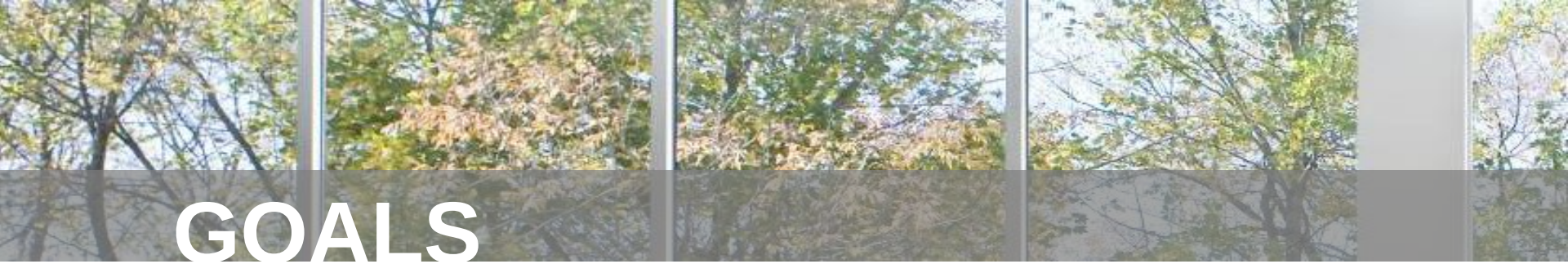
Connecting Instruction & Construction:

What 21st Century Teaching & Learning Means for 21st Century Facilities

CRSS
TRAINING SCHOOL BOARDS FOR HIGH PERFORMANCE



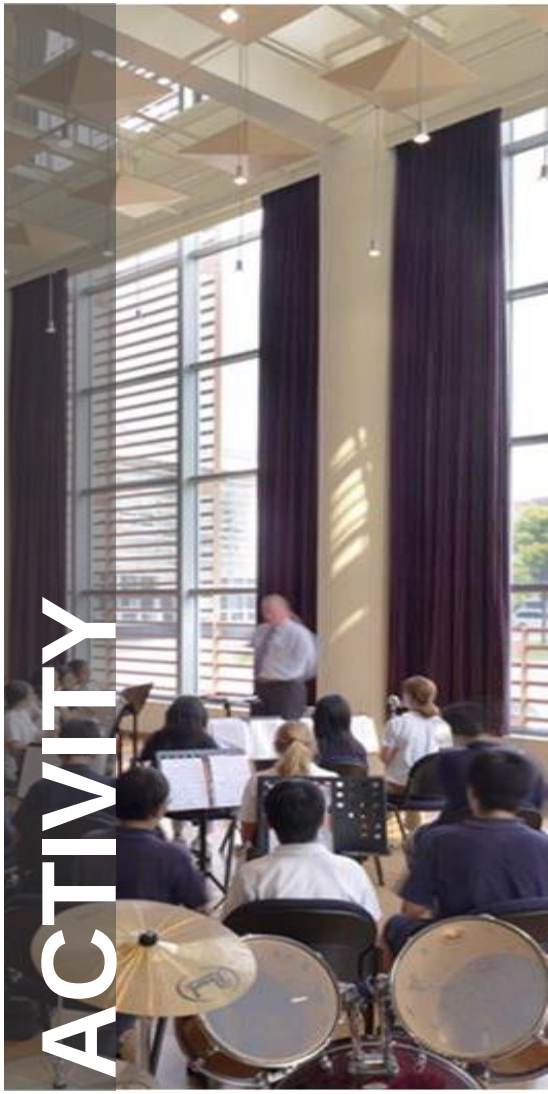
GOALS

What are the goals of this session?

- To understand why the education reforms of the 20th century won't get the job done in the 21st century
- To consider what education should look like in the 21st century
- To understand the link between instruction and facility design as well as the link between instruction and emerging technology

21st Century Worker Characteristics

What do we want our students to be able to do when they leave our educational program to be able to succeed and thrive in the world?



HISTORY

First, a history lesson…

Who set the standard for education in America that is still in vogue today?

The standard was set in 1892 by the Committee of 10!

HISTORY

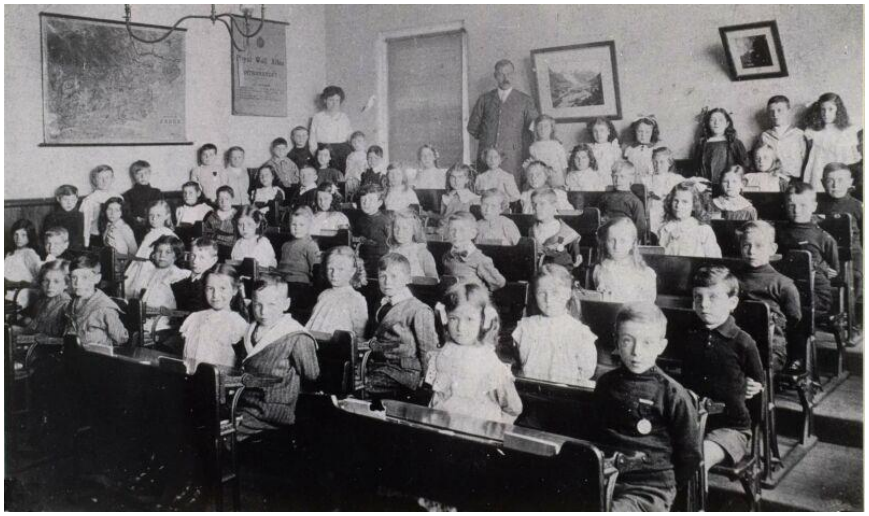
Education was designed to develop...

...future industrial workers.

HISTORY

Classrooms tended to mirror the workplace.

Early-1900s Workplace



Early-1900s Classroom

Even decades later…

1950s Workplace

1950s Classroom

HISTORY

In the 1980s, the paths began to diverge.

1980s Workplace

1980s Classroom

Despite workplaces changing dramatically, schools have stayed the same…

2012 Workplace

2012 Classroom

HISTORY

Technology has transformed America's workplace.

The muscle jobs and repetitive jobs have moved to cheaper labor centers in other countries. The remaining jobs require new skills that we must provide.

Opened 1914
Ford Motor Company
25,000 employees
250,000 square feet

Opened 2012
Apple iCloud Data Center
67 employees
500,000 square feet

But what about education?

HISTORY

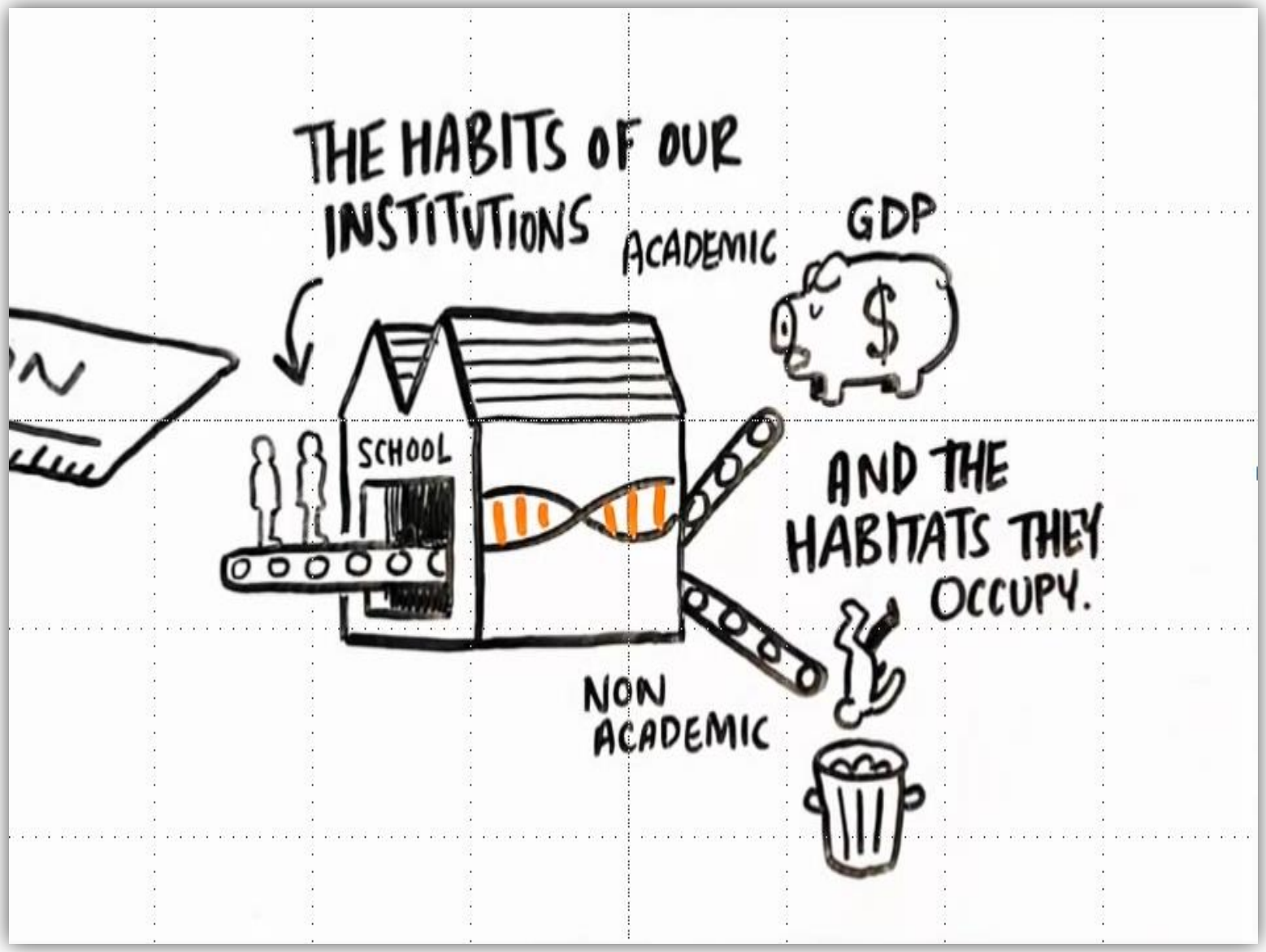
HISTORY

To many students, this is how education looks today...

SIR KEN ROBINSON

Why is education the way it is today … and what should it be?

SIR KEN ROBINSON



A 21st CENTURY EDUCATION

INSTRUCTION

Initially, education used technology this way…

INSTRUCTION

Then later, this way…

INSTRUCTION

Will your kindergarteners be prepared for the jobs available to them in 2025 when they graduate from high school?

Or in 2029 when they graduate from college?

INSTRUCTION

Should schools just focus on “what” students should learn?

… Or should they go beyond what they learn to also include how they learn and how they use what they learn?

INSTRUCTION

Just remember that skills are developed when…

- Students are engaged
- Learning is relevant
- Children are active learners
- Children are allowed to be inquisitive and resourceful
- Teachers are facilitators of active learning

INSTRUCTION

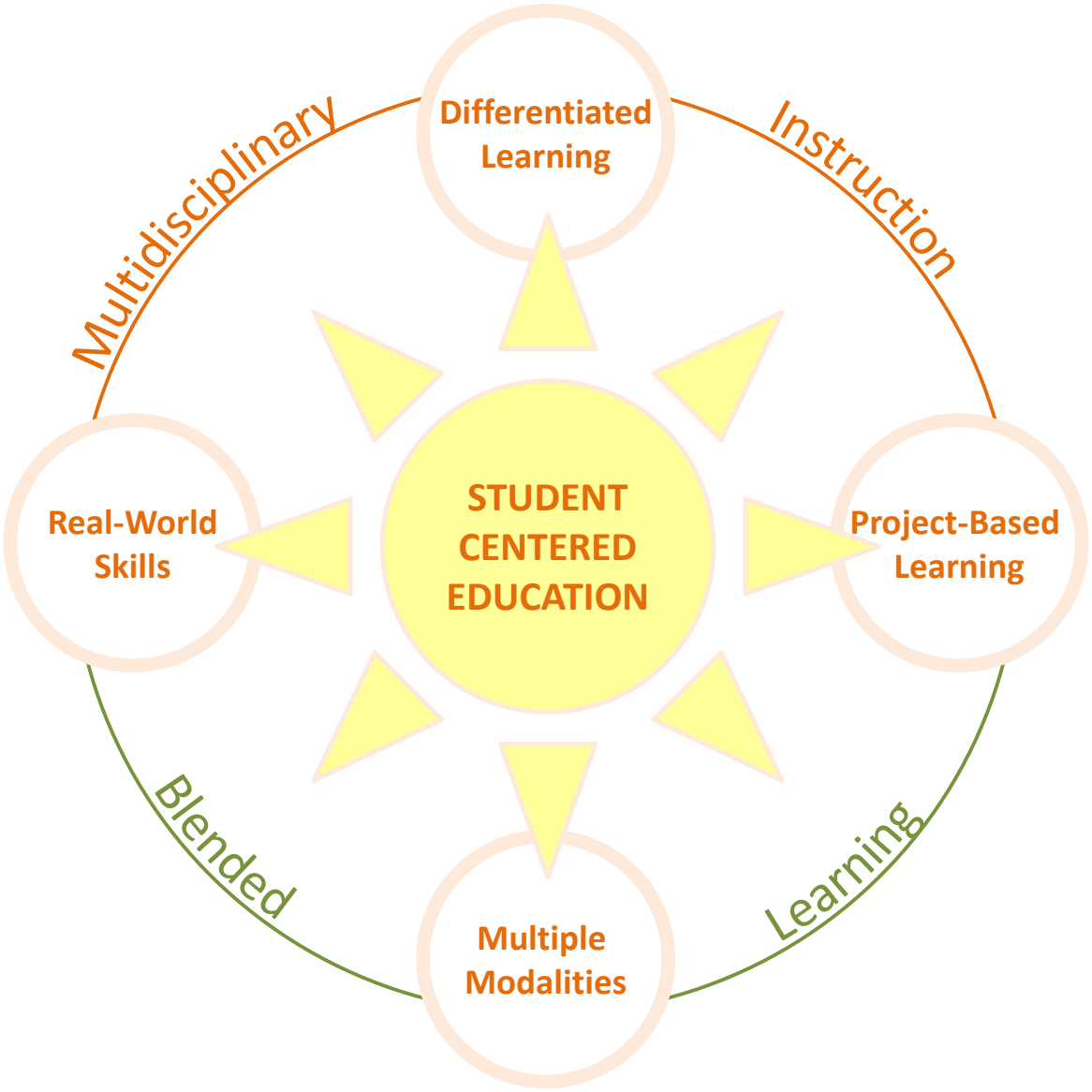
If education isn't relevant and interesting, students will find plenty of distractions…

INSTRUCTION

The smart use of technology in education is critical. Education must learn to leverage technology…

- To prepare students for the rapidly changing workplace
- To fully engage students who have grown up in the technological age
- To allow teachers to focus on the role of coaching rather than being the primary source of content

INSTRUCTION



SCHOOL OF ONE

STUDENT-CENTERED LEARNING

DIFFERENTIATED LEARNING

- Students are individuals with unique learning requirements, making a “one size fits all” curriculum ineffective.
- Students can better realize his or her potential if learning models are varied and personalized.
- Some students work best as individual learners, while others prefer one-to-one or group sessions.

Edutopia: Differentiated Instruction Ignites Elementary School Learning

MULTIPLE MODALITIES

- Education should reach a child in the manner they best learn.
- Some students are auditory learners, some are visual learners, and some are kinesthetic learners.

PROJECT-BASED LEARNING

- Students learn by doing, and the more relevant, the stronger the learning.
- Teachers coach rather than overtly give directions to the students.
- When the project has real-world application—especially one that is meaningful for students—student engagement is increased.

Edutopia: An Introduction to Project-Based Learning

MULTIDISCIPLINARY TEACHING

- New subjects are explored within the context of familiar, more approachable topics.
- Students learn to synthesize subject content across disciplines.
- Teachers are able to integrate their lessons with other subjects for a broader and richer experience.

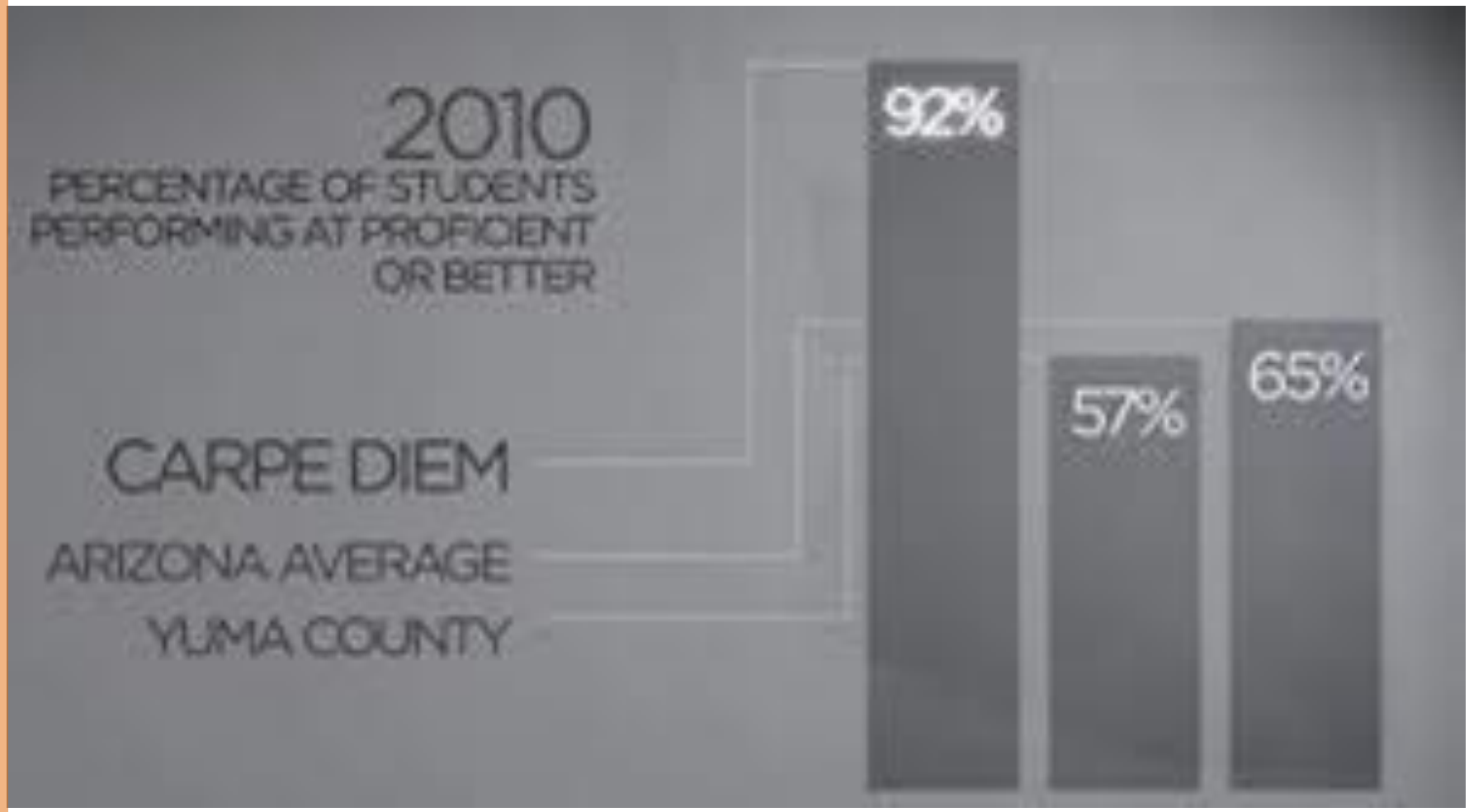
REAL-WORLD SKILLS DEVELOPMENT

- Students get hands-on instruction and learn to apply their knowledge within a challenging framework.
- Coursework aligned with business, technical, and career applications help students acquire the skills necessary for success in the world beyond school.

BLENDED LEARNING

- Teacher-led classroom learning is integrated with online computer education.
- Learners and educators can connect at any time and any place.
- Students have access to courses that otherwise might not be available at the school.
- Flipped classrooms, virtual schools, and online courses are examples of blended learning.

CARPE DIEM SCHOOLS



HABITS

Rethinking the way we teach…

Old habit:
The teacher
is the sage
on the stage.

HABITS

New habit:
The teacher is
the guide on the side.

HABITS

Teaming & Collaboration

HABITS

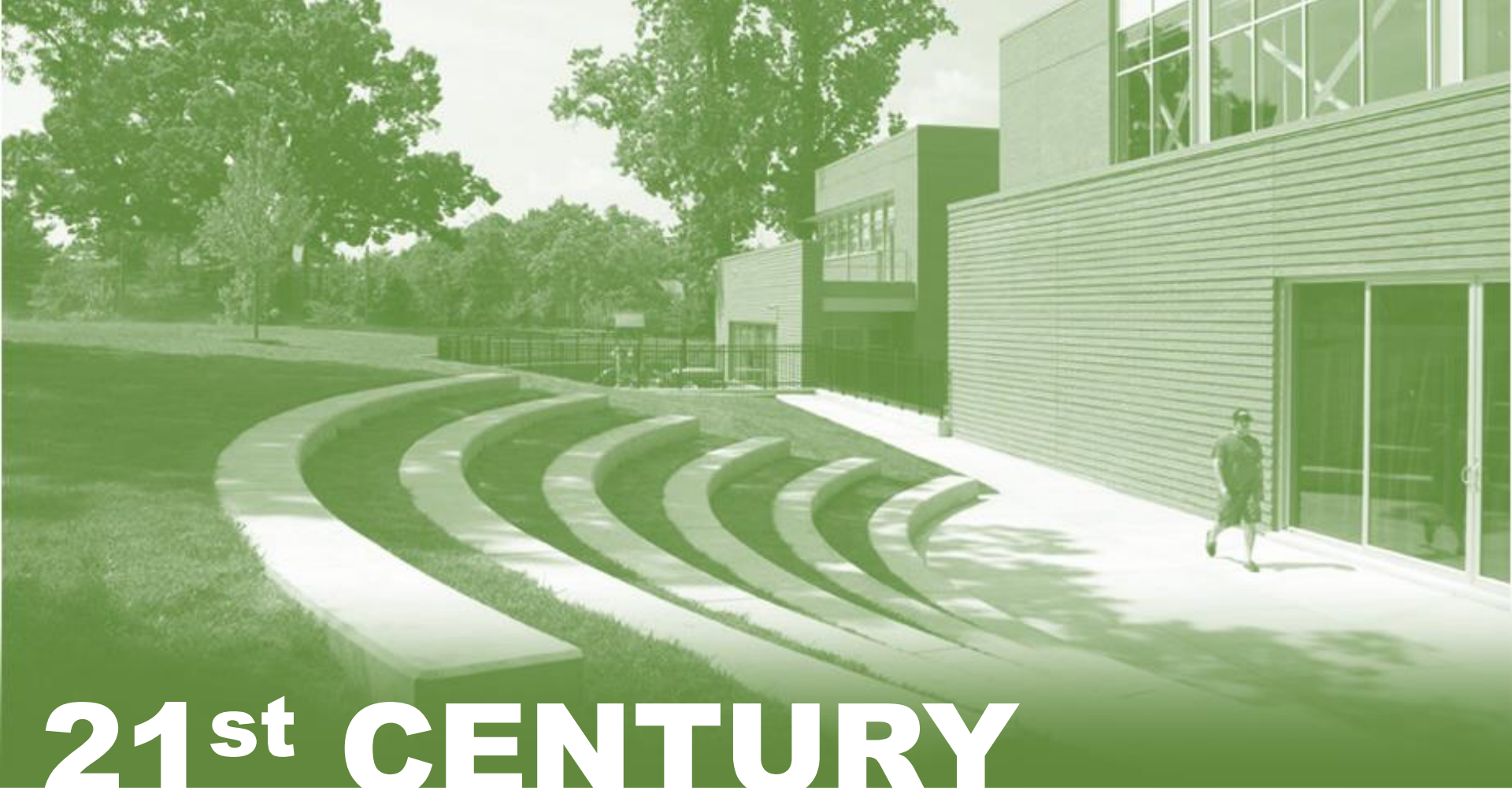
Experiential

HABITS

Mobile Learning

IN SUMMARY

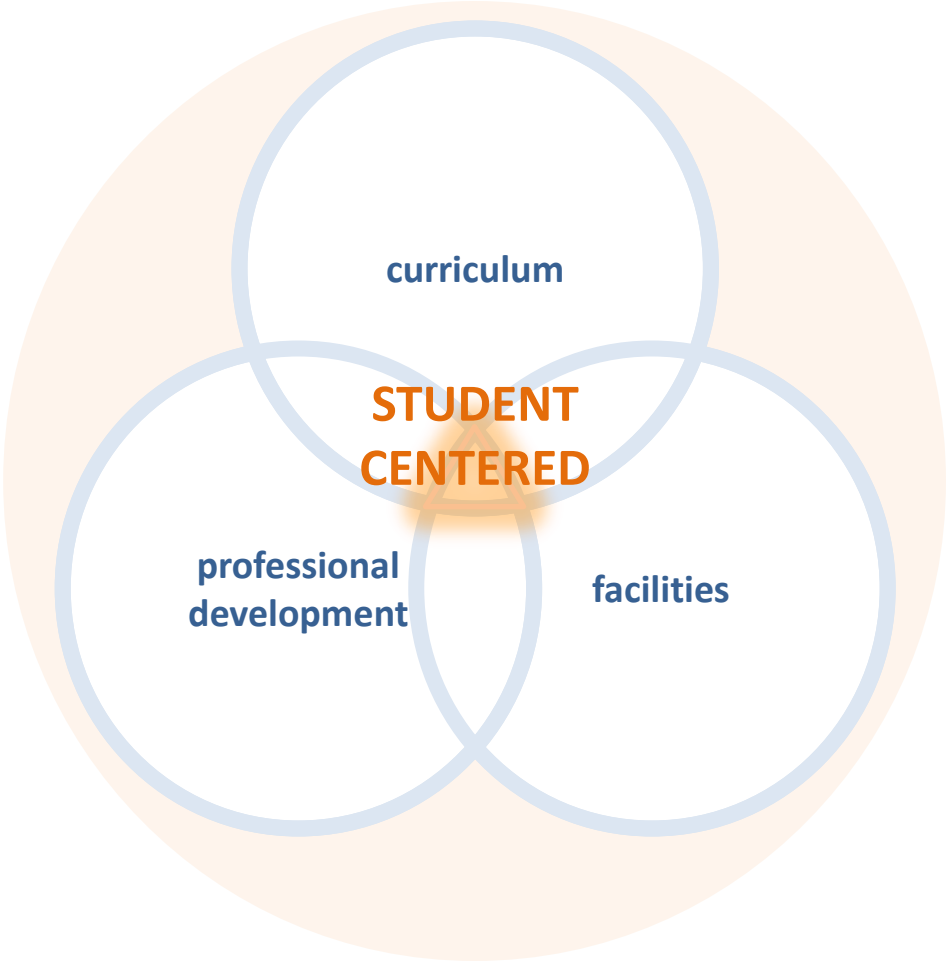
- Today's graduates require new skills to be successful in the 21st century.
- 21st-century schools—student-centered, project-based, blended learning, etc.—are designed to make learning relevant and to engage students growing up in the digital age.
- Teachers in 21st-century schools are changing their way of teaching—their habits—to become coaches rather than chief dispensers of classroom knowledge.
- Next, from habits to habitats…



21st CENTURY FACILITIES

HABITS & HABITATS

How do we use facilities to support 21st-century teaching and learning?



HABITS & HABITATS

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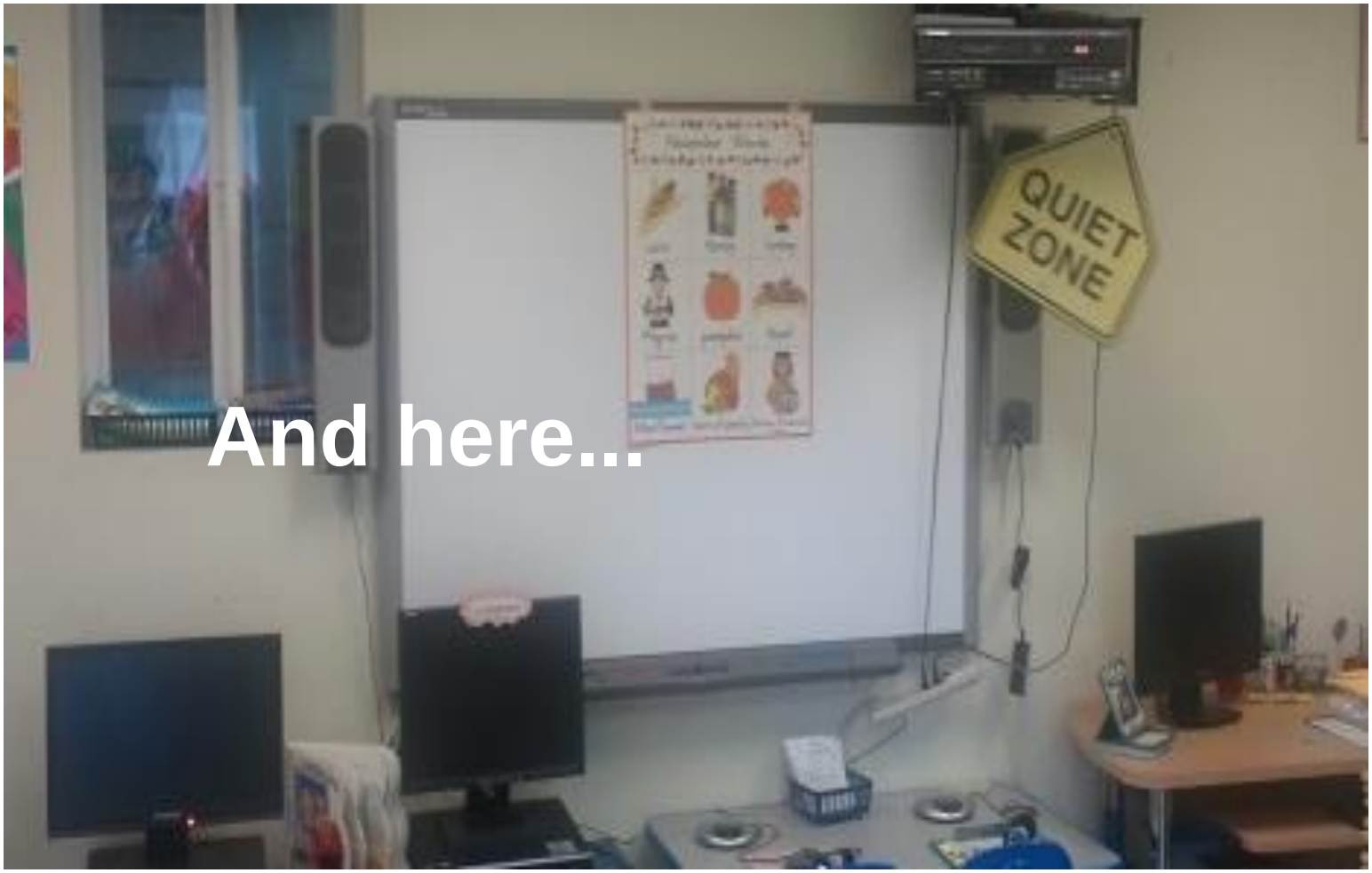
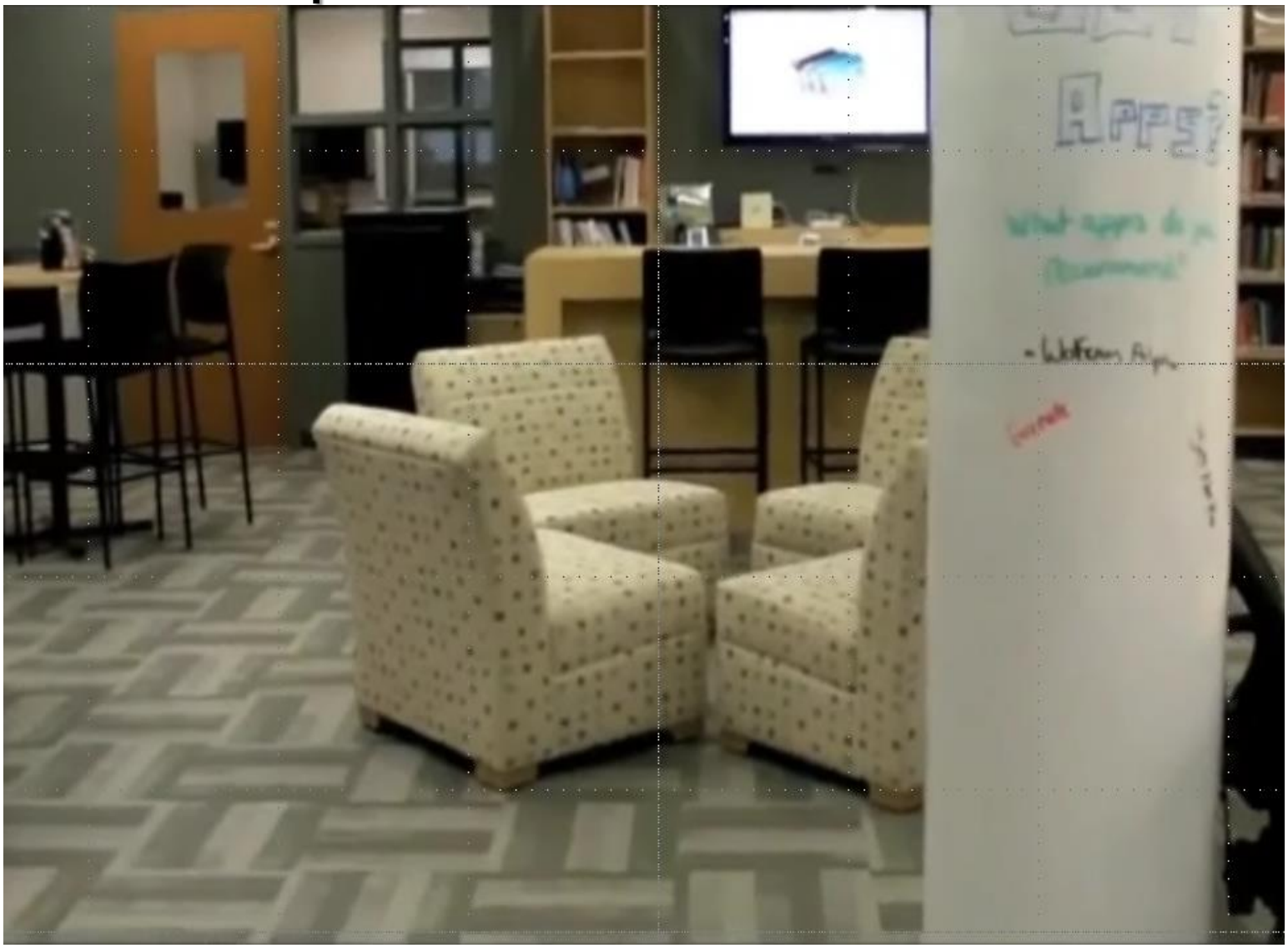


And here...

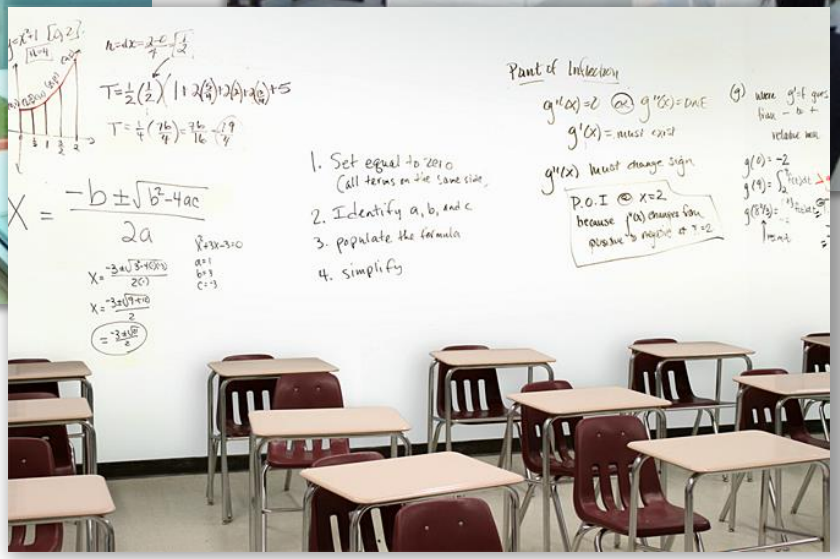
HABITS & HABITATS

IDEA

An Exemplar



SMART HABITATS



GREEN HABITATS

IMAGINATION HABITATS

gravity slide and bounce tube

photovoltaic panel

helix slide and stairs

soltice window pixelation

COMMUNITY HABITATS

FLEXIBLE HABITS AND HABITATS

Sarasota Florida – Tech Active Classroom

NEIGHBORHOODS

- The design is very unlike the open classrooms of the 1970's.
- This is the primary organizing structure that includes a variety of learning spaces for a small community of learners and teachers.
- These are made up of flexible and adaptable spaces that allow for instructional activities, including group and individual learning, project collaboration, team-building events, small-group sessions, and peer presentations.

COMMONS

- This place is considered the physical “heart” of the school.
- It can be multi-story and multi-purpose, and it links major school components together, blurring traditional boundaries.
- It provides for health and wellness activities.
- It is effectively the cultural and intellectual nucleus of a school.

STUDENT SUPPORT

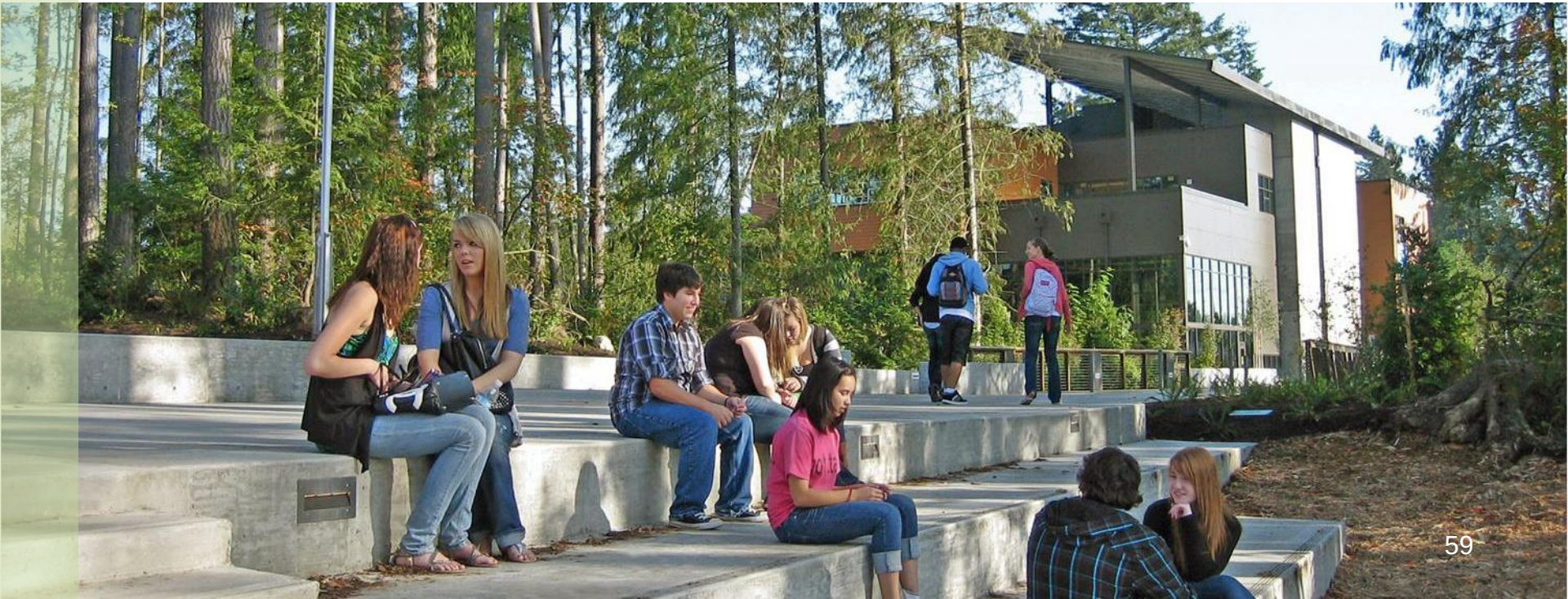
- This includes counseling and special education services; health services; professional development spaces; administrative offices.
- Professional development areas allow for both individual and collaborative work required for educators.
- These areas may be centrally located for efficiency but should be visually and physically accessible to students.

EXPLORATORY HABITATS

- These dedicated areas are critical for many learning experiences including:
  - Art
  - Music
  - Drama
  - Laboratories
  - Distance Learning
  - Career and Technical Education (CTE)
  - Occupational and Physical Therapy (OTPT)
  - JROTC

OUTDOOR LEARNING

- This may include everything from individual exploration to large-scale group projects and messy activities.
- Students can experience horticulture, including flower, fruit, and vegetable gardening.
- The boundary is blurred between nature and man-made.



TECHNOLOGY

This transparently and interactively supports learning that is:

- Whole group (20-30)
- Large group (6-8)
- Individualized

SUSTAINABILITY

Maximize

- Natural light
- Conservation learning opportunities
- Use of sustainable landscaping

Minimize

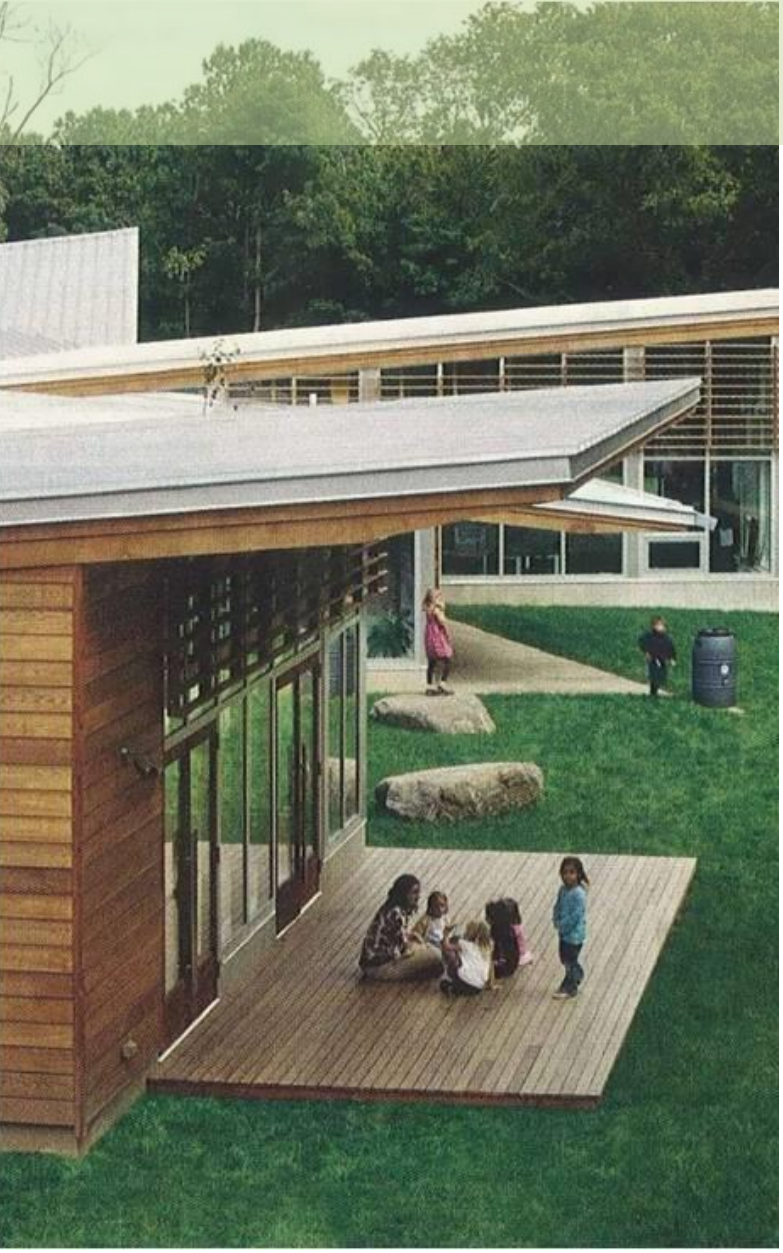
- Fuel usage
- Water usage
- Electricity usage
- Maintenance costs
- Training disbursements

SAFETY AND SECURITY

- Teacher prep areas place adults in closer and more direct contact with students.
- Students spend the day in the neighborhood and commons, which promotes a sense of belonging and identity.
- Safety is facilitated by student ownership of spaces.

SCHOOL TRANSFORMATION

Reformatting Existing Schools

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