Beyond Brick and Mortar

Presented by Union County Public Schools:

Mike Webb, Ed. D.
Associate Superintendent of Building Operations

Mary Ellis, Ed. D.
Deputy Superintendent of Instructional Programs

Donald S. Hughes, AIA
Executive Director of Facilities
Beyond Brick and Mortar

• This presentation is about how the “building” should support the purpose of a “school.” Green Schools as a teaching tool is for another seminar.

• Driving forces of change documented by:
  • The World is Flat: A Brief History of the Twenty-First Century by Thomas Friedman
  • The World is Open: How Web Technology is Revolutionizing Education by Curtis Bonk
Beyond Brick and Mortar

- Look beyond what we know now
- New technologies is making the world FLAT and OPEN
- Schools need to be learning tools that complement and reinforce education – a facility that is conducive to learning.
- Regardless of the instructional delivery model the facility should be a part of the curricula.
  - The greatest challenge is in existing schools where technology and core and instructional spaces are established.
- Instruction is the most important goal
  - Planning for the unknown future curricula and technologies
  - Integration from all “users” in an interactive design process
- Student instruction is the mortar that holds the bricks of the building together.
UCPS Background

- UCPS School Construction Program
- Meet the needs of rapid high growth
- Use of and modification of Prototype Designs
  - (2) high schools (1 built, 1 not built)
  - (2) middle schools (1 built, 1 not built)
  - (3) elementary schools
UCPS Rapid High Growth

Union County Public Schools
Student Population Increase

* Chart includes Pre-K enrollment
UCPS Construction Program Funding

• School Bond Referenda:
  • 1998 $52.7 mil
  • 2000 $55 mil
  • 2002 $70 mil
  • 2004 May $100 mil
  • 2004 Nov. $49.5 mil
  • 2006 $174.5 mil

• County COPs:
  • 2006 $80 mil

• Total $581.7 mil
UCPS Construction Program

- School construction projects since 2001:
  - (14) elementary schools
  - (3) middle schools
  - (3) high schools
  - (1) technology and arts high school
  - (1) high school Media Center Replacement
  - (1) EC school (LEED Certified)
  - (7) classroom elementary school additions
  - (1) 6 classroom middle school addition
  - (5) high school gymnasiums
  - (4) cafeteria/kitchen replacements
  - Other miscellaneous small projects
New MS/HS Prototype 2008 (bidding stopped, not built)
Changing Needs in Instruction

- Changing educational pedagogy from “sit and get” to inquiry-based learning
- Aligning stakeholder/construction/instruction visions to graduate children
- Meeting need of all (mainstream programs, virtual programs, exceptional children, alternative programs, etc.)
Construction Supports Instruction

- Vision
  - District
  - Architect
- Activity
- Construction supports instruction
- Communal Space
21st Century Instruction Practices

- Technology devices as the Great Equalizer
- Cafeteria possibilities
- Learning pods/The Pit
- Classroom possibilities
- Bonk’s version of the future (that is NOW)
Technology Blended Learning

- How will technology influence future buildings
- Technology blended learning
- Virtual Learning
- Start challenging the existing system
  - Media Center
  - Cafeteria
- Mobile Learning: Not Just Laptops
- The facility should provide the ability for anywhere, anytime learning
Future Adaptability?

- Factors driving the design buildings:
  - Architects – water, gravity, money (Hugh Jacobsen)
  - Educators – Audience, Tone, Purpose
- Buildings adaptable for 50 years?
- EdSpec Changes:
  - Wireless Connectivity - Limited technology wiring $$
  - Distance Learning versus Virtual
  - Media Center: Reduce size and modify use; don’t bring them in, take the information to them – shared MS & HS
  - Cafeteria: Utilize for more than eating – Cyber Café
  - Cyber Pods: Add Informal Learning Areas
  - Auditorium: additional uses and break down the walls of separation
  - The Pit: Cyberize and increase use for informal learning
New MS/HS Prototype – Spaces to Question

- Media Center
  - MS = 7,000 sq. ft.   HS = 12,000 sq. ft.   Total 19,000 sq. ft.
- Band/Chorus
  - MS = 3,600 sq. ft.   HS = 5,100 sq. ft.   Total 8,700 sq. ft.
- Cafeteria square feet
  - MS = 6,000 sq. ft.   HS = 6,000 sq. ft.   Total 12,000 sq. ft.
- Auditorium
  - Shared = 13,861 sq. ft.
- The Pit
  - MS only = 2,341 sq. ft.
Shared Spaces @ Current Prototype
Future MS/HS Prototype

Media Center (Communal)
Add Classrooms
Cyber Pods
Informal Learning Areas
Cyber Café & Pit
Look at the Future - MS/HS Prototype Revision

- Combine Media Center
  - Shared = 9,000 sq. ft.
- Combine Band/Chorus
  - Shared = 5,100 sq. ft.
- Add Cyber Pods – informal
  - Add 3,600 sq. ft. of classroom to provide for Cyber Pods
- Total sq. ft. saved 10,000 sq. ft.
- Cafeteria square feet
  - MS = 6,000 sq. ft.  HS = 6,000 sq. ft.  Cyber and increase use
- Computer Classrooms – combine and share?
- Auditorium
  - Shared = 13,861 sq. ft.  Knock down the walls, increase use
- The Pit
  - MS only = 2,341 sq. ft.  Provide wireless, increase use
Student instruction is the mortar that holds the bricks of the building together.

- “Form Follows Function” – Louis Sullivan
- “Less is More” – Mies van der Rohe

• Special thanks to those who helped with input, brainstorming, and images:
  - Tom Balke – Little Diversified
  - Tom Carlson-Reddig – Little Diversified
  - Dennis Yates – YCH Architects
  - Mike Esposito – ADW Architects