Whole School Sustainability 101: Leading Green Schools for Vibrant Purposeful Learning

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Today’s Objectives

✓ DEFINE whole school sustainability/green schools
✓ DISCERN the benefits of WSS
✓ ACCESS assessment tools for identifying WSS practices
✓ DEVELOP action plan for cultivating WSS
OUR research and teaching is focused on the leadership and learning required for transforming schools into student-centered places that work more like nature and less like factories.

We believe this is good for learning and for our environment!
The major problems in the world are the result of the difference between how nature works and the way people think.

Gregory Bateson
The green, healthy, sustainable schools movement is perhaps the most important educational initiative of our time. *Leadership for Green Schools* does a magnificent job of conveying not just the importance of this movement but the significant role school leaders play in shaping the vision, purpose, shared leadership, and vibrant learning environments for teachers as they prepare young people for an uncertain future.

Jennifer Seydel, Executive Director, Green Schools National Network
VISION
• Love of learning
• Restorative impact – people & planet

HEALTHY CONTEXT
• Connecting with community
• Healthy, High Performing Buildings

ENGAGED LEARNING
Time in nature improves learning
Place, Problem, Project –based learning

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Monument to the Industrial Age
The Factory Model in School

• Assembly line ➔ • Hallways
• Grades ➔ • Grades
• Rigid schedules ➔ • Bells
• Standardization ➔ • Standardization
• Sorting ➔ • Gifted, LD, etc.
• Products ➔ • Students

1. Children are deficient and schools fix them.

2. Everyone learns or should learn in the same way.

3. There are smart kids and less smart kids.

4. Learning takes place in the classroom, not in the world beyond.

5. Knowledge is inherently fragmented – contained in categories and separate courses.

Mechanical Systems

• Tend to be rigid
• Tend to be linear
• Tend to have simple cause and effect relationships
• Do NOT learn, adapt, change
Factory Model Is Failing

• Low teacher & student engagement
• High levels of teacher & student stress
• High numbers of discipline referrals
• High rates of teacher & student absenteeism
• Students leave school early (high dropout rates)
• Teachers leave the profession early

The factory model does not serve our innate LOVE of LEARNING
FROM FACTORY MODEL THINKING TO ECOLOGICAL MODEL THINKING
“The work of our successful principals strongly suggests that they thought of their organizations as living systems, not machines.”

(Leithwood & Day, 2007, p. 200)
Whole School Sustainability is about restoring our relationship with nature and each other in order to better serve our learning needs, our communities, and our planet.
Promises of Whole School Sustainability:

➢ Maximize conditions for the love of learning to thrive
➢ Enact nature’s leadership lessons
➢ Model and cultivate social, economic and environmental stewardship
1. Cedarsong Forest Kindergarten (Vashon, Washington)

Kids at Cedarsong head off to another adventure in the forest. Photo by Cedarsong Nature School used with permission.

FOREST SCHOOLS

http://www.upworthy.com/see-adorable-photos-of-7-forest-schools-from-around-the-country?c=upw1&u=2447cab6b69674110517111fb74d2033bb72a4456

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A little snow and ice can’t keep these kids from having fun. Photo by Worldmind School, used with permission.

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PROVIDE ACCESS TO NATURE

• Positive relationship between access to nature and the well-being of children (Noddings, 2006, 2013; Kuo & Taloor, 2004; Louv, 2005)

• Outdoor activities encourage more creativity than those in classrooms (Lindholm, 1995)

• Naturalness factors accounted for approximately 50% of the facility design’s impact on learning (Barrett, Davies, Zhang, & Barrett (2015))
LIVING SYSTEMS

Kellam High School, Virginia Beach City Public Schools

INSPIRED BUILDINGS

Architect: Takaharu Tezuka, Tokyo, Japan

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Each dollar spent today realized two dollars in future savings

(Gelfand, 2010)

33% energy reduction, 32% reduction in water use, reduced M&O costs

healthy, high performing (CHPS)

healthy environment, conducive to learning while saving energy, resources & money (USGBC)
BUILDINGS THAT PROVIDE ABUNDANT CLEAN AIR, NATURAL LIGHT, AND THERMAL COMFORT

• Study of 140 fifth grade classrooms, 3109 students, revealed statistically significant association between ventilation rates and mathematics scores (Haverinen-Shaughnessy & Shaughnessy, 2015)

• Access to natural light associated with achievement (Barrett, Zhang, Moffat, & Zobbacy, 2013; Kuller & Lindsten, 1992; Mayron, Ott, Nations, & Mayron, 1974)

• Robust literature documents the effects of temperature and humidity on occupants’ comfort and productivity (Wang, Federspiel, & Arens, 2005; Wyon, 2004)
Chattahoochee Hills Charter School

• Public charter, lottery; open 2 years
• Serves low income families from under performing schools
• Lowest absences due to illness in region
• Reading scores: 17pts above national average and 26pts above regional average
• MOST growth across 100 schools in district
Eagle Mountain Elementary School, Texas

• Added 4-15 minute recess sessions to school day
• Brain studies show improved learning after physical play
• Reduced fidgeting, increased attention
• Students were ahead of academic schedule halfway through the school year
Promises of Whole School Sustainability:

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- Enact nature’s leadership lessons
- Model and cultivate social, economic and environmental stewardship
Factory Model ➔ Silos

School/District

Buildings & Grounds

Learners

Curriculum

Nature
School/District

Green Building
Green Landscaping
Green Cleaning
Recycling

Environmental Clubs

Environmental Education

Buildings & Grounds

Learners

Curriculum
Building & Grounds

Learners

Curriculum

HEALTHY ECOSYSTEMS

ENGAGED COMMUNITY

CARING CULTURE

OCCUPANT HEALTH & WELLEING

3-D, LIVING TEXTBOOK

ACTIVE & ENGAGING

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• IAQ
• THERMAL COMFORT
• WATER QUALITY
• NATURAL LIGHT
• FRESH AIR
• OUTDOOR CLASSROOMS
LEARNING THAT IS:
• PLACE-BASED
• PROBLEM-BASED
• PROJECT-BASED

ACTIVE & ENGAGING
USE THE BUILDING & GROUNDS TO TEACH CONTENT
• Energy/Water Conservation
• Gardens
• 21st Century Skills

Building & Grounds

Learners

Curriculum

3-D, LIVING TEXTBOOK

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Innovative Teaching
Building & Grounds

Learners

Curriculum

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Action Planning for WSS
Cultivating Shared Vision
Assessment Tools for Informing Action Planning

U.S. DEPARTMENT OF EDUCATION
Green Ribbon Schools
https://www2.ed.gov/programs/green-ribbon-schools/applicant.html

School Sustainability Self Assessment
Nature
• Reduced CO2 emissions
• Reduced ecological footprint

Society
• Community connections
• Sustainability natives
• Address equity

Budgets
• Reduced energy/water bills
• Reduced trash hauling fees
• Increased funds for learning

Well-being
• Toxic-free
• Natural light
• Fresh air
Leading Green Schools for Vibrant Purposeful Learning

• Our connection to nature
• Childhood well-being and love of learning in school
• School-community interdependence
AND
• Our natural systems
WHOLE SCHOOL SUSTAINABILITY OFFERS A POWERFULLY ENGAGING VISION FOR A BETTER WORLD ... AND THE PATHWAY FOR GETTING THERE

THANK YOU