Dr. Cathy Mincberg – President – the Center for Reform of School Systems
Mr. Sam Wilson – K-12 Market Segment Leader – Jacobs

DoDEA 21st CENTURY WORLD CONGRESS SPEAKER SERIES

Department of Defense Education Activity (DoDEA)
August 2012
Introduction
- Objectives
- History of Education
- Activity and Discussion: 21st Century Worker Characteristics
- Video and Discussion: Sir Ken Robinson

Instruction
- Current Approaches
- 21st Century Habits and Habitats

Programming
- 21st Century DoDEA Programming: Students for the Future
- Activity and Discussion: Instilling 21st Century Skills

Facilities
- Video and Discussion: The Third Teacher
- Discussion: 21st Century Design and Construction Strategies
- 21st Century DoDEA School Facility Concepts
- Aligning Facilities with Programming and Instruction

Discussion
- Q&A
What are the expectations for this session?

- To understand why the education reforms of the 1900’s are hindering education in 2012.
- To create an understanding of 21st Century teaching and learning support systems, behaviors, and tools.
- Establish the link between facility design and instruction.
- To develop strategies for facility design and construction process that lead and support the needed change.
Imagine...

You are a facility planner in 1912!

What was education like in 1912?

- Who was the teacher?
- Where did students live?
- What kind of education did they need for success in the 1900’s?
HISTORY

Now – imagine...

...designing a school for 2012?

The standard was set in 1892!
HISTORY

Education was designed to...

...develop career-ready workers.
HISTORY

Education was designed to...

...develop future industrial workers.
HISTORY

This is how education looks today...

...have we changed?
HISTORY

This is how education looks today...

...how is this relevant?
Why is education the way it is today...
...and what should it be?
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?
INSTRUCTION

Computer cramming!
INSTRUCTION

Cooler computer cramming!
HABITS

Teachers
HABITS
Student-Centered
HABITS
Teaming & Collaboration
HABITS
Blended Learning
HABITS

Mobile Learning
HABITS
Experiential
DoDEA
21st CENTURY PROGRAMMING
PROJECT-BASED LEARNING

- a learning tool where students use inquiry to develop a solution

- teachers facilitate learning, but refrain from overtly directing the students

- when the project has real-world application—especially one that is meaningful for students, student engagement is increased.

- can also encourage emotional and social maturity
**Differentiated Learning**

- Students are individuals with unique learning requirements and a “one size fits all” curriculum will not be successful.
- Learning models must be personalized and varied to empower each student to realize his or her potential.
- Some students work best as individual learners, while others prefer one-to-one or group arrangements.
MULTIDISCIPLINARY TEACHING

- multidisciplinary teaching can provide ways of exploring new subjects within the context of familiar, more approachable topics
- the process would teach students to synthesize subject content across disciplines
- allow for teachers to integrate their lessons with other subjects for a broader and richer experience
Education must evolve beyond the traditional classroom configuration

Provide spaces that can respond to a variety of concurrent instructional activities including team-building events, small group sessions, individual learning, peer presentations, and large group instruction

Sharing spaces increases the usefulness of each room by keeping it utilized for more hours of each day
**Blended Learning**

- Integrates various learning environments, combining instructor-led classroom learning with mobile and online computer education.

- Greater scheduling flexibility and options; learners and educators can connect at any time and any place.

- Tools such as videoconferencing, television, cellular telephones, laptops and tablet computers can be effectively used in blended learning strategies.
REAL-WORLD SKILLS DEVELOPMENT

- Learning environments need to provide hands-on instruction and the opportunity for students to apply their knowledge within a challenging framework.

- Aligning coursework with business, technical, and career applications will help students acquire the skills necessary for success in the world beyond school.
STUDENT CENTERED EDUCATION

- Differentiated Learning
- Project-Based Learning
- Multiple Modalities
- Real-World Skills
- Multidisciplinary Instruction
INSTILLING 21st CENTURY SKILLS

- Where are we along that path?
- What more do we need to do?
- Why is this important?
DoDEA
21st CENTURY FACILITIES
HABITS & HABITATS

How do we use the built environment to support 21st Century Teaching and Learning?
HABITS & HABITATS

To get from here...
HABITS & HABITATS

And here...
HABITS & HABITATS

To the FUTURE
DISCUSSION

21st Century Project Design and Construction Strategies

- How does today’s process reinforce the status quo?
- Are there alternatives? And if so, what does it take to make it happen?
- How would today’s process need to change to fit 21st Century teaching and learning?
HABITS & HABITATS
SMART SPACES

[Images of educational environments and mathematical equations]

40 | Slide
GREEN SPACES
IMAGINATION SPACES

- gravity slide and bounce tube
- photovoltaic panel
- helix slide and stairs
- solstice window pixelation
FLEXIBLE HABITS
AND HABITATS
NEIGHBORHOOD

- the primary organizing structure for a variety of learning spaces for a small community of learners and teachers

- provides flexible and adaptable spaces that allow for instructional activities, including individual learning, student-led project collaboration, team-building events, small group sessions and peer presentations

- general learning settings; an inclusive learning disabilities program; spaces for teacher collaboration and professional development; home-school partnerships; and storage and rest rooms
COMMONS

- a place considered the physical “heart” of the school
- this space can be multi-story and multi-purpose and will link major school components together, blurring traditional boundaries
- provides for health and wellness activities
- effectively the cultural and intellectual nucleus of a school
STUDENT SUPPORT

- counseling and special education services; health services; professional development spaces; and administrative offices
- professional development areas are crucial and must accommodate 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
Dedicated, purpose-built areas are critical for many learning experiences. Learning experiences including:

- Art
- Music
- Drama
- Laboratories
- Distance Learning
- Career and Technical Education (CTE)
- Occupational and Physical Therapy (OTPT)
- JROTC
OUTDOOR LEARNING

- may include everything from individual exploration to large-scale group projects and messy activities
- experience is horticulture, including flower, fruit, and vegetable gardening
- blur the boundaries between nature and man-made
Technology

Transparency and interactively supports:
- 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 expenditures
SAFETY AND SECURITY

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

- Professional development
- Collaboration
- Student centered
- Consistency
- Communication
- Leverage technology
- Communities
DESIGN THEMES

Outdoor Learning

Neighborhood

Exploratory Spaces

Commons

Student Support
DoDEA DIAGRAM

ALL SCHOOL COLLABORATION

OUTDOOR LEARNING

PLAY ENTRY

OUTDOOR LEARNING

PLAY ENTRY

NEIGHBORHOOD

HUB

STAFF P&C

STAFF P&C

COMMONS

(gymnasium)

SUPPORT (building)

EXPLORATORY LEARNING

COMMONS

NEIGHBORHOOD

HUB

STAFF P&C

HUB

SUPPORT (student)

ADMIN

ARIVAL

COMMUNITY

CONNECTIONS

BUS ENTRY

MAIN ENTRY

KINDERGARTEN ENTRY

Bob Hope Elementary School, Okinawa, Japan
Bob Hope Elementary School, Okinawa, Japan
Bob Hope Elementary School, Okinawa, Japan

DoDEA DIAGRAM

NEIGHBORHOOD ADJACENCY DIAGRAM

Outdoor Learning

Natural Light

Learning Hub

Teacher Collaboration

Restrooms

Storage

Student Services

Access

Learning Studio

1/1

Group Learning

1/1

Learning Studio

1/1

Learning Studio

Learning Studio

Commons
Bob Hope Elementary School, Okinawa, Japan
How Can Facility Planners, Designers and Builders Make a Difference?

- Respect the planning and professional development time vs. facility completion and delivery time
- Use all available systems to improve the facility delivery process
  - Engagement of school/district leadership is critical
  - Make process fit the needs
    - Design
    - Pre-construction pricing, scheduling and implementation
    - Construction and commissioning