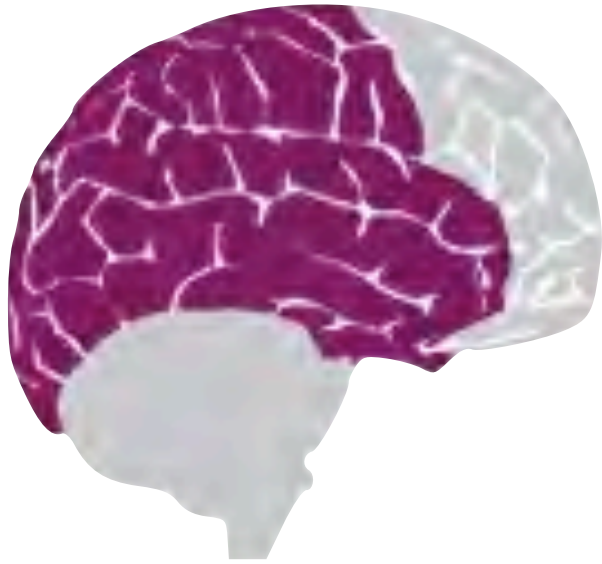
research driven

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## Recognition Networks

*The “what” of learning*

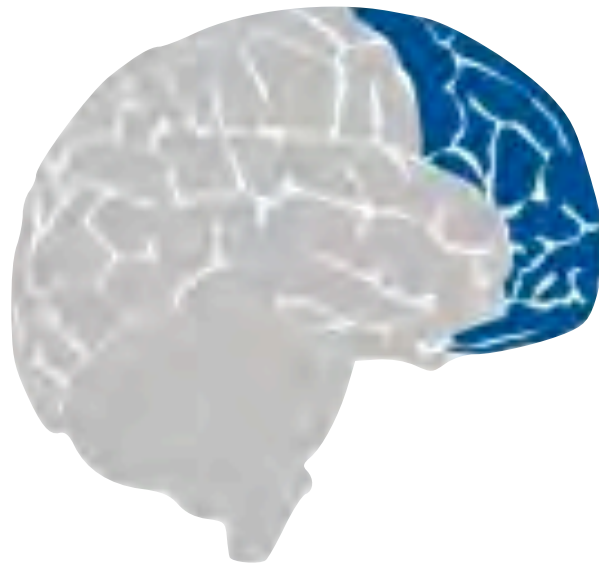


How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author’s style are recognition tasks.


 Present information and content in different ways

## Strategic Networks

*The “how” of learning*

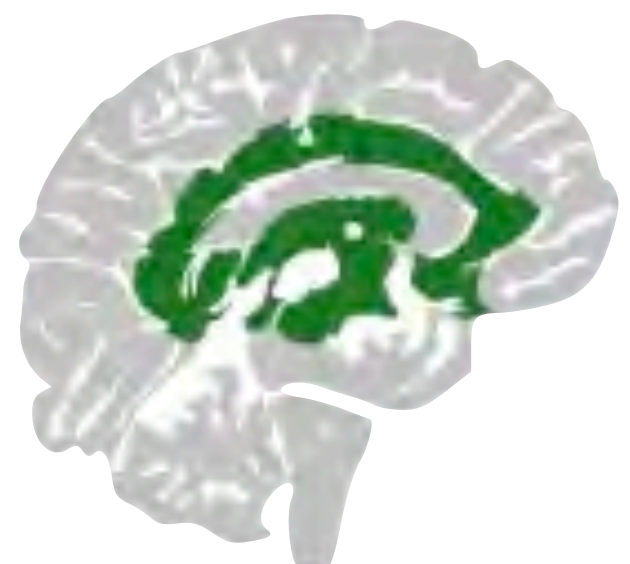


Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.


 Differentiate the ways that students can express what they know

## Affective Networks

*The “why” of learning*



How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.

 Stimulate interest and motivation for learning

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# 8 multiple INTELLIGENCES

1. Linguistic – word smart
2. Logical/Mathematical – number smart
3. Musical – music smart
4. Bodily/Kinesthetic – sports/fitness smart
5. Spatial – picture/3D smart
6. Naturalist – nature smart
7. Interpersonal – social smart
8. Intrapersonal – self smart



Dr. Howard Garner | Harvard Professor

research driven

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# 20 learning MODALITIES

1. Independent study
2. Peer tutoring
3. Team collaboration
4. One-on-one learning with teacher
5. Lecture format – teacher-directed
6. Project-based learning
7. Technology with mobile computers
8. Distance learning
9. Internet-based research
10. Student presentation
11. Performance-based learning
12. Seminar-style instruction
13. Inter-disciplinary learning
14. Naturalist learning
15. Social/emotional/spiritual learning
16. Art-based learning
17. Storytelling
18. Design-based learning
19. Team teaching/learning
20. Play-based learning



Randall Fielding/  
Prakash Nair





# Blueprint for Tomorrow

Prakash Nair

# The Language of School Design: Design Patterns for 21st Century Schools

Prakash Nair; Randall Fielding; Jeffery Lackney

# The Third Teacher

OWP/P Architects; VS Furniture; Bruce Mau Design

# Make Space: How to Set the Stage for Creative Collaboration

Scott Doorley and Scott Wittholf

resources

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# Architecture for Achievement: Building Patterns for Small School Learning

Victoria Bergsagel, Tim Best, Kathleen Cushman, Lorne McConachie, Wendy Sauer, David Stephen

## Linking Architecture and Education: Sustainable Design of Learning Environments

Anne Taylor

## The L-Shaped Classroom: A Pattern for Promoting Learning

Peter C. Lippman

resources

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STUDY TOURS  
*opening your mind's  
eye to what's possible*

research

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Intentional  
Focused  
Structured  
formal evaluations

research

STUDY TOURS  
*opening your mind's  
eye to what's possible*

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# VIRTUAL TOURS

contemporary learning  
environments



North Shore Day School  
*Cannon Designers*

research

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# SCHOOL VISITATIONS contemporary learning environments

research

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# FOLLOW THE guiding principles



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#1 | Be a learner-focused campus



#2 | Be a safe environment



#3 | Be flexible and agile



#4 | Be the heart of the community



#5 | Promote meaningful collaboration





#6 | Honor the diversity and history of the community as we look to the future



#7 | Be a model campus for stewardship and sustainability



#8 | Have adaptable and accessible technology



#9 | Encourage total wellness

guiding principles

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# LISTEN TO THE COMMUNITY

meaningful involvement is key



SUCCESS is dependent on  
community buy-in

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# Tools

Summits

Open house(s)

Athletic events

Web-site

FaceBook

community outreach



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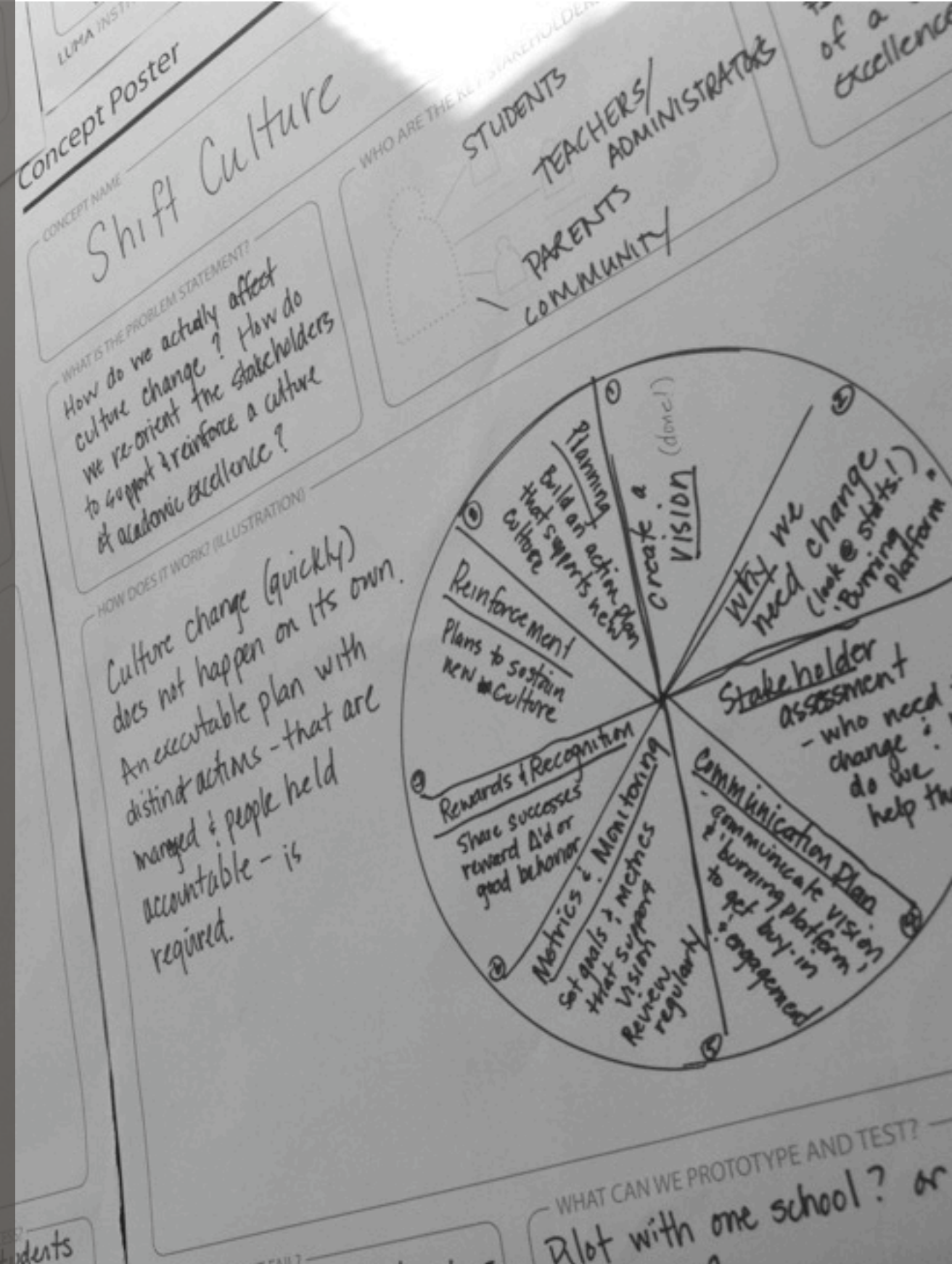
Define

Values/priorities

Characteristics/attributes

History/legacy

community outreach



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# Primary

Transparency is critical

Interactive and on-going  
engagement

Illustrate how community  
influenced design

community outreach



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# the VISION



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Moving From

Classrooms to...  
***Learning Studios***

Learning Studios to...  
***Learning Suites***

Learning Suites to...  
***Small Learning Communities***

the vision



Naperville Central High School  
*Wight and Company*

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# Moving From

Classrooms to...  
***Learning Studios***

Learning Studios to...  
***Learning Suites***

Learning Suites to...  
***Small Learning Communities***

the vision

Orchard Place Elementary  
*Wight and Company*

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# Moving From

Classrooms to...  
***Learning Studios***

Learning Studios to...  
***Learning Suites***

Learning Suites to...  
***Small Learning Communities***

IJ Holton Intermediate STEAM School  
ATS&R

the vision

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SLC  
charette

*creating the ideal learning setting*

the vision

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# SLC puzzle piece solutions



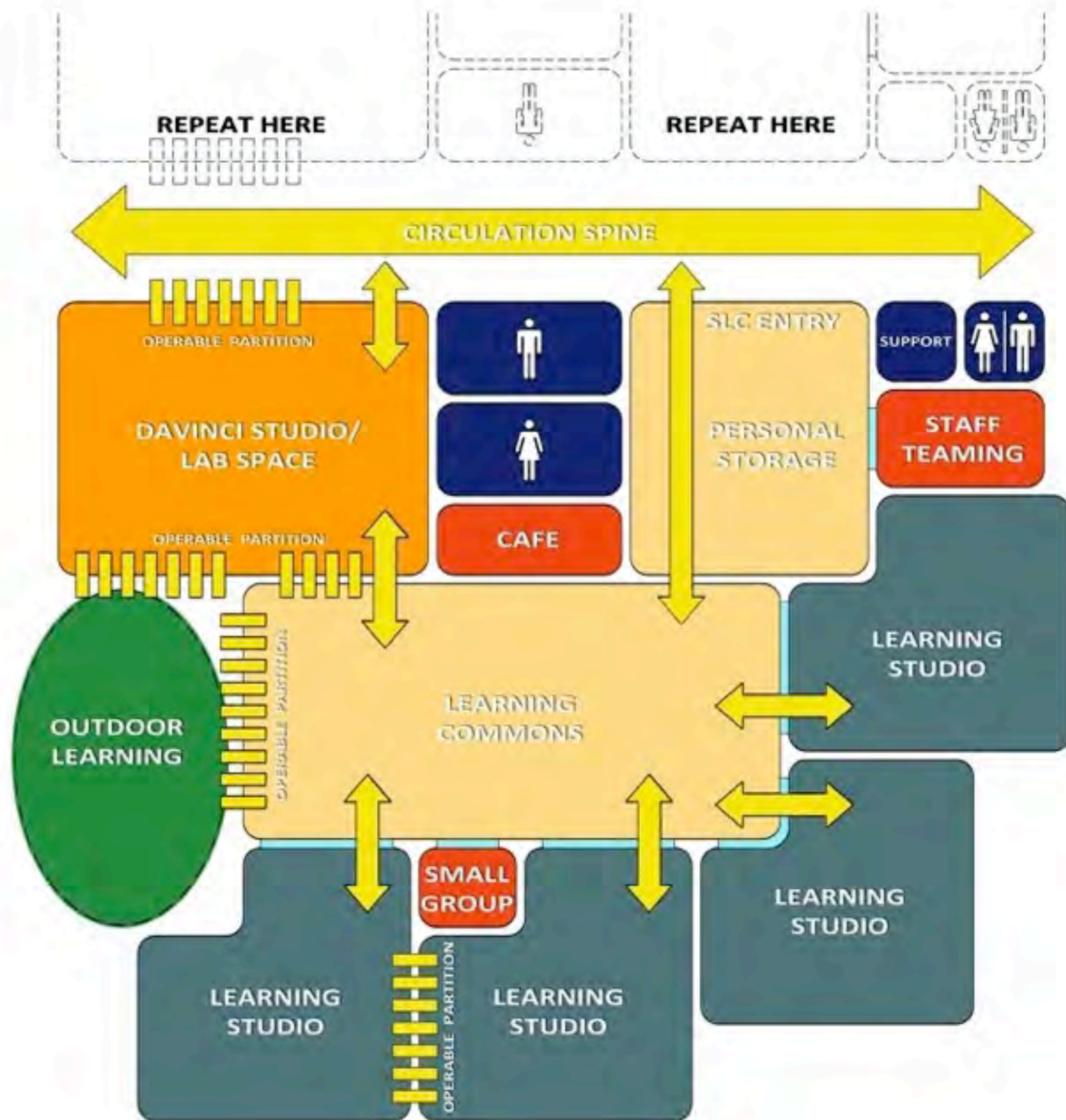
Middle School



High School

the vision

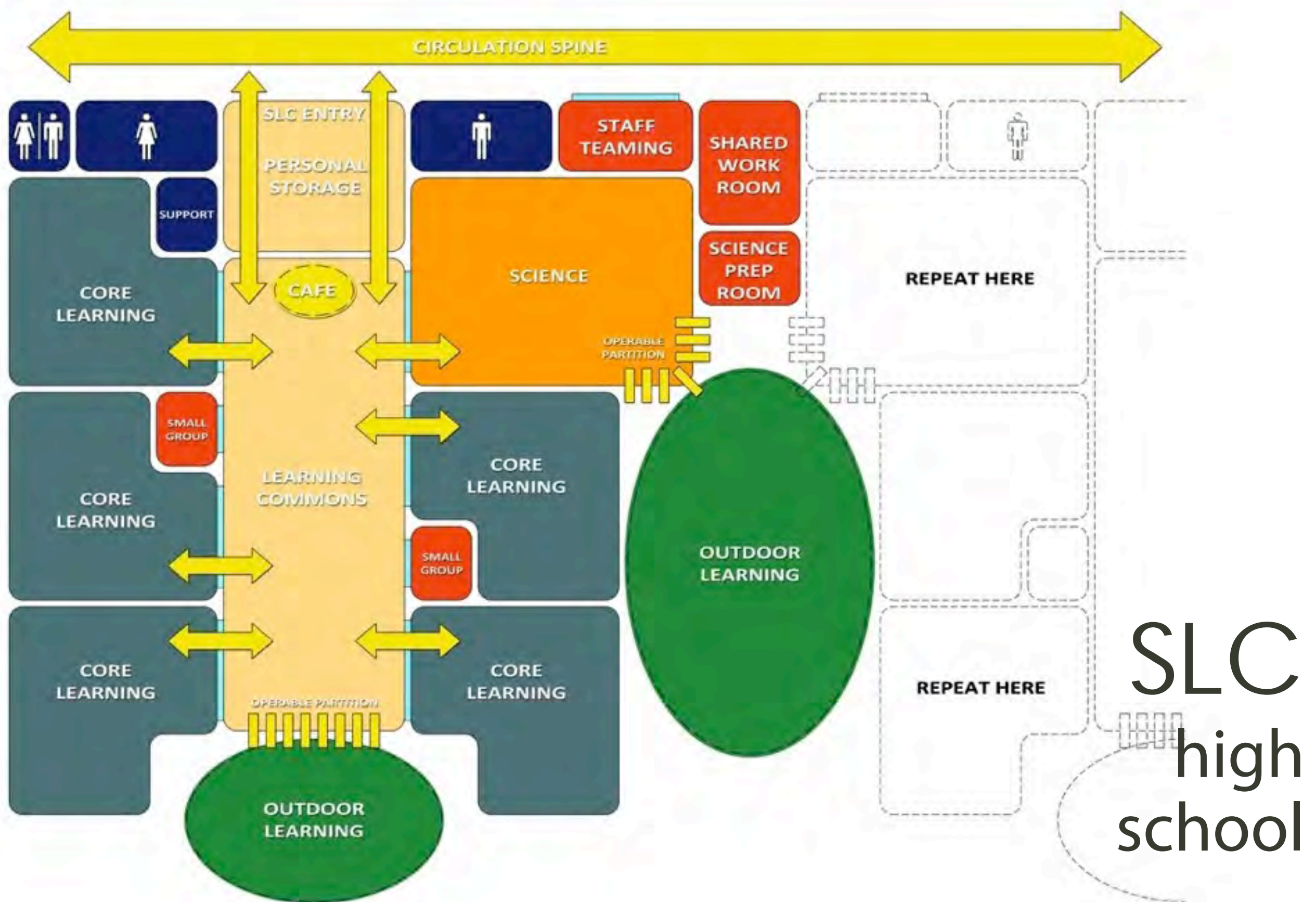




# SLC middle school

the vision





the vision

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# SLC middle school

the vision

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# SLC high school



the vision

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# SITE master plan



the vision

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# EXISTING campus





# SITE master plan







# BUILDING charette

the vision

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# PUZZLE PIECE SOLUTION middle school

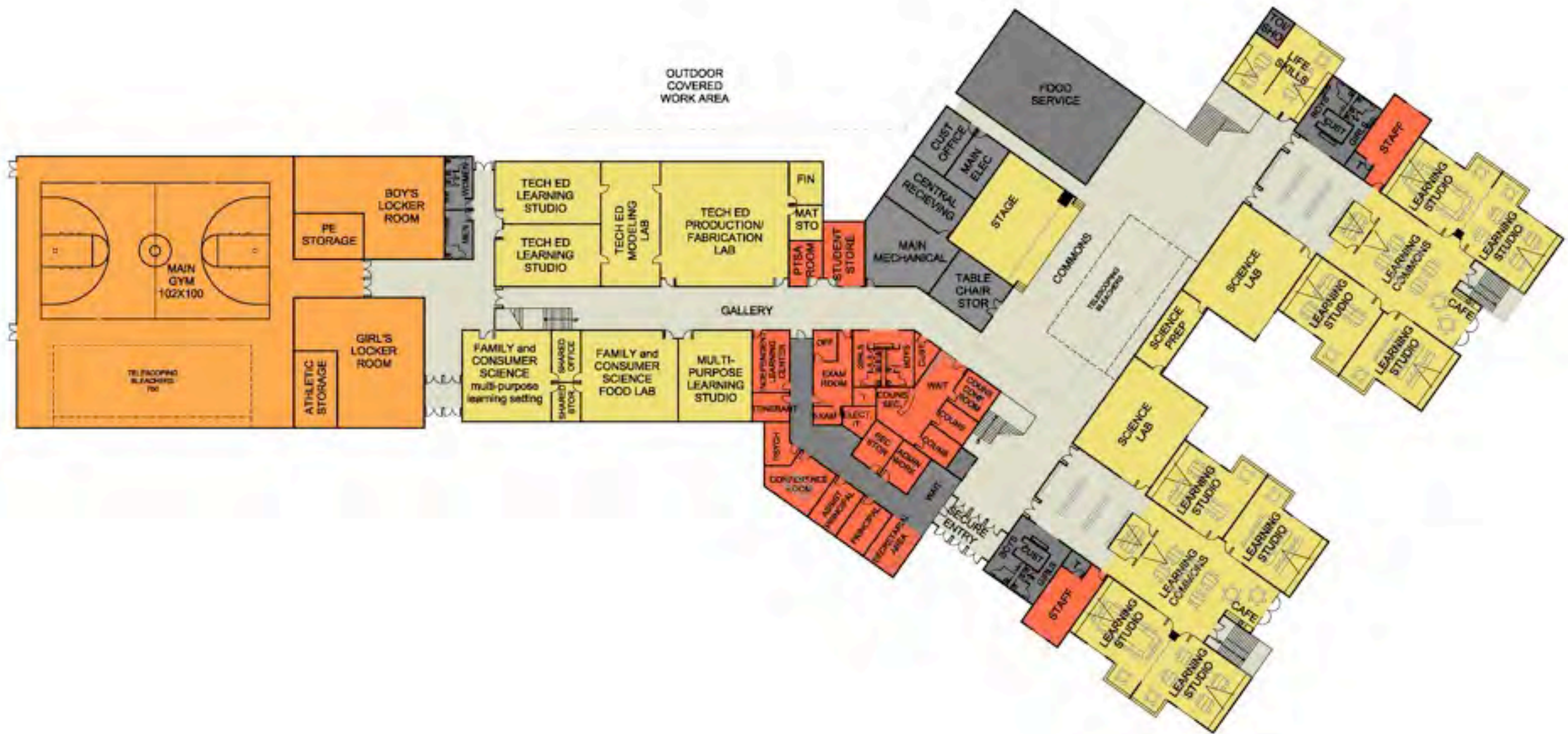


the vision

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# floor plan - level 1 middle school

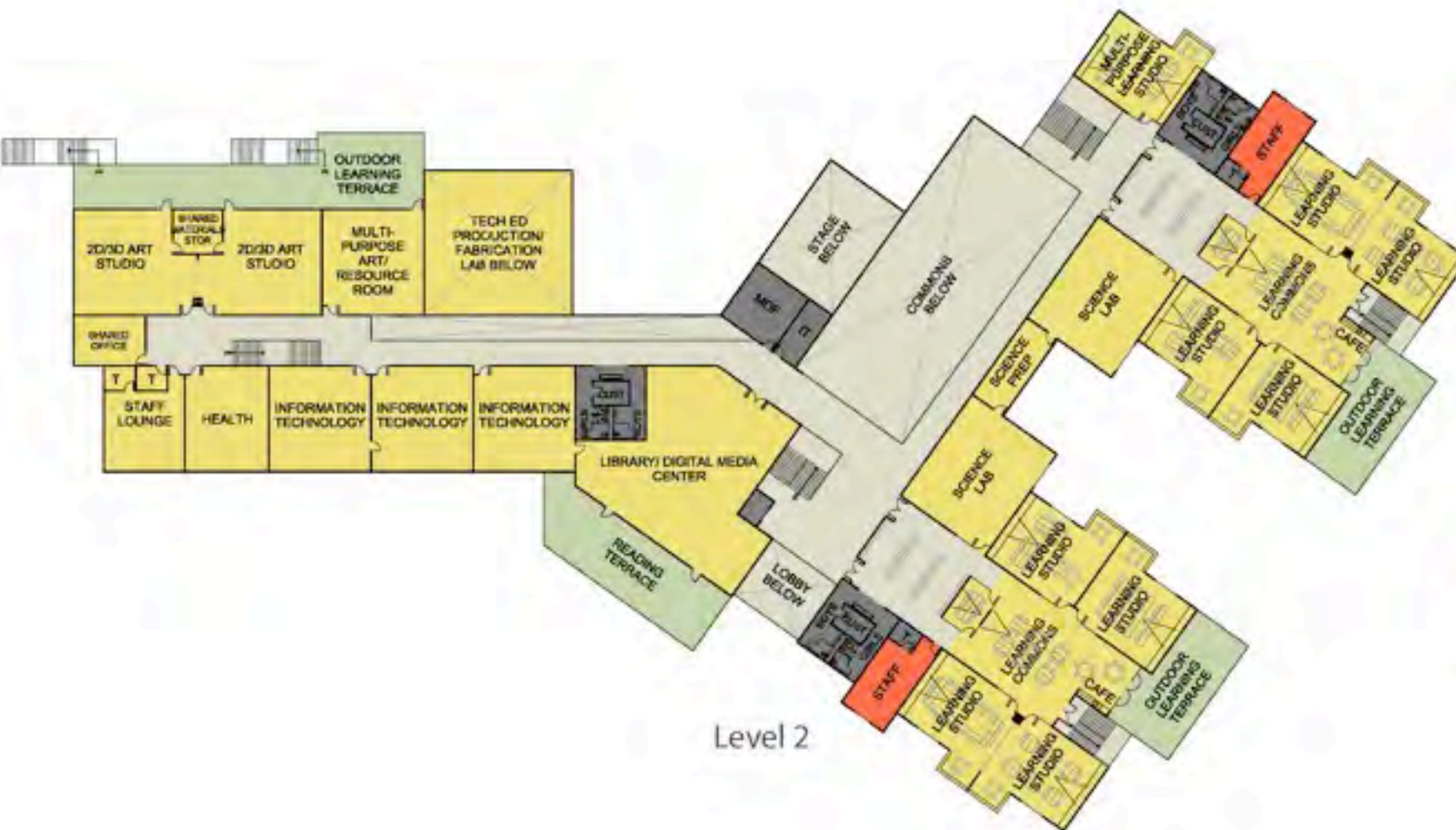


the vision

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# floor plan - level 2 and 3 middle school



the vision





# PUZZLE PIECE SOLUTION high school

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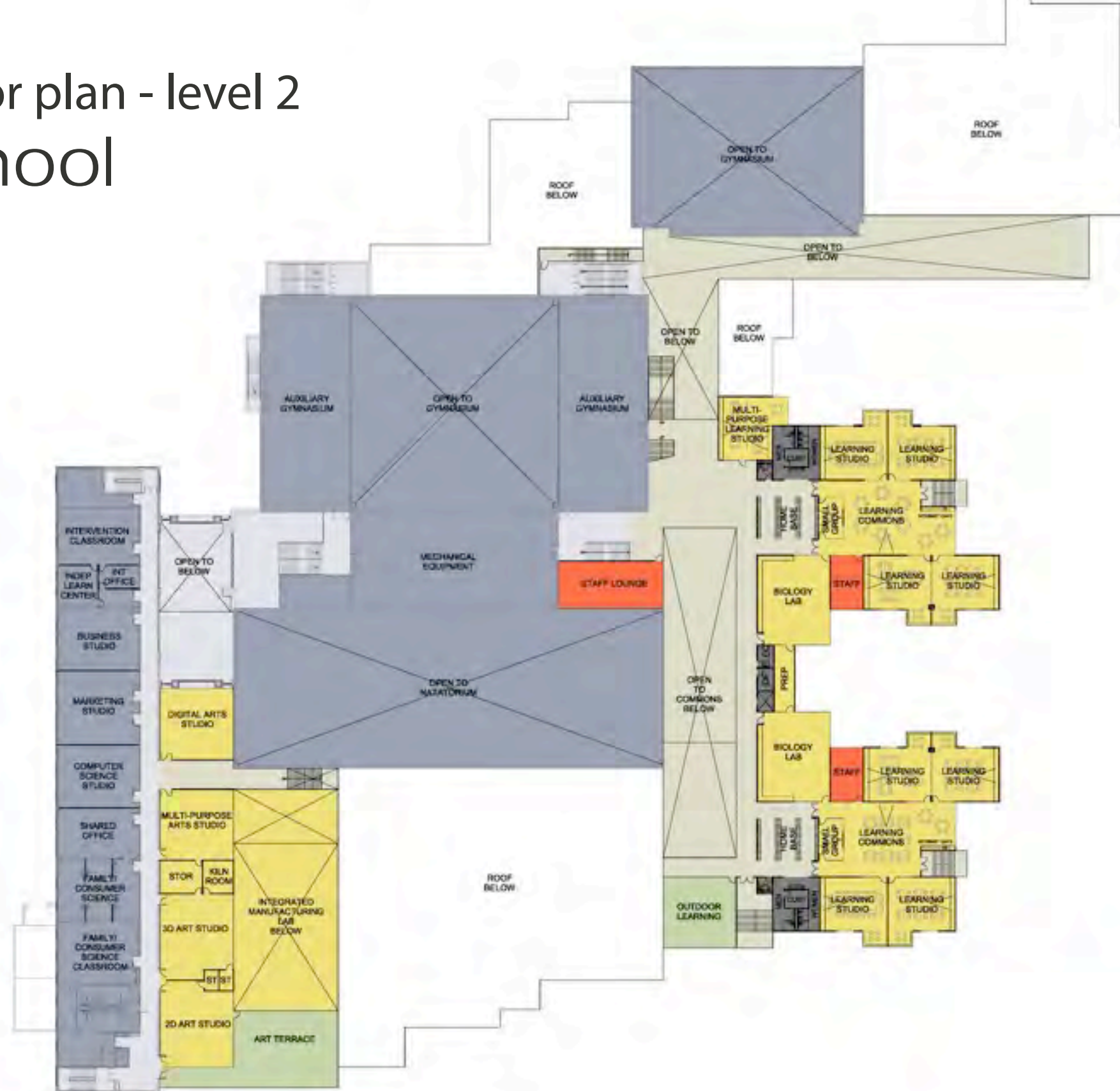
# concept floor plan - level 1 high school



the vision



# concept floor plan - level 2 high school



the vision

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# concept floor plan - level 3 and 4 high school



Level 3



Level 4

the vision





# the learning studio

## MIDDLE SCHOOL





# the learning studio

## HIGH SCHOOL





# the learning commons

## MIDDLE SCHOOL





# the learning commons

## HIGH SCHOOL





# SLC applied engineering and technology HIGH SCHOOL





# the student commons

## MIDDLE SCHOOL





# the student commons

## HIGH SCHOOL





# the student commons

## HIGH SCHOOL





# learning towers

## MIDDLE SCHOOL





# main entry

## MIDDLE SCHOOL





main entry  
HIGH SCHOOL





main entry / learning towers  
HIGH SCHOOL



# maximizing the BUDGET





“Whatever

you plan for **doesn't** happen...

Whatever

you don't plan for **does!**”

maximizing the budget





# Inevitably...

The learning environment will undergo philosophical, pedagogical, technological and spacial change over the life span of your school.

Buckingham County Elementary  
*VMDO Architects*

## maximizing the budget

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# The Learning Environment MUST BE....

flexible

agile

adaptive

Booker T. Washington STEM Academy  
*Cannon Design*

maximizing the budget

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# Strategies

Minimize specialized spaces

Design multiplicity of use of space

- from classroom to ***learning studio***
- from science lab to ***learning lab studio***
- from “shop” space to ***applied learning lab***

DePaul University | The Theatre School  
Pelli Clarke Pelli Architects

maximizing the budget

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# STRATEGIES

flexible space types

Small Group  
1-6

Core Learning  
[learning studios]  
20-30

Shared Learning  
[learning commons]  
10-60

Learning Lab Studios  
[science, art studios]  
20-30

Applied Learning Labs [CTE]  
20-30

maximizing the budget



# Strategies

## Re-think core facilities

- corridors to ***learning commons***
- cafeteria to ***student commons***

Georgia Tech | Clough Learning Commons  
The Sextant Group

# maximizing the budget

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# STRATEGIES

re-think core facilities



maximizing the budget

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# STRATEGIES

re-think core facilities



maximizing the budget

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# STRATEGIES

re-think core facilities



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# STRATEGIES

re-think core facilities



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# Strategies

Increase utilization rate of learning spaces by providing staff planning space

maximizing the budget

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# Strategies

Secondary learning campus

Shared facilities

- Performing Arts
  - music
  - dance
  - drama
- PE/Athletics
  - gym space
  - fitness center
  - playfields

maximizing the budget



# FACILITATION

strategies

Sage on the stage

-or-

Guide on the side



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Establish team norms

Define purpose and responsibilities

Share givens

Share process overview

- get commitment and buy-in

Break-up clicks

facilitation strategies





Begin each workshop by clearly identifying “today’s objectives”

End each workshop by:

- reviewing objectives
- allowing each team member to comment/reflect on the day



facilitation strategies



# Experiential

## Study tours

- powerful learning
- bonding opportunity

facilitation strategies

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# Engagement

## Break-out group work

- 6 to 8 people
- defined task
- multiple engagement tools
- report back... WOWS and WONDERS



facilitation strategies

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# Engagement

## Design thinking

- mind mapping
- charette: hands-on design exploration

facilitation strategies

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# LESSONS learned

Transparency is critical



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A woman with braided hair, wearing a black t-shirt with a Union Jack design and khaki pants, stands on the left side of the frame, gesturing towards a whiteboard. The whiteboard is on an easel and has handwritten text in red and black ink. The text on the whiteboard includes: "Real world challenges", "Involve local stakeholders", "Diverse audience", "Collaborate with existing", "Make local issues (Chad's)", "Sustainability", and "Engage stakeholders". A group of people are seated at long tables in the background, listening to the presentation. The room has large windows with vertical blinds on the left and a fire extinguisher on the wall in the background. The overall atmosphere is professional and collaborative.

Meaningfully **engage** and  
**empower** stakeholders

lessons learned

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**Always** begin the visioning process **not** with a focus on architecture but rather a conversation and exploration about learning...

Where do we learn best and why?

Does the physical environment play a role in learning?

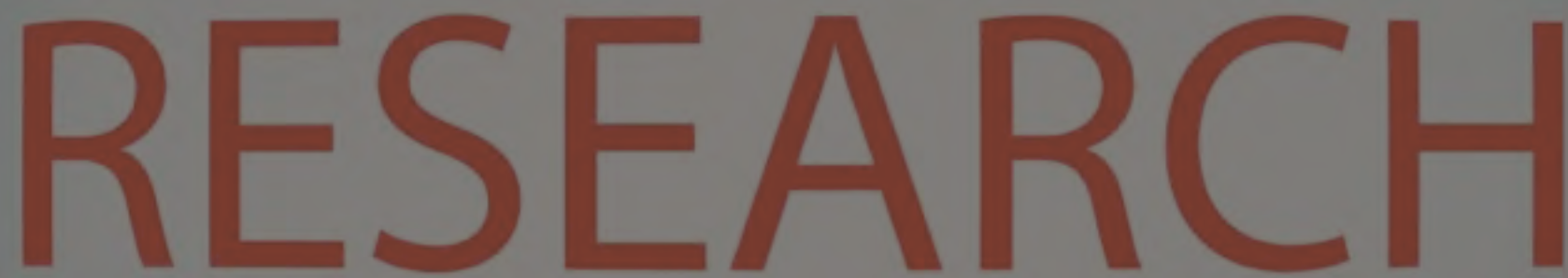
How do we learn?

How do we achieve academic success for all students?

lessons learned

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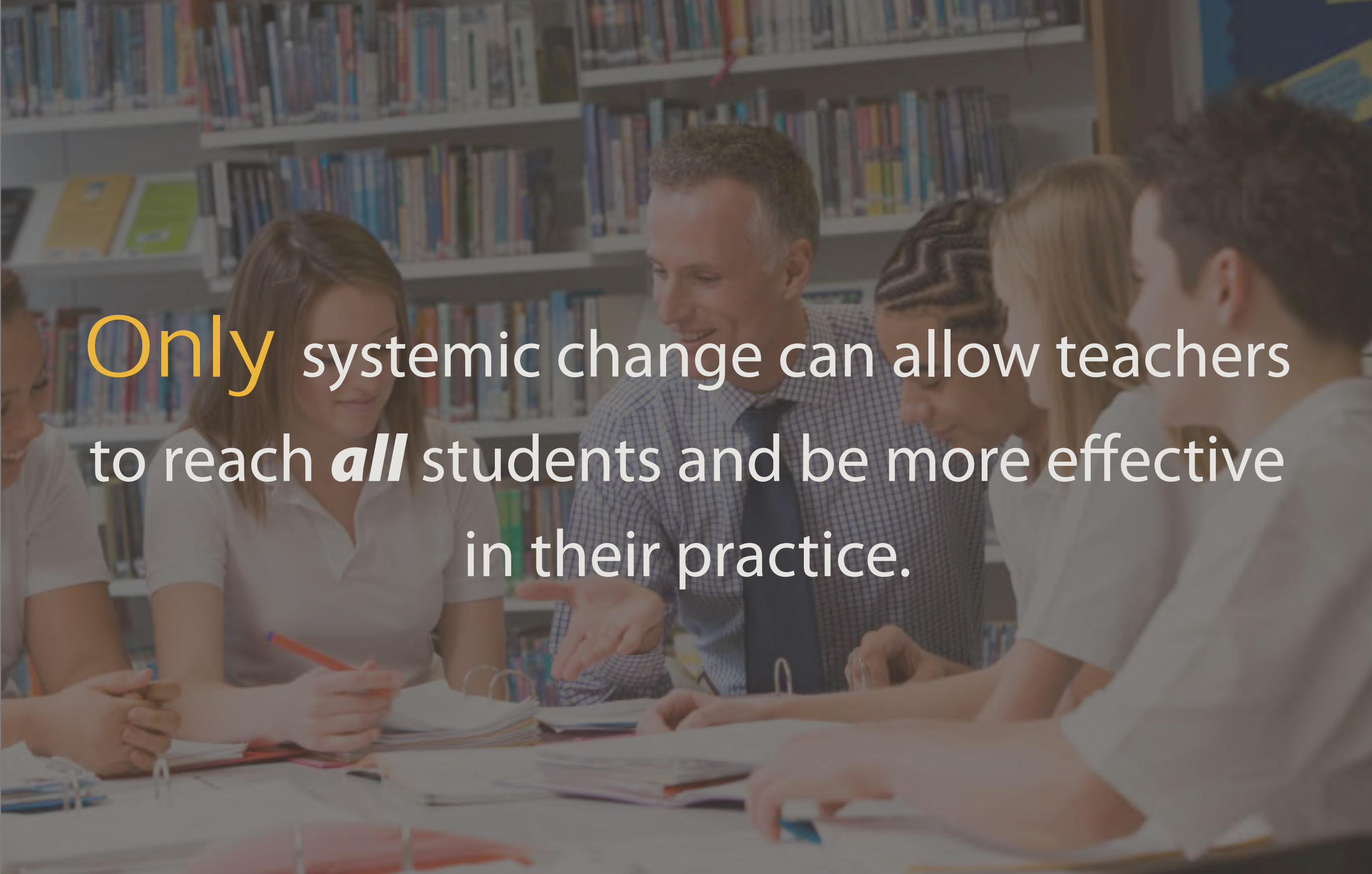




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**Only** systemic change can allow teachers to reach ***all*** students and be more effective in their practice.

lessons learned

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A group of four teachers are gathered around a table in a meeting room, engaged in a discussion. One teacher is standing and pointing at a whiteboard, while the others are seated and looking at the board. The whiteboard has some handwritten notes about biology, including 'Intestinal juices', 'Converts sucrose into glucose and fructose', and 'Converts lactose into glucose and galactose'.

Professional development is **key** to make  
**systemic change** work;

Teachers need to know how to  
**teach differently**  
(longer blocks, team teaching,  
interdisciplinary, project based)

lessons learned

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# Q & A conversations | brainstorming

