



Work Session #3 Report

Issued August 19, 2011

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Facilities for **21ST** Century Learning

ABSTRACT

WORK SESSION #3

This abstract provides a four-page summary of the published report that documents the results of Work Session #3.

On June 21-24, 2011, some of the most highly-regarded design leaders of 21st Century K-12 facilities gathered for a collaborative forum: **Incorporating Innovation into Design**. The purpose of the sessions was to integrate the creative results of Work Session #1 with the ideas and perspectives discussed in the results of Work Session #2, to achieve options for facility design. These results will impact the development of more than 100 DoDEA schools that are slated for replacement or renovation in the next five to seven years.



OUTCOMES

The results of Work Session #3 provided direction for DoDEA's Facilities for 21st Century Learning. These facility responses were centered on space types and facility organization for both primary and secondary schools. Specifically, the work session accomplished the following:

- Provided an opportunity for leading school designers to discuss current thinking on facility responses to 21st Century learning through the presentation of examples.
- Provided the subject matter experts opportunity to discuss educational paradigms and craft a flexible space topology.
- Developed ideas for accommodating future change.
- Provided direction for an environmentally sustainable facility.
- Developed direction for the overall organization of spaces to enhance the learning environment.

The outcome from the work session provided general direction and clarity for updating and improving the current DoDEA Educational Specifications.



The Jacobs prepared a report summarizing the results of Work Session #3.

DoDEA has an incredible opportunity to first define the instructional pedagogies it will deploy globally across its 194 schools, and then design and construct almost 60 percent of its school portfolio to support that pedagogy with innovative, flexible, sustainable, high technology, safe, and secure schools that embrace the digitally native students of today, preparing them for the knowledge-based economy they will most certainly face.

GUIDING PRINCIPLES - FACILITIES

Resulting from continued visionary dialog, the participants developed three guiding principles that represented the most prominent and significant key points for Facilities for 21st Century Learning— recognized as consistent with existing DoDEA Education Guiding Principles and the DoDEA Mission and Vision:

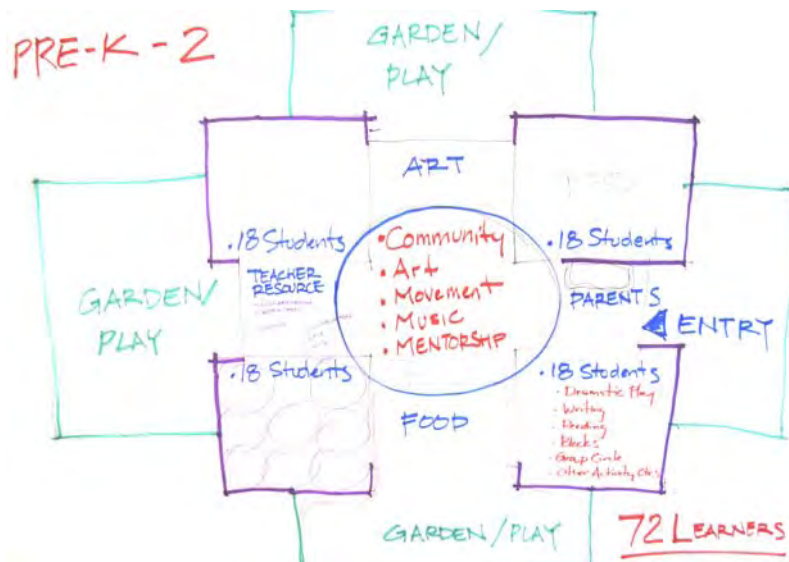
1. **Provide Student-Centered Facilities for all learners**
2. **Be Flexible and Adaptable**
3. **Be Global Community-Centered - within the school and encompassing the local and global community**

COMPONENT DEFINITIONS

Work Session #3 evoked sustained dialog about the facility components for 21st Century education. Participants considered the Neighborhood model and Core Spaces to be primary components for 21st Century education facilities.

Neighborhood Model

Based on ideas originated during Work Session #1, and reinforced during Work Session #3, “Neighborhood” model evolved as a recurring theme or concept. The Neighborhood provides learners an atmosphere that provides for both group and individualized learning opportunities. The Neighborhood is the home of flexible and adaptable spaces for a small community of learners and provides a wide variety of spaces. Neighborhoods can also include smaller or dispersed elements of traditionally central functions, such as administration, counseling, and labs. Neighborhoods should ideally have a small commons or gathering space which can help solidify a sense of community.



Facilities for 21ST Century Learning

Core Spaces

The Core Spaces are considered to be the shared activity spaces, as well as the center of school and community activity. The following list of spaces and definitions represents what was most often allocated as Core Spaces during team breakout sessions: The Commons, Athletics/PE, Performance, Community Spaces, and Food Preparation.

Other Specific Space Types

Participants considered a variety of types of spaces during Work Session #3, both in break-out group settings, as well as when collaborating in teams. Many of these spaces were recommended for placement within the Neighborhood once that model was developed:

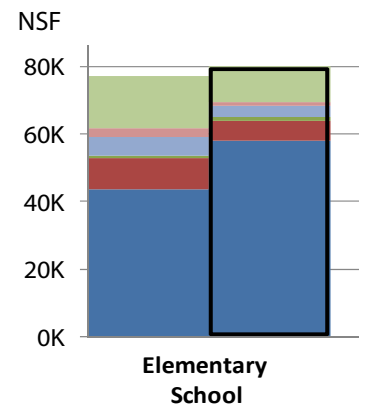
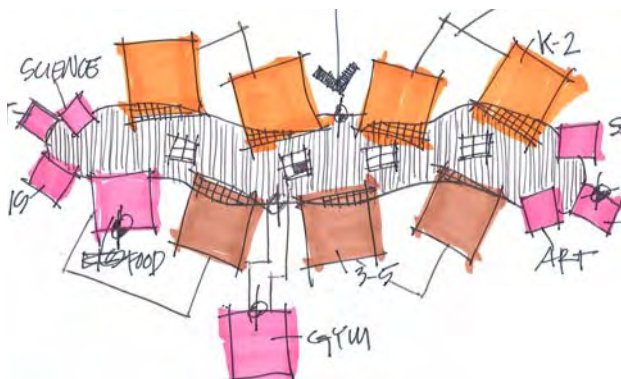
- Learning Studios
- Language Arts
- Early Childhood
- Information Center
- Food Court
- Small Group Spaces
- Math / Science
- Educator Spaces
- Technology

GAP ANALYSIS

The comparison of the existing DoDEA space standards with the Facilities for 21ST Century Learning emerging recommendations was developed by Jacobs. This gap analysis was initiated during Work Session #2 and integrated the anticipated new spaces uncovered during Work Sessions #1, #2, and #3 into a comparison with the existing DoDEA space and area requirements. The potential changes to the DoDEA space standards are addressed in each of the specific concept designs for the four school types within this report.

CONCEPT DESIGNS

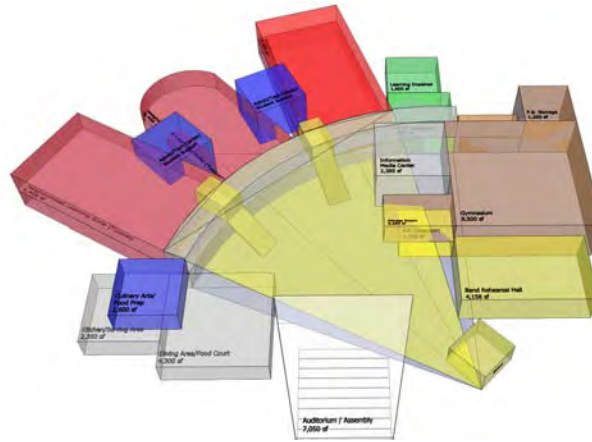
The work session culminated with developing the guiding principles and Neighborhood models into concept designs for four school types: Elementary School (K-5), Middle School (6-8), High School (9-12) and Unit School (preK-12). Based on the specific school space lists, each team developed adjacency diagrams, blocking and stacking diagrams, concept floor plans and perspective sketches.



FINAL CONSIDERATIONS

Some unresolved issues include critical transitions necessary to achieve the goals of 21st Century schools. These transitions involve primarily the availability and use of technology, professional development of teaching staff, operational times and access for student learning (i.e. extending the school day or year round school), competency versus grade-based instruction, and changes in assessment techniques.

Another matter that surfaced is the need for budgets to allocate sufficient funds for furniture, fixtures, and equipment (FFE) - perhaps requiring a shift in funding from construction dollars that traditionally include only fixed equipment.



WHAT WAS LEARNED

The activities of Work Session #3 provided a synthesis of the major themes for 21st Century education with the experience of DoDEA stakeholders that produced key insights into design precepts. These precepts for design

of 21st Century schools include the following:

- Flexible “Neighborhood” organizational themes that include a variety of physical learning settings
- Shared Core Spaces (Outside the “Neighborhood”) for functions used by more than one Neighborhood, such as gym and auditorium
- Shared Commons Spaces for performance, presentation and gathering spaces—the “heart” of the school
- Moving some learning environments to the net-to-gross spaces (space typically unassigned circulation)
- Recognize the school facilities as learning tools
- Merging indoor and outdoor learning settings
- Recognize strategic role of moveable furnishings (FFE) in forming differentiated learning spaces
- Sustainable design elements including active and passive incorporation of sustainable design technologies
- Warm, safe, and secure design

In addition to these insights, the **quality of spaces and experiences** provided by the school design were considered important design factors and were incorporated into the concept designs for the DoDEA school types.

NEXT STEPS

Looking ahead from the successes of all three work sessions, DoDEA must now establish a clear and concise direction for future school planning and design. The next steps for DoDEA 21st Century schools are to build consensus around the key themes, identify central organizing elements, and set the stage for design criteria to be included in the educational specifications and design manuals that will serve designers for the next five to ten years.

DODEA HAS AN INCREDIBLE OPPORTUNITY TO FIRST DEFINE THE INSTRUCTIONAL PEDAGOGIES IT WILL DEPLOY GLOBALLY ... WITH INNOVATIVE, FLEXIBLE, SUSTAINABLE, HIGH TECHNOLOGY, SAFE, AND SECURE SCHOOLS THAT EMBRACE THE DIGITALLY NATIVE STUDENTS OF TODAY ...



▶ Source: Birrelli Architects



INTRODUCTION

OBJECTIVE

In January of 2011, President Obama released a report directed at strengthening our military families. One of the President's top four priority areas is education—the report specifically endorses an initiative to ensure educational excellence for children of military families. In order to guarantee that the families of our military personnel have access to world-class K-12 educational facilities, the Department of Defense Education Activity (DoDEA) sought progressive expertise that incorporates concepts for innovation in education curriculum, the use of future technology, and current best practices in facility design including the growing expectation for sustainability. This report takes into account current trends in all three of these areas — cutting edge curriculum, instruction technology, and sustainable yet flexible design — to develop a vision for a dynamic student-centered learning environment, with a recommended path for achieving this goal.

MISSION STATEMENT

DoDEA operates 194 schools serving 86,076 students. Additionally, American servicemen and women have over 1.2 million students in local educational agencies (LEA's). Considering only DoDEA schools, this identifies DoDEA as the 34th largest school system in the nation, just ahead of Jefferson County Public Schools, west of Denver and the largest school district in the state of Colorado. Looking at the total number of schools, DoDEA is the 21st largest school system just after Baltimore City Public Schools. By some measures, DoDEA is like any other large school district with all of the challenges present in our nation's public schools, including student achievement and dropout rates, curriculum, technology, teacher performance, and facilities improvement. In fact, the organizational structure at DoDEA for the most part mirrors just about any other large urban school district. However, DoDEA schools face a number of unique challenges including the large geographical distribution of facilities, the variability in climate for school facilities, the multi-cultural influences, and the need for consistency across the educational platform as service men and women migrate from base to base.

Facilities for **21ST** Century Learning

In a recent interview with Deputy Under Secretary of Defense for Military Community and Family Policy, Robert L. Gordon III provided his thoughts about military communities and strong schools. Mr. Gordon pointed out the country's shift to a knowledge-based economy, creating the need to prepare students with a consistent education with focused skills to excel in the knowledge-based economy of the 21st Century. Mr. Gordon also gave insight into the role of technology, identifying the need to tailor education to meet the needs of the individual students for a student-centric education. Children learn differently today than they did when many post World War II era DoDEA schools around the world were constructed. Identifying ways to tailor education to the way children learn today will allow them to better connect these ideas with performance.

There is one additional area where DoDEA is distinctly unique. In an assessment and master plan completed in 2010, Jefferson County Public Schools in Colorado identified 12 to 15 schools, out of over 150 schools, that were candidates for complete replacement due to the overall condition of the schools. Facility assessments conducted for DoDEA have identified over 100 of the existing inventory of physical plants as candidates for replacement. The subsequent \$3.6 billion military construction funding appropriation will finance a replacement program that will result in the opportunity for DoDEA to replace almost 60 percent of their school portfolio over the next five years. **This is an opportunity to build truly 21st Century schools supporting 21st Century instructional pedagogy.** Possibly the only other school district in the history of public education that has had that opportunity is New Orleans, where 134 of their schools were destroyed in the aftermath of Hurricane Katrina in 2006.

The immediate challenge is defining the 21st Century pedagogy at DoDEA, and how school facilities should be shaped to support not only today's instructional practices, but also those of the next 25 to 50 years. Fortunately, there are great minds aggressively working on this challenge. From small schools like the KIPP academies to large urban school districts like Los Angeles Unified School District, educators across the nation are innovating, implementing, and integrating new approaches to learning. Unfortunately, most are doing so in industrial age schools designed under 20th Century, if not 19th Century, factory models with long double-loaded corridors of classrooms. While architects are now constructing award-winning 21st Century schools across the country, these schools represent potentially less than 10 percent of the 97,000 public schools in the United States. And while many of these are beautiful schools, many still represent variations on the same theme of arranging 24 x 32 feet rectangular classrooms in rows.





APPROACH: THE HOW IN EDUCATION

DoDEA facilities must respond to the strategic vision and practical function of DoDEA curriculum and instruction. As architects and engineers begin designing and constructing DoDEA's 21st Century schools, they will have to fully understand the range of programs and instructional technologies that will be deployed. To provide that deeper comprehension, DoDEA will have to go further than the current Educational Specifications to state the challenge to be addressed in the design solution.

What truly defines flexible design? Is this moveable walls, no walls, or is this space that is creatively structured to serve multiple functions? How do structures provide passive and active security in a military base setting? How can the school facilities better support the social and emotional developmental needs of DoDEA students who may move from school to school several times across their educational timeline? How will technology and learning spaces embrace a digitally native student population that is "wired" prior even to starting school? And what kinds of facilities may constitute the educational environment over the next 25 to 50 years? These questions and more must be explored with outcomes that provide guidance and stakeholder's perspective for architects to address in their designs.

DoDEA generated an initiative to define cutting edge elements in education, bringing together leading thinkers in instructional pedagogy, facility design, and construction to coalesce the ideas that already existed, and consider application and incorporation to DoDEA's newly developed schools. This approach allowed key staff at DoDEA, who are already most familiar with DoDEA curriculum, instruction, and facilities, to collaborate with educational thought leaders to include representatives from the Council for Educational Facility Planners International (CEFPI), and the American Institute of Architects (AIA), as well as innovative experts in education, sustainability and technology that may operate "outside the box."

DoDEA's intent is that this effort is a collective approach substantiated by research and input from acknowledged leaders in both instructional and educational facility trends, as well as from DoDEA's internal functions and the population they serve. The overriding objective is the definition of a school facility that will best support delivery of a world-class education and will serve as a benchmark for primary and secondary educational facilities.

BACKGROUND

DODEA TODAY

DoDEA is part of the Department of Defense (DoD) in charge of managing the education of military children around the world. There are four major components to DoDEA:

1. The Department of Defense Dependent Schools (DoDDS) is located overseas, with presence in Europe (E) and Asia Pacific (P). The DoDDS operates a total of 130 schools for eligible dependents of active duty and DoD civilians. Schools are located in Bahrain, Belgium, England (UK), Germany, Italy, Japan, Korea, The Netherlands, Portugal, Spain, and Turkey.
2. A second component of DoDEA is the Domestic Dependent Elementary and Secondary Schools (DDESS) of the Americas. The DDESS operates 64 schools at stateside locations in 5 districts located in 7 states and 2 territories for eligible dependents of active duty and DoD civilians who reside on military installations. DDESS Schools are located in Alabama, Georgia, Kentucky, New York, North Carolina, South Carolina, Virginia, Guam, Cuba, and Puerto Rico.
3. A third component of DoDEA is the Non-DoD School Program (NDSP). The NDSP supports 3,455 students in 188 countries .
4. Lastly, DoDEA shares expertise with local education agencies (LEA) and public schools that educate 1.2 million military students through the Educational Partnership Branch. This partnership is devoted to assisting partnering local education agencies and school districts in providing a quality education for all military students.

DODEA MILITARY COMMUNITIES

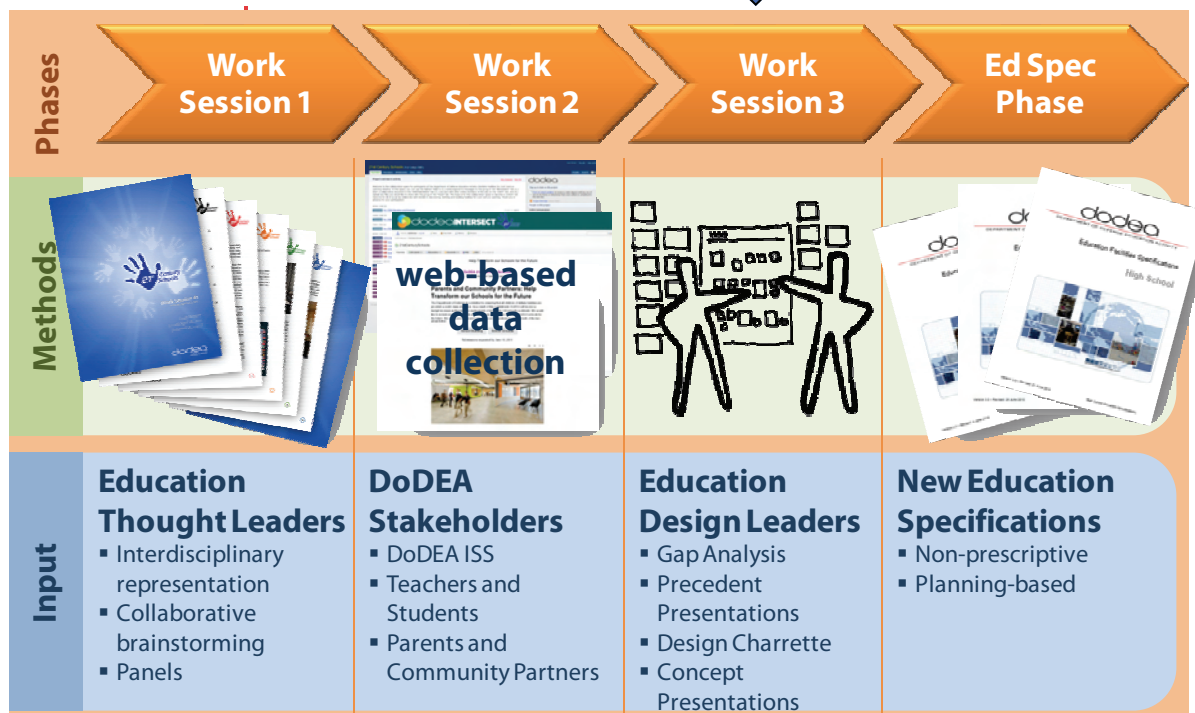
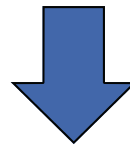
DoDEA's schools serve the children of military service members and Department of Defense civilian employees throughout the world. Through their two major components DoDDS and DDESS, they are located in the following locations in three different Area Service Centers: Americas, Europe and Asia Pacific.

For more detailed information on DoDEA characteristics, please refer to the Work Session #1 Report, May 2011.

WORK SESSIONS

This report documents the compilation of key points from the third of three work sessions held as part of this project. The three work sessions are :

- **Work Session #1 - Vision For 21st Century Education:** focused on providing an overarching vision and definition for 21st Century education, derived from the experience and input of external and internal thought leaders.
- **Work Session #2 - Tapping DoDEA Stakeholders:** was a discussion of the results of Work Session #1 combined with data-driven research and perspectives from three targeted audiences: DoDEA Instructional Systems Specialists (ISS), Teachers and Students, and Parents and Community Partners.
- **Work Session #3 - Incorporating Innovation into Design:** integrates the creative results of Work Session #1 with the ideas and perspectives discussed in the results of Work Session #2, to achieve options for design. The goal is to establish an optimal standard for modules, which can be site adapted.



Facilities for **21ST** Century Learning

WORK SESSION TIMELINE

The following depicts the overall project schedule and the timeline for Work Sessions 1-3 and subsequent phases of the project.

Work Session 1

- April 4-7: *Work Session with DoDEA, Jacobs and subject matter experts*
- April 19: *Work Session 1 report delivered*
- April 19: *Collaboration meeting with Headquarters DoDEA*

Work Session 2

- May 6: *Websites released for student/teacher and parent/community partners*
- May 23 *DoDEA internal vertical and horizontal meeting (ISS)*
- May 26 *DoDEA and Jacobs vertical and horizontal briefing (ISS)*
- June 7 *Status Report Presentation to Acting Director*
- June 16 *Website submissions final deadline*
- June 20 *Jacobs' draft report for Work Session 2 - additional findings*

Work Session 3

- June 21-24 *Charrette with DoDEA, Jacobs and facility design experts*

Work Session 4

- June 27-Oct 1 *21ST Century Facilities Education Specifications*



WORK SESSION #3

OBJECTIVES

The intent of Work Session #3 was to provide a forum for the development of direction for DoDEA's Facilities for 21st Century Learning. These facility responses were centered on space types and facility organization for both primary and secondary schools. Specifically, the work session accomplished the following:

- Provided an opportunity for leading school designers to discuss current thinking on facility responses to 21st Century learning through the presentation of examples.
- Provided the subject matter experts opportunity to discuss educational paradigms and craft a flexible space typology.
- Developed ideas for accommodating future change.
- Provided direction for an environmentally sustainable facility.
- Developed direction for the overall organization of spaces to enhance the learning environment.

The outcome from the work session was to provide general direction and clarity for updating and improving the current DoDEA Educational Specifications.

Facilities for 21ST Century Learning

AGENDA

The work session included four days of intensive collaborative team workshops and discussions.

	Tuesday 21-Jun-11	Wednesday 22-Jun-11	Thursday 23-Jun-11	Friday 24-Jun-11
0730 - 0800 (7:30 am)	Networking Continental Breakfast	Networking Continental Breakfast	Networking Continental Breakfast	Networking Continental Breakfast
0800 - 0900 (8:00 am)	Introduction: Deputy Asst. Secretary of Defense Robert L. Gordon III Outcomes of Work-Sessions 1 and 2	Guiding Principles Exercise		Attended: Deputy Asst. Secretary of Defense Robert L. Gordon III Outbrief Wrap-up Summary Overview Next steps/action items
	Break			
0900 - 1000 (9:00 am)		Break		Closing Remarks
1000 - 1100 (10:00 am)	Design Team Presentations on Best Practices 21st Century Schools	Defining the Neighborhoods	Team Discussions Topic Primary Schools and Secondary Schools	
			Break	
1100 - 1200 (11:00 am)		Outbrief		
Noon	Working Lunch	Working Lunch	Lunch	
	Results from Gap Analysis - Sam Wilson			
1300 - 1400 (1:00 pm)	Assign Teams and Topics for Team Discussions	Trading Places: Validation of Space		
			Continued Team Discussion	
1400 - 1500 (2:00 pm)	Team Discussions Topics Language Arts Learning Studios Small Group Spaces Large Group Spaces	Break		
		What is Missing		
1500 - 1600 (3:00 pm)	Break		Break	
1600 - 1700 (4:00 pm)	Team Outbriefs Topics 1 thru 4	Missing Pieces: Discussion Topics	Team Out Brief	
1700 - 1800 (5:00 pm)	Dinner on your own	Outbrief		
		Dinner on your own	Dinner on your own	



ACKNOWLEDGEMENTS

Work Session #3 participants included representatives from DoDEA, USACE, USACE Architects, and the Subject Matter Experts (SME). DoDEA thanks everyone for their participation in this very important project.

<i>Name</i>	<i>Title</i>	<i>Company</i>
External Subject Matter Experts		
Victoria Bergsagel	President	Architects of Achievement
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Rick Dewar	Principal	Cannon Design
Judy Hoskens	Associate Principal	Cunningham Group
Tomas Jimenez-Eliaeson	Director of Design	Little Diversified Architectural Cons.
Christian Long	Vice President/Education	Cannon Design
Gregory Monberg	Principal	Fanning Howey
Sean O'Donnell	Principal	Ehrenkrantz Eckstut & Kuhn Architects
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DODEA		
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Joel Kirzner	Consultant	Jacobs
Cathy Mincberg	President & CEO	CRSS
Derek Roberts	Consultant	Jacobs
Tim Scarbrough	Division Vice President	Jacobs
Stacey Shepard	Corporate Vice President	Jacobs
Sam Wilson	Division Vice President	Jacobs

"STRUCTURES MAKE A DIFFERENCE. AND I CAN TELL YOU, THAT'S WHY I AM SO EXCITED THAT YOU'VE COME TOGETHER TO HELP US IMAGINE WHAT THOSE STRUCTURES FOR DODEA, FOR OUR MILITARY CHILDREN, SHOULD LOOK LIKE. IT IS THE ART OF THE POSSIBLE. IT IS PUTTING CHILDREN AT THE CENTER OF EDUCATION."

▶ Deputy Under Secretary of Defense of Military Community and Family Policy
Robert Gordon III



▶ Work Session #3

INCORPORATING INNOVATION INTO DESIGN

WORK SESSION #3 ACTIVITIES

The following is a chronological description of the three-day work session and an explanation of the process in defining 21st Century learning spaces. Most activities were collaborative efforts with a mix of different teams strategically assigned to obtain the best talent.

DAY ONE - SETTING THE STAGE

Day one set the stage for the collaborative work session. The activities of the day included best practices presentations, gap analysis, team discussions and team out-briefs.

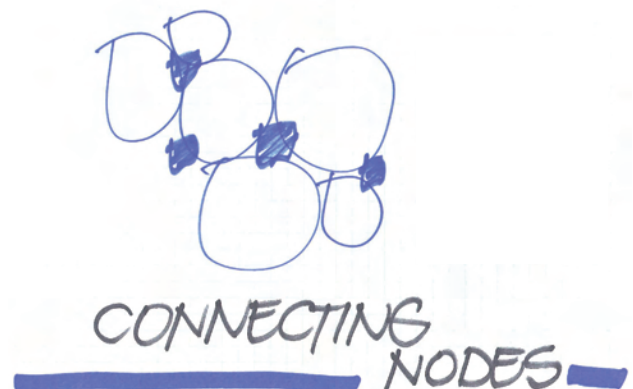
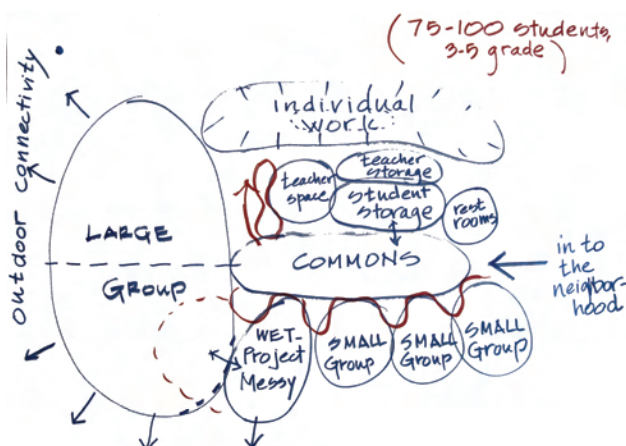
PRESENTATIONS ON BEST PRACTICES

Following an in-brief presentation from Jacobs outlining Work Sessions #1 and #2, Work Session #3 began with individual presentations from industry leading architects, designers and facility programmers with proven experience in developing 21st Century schools.

The industry leaders that presented were:

1. Reynolds, Smith & Hills
2. Ewing Cole
3. Parkhill Smith & Cooper
4. LS3P Associates
5. Woolpert
6. Architects of Achievement
7. Be Playful
8. Cannon Design
9. Cuningham Group
10. DeJONG Inc.
11. Dull Olson Weekes
12. Fanning Howey
13. Little Diversified Architectural Consulting
14. Perkins Eastman

These fourteen presentations are summarized on the following pages. The key elements of each presentation have been extracted and highlighted. Big ideas and recurring themes are highlighted and discussed in greater detail throughout the remainder of this document.



REYNOLDS, SMITH & HILLS

Presented by **Richard Hammett**, this presentation is titled "Elementary School - Reconciling Old & New Models."

Traditional Plan Progressive

- Expand main central corridor width to create "Learning Street"
- Operable walls between two classrooms permits two teachers to "team-teach".
- Glaze parts of classrooms along corridor walls to create "transparency"

Finger Plan Progressive

- Differentiate each finger by a unique color scheme or architectural character
- Centrally locate common areas

Learning Studio Progressive

- Create irregularly shaped classrooms by strategically arranging smaller auxiliary rooms within the rectangular space

Learning Suite Progressive

- Use moveable furniture to create flexible boundaries between studios

Small Learning Community Studio Progressive

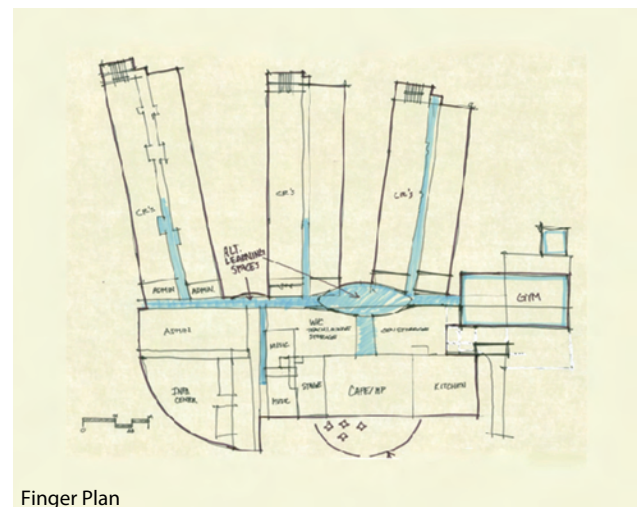
- Larger schools can be broken into smaller "Neighborhoods" connected by a "Learning Street".

Small Learning Community Advisory Progressive

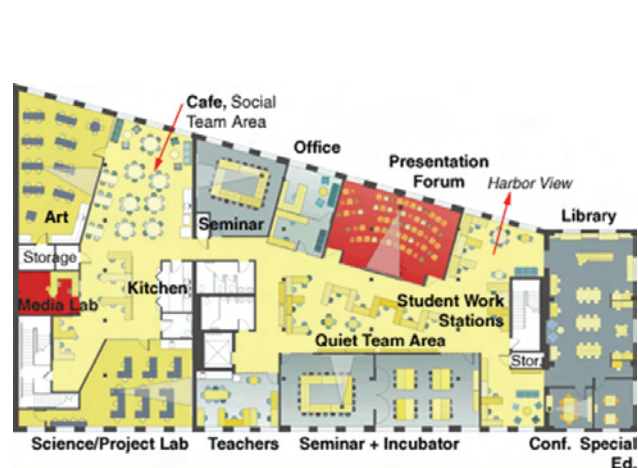
- A closed but partition-able seminar room can be used for lectures.



Traditional Plan



Finger Plan



Small Learning Community Advisory



EWING COLE

Presented by **Joe Landrigan**, this presentation is titled “Middle School Fundamentals of School Planning.”

Students starting to develop greater sense of self - must manage this transition with group identity connections.

- Interaction with friends
- Consistent structure within which student has room to develop
- Peer groups to facilitate new learning
- Spatial / group identity
- Differing needs between younger and older ages groups

Planning Types

- Traditional - wing
- Breakout - multipurpose
- Breakout - varied settings
- Constructed flexibility
- Breakout - core adjacency
- Distributed core

Middle School Recommendations

- Size learning centers to create a manageable group identity for middle school students
- Introduce students to “soft spaces” to foster exploration of social skills and personal identity
- Provide compatible learning environment diversity to allow teachers to challenge higher performing students while engaging the entire class

Facilities for 21ST Century Learning

PARKHILL SMITH & COOPER

Presented by **Mike Baker**, this presentation is titled "High School of the 21st Century: Fundamentals of School Planning."

The Language of School Design (Fielding & Nair)

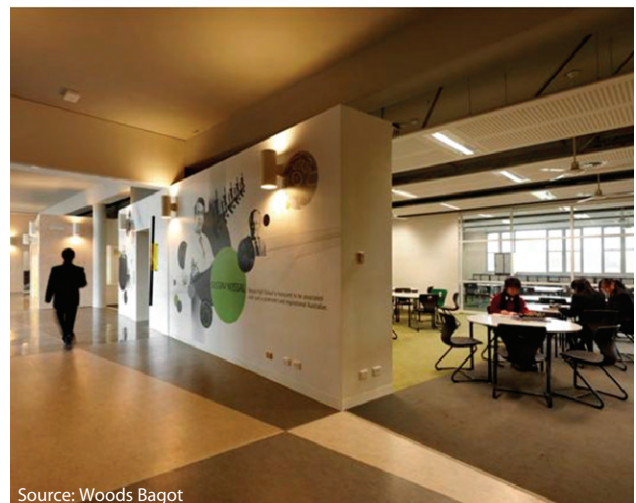
- Spatial: intimate, open, bright, closed, active, quiet, connected to nature, monumental, technological, psychological, safe, awe inspiring, joyful, playful, stimulating, creative, encouraging reflection, spiritually uplifting, creating sense of community
- Physiological: warm, cool, cozy, breezy, healthy, aromatic, textured, visually pleasing,
- Behavioral: independent study, collaborative work, physical fitness activity, research, writing, reading, computer work, artistic activities, presenting
- Large group work: connecting with nature, designing, building, teaching, relaxing, reflecting, playing



Sources: Perkins+Will, Fielding and Nair International, Concrete Architectural Associates, Larry MacPhee



Source: Perkins + Will



Source: Woods Bagot



LS3P ASSOCIATES

Presented by **Scott Sampson** and **Katherine Peele**, this presentation is titled “Small School Furniture & Technology: Fundamentals of School Planning.”

Furniture

Traditional classroom furniture layouts have desks facing a wall with fixed, stationary seats. There is little flexibility in grouping in the seating layout. This type of layout promotes a passive education mode.

The 21st Century classroom furniture layout consists of a breakout area with soft seating, an activity zone, and flex space for quiet individual work, collaboration, or presentation. This layout supports multiple learning modes and is able to be reconfigured for flexible needs.

Teachers can relocate wherever they need to work with the use of mobile work caddies. Efficient moveable storage and teacher work spaces maximize potential learning areas.

Technology

- Shared Display — 4 computers with “puck”
- Collaboration systems & learning nodes
- Steelcase “Learn Lab”
- Modular classroom display units & space dividers

Laptop charging carts and computers can be integrated into classrooms by wireless access. These carts replace dedicated computer lab rooms.

Design of Relevant, Engaging and Motivational (DREaM) New High School: The DREaM school would have casual meeting and work areas. A sense of family and a place to call home, and there is connectivity with teachers. Small group work is flexible. The DREaM school expands and contracts classroom space with the ability to work outside.

Students at the DREaM school are treated with respect and assumed to be responsible.

Facilities for 21ST Century Learning

WOOLPERT

Presented by **Denise Breunig**, this presentation is titled "21st Century Schools - Sustainability as a 21st Century Teaching Tool."

Differentiated Learning

- Adaptable and flexible indoor spaces combined with day lighting
- Hard and soft spaces combined with day lighting and acoustics
- Adaptable and flexible indoor spaces combined with environmentally sound building materials
- Adaptable and flexible outdoor spaces combined with sustainable sites

Multiple Modalities

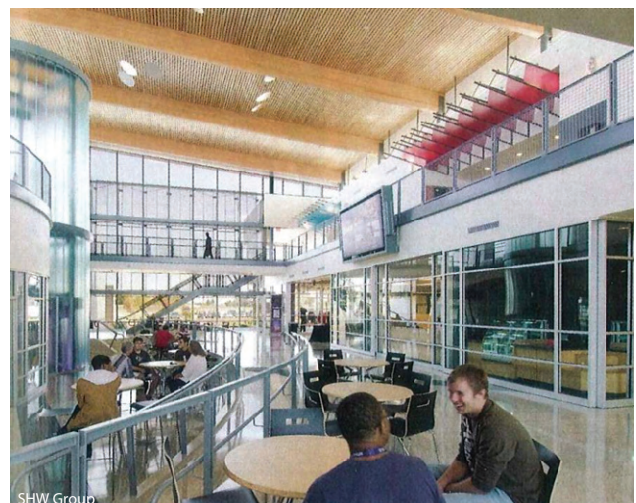
- Hard and soft spaces combined with rapidly renewable and recycled materials
- Hard and soft spaces combined with materials and resources, joint use of facilities, and enhanced acoustic performance.

Multidisciplinary Teaching

- Using on-site renewable energy
- Exposing building systems to reinforce math and science together
- Using recycled materials
- Reinforcing art throughout the facility and integrate it with music and physical education.
- Monitoring energy and/or water consumption combines science and math together

Real-World Skills Development

- Indoor and outdoor spaces
- Sustainable sites can teach culinary arts/business skills/science
- Accommodations combined with community connectivity and joint-use of facilities





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ARCHITECTS OF ACHIEVEMENT

Presented by **Victoria Bergsagel**.

Probe: At the Core

- School as Apple Store with Genius Bar / concierge
- Space for play, purchase and learning
- High tech, high touch, highly personalized flow

Patterns

- Our brains are pattern makers
- Patterns articulate universal truths
- Groups construct language and rules differently
- What are patterns of student-centric design?

Projects

- Diversity of intelligence, the power of imagination and creativity, and the importance of commitment to one's own capabilities
- Deep engagement with content, experimentation, exploration, problem-solving, collaboration, and learning to learn

Process

- Visioning
- Study tours (real and virtual)
- Student voice
- Research about learning
- Provocateurs
- Teams
- Community engagement
- Feedback loops
- Decision making

Principles

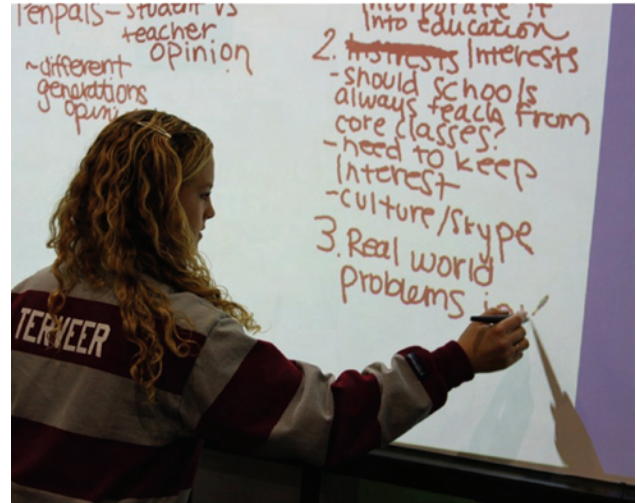
- Community
- Relationships at the Center
- Learner-Focused
- Identity, Purpose and Accountability

Facilities for 21ST Century Learning

BE PLAYFUL

Presented by **Christian Long**, this presentation is titled "Empowering Learners to Re-design the Classroom."

- Allowing children the tools and freedom to innovate in their own way and at their own pace
- Providing an atmosphere where failing is okay and can be used as a learning tool ("fail really well")
- Implementing technology as one of many creative learning tools
- Involving inspirational instructors / instruction

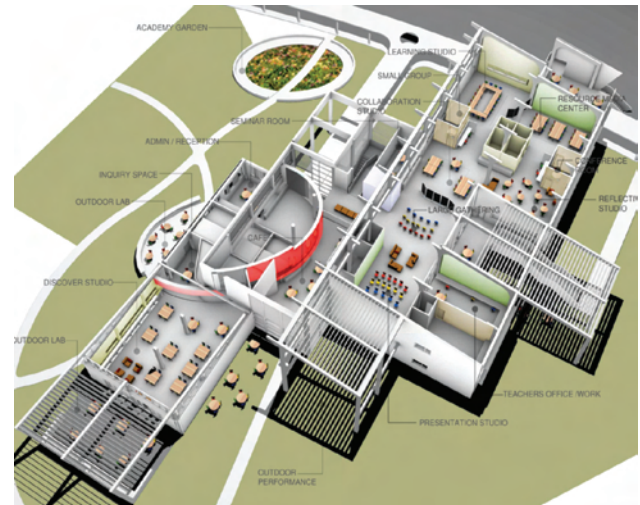




CANNON DESIGN

Presented by **Rick Dewar.**

- Flexible and adaptable space
- Flexible and adaptable furniture
- Emphasize inside / outside
- Maximize natural light



Facilities for 21ST Century Learning

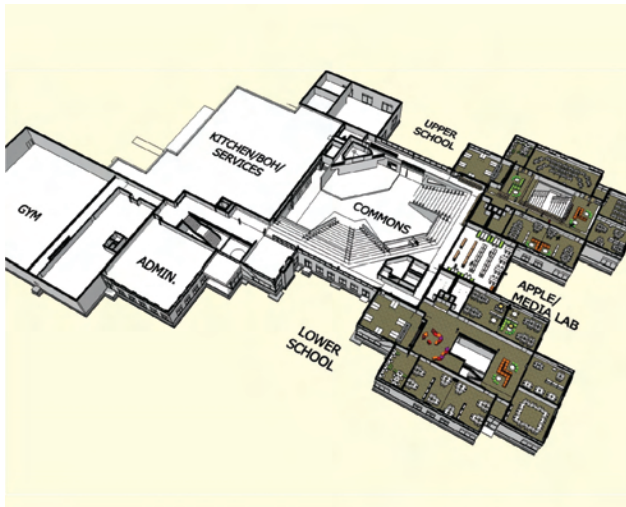
CUNINGHAM GROUP

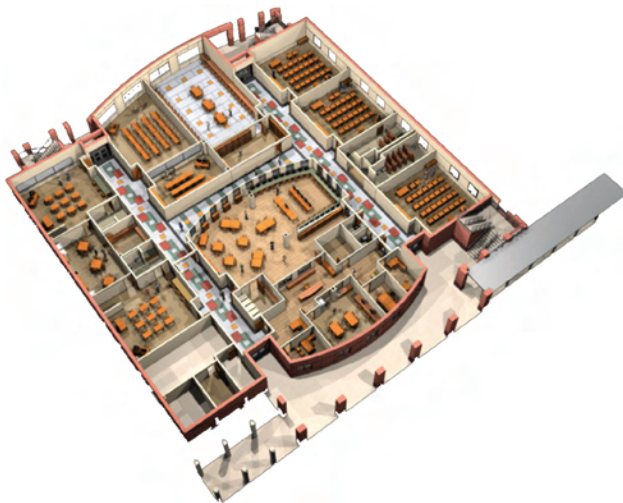
Presented by **Judy Hoskens.**

- The commons as the heart of the whole school
- Neighborhoods with their own unique hearts
- Shared core resources
- Repurpose circulation space into useable space



Dandenong High School, Victoria
Hayball Architects





DEJONG, INC.

Presented by **Bill Dejong**, this presentation is titled "Creating 21st Century Schools."

Instructional strategies

- Small Group Instruction
- Group Work
- Individualize Instruction
- Large Group Instruction

Furniture and equipment

- Moveable Tables & Chairs
- Integration of Technology
- More Equipment
- Creation of Learning Centers within Classroom

Constructivist and project-based

- Students should be active and engaged in the learning process at all times
- Will all classrooms eventually look like Kindergartens or more like my Family Room, Kitchen and Garage?

How do we define a successful student?

- Strong Foundation of Basic Skills
- Ability to Work in Teams
- Can Manage Information
- Can Solve Problems
- Has Good Communication Skills
- Can Get Along With Others
- Can Make Their Way Out of a Wet Paper Bag

What do students need?

- Access to Information
- A Place to Work [Office]
- A Coach
- A Team of Colleagues to Work With
- A Place to Produce
- A Way of Presenting their Work

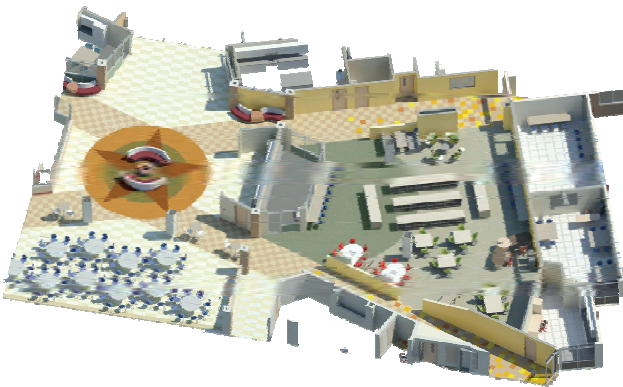
Facilities for 21ST Century Learning

DULL OLSON WEEKES

Presented by **John Weekes**, this presentation is titled "Creating 21st Century Schools."

- Then and Now - updating a centuries old system
- Flexible and adaptable learning centers as teaching spaces
- Shared common spaces and resource centers
- Seamless integration into the surrounding Neighborhood and environment
- Scaled appropriately for children
- Shared spaces with surrounding community





FANNING HOWEY

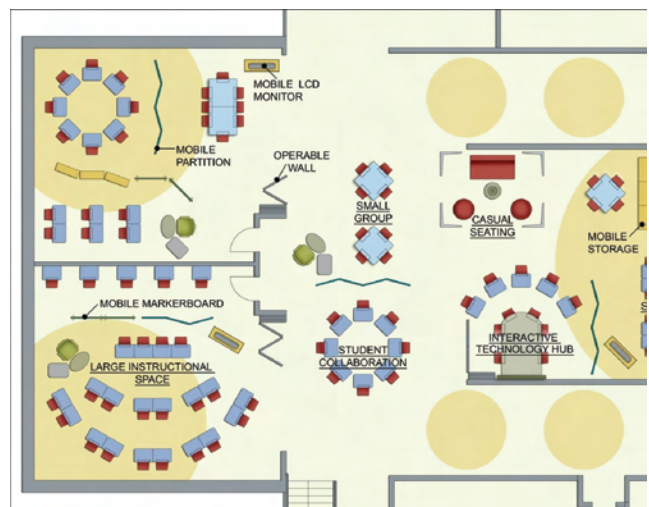
Presented by **Gregory Monberg**, this presentation is titled “21st Century Education - Creating Places to Learn.”

Hierarchy of Needs for the Planning and Design of School Facilities

- Actualization — The building is a fully integrated teaching and learning tool.
- Community — The school is reflective of neighborhood values and meets esteem and community service needs.
- Student-Centered — The school is optimized to the ideal learning environmental needs of children.
- Program — The school has adequate space for the curriculum & pedagogy.
- Facility — The school is safe.
- Secure, and weather tight

Transcendence: Use + Time = Inspire others to succeed

- Deficit Model — Transcendence Factor < 1
- Flat World Model — Transcendence Factor = 1
- Integrated Model — Transcendence Factor > 1
- Transcendence — Inspire others to press for success



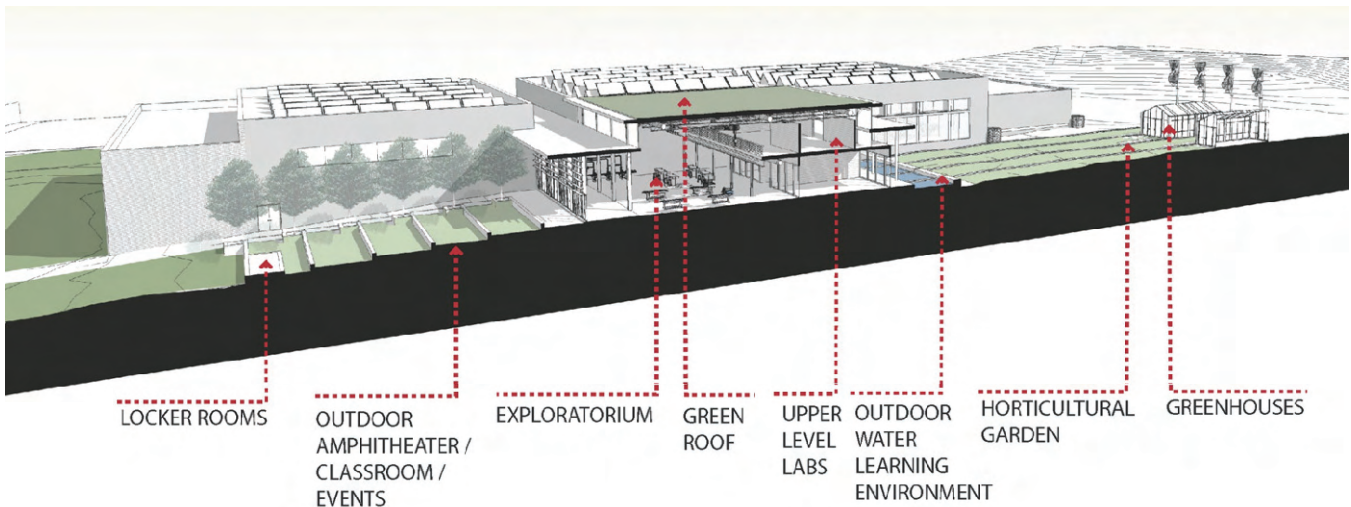
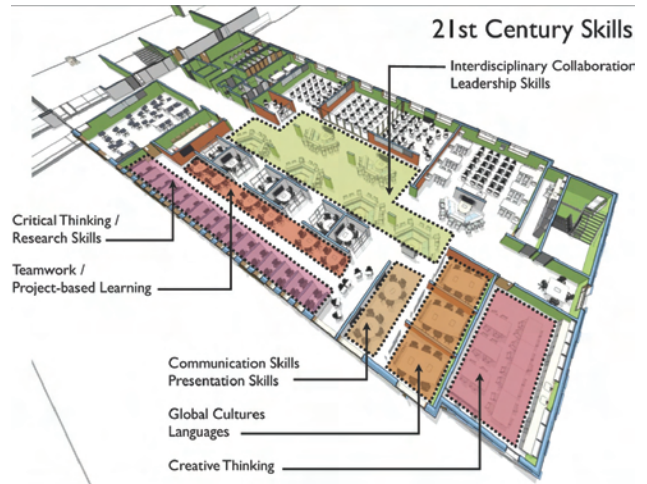
Facilities for 21ST Century Learning

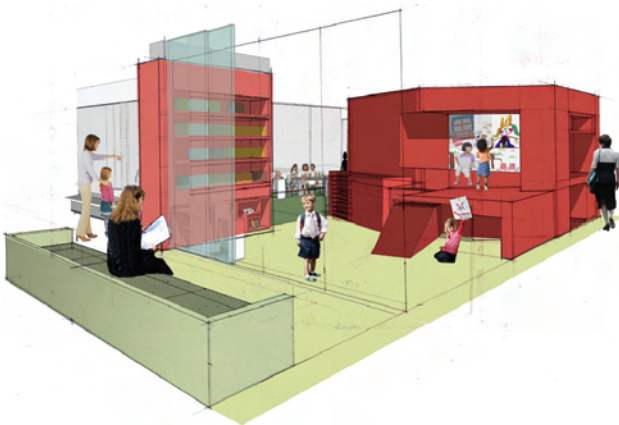
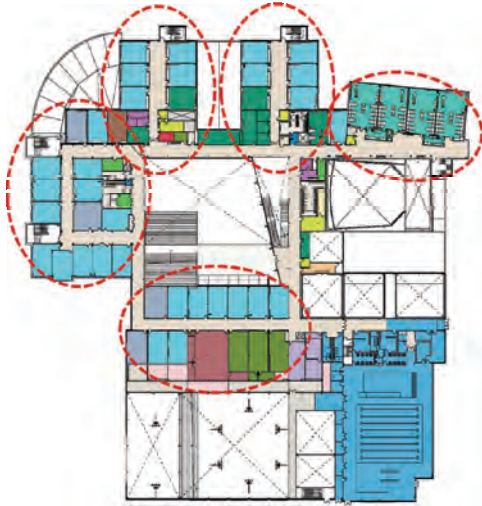
LITTLE

Presented by **Tomas Jimenez-Eliaeson**, this presentation is titled "Immersive Learningscape: Redefining the Classroom Wing."

Re-thinking the knowledge community

- Immersive
- Medium scale
- Low impact
- Applicability to all schools





PERKINS EASTMAN

Presented by **Sean O'Donnell**.

The School as Community: Creating a Nurturing Environment

- Home
- Street
- Neighborhood
- Learning Village
- Larger Community

Attributes of a Great Learning Environment

- Space
- Furniture
- Acoustics
- Color
- Light
- Technology
- Display
- Views

Activity Settings in the Sciences

- Integrated curricula
- Adaptive technology
- Extended exploration areas
- Project based learning
- Clustering facilities

Fostering Teacher Collaboration

- Professional
- Flexible
- Collaborative
- Helps attract the best teachers possible

Facilities for 21ST Century Learning

GAP ANALYSIS

Sam Wilson presented the results from a Gap Analysis developed by Jacobs in order to compare DoDEA's current standards with recommendations from the work sessions. This exercise was initiated during the Work Session #2 phase and integrated all the new spaces uncovered during Work Session #1 and #2 into the existing DoDEA space and area specifications.

A more detailed explanation is provided in the following section of this document highlighting the potential changes in each of the categories of the school types. This will be provided for the Elementary School (K-5), Middle School (6-8), High School (9-12), and a K-12 School.

The following chart summarizes the Gap Analysis by school type and illustrates these key findings:

- 21st Century school sizes are similar to existing space standards
- Floor area is redistributed among types of spaces
- Significantly redistributed spaces for the elementary school include the academic core and orientation/ career and technology

- Significantly redistributed spaces for the middle school include the academic core, teacher support and other types (not categorized)
- Significantly redistributed spaces for the high school include the academic core and orientation/ career and technology

TEAM DISCUSSIONS

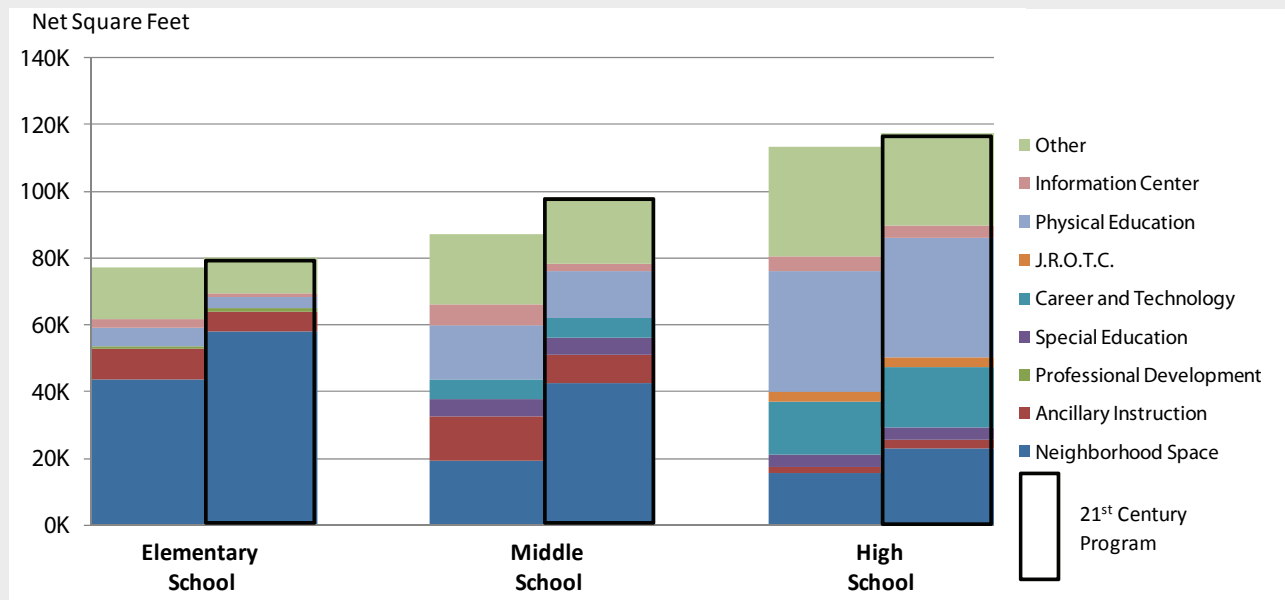
Separate team discussions focused on each of the following topics with each team establishing parameters for 21st Century facilities for:

1. Language Arts
2. Learning Studios
3. Small Group Spaces
4. Large Group Spaces

TEAM OUTBRIEFS

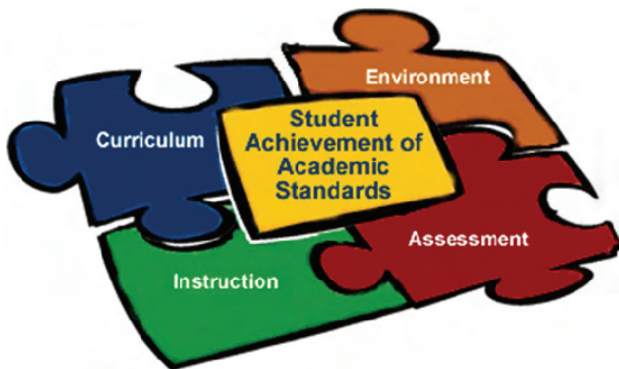
Members of each team were selected to close with presentations of what was learned. During this period, many participants highlighted common and overlapping themes. These themes would be carried throughout Work Session #3.

SUMMARY OF GAP ANALYSIS



DAY TWO - DEFINING THE PUZZLE PIECES

Day Two focused on defining the 21st Century learning spaces at different scalable levels. Planning topics were varied including such topics as program, learning set up, definition of school core and connectors, among other concepts that had surfaced during the previous two work sessions. Thus, the “puzzle pieces” identified as components of Facilities for 21st Century Learning were now being fit together. Major components included curriculum, instruction, assessment and environment, as depicted below.



GUIDING PRINCIPLES EXERCISE

The session began with an exercise to establish guiding principles to lay the foundation for facilities planning. There was lively discussion among attendees as to how guiding principles fit into the process of defining Facilities for 21st Century Learning. Discussions centered around whether existing principles should either guide the design process, be revisited and revised or were irrelevant to redefining facilities. Regardless, when four teams were formed to define the four different school typologies (elementary, middle, high and unit), they began by contending with some aspect of the guiding principles.

Participants considered DoDEA’s current mission, vision and set of guiding principles outlined below.

CURRENT DODEA

Mission: To provide an exemplary education that inspires and prepares all DoDEA students for success in a dynamic, global environment.

DoDEA Vision: Communities investing in success for ALL students!

DODEA GUIDING PRINCIPLES:

- Success for all students
- Trust and respect for others
- Uncompromising advocacy for students
- Development of lifelong learners
- Equal access to quality, rigorous education
- New and motivating challenges to inspire excellence
- Teaching with high expectations
- Safe and stable learning environment

MEASURING STUDENT ACHIEVEMENT

DoDEA applies the adjacent diagram to the process of measuring student achievement across all facets of the curriculum. Therefore, it has benefitted the team to think not only in facilities terms, as outlined next, but in DoDEA student achievement terms as well.



Facilities for 21ST Century Learning

FACILITIES-FOCUSED GUIDING PRINCIPLES

Resulting from continued visionary dialog, all the participants brainstormed as to which were the most prominent and significant key points for Facilities for 21st Century Learning. Three facilities guiding principles were the result of this exercise. This discussion took into account the existing DoDEA Educational Guiding Principles along with DoDEA's Mission and Vision. These guiding principles framed the rest of the activities of day two and three and provided a uniform direction to the different school type teams.

Facilities for 21st Century Learning should:

- 1. Provide Student-Centered Facilities for all learners:** The contemporary educational paradigm shifts the focus of instruction from being teacher-centered to being student centered. This paradigm aligns with current behavior patterns that have evolved around technology advancements.
- 2. Be Flexible and Adaptable:** The student-centered paradigm requires a variety of space-types and spatial arrangements. To accommodate this, furniture and spaces need to be flexible and adaptable enough to evolve throughout the course of the day. In addition, considering how quickly technology and methods change, it is most fiscally responsible to build spaces that can accommodate multiple evolutions before replacement.

- 3. Be Global Community-Centered - within the school and encompassing the local and global community:** The world is becoming increasingly globalized and requires enhanced capabilities to interact within a diverse arena of human cultures, languages and behaviors. It is important that 21st Century learning facilities embody this emerging reality. While DoDEA will need to provide consistency and familiarity across all of its schools, it is important that schools incorporate local cultures and community.

FACILITY TYPES

DoDEA has a multiplicity of school types and sizes. The following listing indicates the types of schools, the total quantity of that school type and the relative school size, based on student population:

- Elementary School (ES):82, Medium
- Intermediate School (IS):..... 10, Small
- Primary School (PS):..... 16, Small
- Elementary/Middle School (ES/MS): 11, Small
- Middle/Junior High School (MS/JHS): 29, Small
- Middle/High School (MS/HS):..... 14, Small
- High School (HS):.....22, Medium
- Unit School [PreK-12] (US):7, Small

The table below indicates the quantity of existing DoDEA schools for each school type and size, according to student population.

DoDEA SCHOOL TYPES AND ENROLLMENT

	Small			Medium				Large				Total
	0-99	100-199	200-299	300-399	400-499	500-599	600-699	700-799	800-899	900-999	1000+	
ES	4	2	12	14	17	13	9	4	3	2	2	82
IS	0	2	2	2	1	1	0	1	1	0	0	10
PS	0	1	8	2	1	0	1	2	0	1	0	16
ES/MS	3	2	0	1	0	1	1	1	2	0	0	11
MS/JHS	0	5	4	3	4	8	4	0	1	0	0	29
MS/HS	0	0	5	4	3	2	0	0	0	0	0	14
HS	0	1	3	2	4	4	4	2	1	0	1	22
US	0	0	4	1	0	0	1	1	0	0	0	7
Total	7	13	38	29	30	29	20	11	8	3	3	191

COMPONENT DEFINITIONS

Work Session #3 evoked sustained dialog about the facility components for 21st Century education. Referred to by many as a kit of parts, or pieces of a puzzle, participants reflected on the following list of components:

DEFINING THE CORE

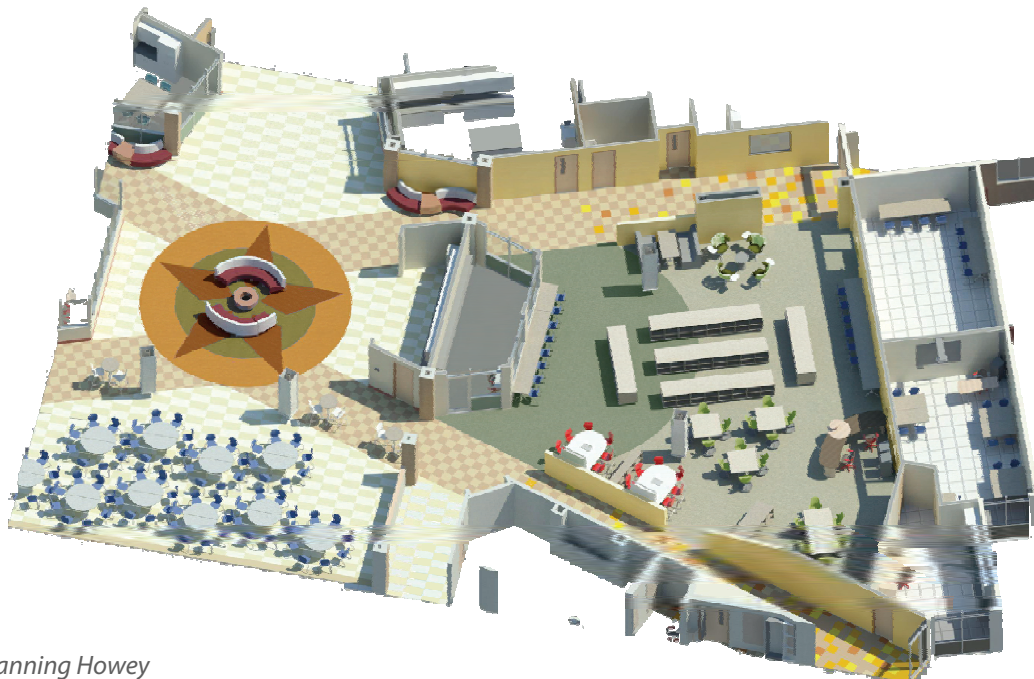
The core is considered to be the center of shared activity spaces, as well as the center of whole-school and community activity. The following list of spaces and definitions represents what was most often allocated to the core during team breakout sessions.

- The Commons: A place where the school can gather in part or in whole. This space can be multi-story and multi-purpose.
- Athletics / PE: Sports requires space; many sports requires adaptability, storage, and access to the outside.
- Performance: It is important that peers present, act, perform before and with their peers. Core space are ideally suited for larger iterations of this type of space. Given the appropriate configuration, sound attenuation and furniture, this space can emerge as a transformation of the commons space.

- Community Spaces: Community integration is critical; and providing the spaces that support this, especially in the commons, is essential.
- Food preparation: Centralizing food preparation is economically viable, and depending upon what schools choose, food can be served centrally or dispersed to the various Neighborhoods for local consumption.

DEFINING THE NEIGHBORHOOD

Based on ideas originated during Work Session #1, and reinforced in Work Session #3, a recurring theme evolved as the "Neighborhood The Neighborhood is the new organizational structure of a wide variety of spaces. It is the **home of flexible and adaptable spaces for a small community of learners**. Neighborhoods can also include smaller or dispersed elements of the core, such as administration, counseling services, and labs. Neighborhoods should also ideally have a small commons or gathering space. This shared resource can help solidify a sense of community within the Neighborhood. The whole concept of the Neighborhood is to provide learners an atmosphere that is centered around individualized learning opportunities far beyond the twenty-eight students per 900 square-foot classroom.

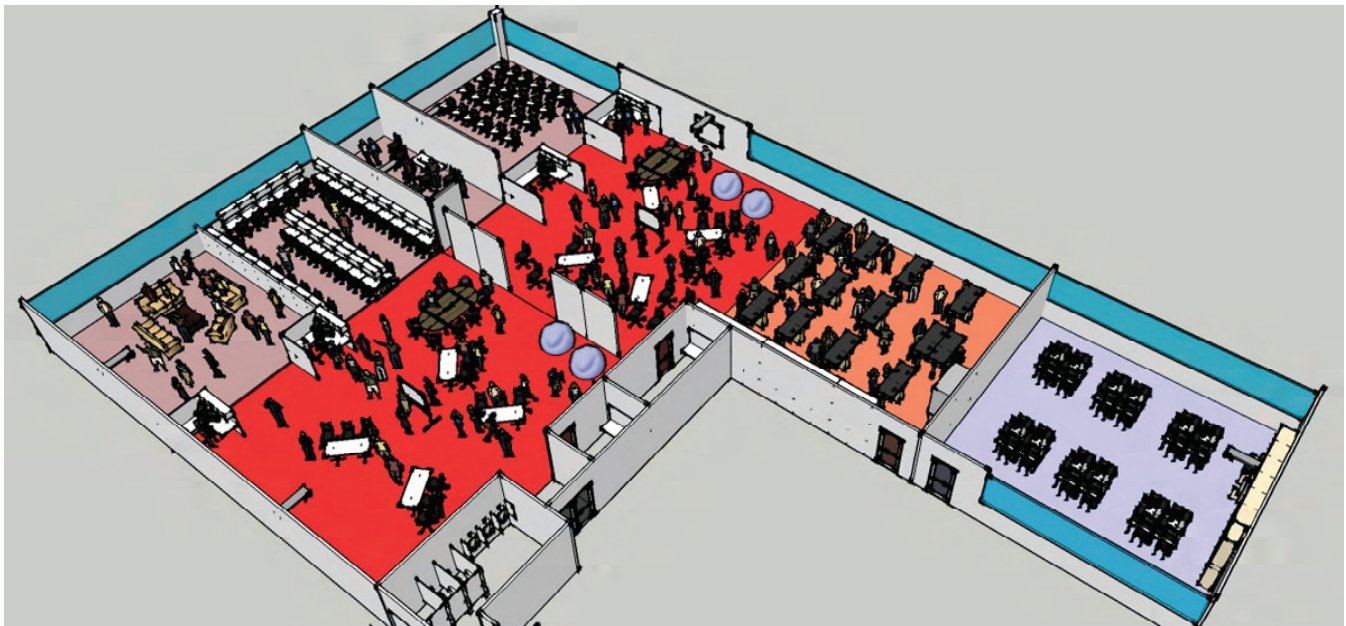


► Fanning Howey

OTHER SPECIFIC SPACE TYPES

Participants were asked to consider the following list of spaces both in break-out group settings, as well as when collaborating in teams, of the different school typologies. Each space type was covered differently by each small-group and school typology team. Specific space types include:

- **Language Arts:** DoDEA schools are global and are often located in countries where English is not native. Offering children access to local languages and cultures is important for cultivating global citizenship.
- **Learning Studios:** These spaces should be configured and furnished to be flexible and adaptable. Techniques for special arrangement include rolling desk-chairs, moving walls, tables with wheels and L-shaped configurations. These spaces can also support teacher-to-student lectures, as well as a wide variety of other instructional configurations.
- **Large Group Spaces:** Typically configured for guided instructional teaching, including experimentations and large-group projects.
- **Small Group Spaces:** Configured for a variety of smaller-scale purposes such as small-group meetings, one-on-one teacher student instruction, collaboration exercises, to name a few.
- **Math / Science:** Configured to be interdisciplinary.
- **Early Childhood:** Spaces that support pre-k development.
- **Educator Spaces:** Professionally appropriate.
- **Information Center:** Can be centralized in the core or dispersed throughout the Neighborhoods. The functionality of this space should be designed to include a wide variety of activities, similar to bookstores with coffee shops, with spaces where students can hang out, do homework or casually socialize. Books can be a part but should be housed in furniture that enhances student interaction.
- **Technology:** Foundational and transparently applied. Technology should be a support to new and enhanced methods of instruction.
- **Food court:** As mentioned previously, this function can be centralized in the court or dispersed among the Neighborhoods. Regardless of where the food is served, participants were in agreement that food should be prepared fresh and include a wide variety of healthy options.

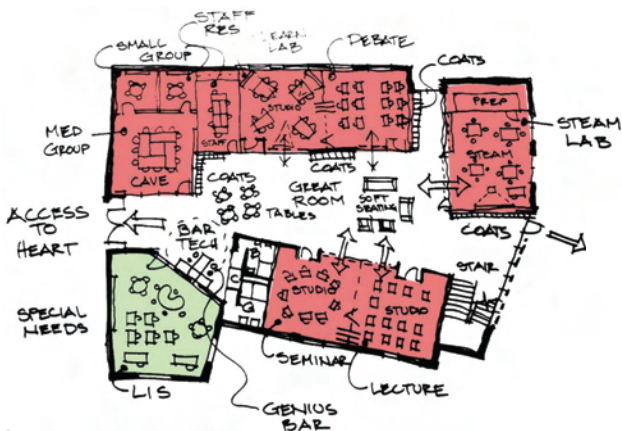


► Neighborhood model sketch

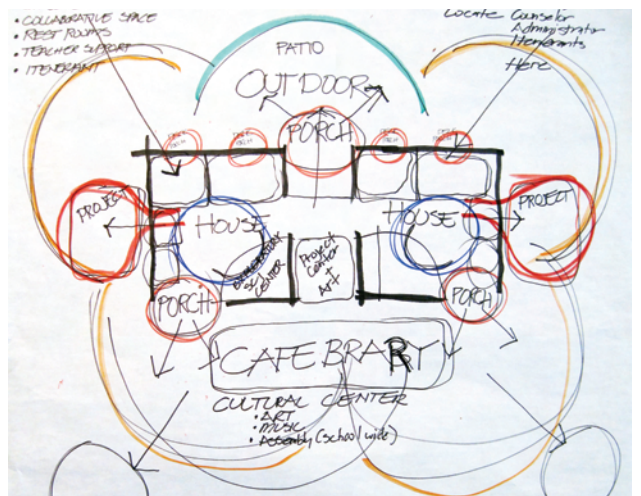
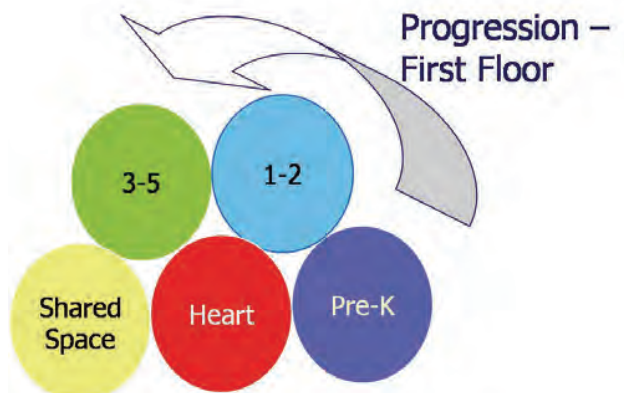
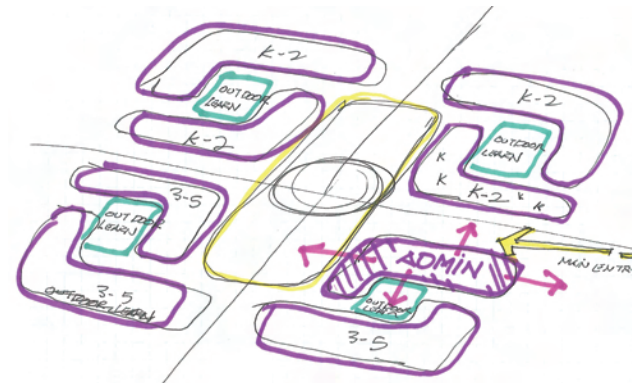
DAY THREE - CONCEPT DESIGNS

Day three involved developing the guiding principles and Neighborhood models into concept designs for all four school types:

- Elementary School (K-5)
- Middle School
- High School
- Unit School (PreK-12)

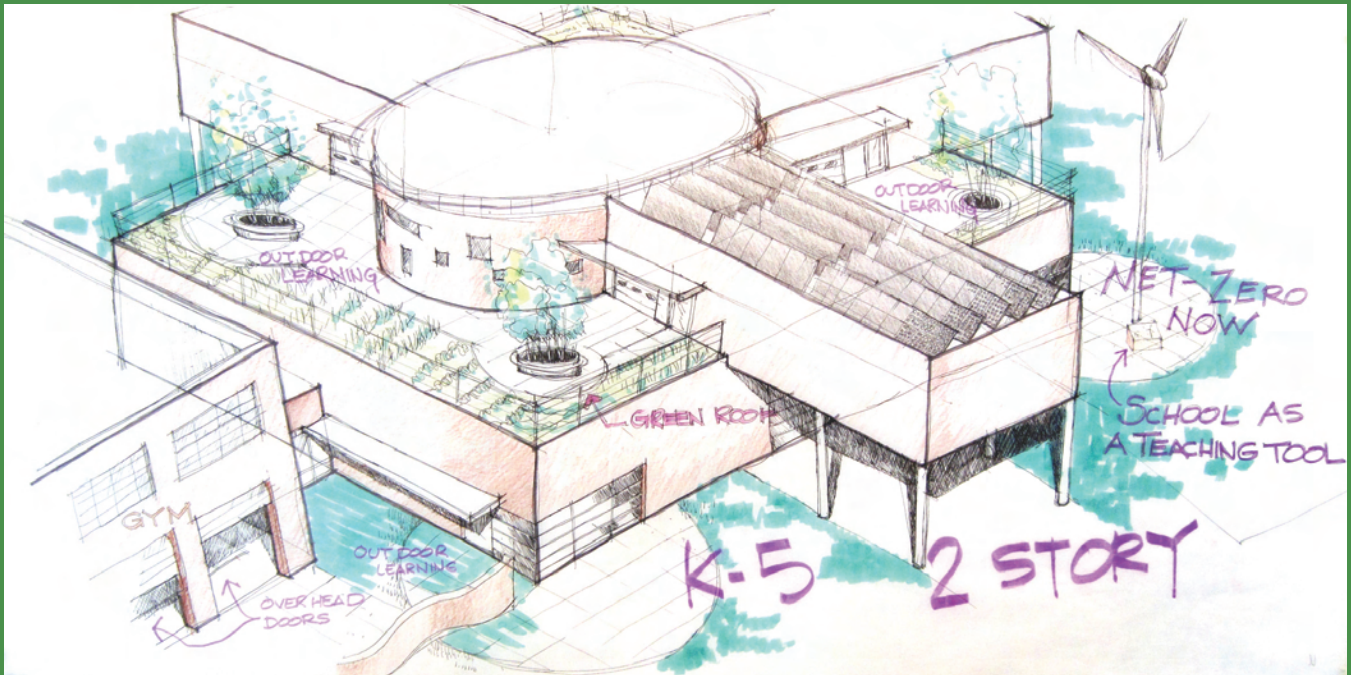


Based on the specific school space lists, each team developed bubble (adjacency) diagrams, blocking and stacking diagrams, concept floor plans and perspective sketches. The following section of this report provides detailed descriptions of both the Neighborhood models and concept designs for the four school types.



THE DESIGN OF THE K-5 ELEMENTARY SCHOOL SHOULD PROVIDE A PLACE FOR LEARNING THAT IS WELCOMING, COMPREHENSIBLE, TRANSPARENT, SUSTAINABLE, SAFE, CONNECTED TO THE OUTDOORS AND HAS AT ITS HEART: LEARNING NEIGHBORHOODS, INFORMATION CENTER AND CAFETERIA.

► Concept Design Team for K-5 Elementary School



► K-5 Elementary School

ELEMENTARY SCHOOL

NEIGHBORHOOD MODEL

The Neighborhood model is the organizational structure and home of flexible and adaptable spaces for a small community of learners. The purpose of the Neighborhood is to provide learners an atmosphere that is centered around individualized learning opportunities.

The elementary school includes six grade levels that have often been provided in separate facilities: K-2 and 3-5. DoDEA currently has 108 elementary schools and 24 percent of these are either K-2 or 3-5 facilities. Accordingly these traditional groupings have been respected in the design of the future K-5 elementary schools because this respects the distinct needs of the ages of the students. The Neighborhood model is a useful planning unit to enable this adaptation.

INSIDE THE NEIGHBORHOOD

The Neighborhoods are sized for the appropriate student: teacher ratio: 18:1 for K-2, 25:1 for 3-5. The Neighborhood is intended to welcome parents, guest speakers and educational partners.

Unique elements and attributes were considered prior to determining those spaces that should be included within the Neighborhood: appropriate scale; movement; socialization; disability services; resources for half- and full-day schedule; basic/fundamental skills development; direct connection to outdoors; active learning; experiential learning; relationships; strong integration of music, art, and movement; mentorship; parents and community enrichment, support, and collaboration; young parents; and self-development.

The following spaces should be located within the Neighborhood, respecting the differentiation indicated for K-2 and 3-5:

- Large Group/"Commons" (72 – 100 occupants)
- Medium Group (18 – 25 occupants)
- Small Group/Team Project (4 – 6 occupants)
- One—to—one (2 occupants)
- Independent Learning
- Outdoor Learning

- Parents Center
- Teacher Resource Area (4 – 8 occupants)
- Teacher Storage
- Instructional Storage
- Student Storage
- Learning Impaired-Severe (LIS) [K-2]
- Art [K-2]
- Music [K-2]
- Physical Activity Area [K-2]
- Stage [K-2] - movable Stage for 3-5
- Wet Lab/Kitchen and Dining Area [K-2] (*option to locate outside the Neighborhoods*)
- Wet Lab Space [3-5] (sized same as Medium Group)

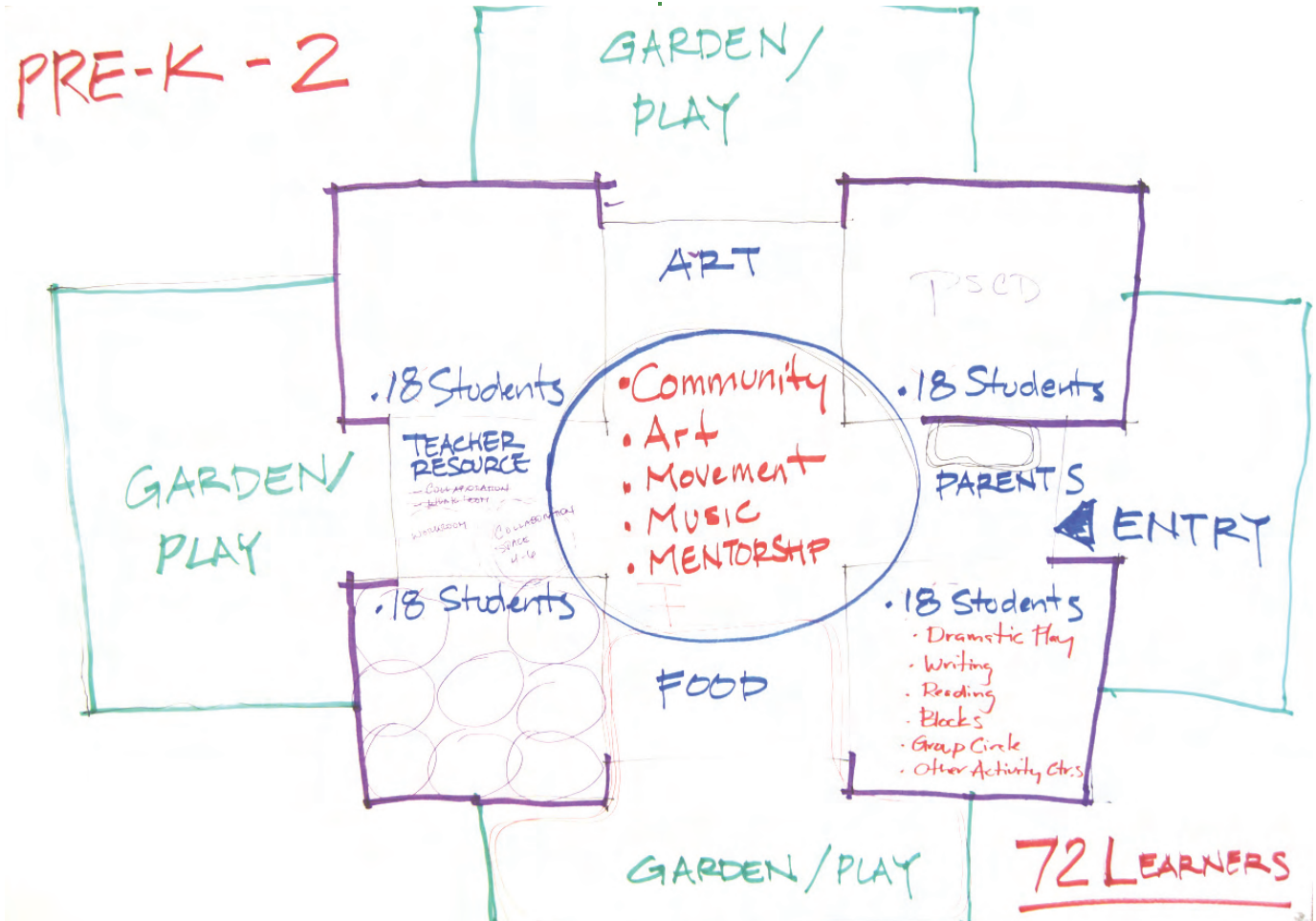
OUTSIDE THE NEIGHBORHOOD

The elementary school contains certain functions that support the entire school and are shared by all students. Some of these areas are anticipated to be shared with the general public when not in use by the school.

The following spaces should be located outside of the Neighborhood, respecting the differentiation indicated for K-2 and 3-5:

- Information/Media Center
- Administration and Reception (*locate Administration near the Neighborhoods*)
- Clinic
- Counseling and Specialists/Itinerant
- Learning Impaired-Severe (LIS) [3-5]
- Art, Music/Band [3-5], (*locate Music/Band away from the Neighborhoods*)
- Gym [3-5]
- Auditorium/Theater [3-5]
- Cafeteria [3-5] (*option to locate inside the Neighborhoods*)

Facilities for 21ST Century Learning



► The layout of the PreK-2 Neighborhood

SCHOOL CONCEPT WORK SESSION

The total process of envisioning 21st Century facilities for learning came to the point of fitting the “puzzle pieces” together to form a physical response to the collective experience, best practices and promising trends for school design.

PROGRAM VALIDATION

The space list provides for Neighborhoods as well as “core spaces” located outside of the Neighborhoods to support the entire school. All grade levels feature Neighborhood areas sized for the appropriate student: teacher ratio, with four classes per Neighborhood. The anticipated total school population of 600 students

establishes the following number of Neighborhoods for the K-5 school:

Neighborhoods and Students

- **K-2: 4 Neighborhoods at 72 students each = 288 students**
- **3-5: 3 Neighborhoods at 100 students each = 300 students**

Each **Neighborhood** includes key functions that are distinct for the K-2 and 3-5 grade levels. For the K-2 grades, major space types are the general learning setting (including Learning Impaired – Severe), multi-use/common space (including music and art), Home-School Partnership/parents center, professional development/teacher support, dining area/food court as well as storage and rest rooms.

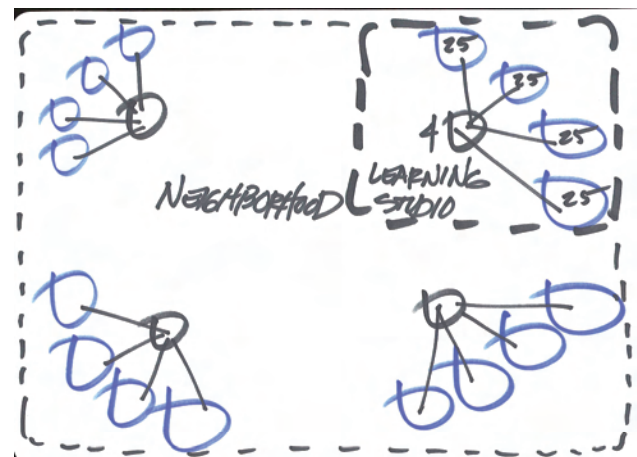
For the 3-5 grades, the same major space types are included, with some variances: **Core Spaces** (instead of Neighborhood) include Learning Impaired – Severe (LIS), art and music/band and dining area/food court. Similarly, the wet labs and stage are located in the core area of the school rather than in the Neighborhoods.

Additional major **Core Spaces** within the school include administration (including reception), professional development center, counselor/itinerant, PT/OT, clinic, information/media center and gym.

What's Missing? – Issues regarding the space list.

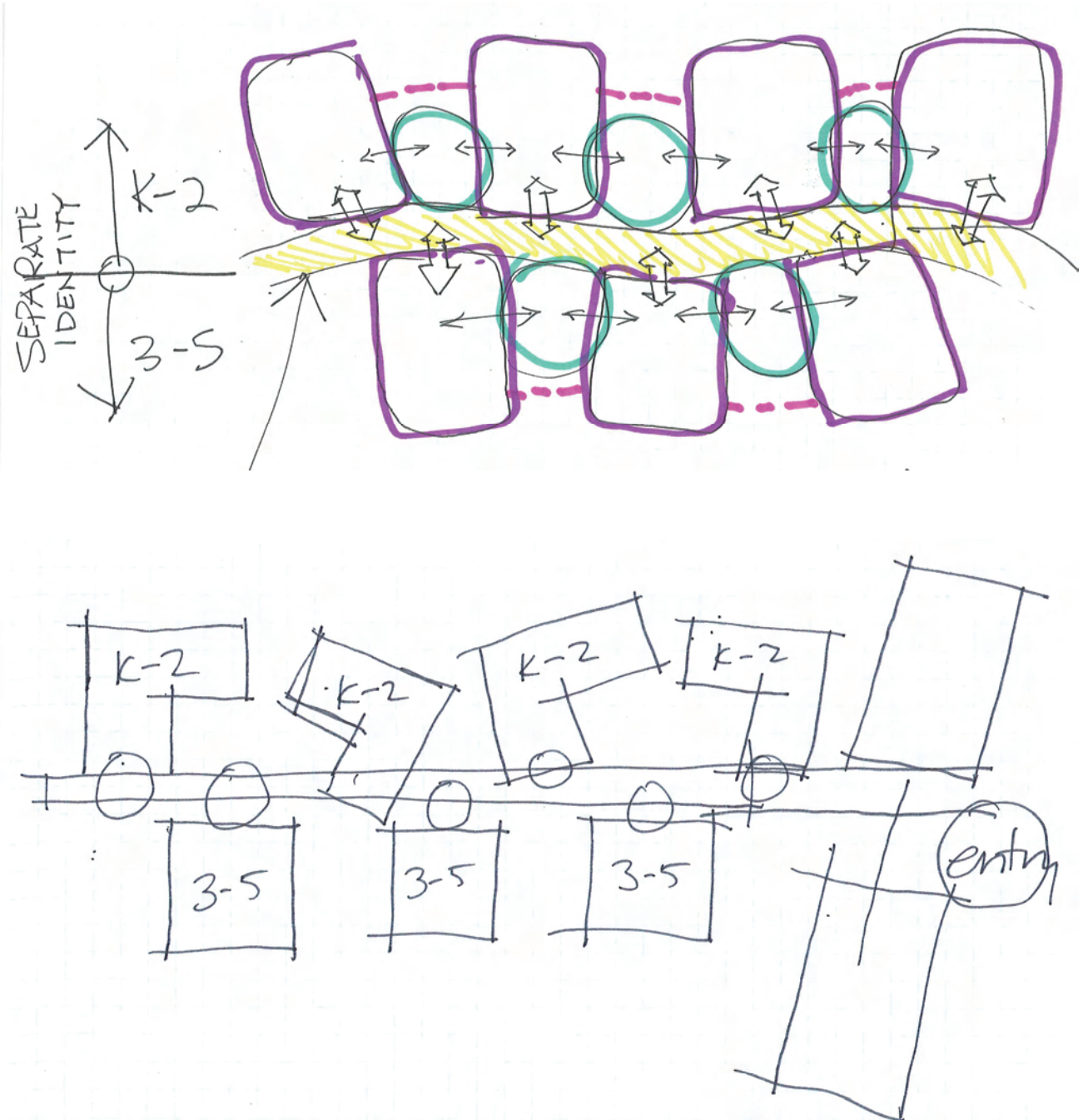
- The K-2 Neighborhood should provide space(s) for physical activity
- Direction is needed about children-sized plumbing fixtures for K-2 areas
- The gym for 3-5 should be larger, 5,000 square feet versus 2,000 square feet, to provide for a basketball court
- Is virtual online learning necessary within the K-2 Neighborhood?
- Is the video/CCTV/media production studio necessary for the school?
- Opportunities for building expansion are limited

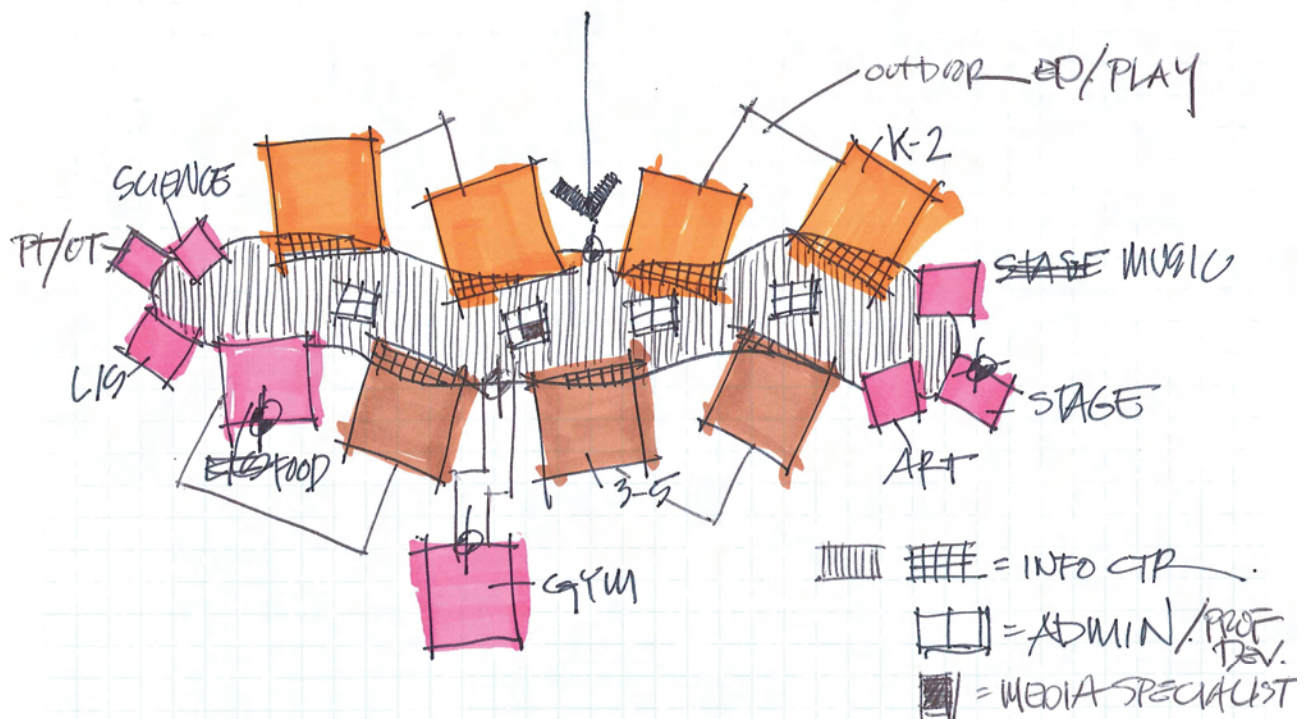
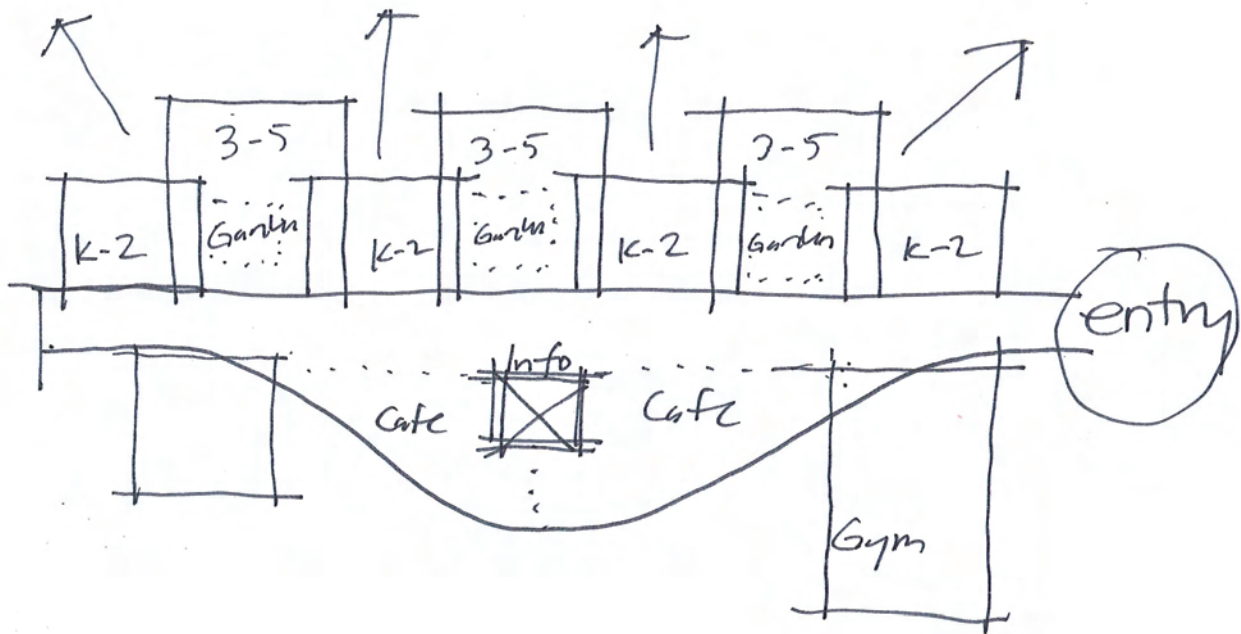
Program Concepts were developed that described important relationships of program functions, as illustrated by these graphics.

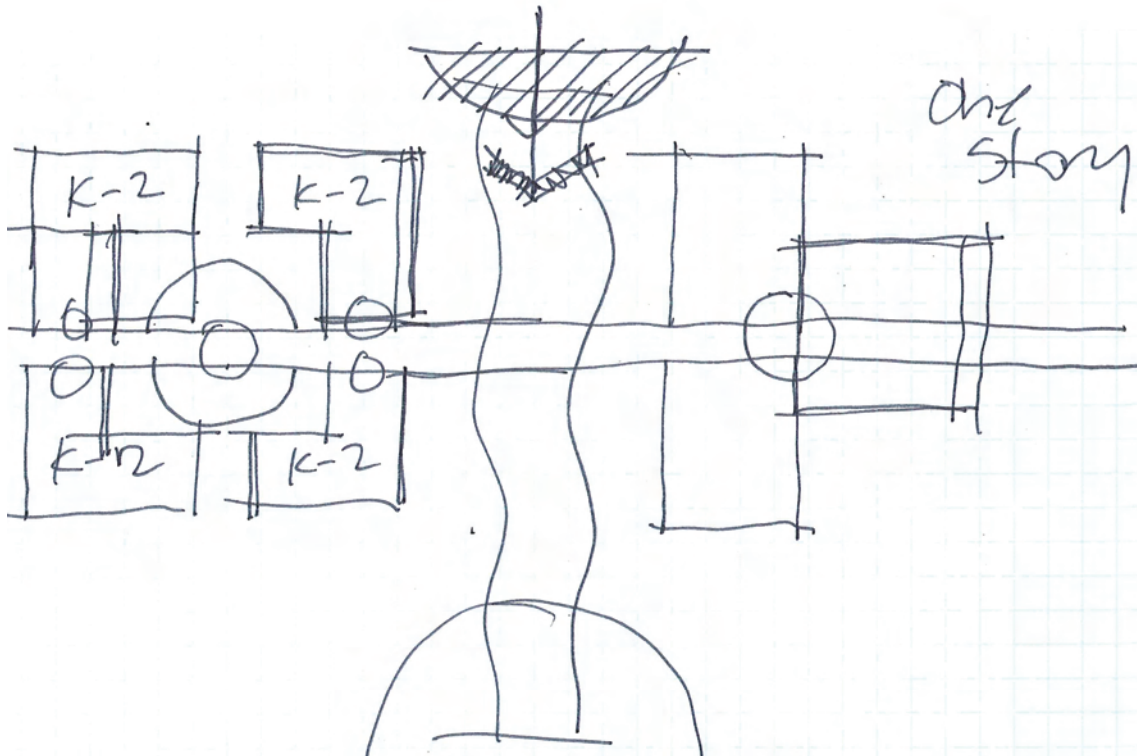
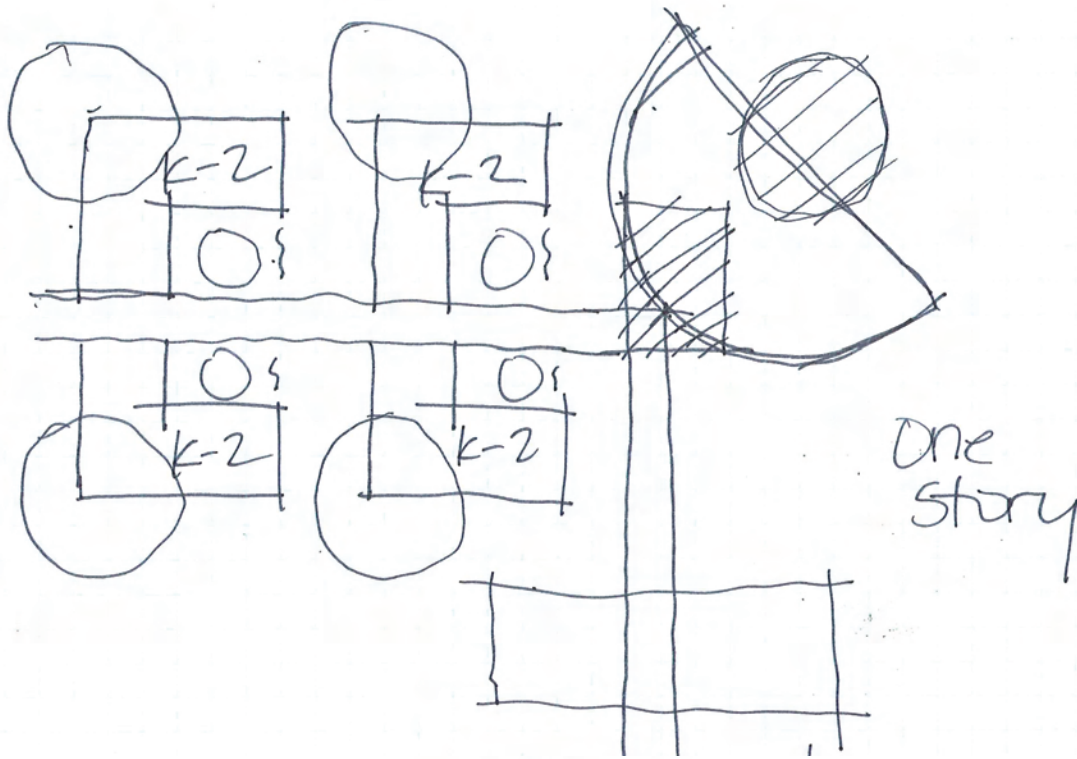


ADJACENCIES (BUBBLE DIAGRAMS)

A variety of alternative layouts is produced - ranging from linear to radial and single-story to two-story approaches, as illustrated by this representative sampling.

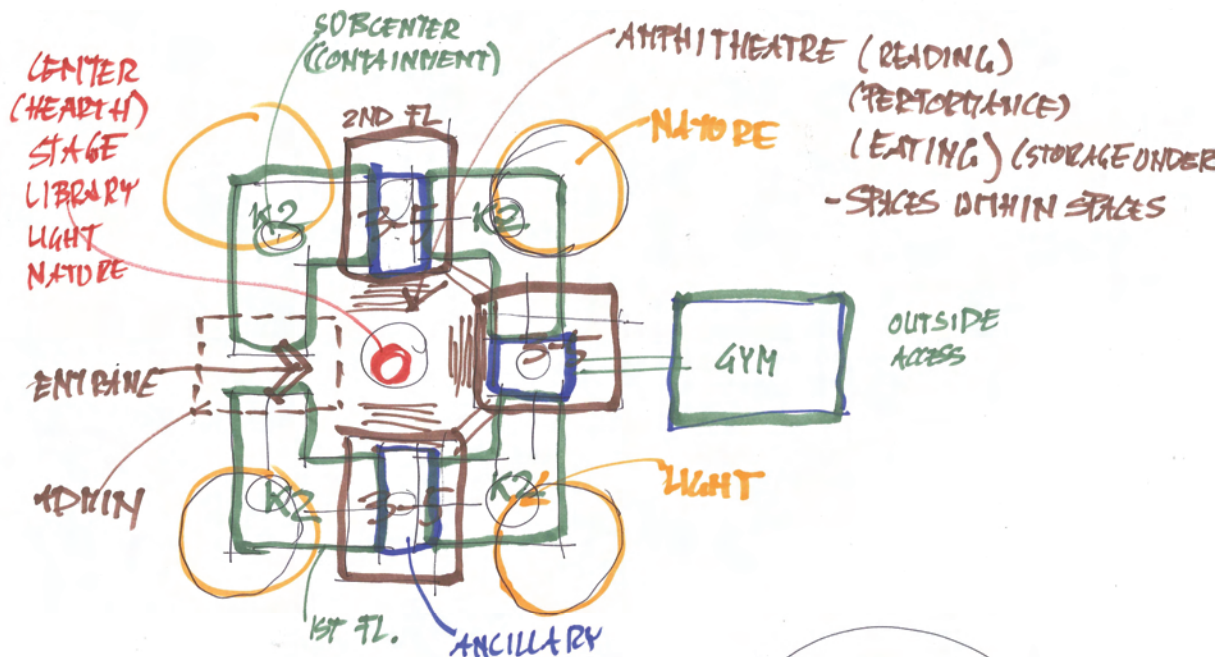
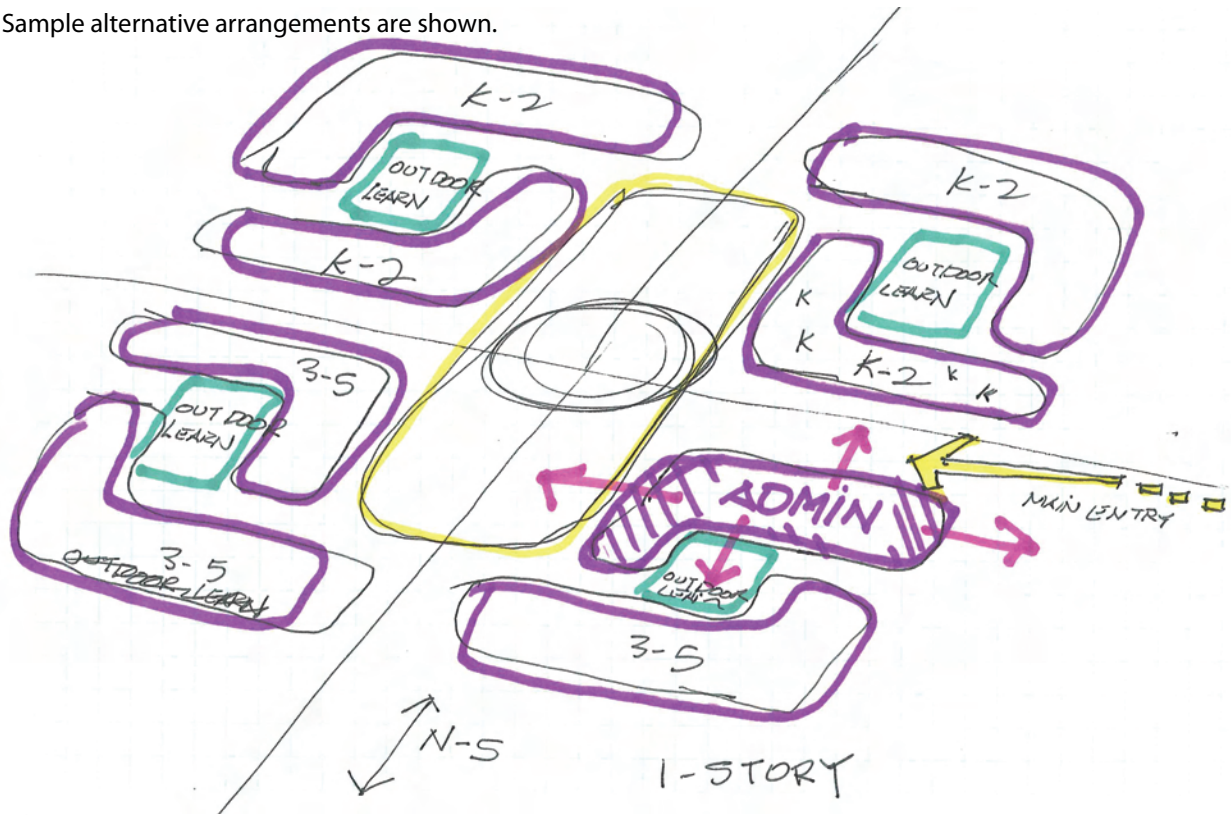


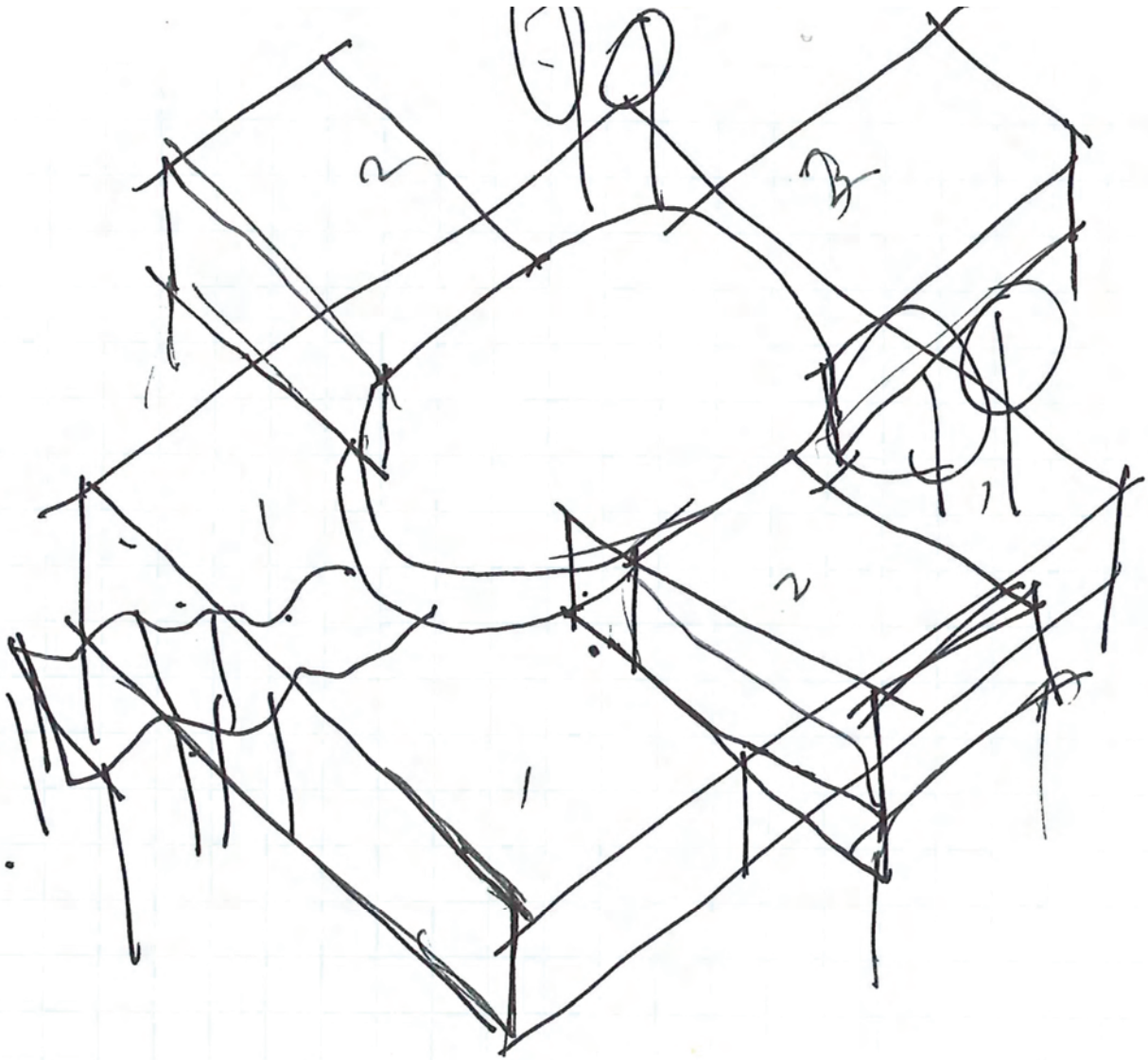




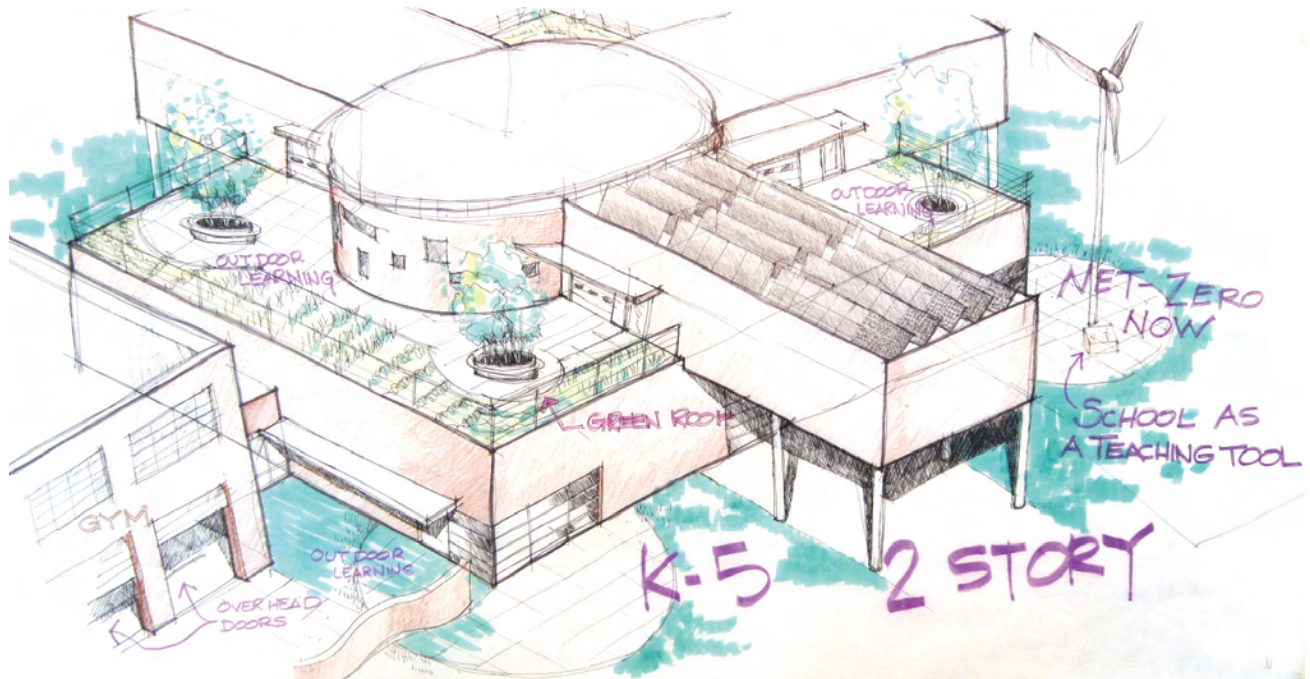
BLOCKING AND STACKING

Sample alternative arrangements are shown.

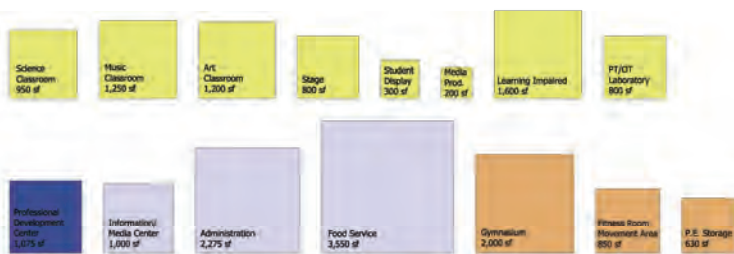




► Axonometric sketch of K-5 School

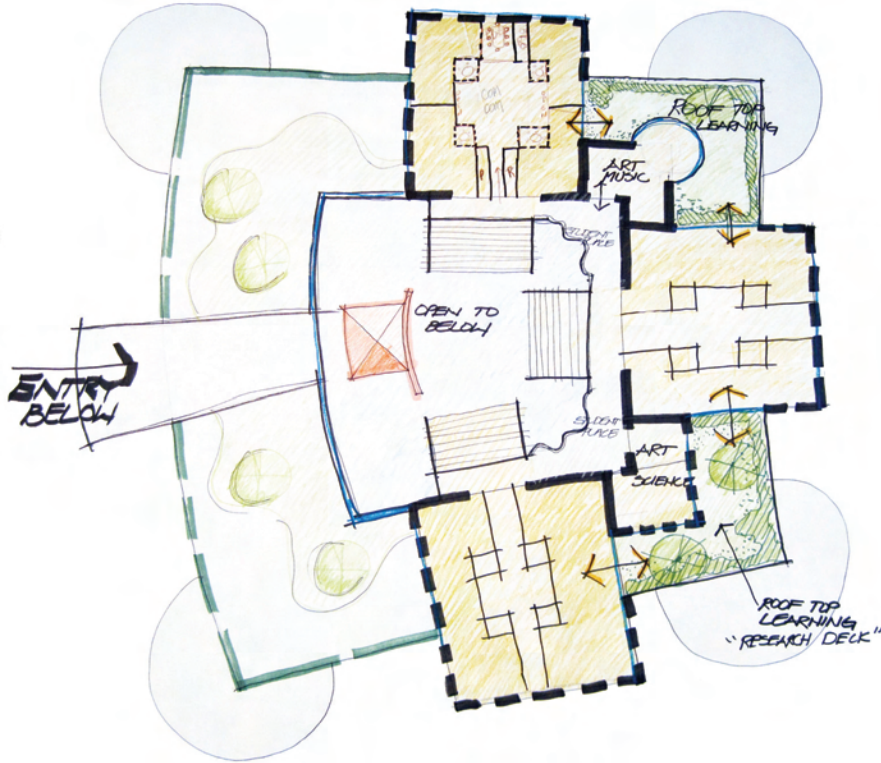


► Perspective rendering of K-5 School

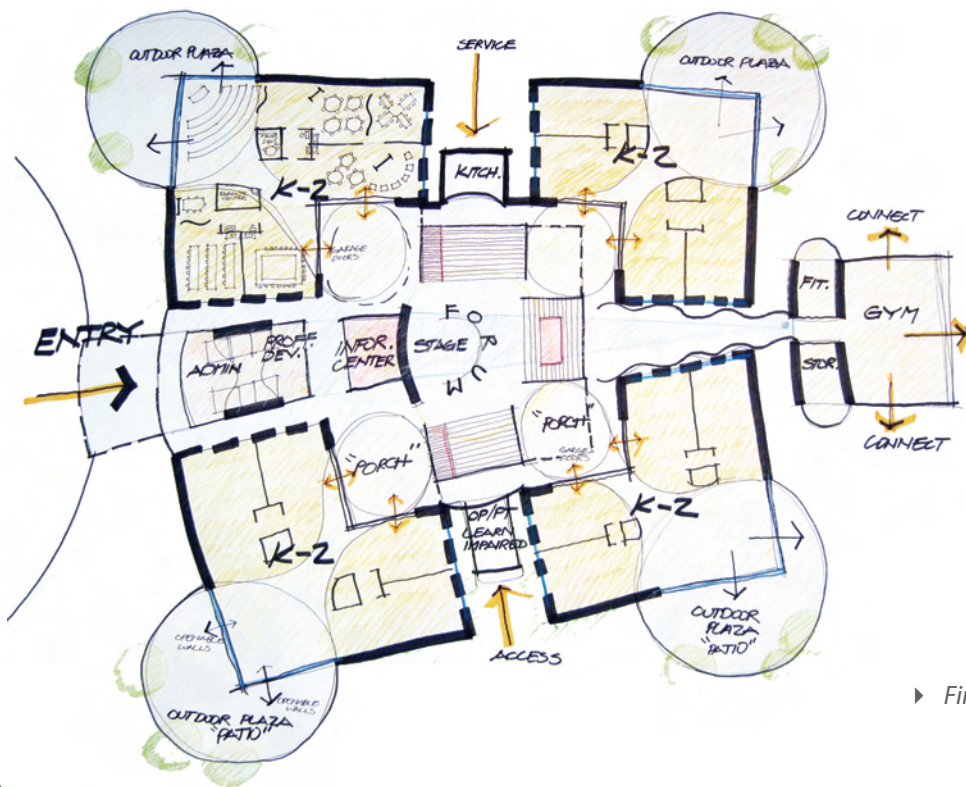


► Graphic representation of all program spaces sized to scale—provides visual illustration of total net square footage. This tool is used to guide the concept design.

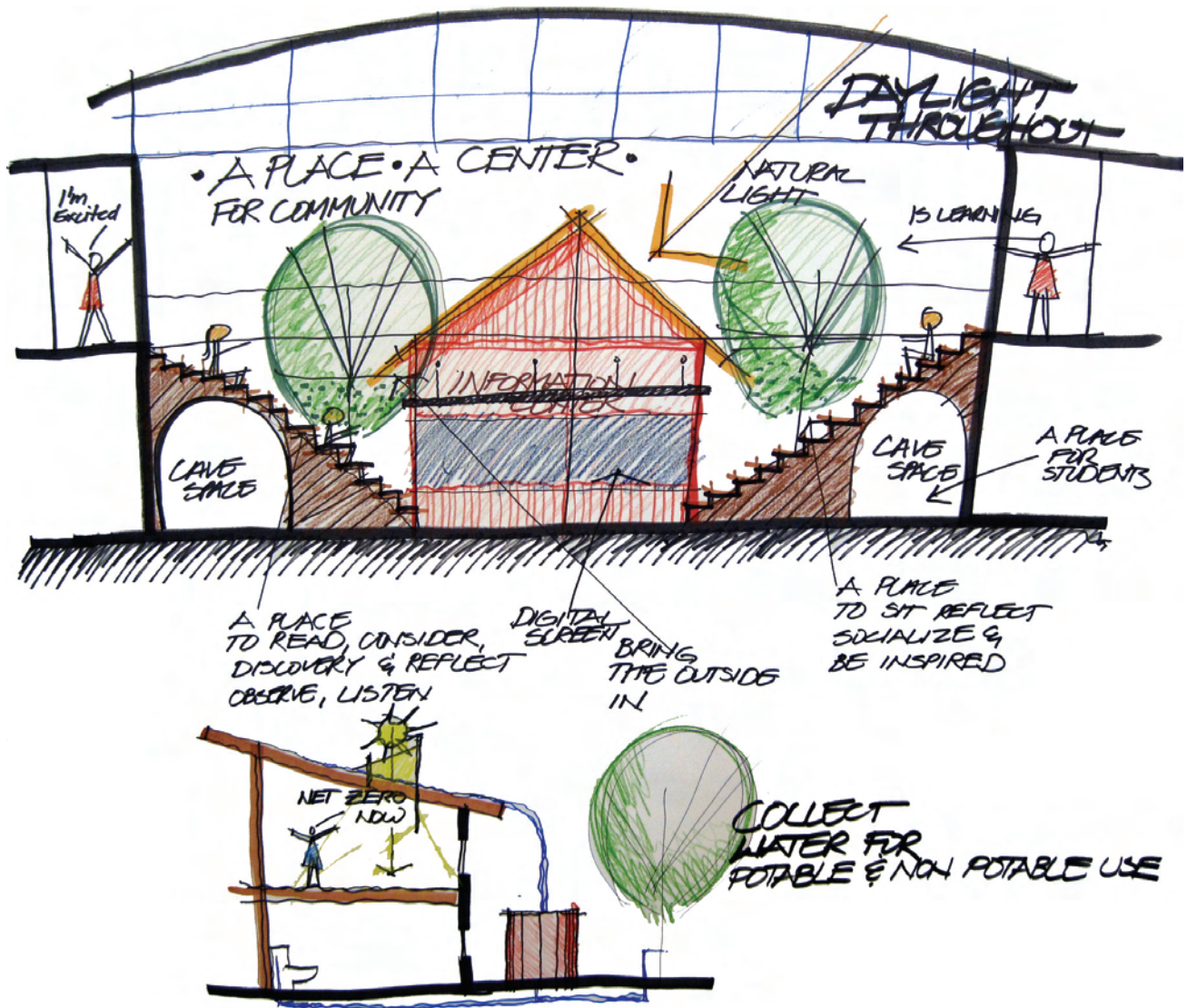
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► Second floor plan of K-5 School



► First floor plan of K-5 School



► Cross-section through central forum space of K-5

MIDDLE SCHOOL

NEIGHBORHOOD MODEL

DoDEA middle schools are a mix between elementary/middle (K-8), middle/junior high (6-9), and middle/high school (6-12). The middle/junior high school with a student population between 500 and 600 is the most common. As a result of this variation, the overall Neighborhood model should be:

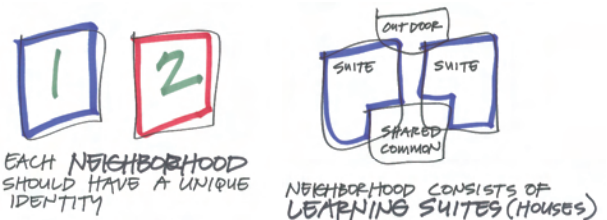
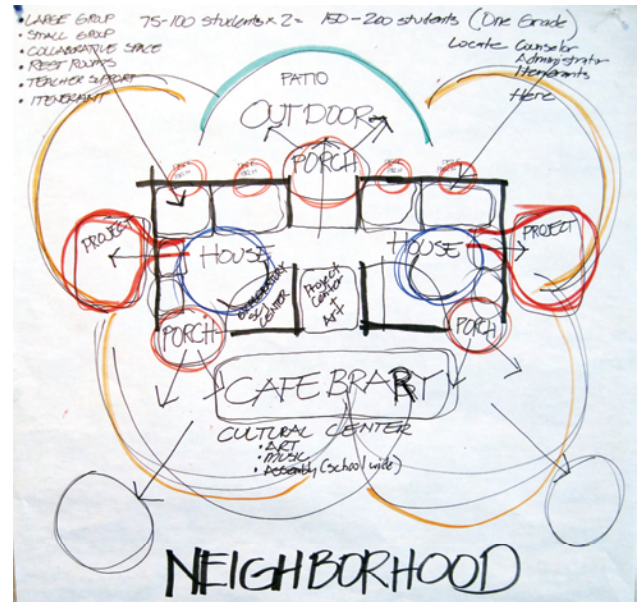
- **Scalable** and **adaptable** to a wide range of students
- Supportive of **differentiated learning**
- **Resource based** organized with shared spaces that support the **learning suite**

Designing a facility that is flexible enough to accommodate various learning scenarios is essential. Agile, multi-purpose space is inherent to providing differentiated learning at various grade levels. The Neighborhood model provides for unique learning environments tailored to each student. Middle schools generally function on a smaller scale, and the Neighborhood creates close-knit communities within the greater school context.

INSIDE THE NEIGHBORHOOD

The middle school Neighborhood is comprised of two learning suites each housing approximately 75 to 100 students. For the average middle school, five to six learning suites within three Neighborhoods would be typical. The main elements within each learning suite are:

- Large Group/Presentation and Small Group space
- Project/Resource area
- General Wet Laboratory space
- Professional Development/Instructional Office
- Counseling/Social Worker Office
- Home School Partnership/Parents Center
- Storage
- Rest Rooms



The large group/presentation space may be subdivided into smaller class and conference rooms.

The wet laboratory is shared and flexible to accommodate various disciplines.

A home school partnership/parents center is located within the suite to foster improved student-teacher-parent relationships.

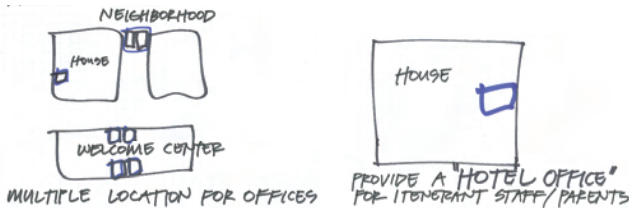
The inner core project/resource area is an open breakaway space delineated by varying furniture layouts. Both one-on-one learning and collaborative team projects occur in this space. Additionally, this space houses student lockers and can be thought of as a home base.

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TEACHERS AND SUPPORT

Neighborhoods may not be subject-specific; therefore, multi-certified teachers would be assigned to each Neighborhood to collaboratively meet students' needs and individualized project-based instruction.

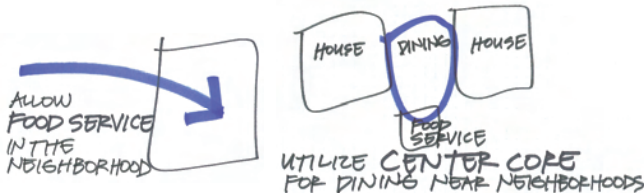
Supporting functions are now decentralized and incorporated both in an administrative area and within the learning suite. Social workers, administrators and itinerant teachers play a crucial role in student development; thus, locating supporting functions closer to the students increases efficiencies with tailored instruction and assessment.



INTER-LEARNING SUITE FUNCTIONS

Areas between two learning suites provide a shared project center, art space and access to outdoor patios and school wide spaces. The Neighborhood arrangement promotes enterprise team building among the learning suites.

A dining area may also be incorporated into this inter-suite area for enhanced student socialization; however, current DoDEA contracts may restrict food service from the Neighborhoods.



OUTSIDE THE NEIGHBORHOOD

Primary issues to consider for areas outside the Neighborhood include:

- Adjacencies
- Multi-use, multi-age
- Community space

The following highlights areas that would be located outside the Neighborhoods:

GYMNASIUM

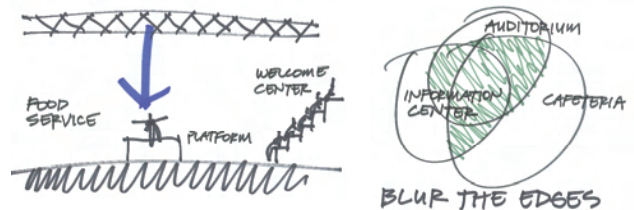
- Full size gym capable of seating whole school
- Wellness/fitness center
- Coaching offices (professional development)

WELCOME CENTER

- Central location
- City Hall type function

CAFETERIA/AUDITORIUM

- The auditorium and cafeteria can be in a shared area
- Auditorium stage is part of cafeteria floor
- Located for multi-use by welcome center
- Connections to culinary arts program area



INFORMATION CENTER

- Located in the "Cafebrary" - cafeteria and library unit

CAREER AND TECHNICAL EDUCATION (CTE)—TECH ED (STEM)

- Flexible and replicable spaces
- Series of garages
- Two per school



ADMINISTRATION-SUPPORT

- Portion located near welcome center

BAND-MUSIC

- Performance space may be located by auditorium

SPECIALIZED SPACE

- Specialized spaces for learning disabilities, such as hearing impaired
- Specialized laboratories, such as robotics

NEIGHBORHOOD MODEL AND SCHOOL OF ONE

The School of One model provides similar themes related to the Neighborhood concept. A guiding principle is that the School of One must be able to be implemented within an existing building. For existing DoDEA facilities to be refurbished, this model could be incorporated successfully.

TECHNOLOGY INTEGRATION

- No longer invasive
- Part of daily learning experience
- More efficient assessment
 - Can adjust instruction tailored to each student
 - Teacher is working more flexibly

SPACE IMPLICATIONS

- Reconfigurable space
 - Small, medium, large
 - Multi-disciplinary

VARIABLE SCHOOL SCENARIOS

- Adaptable to military environment

SCHOOL CONCEPT WORK SESSION

Several themes developed during the middle school concept work session that guided the team. One idea creates a central “heart” in the building. This central space includes the cafeteria, information center, commons and auditorium. Additional hearts are within the various Neighborhoods. The goal is to provide a nurturing and comfortable environment for each student.



PROGRAM VALIDATION

The space list provides for Neighborhoods as well as “Core Spaces” located outside of the Neighborhoods to support the entire school. The anticipated total school population of 600 students establishes the following number of Neighborhoods for the middle school:

Neighborhoods and Students

- ▶ **6 Neighborhoods at 75-100 students each**

Each **Neighborhood** includes key functions that are distinct for grade levels six to eight. Major space types include:

- Large and Small Group/Presentation
- Learning Setting
- Project/Resource
- General Wet Laboratory
- Professional Development/Instructional Office
- Home—School Partnership/Parents Center

Additional major **Core Spaces** within the school include:

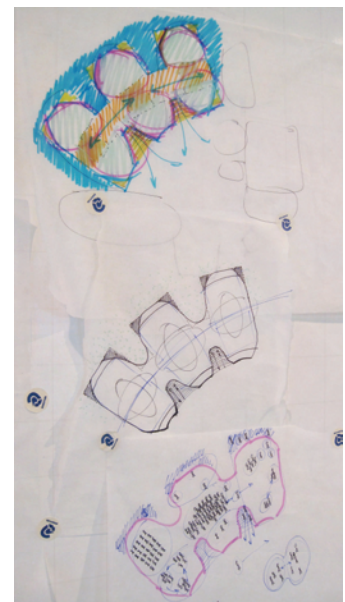
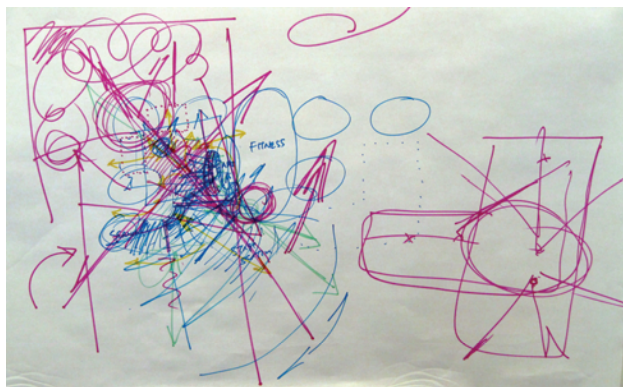
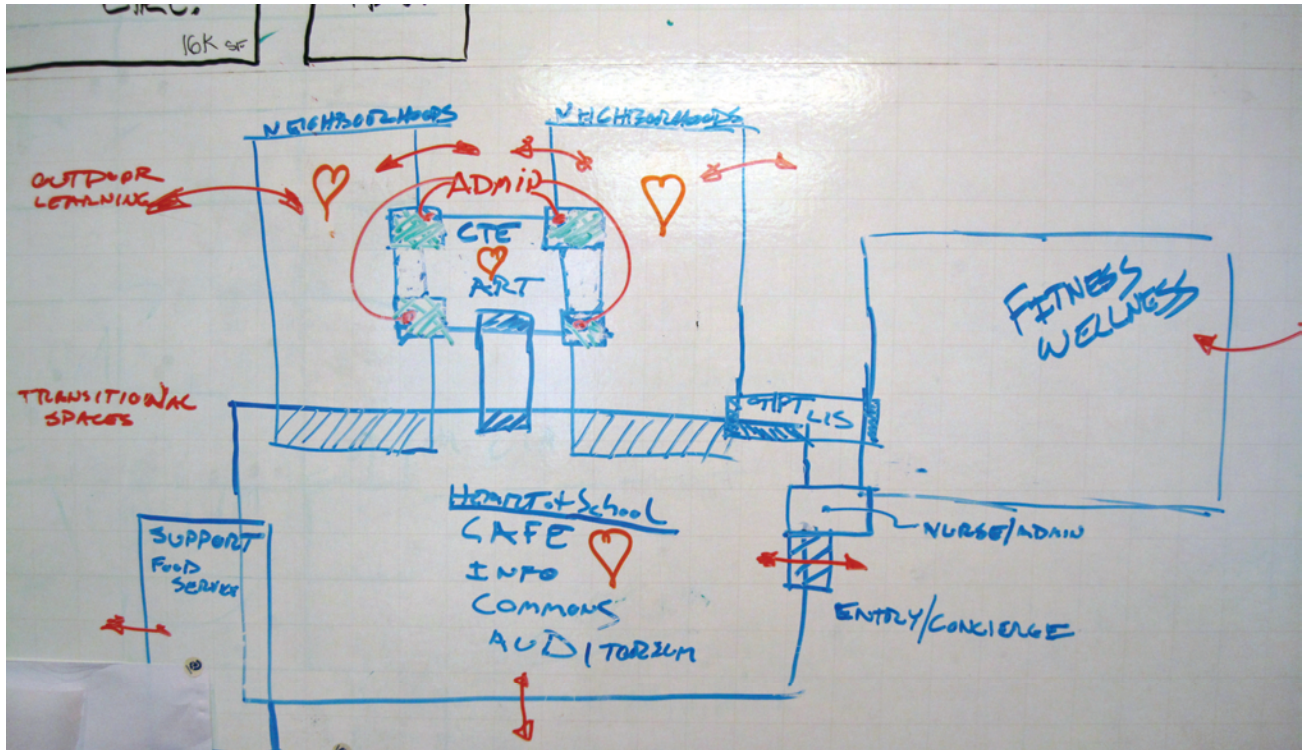
- Art Classroom
- Media Production Studio
- Band Rehearsal Hall
- Tech Center
- Learning Impaired/Special Needs
- PT/OT Laboratory
- Culinary Arts
- Gymnasium/Fitness Center
- Information Center
- Auditorium/Assembly
- Food Service
- Administration

What’s Missing? - Issues regarding the space list

- Need to resolve food service-delivered to school or within Neighborhoods
- Performance venue acoustical issues with surrounding functions

PROGRAM CONCEPT DEVELOPMENT

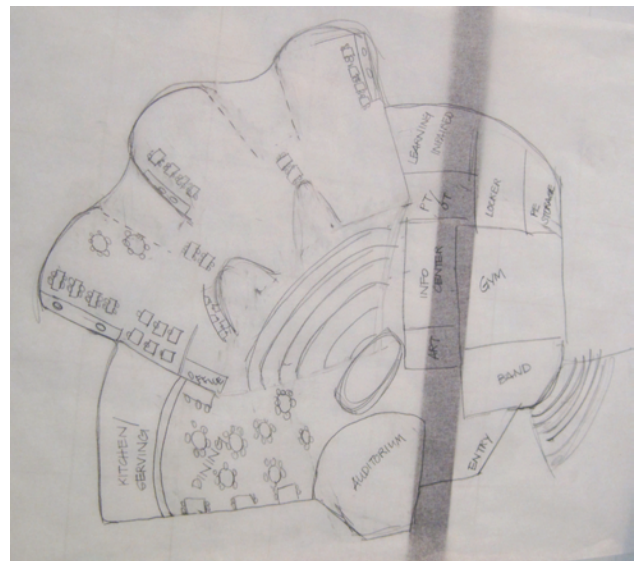
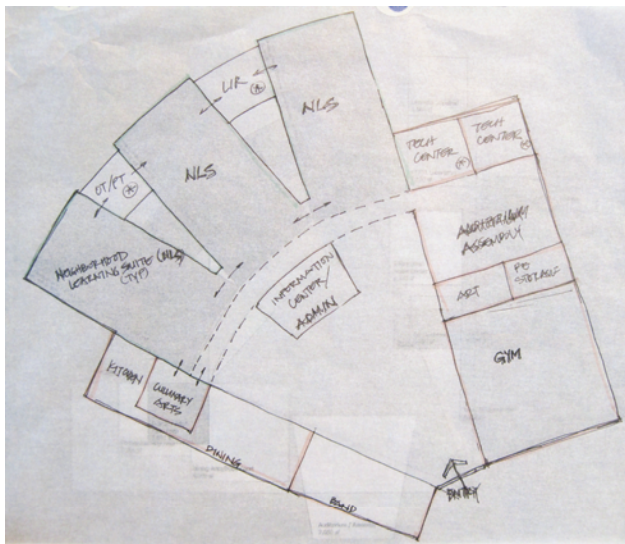
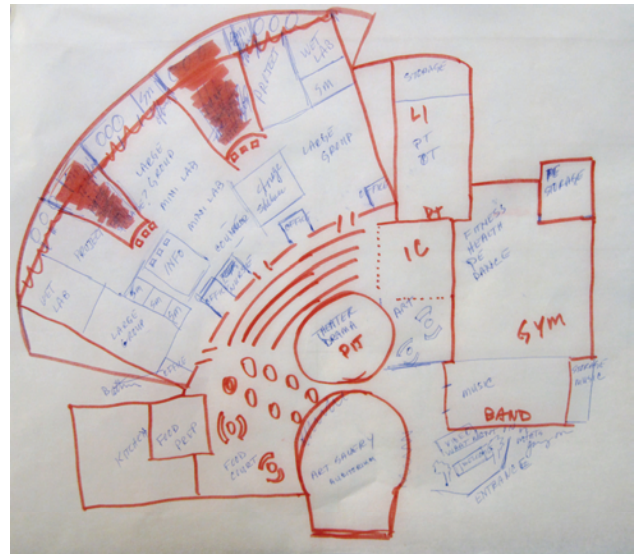
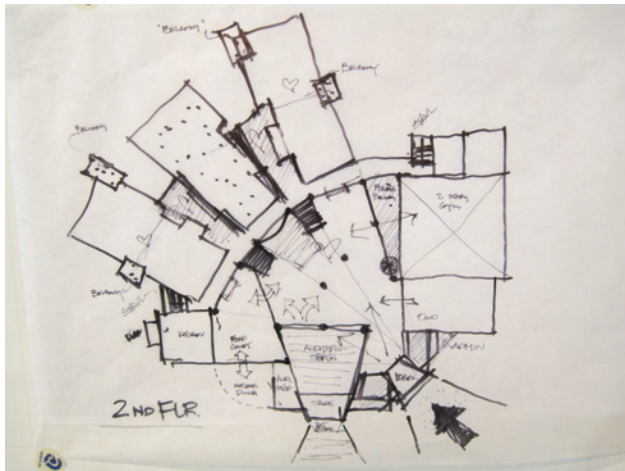
The following graphics illustrate the initial concepts related to organizing the program.



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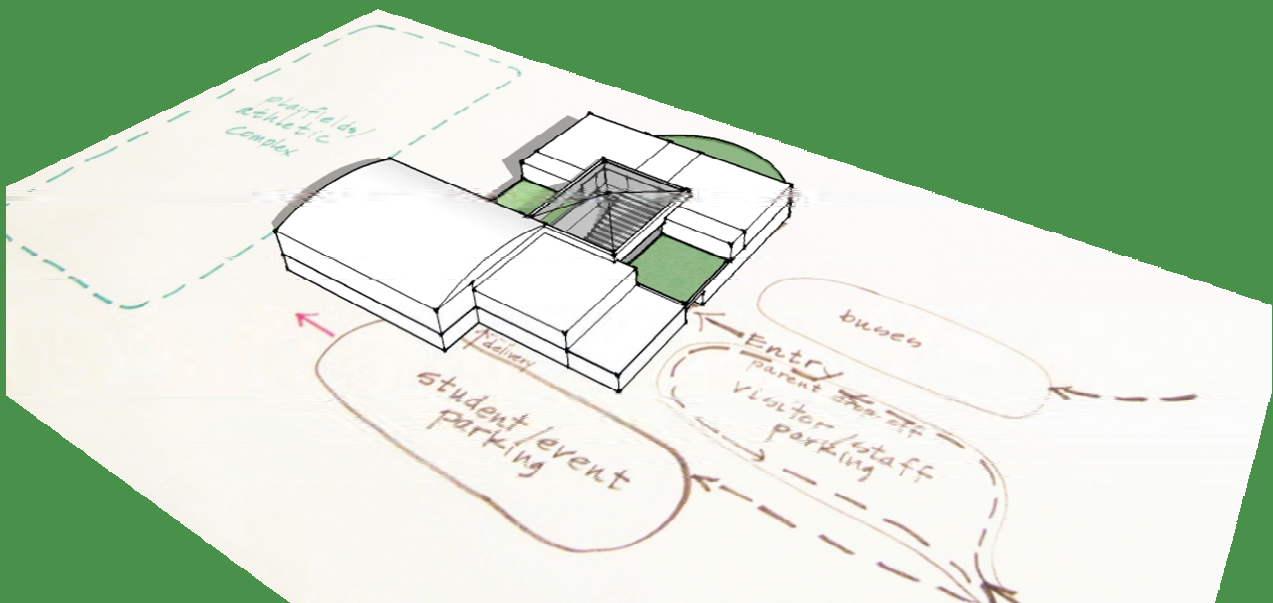
Several variations on a theme developed following the initial concepts. The Neighborhoods and common spaces radiate out from an open central space. The Neighborhoods occupy both the first and second stories and have connections between each other.

Auditorium, gymnasium/fitness, cafeteria, band hall and information center spaces are located around the central core.



THE DESIGN OF THE HIGH SCHOOL SHOULD PROVIDE A COLLEGIATE AMBIANCE WITH A CIVIC PRESENCE THAT IS ENVIRONMENTALLY SENSITIVE. THE BUILDING SHOULD BE ZONED TO SEPARATE PUBLIC AND PRIVATE USES, BUT BE CENTERED AROUND A COMMONS AREA TO BE SHARED BY ALL. THE DESIGN SHOULD FACILITATE MOVEMENT BETWEEN THE PRIVATE NEIGHBORHOODS. THE FACILITY SHOULD BE FLEXIBLE AND ADAPTABLE FOR MULTIPLE USES, THUS BLURRING THE LINES OF TRADITIONAL PHYSICAL BOUNDARIES.

▶ Concept Design Team for High School



▶ High School Concept

HIGH SCHOOL

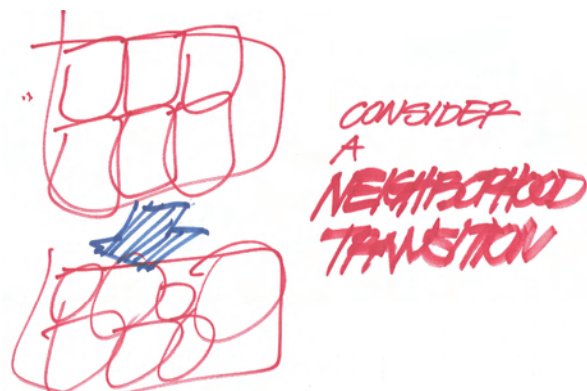
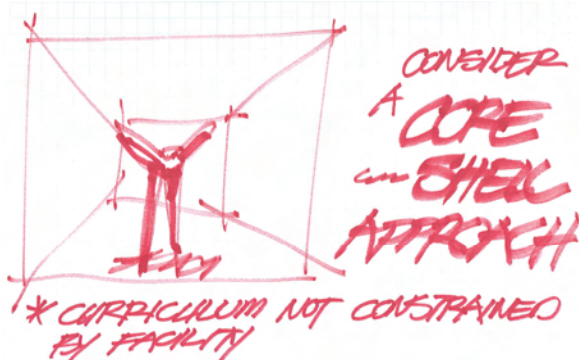
NEIGHBORHOOD MODEL

DoDEA currently has 22 high schools ranging between 100 and 900 students with the average population at approximately 600. The current structure for high schools is departmentalized into the following categories:

- Science
- Math
- Music
- Language
- Arts

The Neighborhood model allows for improved cross-disciplinary instruction and differentiated learning. The Neighborhood model also allows for more flexibility and adaptability.

General considerations related to the high school Neighborhood include **Core Spaces, Neighborhood transitions** and **expandability**.



INSIDE THE NEIGHBORHOOD

The high school Neighborhood is comprised of a learning studio housing 150 students. The studio can be divided into 2 “houses” with 75 students each. For the average high school, 8 houses within 4 learning studios would be typical. The main components within each Neighborhood include:

- Large Group Presentation
- Small Group
- General Learning Suite
- Conference
- Staff Planning/Resource Area
- Parents Center
- Study Research Lounge
- Wet Lab/Science
- Distance Learning
- Storage
- Rest Rooms

OUTSIDE THE NEIGHBORHOOD

The high school contains certain functions that support the entire school and are shared by all students. Some of these areas are anticipated to be shared with the general public when not in use by the school. The following spaces would be located outside of the Neighborhood:

- Information Center
- Auditorium/Assembly
- Welcome Center
- General CTE Laboratory
- JROTC
- Art Classroom/Lab
- PT/OT Laboratory
- Business Education Laboratory
- PE/Gymnasium
- Cafeteria
- Administration

SCHOOL CONCEPT WORK SESSION

Several design principles developed during the high school concept work session that guided the team including:

- **Collegiate Ambiance**
 - Formal & informal
- **Civic Presence**
 - Welcoming
 - Accessible
 - Culturally sensitive
 - Military identity—honor/dignity
- **Environmentally Sensitive**
 - Natural light pervasive
 - Responds to local climate
 - Acoustics & context
- **Building as Teaching Tool**
 - Technology at entry
 - Tap the data
 - Empower the students—garden, tours, recycling
- **Zoned for Public/Private**
 - Within Neighborhood
 - In commons
- **Trust & Respect**
 - Scale
 - Professional setting
 - Autonomy
 - Collaboration
 - Relationships
- **Indoor/Outdoor Connection**
 - Neighborhood—outdoors
 - Adjacent to house
 - Secure Outdoors
 - Learning & PE & social
 - Differentiated
 - Park-like
- **Part of Global Campus**
 - Personalize the space
 - Technology
 - Display of where you've been
 - Senior wall
- **Optimize Site with Multi-Story Design**
- **Blur the Lines Between Spaces**
 - Flexible, adaptable
 - Multiple uses

PROGRAM VALIDATION

The space list provides for neighborhoods as well as “core spaces” located outside of the neighborhoods to support the entire school. The anticipated total school population of 600 students establishes the following number of neighborhoods for the high school:

Neighborhoods and Students

▶ *4 Neighborhoods at 150 students each*

What’s Missing? - Issues regarding the space list

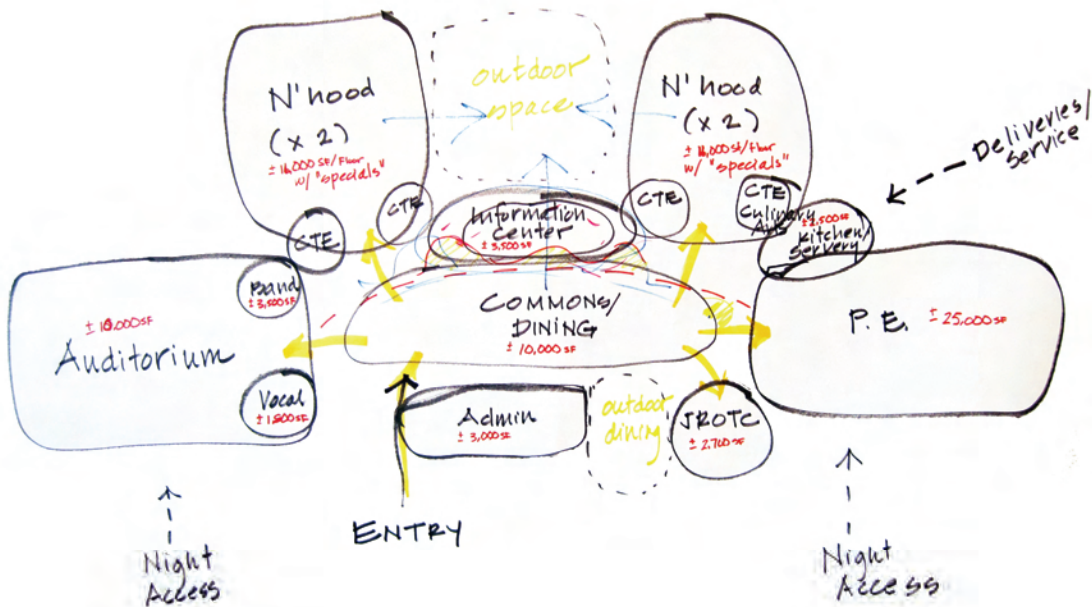
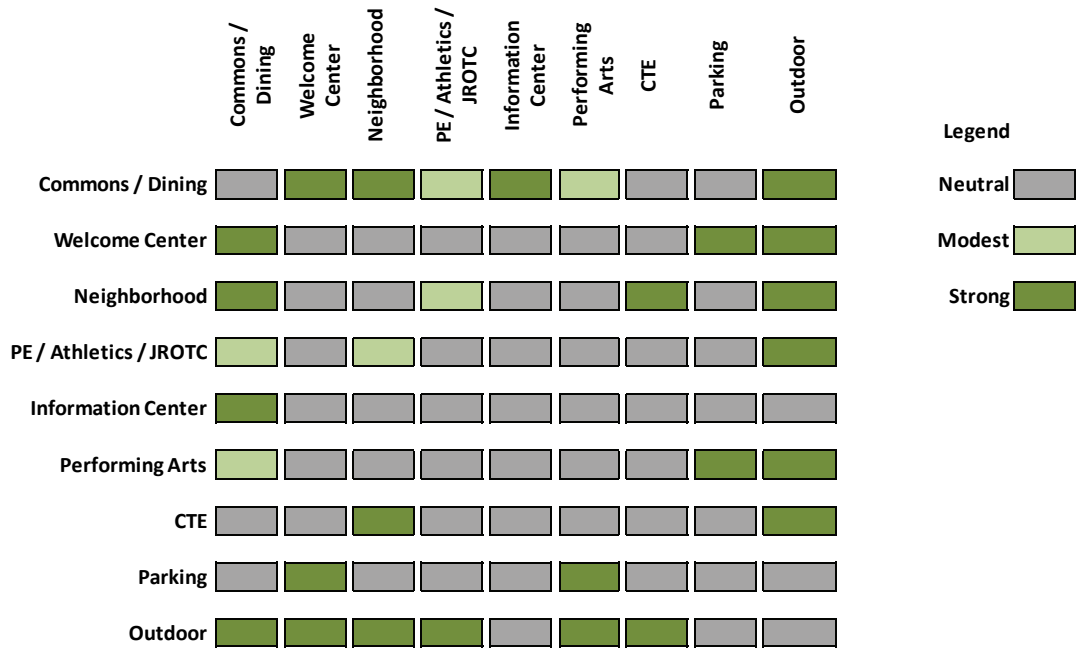
- Only (2) Neighborhoods indicated – Need (4) – will increase sq. footage to approx. 45,000
- PE program excessive for 600 students?
- (2) gyms plus auxiliary gym, fitness
- Delete (1) gym and auxiliary gym?
- 2,500 SF of PE storage? (seems excessive)
- CTE shows (7) teaching stations – will you have 25% of population?

High School Academic Neighborhood			
Space	House	Neighborhood	Total
Learning Studio/Commons Sm Group, Projects, Student Offices, Storage	1 @ 3000		6,000
Small Group/Conference	2 @ 200		400
Staff Planning/Resource Area		1 @ 500	500
Wet Lab/Science		1 @ 1,000	1,000
General Learning Lab	1 @ 900		1,800
Distance Learning	1 @ 400		400
CTE		1 @ 2,000	2,000
Restrooms		2 @ 200	400
Storage		1 @ 200	200
Neighborhood Total			12,700

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ADJACENCIES AND BUBBLE DIAGRAMS

The following illustrates adjacencies and bubble diagrams for the high school program.



PUBLIC VS. PRIVATE

PUBLIC

- Administration Welcome Center
- PE
- Information Center
- Performing Arts
- Food/Eating
- Food/Kitchen
- Ancillary Commons
- JROTC

PRIVATE

- 4 Neighborhoods
- Special Education
- CTE/STEM

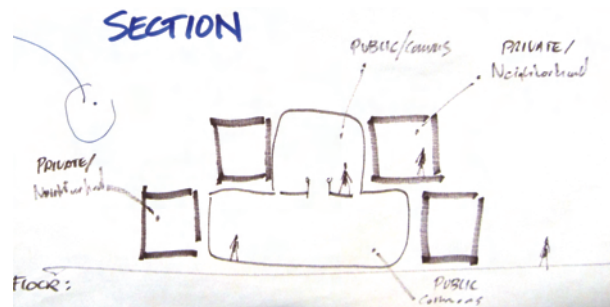
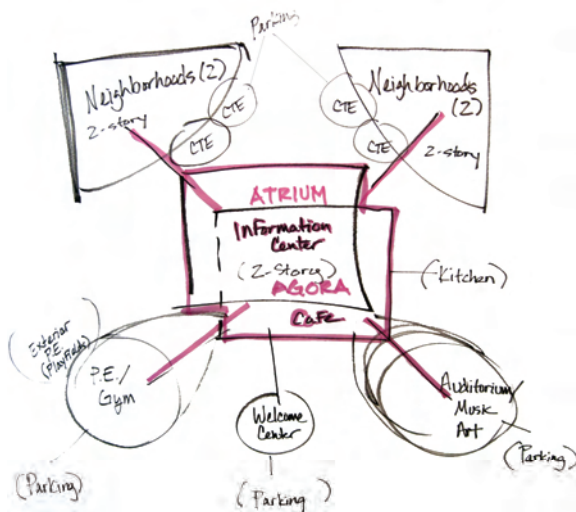
FIRST VS. SECOND FLOOR

FIRST

- Administration Welcome Center
- Special Education
- Performing Arts
- PE
- JROTC
- Food/Eating
- Food/Kitchen
- Neighborhoods
- CTE
- Ancillary Commons

SECOND

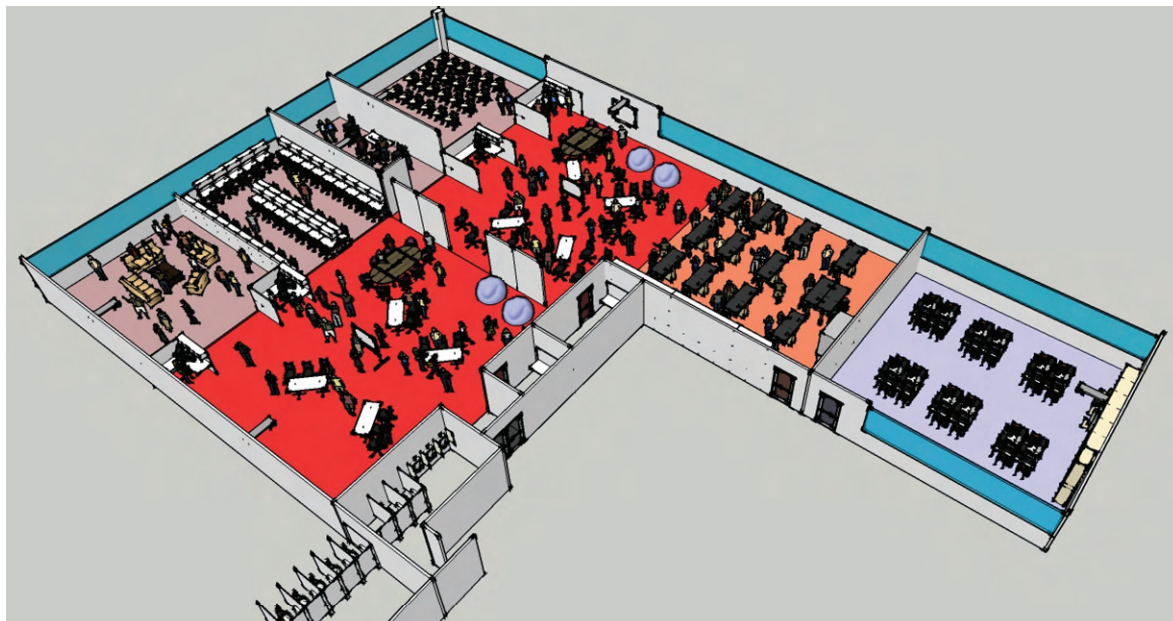
- Neighborhoods
- Information Center
- Ancillary Commons
- Food/Eating



Facilities for 21ST Century Learning

NEIGHBORHOOD CONCEPT

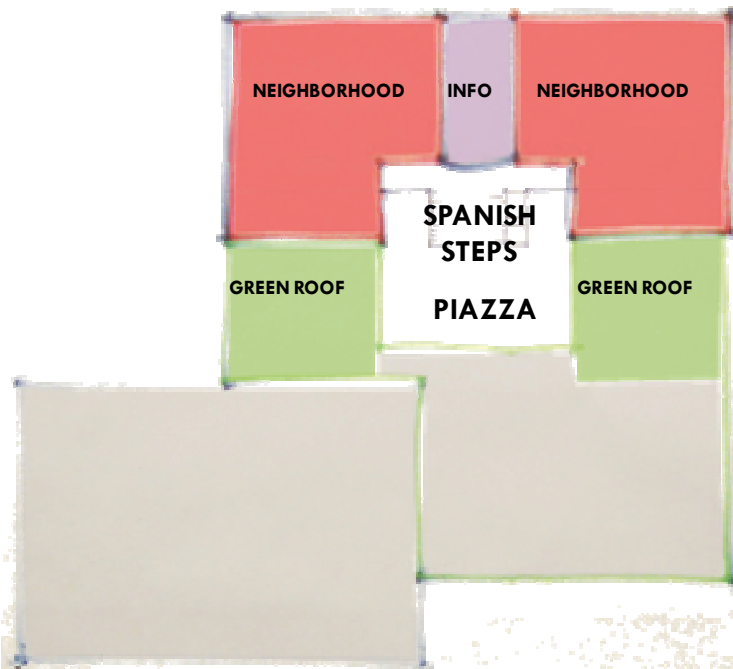
The following illustrates the conceptual Neighborhood layout housing 150 students.



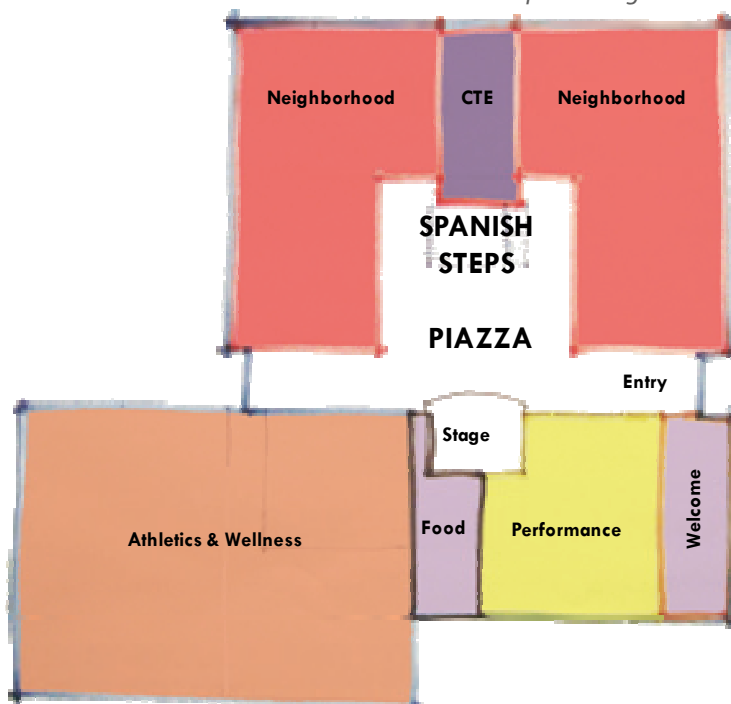
► Neighborhood model sketch

CONCEPT FLOOR PLANS

The following illustrates the concept floor plans and related imagery.



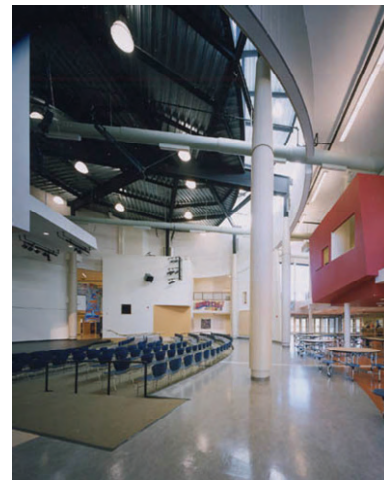
▶ Second floor plan of high school



▶ First floor plan of high school



Jack Britt High School, Fayetteville, NC



Crosswinds Art & Science Middle School
Cunningham Group Architecture, PA

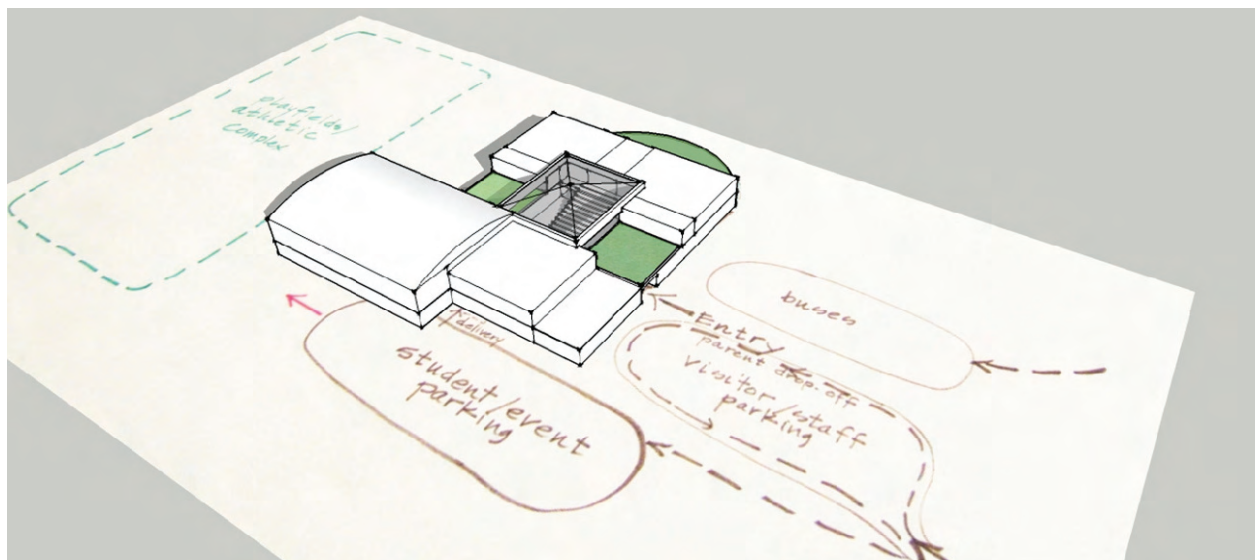
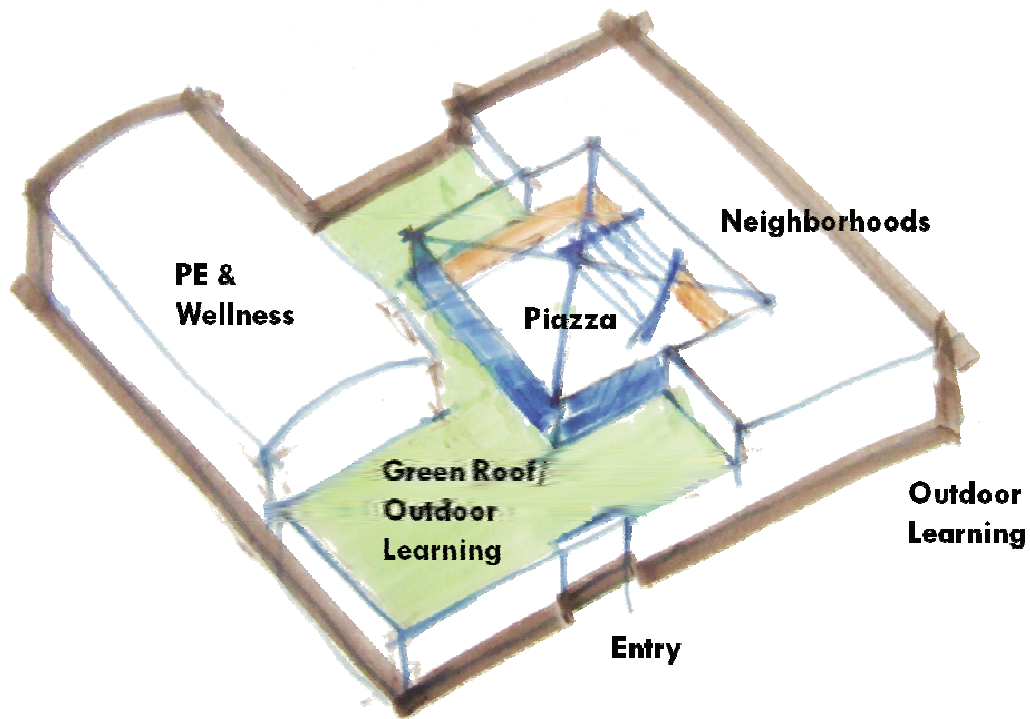


Spanish Steps

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CONCEPT DESIGN

These graphics represent the concept design for the high school.



► Exterior perspectives of high school

THE PRE-K-12 UNIT SCHOOL DESIGN SHOULD BE CENTERED AROUND THE "SCHOOL HEART" WITH CONTIGUOUS NEIGHBORHOODS PROVIDING SKILL/AGE APPROPRIATENESS WITH FLEXIBILITY TO BLUR LINES, I.E., GRADIENT FACILITATING ROOM TO FLEX. EACH NEIGHBORHOOD SHOULD HAVE ITS OWN IDENTITY.

▶ Concept Design Team for PreK—12 Unit School



▶ PreK—12 Unit School Concept

UNIT SCHOOL (PRE-K—12)

NEIGHBORHOOD MODEL

The unit school includes Pre-K plus 13 grade levels that have typically been provided in separate facilities of various grade configurations. DoDEA currently has seven unit schools that represent less than four percent of all the schools. The Neighborhood model is a useful planning unit to provide for the traditional age groupings that respect the distinct needs of the students within a single school facility.

INSIDE THE NEIGHBORHOOD

The Neighborhoods are sized for 100 students each for every grade level. The Neighborhood is intended to welcome parents, guest speakers and educational partners.

The following spaces should be located within the Neighborhood, respecting the differentiation indicated for PreK-2 and 3-12:

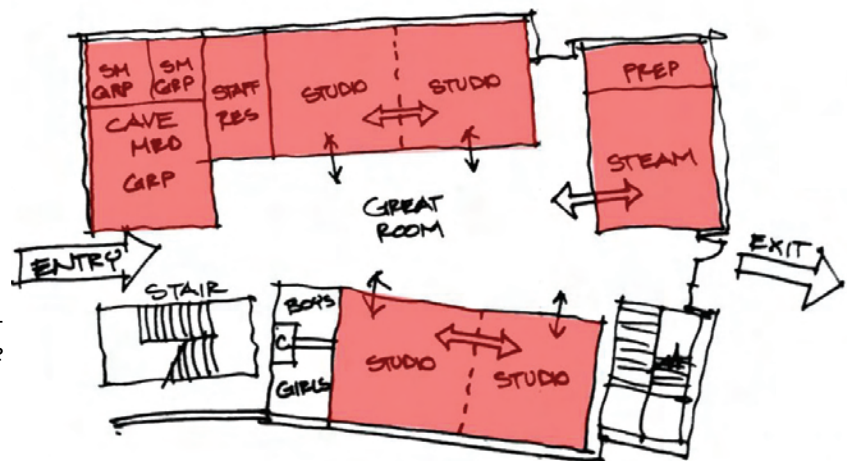
- Large Group/"Commons" (72 – 100 occupants)
- Medium Group (18 – 25 occupants)
- Small Group/Team Project (4 – 6 occupants)
- One-to-one (2 occupants)
- Independent Learning
- Outdoor Learning
- Parents Center
- Teacher Resource Area (4 – 8 occupants)
- Teacher Storage
- Instructional Storage
- Student Storage
- Learning Impaired-Severe (LIS) [PreK-2]
- Art [PreK-2]
- Music [PreK-2]
- Physical Activity Area [PreK-2]
- Stage [PreK-2] - movable Stage for 3-5
- Wet Lab/Kitchen and Dining Area [PreK-2] (*option to locate outside the Neighborhoods*)
- Wet Lab Space [3-12]

OUTSIDE THE NEIGHBORHOOD

The unit school contains certain functions that support the entire school and are shared by all students. Some of these areas are anticipated to be shared with the general public when not in use by the school.

The following spaces should be located outside of the Neighborhood, respecting the differentiation indicated for PreK-2 and 3-12:

- Information/Media Center
- Administration and Reception (*locate Administration near the Neighborhoods*)
- Clinic
- Counseling and Specialists/Itinerant
- Learning Impaired-Severe (LIS) [3-12]
- Art, Music/Band [3-12], (*locate Music/Band away from the Neighborhoods*)
- Gym [3-12]
- Auditorium/Theater [3-12]
- Cafeteria [3-12] (*option to locate inside the Neighborhoods for 3-5*)



► Typical Neighborhood layout for Unit School

SCHOOL CONCEPT WORK SESSION

The next phase for 21st Century facilities involved fitting the “puzzle pieces” together to form a physical response to the collective experience, best practices and promising trends for school design.

PROGRAM VALIDATION

The space list provides for Neighborhoods as well as “core spaces” located outside of the Neighborhoods to support the entire school. All grade levels feature Neighborhood areas sized for the appropriate teacher: student ratio, with four classes per Neighborhood. The following number of Neighborhoods provides for a total school population of 600 students based on the illustrated unit school design concept:

Neighborhoods and Students

- ▶ PreK-K: 1 Neighborhood at 72* students = 72 students
- ▶ 1-2: 1 Neighborhood at 72* students = 72 students
- ▶ 3-5: 1 Neighborhood at 100 students = 100 students
- ▶ 6-7: 1 Neighborhood at 100 students = 100 students
- ▶ 8-9: 1 Neighborhood at 100 students = 100 students
- ▶ 10-12: 1 Neighborhood at 150 students = 150 students

**Note: Neighborhoods used for PreK-2 have a reduced capacity of 72 students due to teacher: student ratio, unless more than four teachers are provided per PreK-2 Neighborhood.*

Each **Neighborhood** includes key functions that are distinct for the various grade levels. For the PreK-K grades, major space types are the general learning setting, Pre-School Children with Disabilities (PSCD), multi-use/common space (including music and art), dining area/food court as well as storage and rest rooms. CTE is also provided within this Neighborhood, adjacent to the school commons area.

For the 1-2 grades, major space types are the general learning setting (including Learning Impaired – Severe), multi-use/common space (including music and art), home-school partnership/parents center, professional development/teacher support, dining area/food court as well as storage and rest rooms. OT/

PT is also provided within this Neighborhood, adjacent to the school commons area.

For the 3-12 grades, the same major space types in the 1-2 Neighborhood are included, with some variances: **Core Spaces** (instead of Neighborhood) include Learning Impaired – Severe (LIS), art and music/band and dining area/food court. Similarly, the wet labs and stage are located in the core area of the school rather than in the Neighborhoods. The information/media center is distributed throughout the school, located within each of these Neighborhoods, adjacent to the school commons.

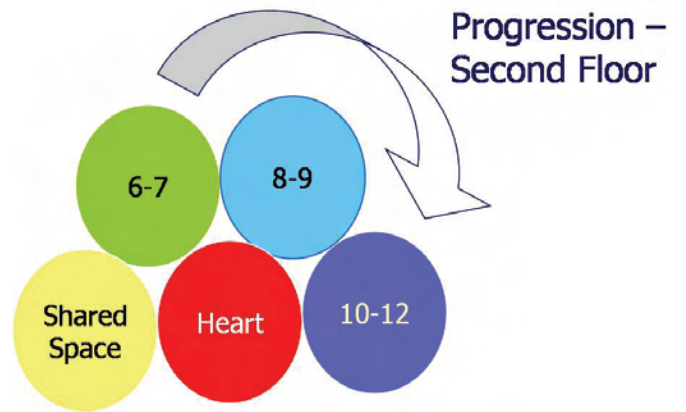
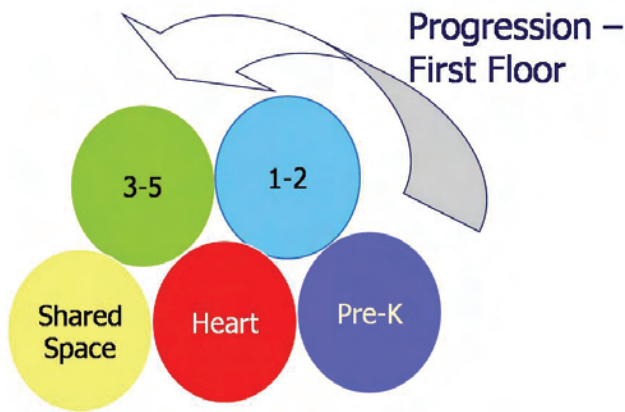
Additional major **Core Spaces** within the school include administration (including reception), professional development center, counselor/itinerant, PT/OT, clinic, ROTC and gym.

What’s Missing? - Issues regarding the space list.

- The K-2 Neighborhood should provide space(s) for physical activity
- Direction is needed about children-sized plumbing fixtures for K-2 areas
- Is virtual online learning necessary within the K-2 Neighborhood?
- Is the size of the auxiliary gym (2,500 net square feet) adequate?

ADJACENCIES (BUBBLE DIAGRAMS)

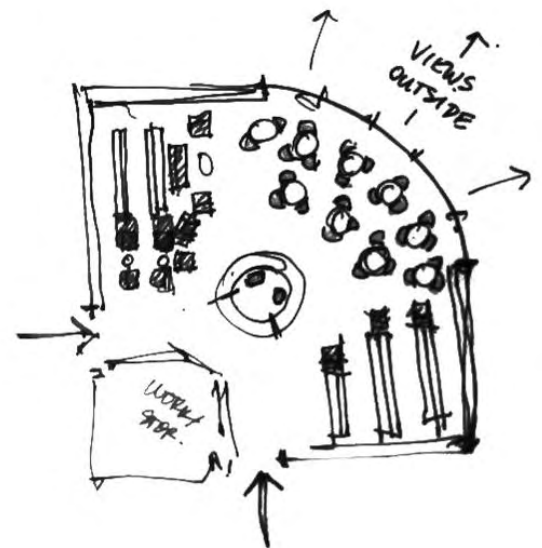
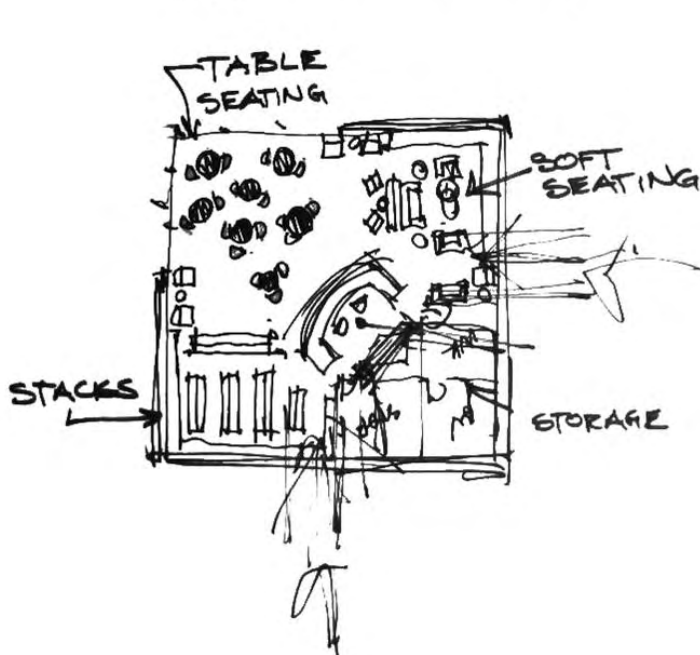
Two layouts are produced indicating the anticipated flow of academic levels through neighborhoods - separated by floors that are vertically aligned, as illustrated by these two diagrams.



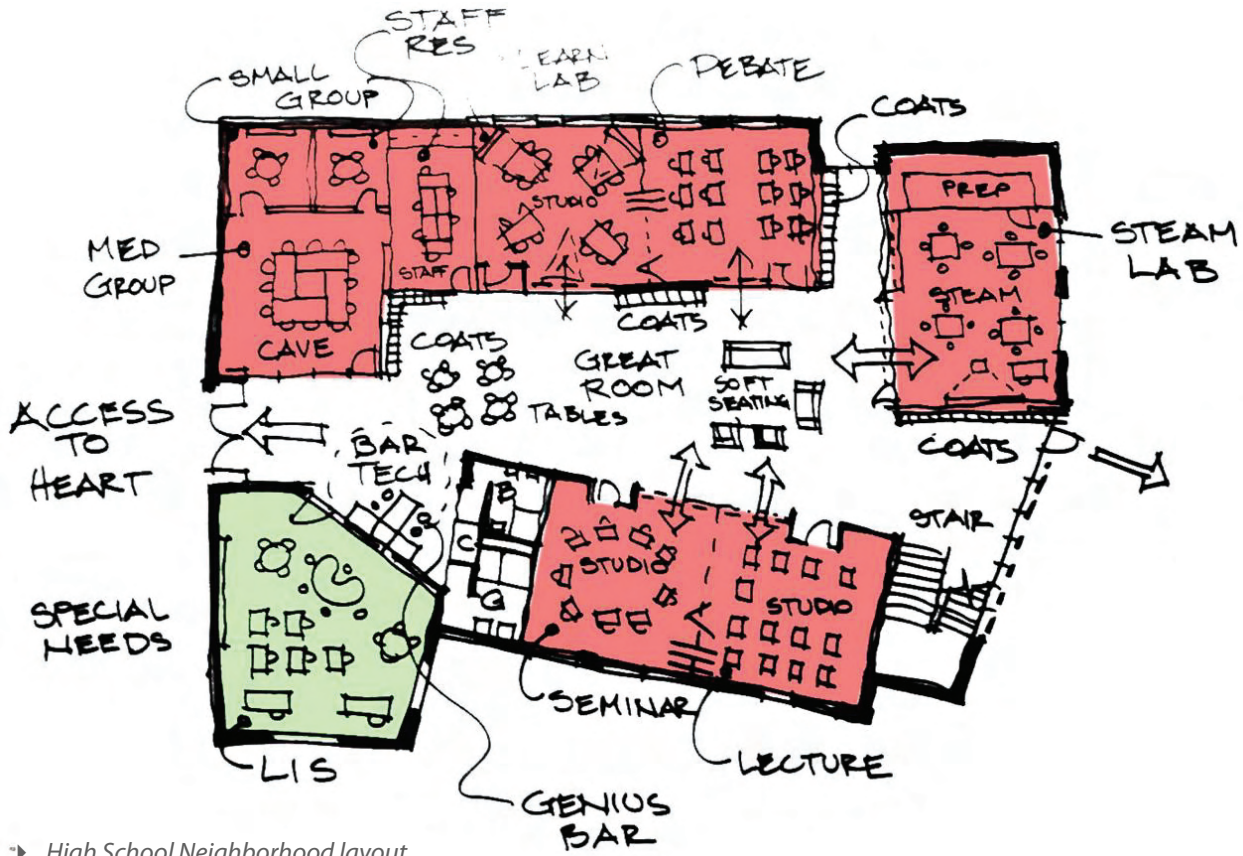
BLOCKING AND STACKING

Specific Neighborhood layouts are created including PreK - K, high school, a typical Neighborhood and a “Barnes and Noble” information/media center concept.

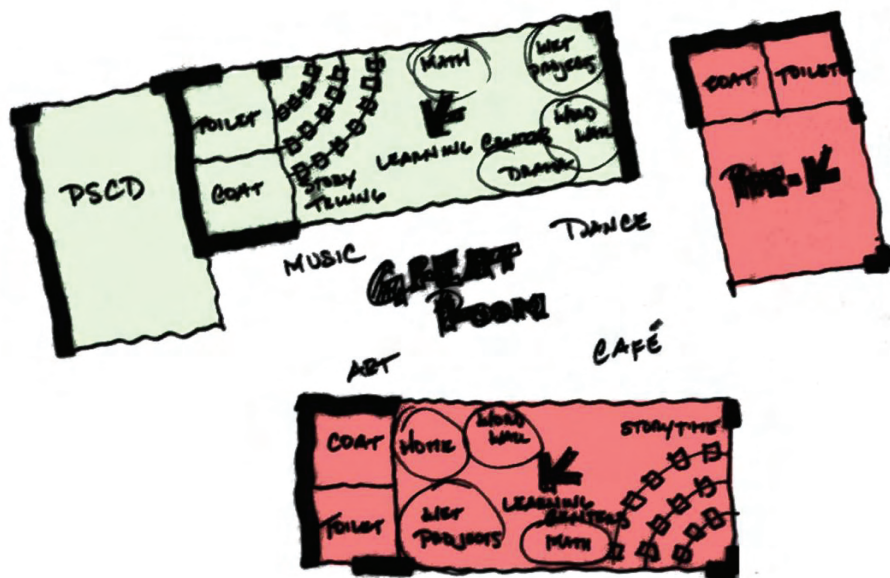
“BARNES & NOBLE”



Facilities for 21ST Century Learning



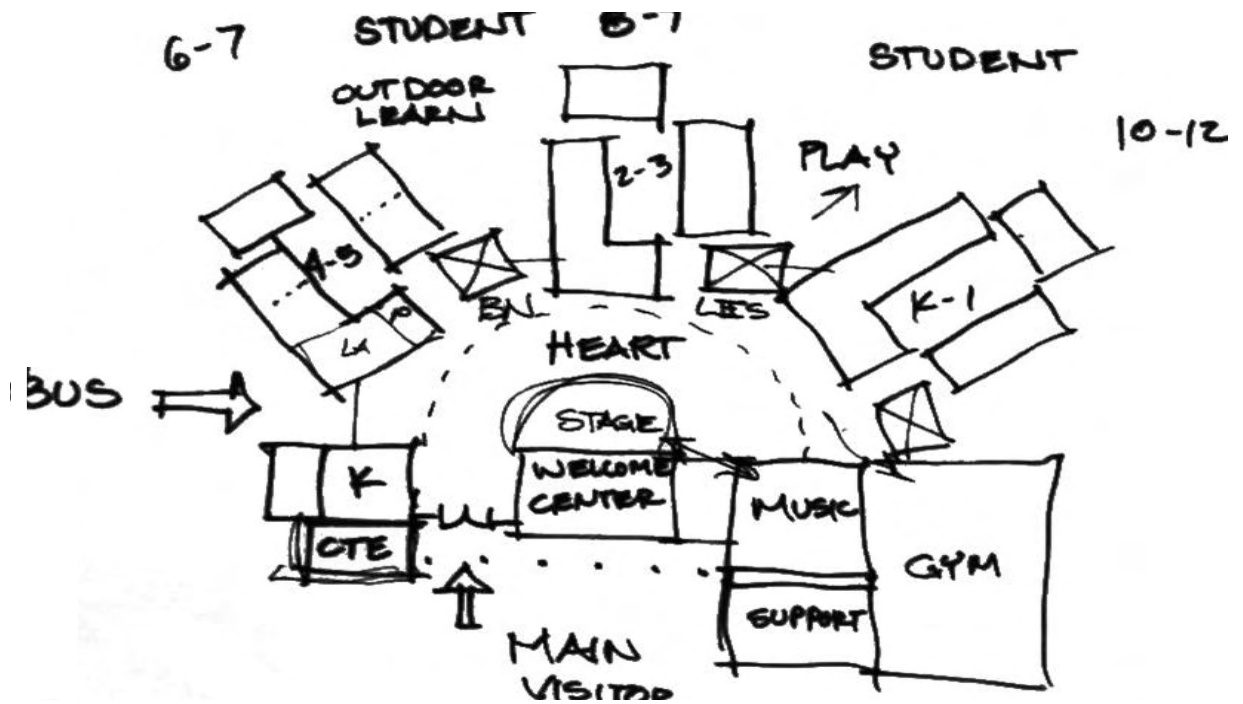
► High School Neighborhood layout



► PreK—K Neighborhood layout

CONCEPT DESIGN

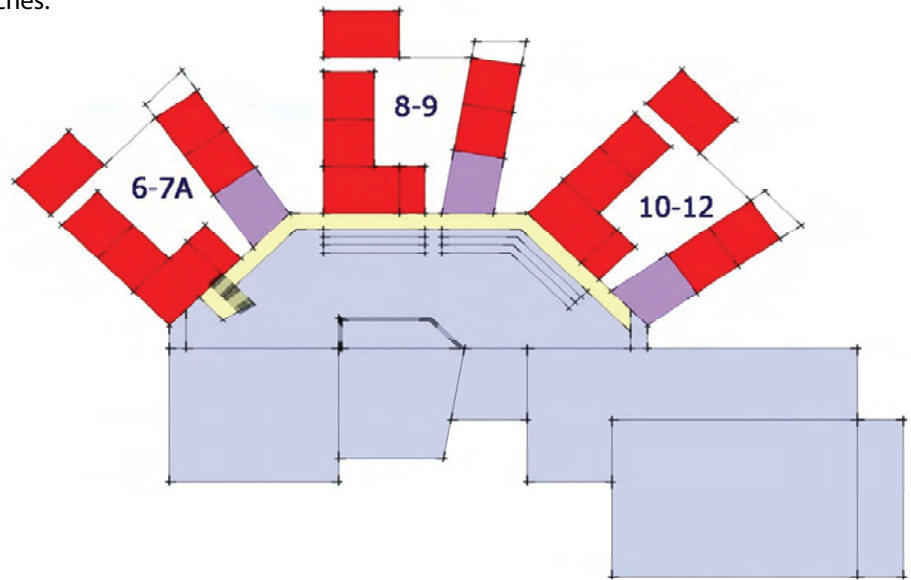
Four alternative arrangements are developed with Study Four advanced as the preferred scheme. These graphics represent the concept design for the PreK-12 school.



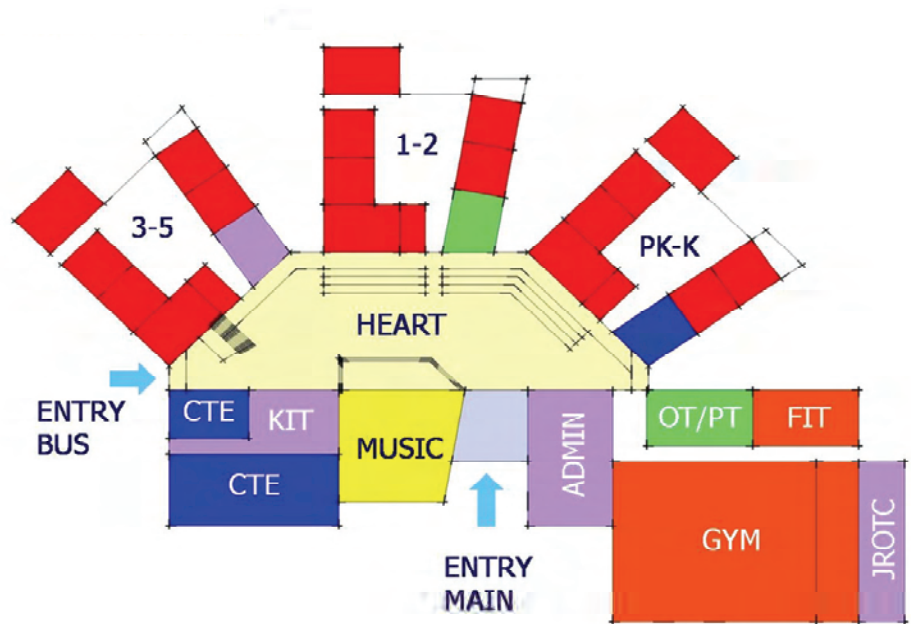
- ▶ A parking lot is located to the left of the bus entry and PE athletic fields are located to the right of the Gym in this illustration.

Facilities for 21ST Century Learning

The concept design for the unit school is further resolved as illustrated by these sketches.



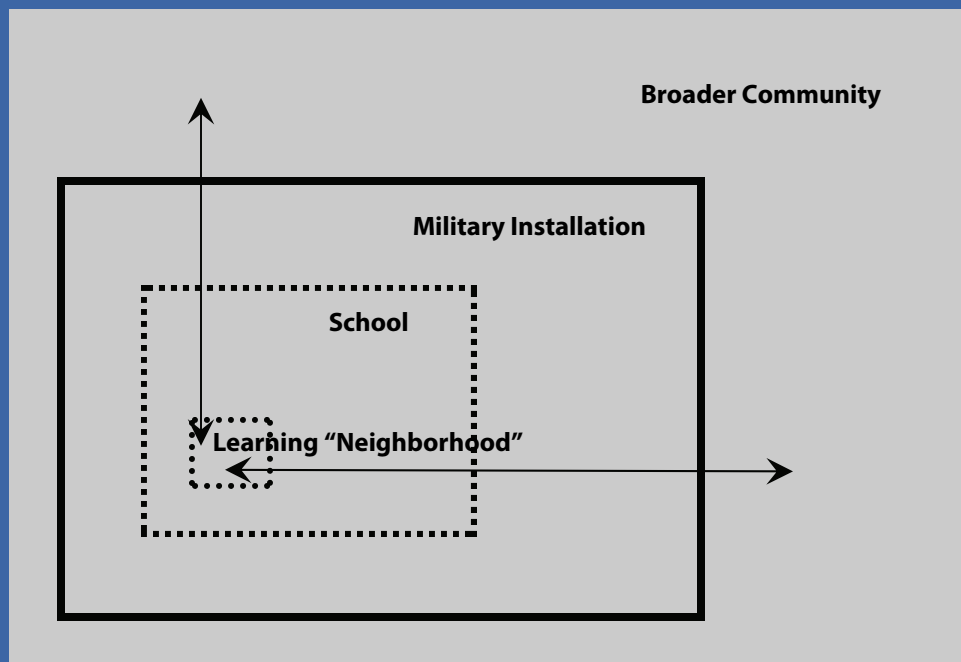
► Second floor plan of unit school



► First floor plan of unit school

FACILITIES GUIDING PRINCIPLES:

- PROVIDE STUDENT-CENTERED FACILITIES FOR ALL LEARNERS
- BE FLEXIBLE AND ADAPTABLE
- BE GLOBAL COMMUNITY-CENTERED WITHIN THE SCHOOL AND ENCOMPASSING THE LOCAL AND GLOBAL COMMUNITIES



► Work Session #3: Incorporating Innovation into Design



WHAT WAS LEARNED

KEY INSIGHTS

The activities of Work Session #3 provided a synthesis of the major themes for 21st Century education with the experience of DoDEA stakeholders that produced key insights into design precepts. These precepts for design of 21st Century schools include the following:

- Flexible “Neighborhood” organizational themes that include a variety of physical learning settings
- Shared “Core Spaces” (outside the “Neighborhood”) for functions used by more than one Neighborhood, such as gym and auditorium
- Shared Commons Spaces for performance, presentation and gathering spaces—the “heart” of the school
- Moving some learning environments to the net-to-gross spaces (space typically unassigned and used for circulation)
- Recognize the school facilities as learning tools
- Merging indoor and outdoor learning settings
- Recognize strategic role of moveable furnishings (FFE) in forming differentiated learning spaces
- Sustainable design elements including active and passive incorporation of sustainable design technologies
- Warm, safe, and secure design

In addition to these insights, the **quality of spaces and experiences** provided by the school design were considered important design factors and were incorporated into the concept designs for the DoDEA school types, for example:

The design of the K-5 elementary school should provide a place for learning that is welcoming, comprehensible, transparent, sustainable, safe, connected to the outdoors and has at its heart: learning Neighborhoods, information center and cafeteria.

► Concept Design team for K-5 Elementary School

The Work Session #3 participants also discussed in forum the most prominent and significant principles that should be addressed for 21st Century Learning. Together these three **Facilities Guiding Principles** were established, recognizing they are consistent with existing DoDEA Education Guiding Principles and the DoDEA Mission and Vision:

- Provide Student-Centered Facilities—for all learners
- Be flexible and adaptable
- Be Global Community-Centered—within the school and encompassing the local and global communities

The PreK-12 Unit School Design should be centered around the “school heart” with contiguous Neighborhoods providing skill/age appropriate spaces with flexibility to blur the lines of their boundaries. Each Neighborhood should have its own identity.

► Concept Design team for PreK—12 Unit School

NEXT STEPS

Looking ahead from the successes of all three work sessions, DoDEA must now establish a clear and concise direction for future school planning and design. The next steps for DoDEA 21st Century schools are to **build consensus** around the key themes, **identify central organizing elements**, and set the stage for **design criteria** to be included in the educational specifications and design manuals that will serve designers for the next five to ten years.

FINAL CONSIDERATIONS

Some unresolved issues remain regarding the critical transitions necessary to achieve the goals of 21st Century schools. These transitions involve primarily the availability and use of technology, professional development of teaching staff, operational times and access for student learning (i.e. extending the school day or year round school), competency versus grade-based instruction, and changes in assessment techniques.

Another matter that surfaced is the need for budgets to allocate sufficient funds for furniture, fixtures, and equipment (FFE) - perhaps requiring a shift in funding from construction dollars that traditionally include only fixed equipment.



Facilities for **21ST** Century Learning

EACH TEAM DEVELOPED CONCEPT DESIGNS BASED ON SPECIFIC SCHOOL PROGRAMS DEVELOPED FOR THE PURPOSE OF ESTABLISHING COMPARABLE SCHOOL TYPES WITH A STUDENT ENROLLMENT OF 600.

THE SPACE LISTS FOR THESE PROGRAMS WILL BE STUDIED AND REFINED TO BETTER REFLECT THE NEEDS FOR DODEA'S FACILITIES FOR 21ST CENTURY LEARNING.



▶ Group work session



RESOURCES

SPACE LISTS

The following pages contain the 21st Century program of requirements for elementary, middle and high schools. The space lists were used in the concept design phase of Work Session #3.

The space list for the unit school (PreK-12) is also included: it was adapted after Work Session #3.

21st Century Program of Requirements

Space Type Classification	Elementary		Middle		High		K-12	
	630	Students	660	Students	599	Students	721	Students
	10	Site Acres	15	Site Acres	20	Site Acres		Site Acres
	Area	NSF/St	Area	NSF/St	Area	NSF/St	Area	NSF/St
Neighborhood Space Subtotal	57,965	92.01	42,330	64.14	22,858	38.14	43,698	60.63
Ancillary Instruction Subtotal	5,950	9.44	8,608	13.04	2,590	4.32	13,098	18.17
Professional Development Subtotal	1,075	1.71	-		-		-	
Special Education Subtotal			5,110	7.74	3,749	6.26	6,099	8.46
Career and Technology Subtotal			6,116	9.27	18,142	30.27	10,108	14.02
J.R.O.T.C. Subtotal					2,728	4.55	2,728	3.78
Physical Education Subtotal	3,480	5.52	13,766	20.86	36,112	60.26	36,112	50.10
Gym	2,000	3.17	6,500	9.85	17,500	29.20	17,500	24.28
Gym Seating			2,000	3.03	6,000	10.01	6,000	8.32
Fitness Center	850	1.35	850	1.29	850	1.42	850	1.18
Information Center Subtotal	1,000	1.59	2,385	3.61	3,475	5.80	3,475	4.82
Reading Room Only	1,000	1.59	1,500	2.27	1,800	3.00	1,800	2.50
Other Support Space	-		885	1.34	1,675	2.80	1,675	2.32
Administration Subtotal	2,275	3.61	3,055	4.63	3,305	5.52	3,305	4.59
Food Service Subtotal	3,550	5.63	7,650	11.59	4,990	8.33	4,990	6.92
Student Dining	1,500	2.38	4,300	6.52	2,150	3.59	2,150	2.98
Kitchen and Support Space	1,500	2.38	3,350	5.08	2,840	4.74	2,840	3.94
Restrooms Subtotal	525	0.83	350	0.53	990	1.65	990	1.37
Auditorium Subtotal			7,050	10.68	15,592	26.02	9,450	13.11
Plant Services Subtotal	4,380	6.95	1,960	2.97	2,880	4.81	2,880	4.00
Total NSF per School	80,200	127	98,380	149	117,411	196	136,933	190
Mechanical Subtotal	8,020	12.73	9,838	14.91	11,741	19.59	13,693	19.00
Circulation Subtotal	8,822	14.00	16,233	24.60	15,498	25.86	18,075	25.08
Total GSF per School	97,042	154	124,451	189	144,650	241	168,701	234
Traditional Area Comparison	107,179	170	123,064	186	161,963	270	264,343	367



21st Century Elementary School Program

Space Name	Standard 21st	Area	21st Century Schools		
			Qty	NSF	Total
K to 2 Neighborhood					
General Learning Setting		950	4	950	3,800
Independent Learning	Yes	50	-	50	-
Half-Size Classroom ES / Small Group	Yes	150	-	150	-
Reduced Size Classroom ES / Large Group	Yes	800	-	800	-
Virtual Online Learning	Yes	800	-	400	-
Quiet Space / Contemplative Learning	Yes	64	-	64	-
Learning Impaired (Severe)	Yes	1,600	-	950	-
Restroom, Student - Both Sexes		80	2	80	160
Learning Setting/Instructional Storage		150	4	150	600
Multi-Use/Common Space	Yes	1,200	1	1,200	1,200
Music Classroom		1,250	-	1,250	-
Art Classroom		1,200	1	1,200	1,200
Kiln		100	1	100	100
Home School Partnership/Parents Center	Yes	450	1	450	450
Professional Development Teacher Support Services					
Small Group Area / Conference Room		200	1	200	200
Restroom, Staff - Both Sexes		80	2	80	160
Administrative Storage		75	1	75	75
Dining Area / Food Court		450	1	450	450
Kitchen Storage Area		100	1	100	100
K to 2 Neighborhood (Typical)			3		25,485
3 to 5 Neighborhood					
General Learning Setting		950	4	950	3,800
Reduced Size Classroom ES / Large Group	Yes	800	-	800	-
Virtual Online Learning	Yes	800	-	800	-
Quiet Space / Contemplative Learning	Yes	64	-	64	-
Restroom, Student - Both Sexes		80	2	80	160
Learning Setting/Instructional Storage		150	4	150	600
Multi-Use/Common Space	Yes	1,200	1	1,200	1,200
Half-Size Classroom ES / Small Group	Yes	150	4	150	600
Independent Learning	Yes	50	10	50	500
Home School Partnership/Parents Center	Yes	450	1	250	250
Professional Development Teacher Support Services					
Small Group Area / Conference Room		200	1	200	200
Restroom, Staff - Both Sexes		80	2	80	160
Administrative Storage		75	1	75	75
Dining Area / Food Court		450	1	350	350
Kitchen Storage Area		100	1	100	100
3 to 5 Neighborhood (Typical)			2		15,990
Neighborhood Space Subtotal			7	8,281	57,965

21st Century Elementary School Program

Space Name	21st	Standard Area	21st Century Schools		
			Qty	NSF	Total
Ancillary Instruction Area (3 to 5 Competencies)					
Science Classroom (Exploratorium)	Yes	950		950	-
Music Classroom		1,250	1	1,250	1,250
Art Classroom		1,200	1	1,200	1,200
Kiln		100	1	100	100
Stage (Needs to Support Performance)		2,000	1	800	800
Student Display/Gallery Space	Yes	300		300	-
Video/CCTV/Media Production Studio	Yes	400	1	200	200
Learning Impaired (Severe)	Yes	1,600	1	1,600	1,600
PT/OT Laboratory		2,150	1	800	800
Ancillary Instruction Subtotal					5,950
Professional Development Center					
Professional Development/Instructional Office		64	10	64	640
Small Group Area / Conference Room		200	1	200	200
Restroom, Staff - Both Sexes		80	2	80	160
Administrative Storage		75	1	75	75
Professional Development Subtotal					1,075
Information / Media Center					
Information Center (Library)		1,500	1	1,000	1,000
Information Center Subtotal					1,000
Administration					
Reception/Waiting Area		200	1	200	200
Office, Principal/Director		200	1	200	200
Small Group Area / Conference Room		200	1	200	200
Administrative Storage		75	1	75	75
Secretarial Space, Open Office		300	1	300	300
Workroom/Mail/Copy		250	1	250	250
Small Group Area / Conference Room		200	1	200	200
Office, Counselor		150	1	150	150
Office, Itenerant		150	2	150	300
Clinic		600	1	400	400
Administration Subtotal					2,275



21st Century Elementary School Program

Space Name	Standard 21st	Area	21st Century Schools		
			Qty	NSF	Total
Physical Education					
Gymnasium, Elementary	Yes	5,075	1	2,000	2,000
Fitness Room Movement Area	Yes	850	1	850	850
P. E. Storage		630	1	630	630
Physical Education Subtotal					3,480
Food Service					
Dining Area / Food Court		4,300	1	1,500	1,500
Kitchen And Serving Area		2,350	1	1,500	1,500
Chair Storage		400	1	150	150
Teacher Lounge/Dining		600	1	400	400
Food Service Subtotal					3,550
Restrooms					
Restroom, Student - Male		160	1	160	160
Restroom, Student - Female		160	1	160	160
Restroom, Staff - Both Sexes		80	1	80	80
Restroom, Public Use - Both Sexes		125	1	125	125
Restrooms Subtotal					525
Plant Services					
Janitorial Work Area		720	1	720	720
Janitorial Service Closet		60	2	60	120
Janitorial Recycling Center	Yes	200	1	200	200
Telephone Equip/Communications Closet		80	4	80	320
Main Distribution Frame Room		120	1	120	120
Electrical room		1,500	1	1,500	1,500
Storage, General		1,200	1	1,200	1,200
Storage, Outside		100	2	100	200
Plant Services Subtotal					4,380
Total Net Assignable Square Feet					80,200
Mechanical Subtotal					8,020
Total Net Square Feet					88,220
Circulation Subtotal					8,822
Total Gross Square Feet					97,042

21st Century Middle School Program

Space Name	Standard			21st Century Schools		
	21st	Area	Cap.	Qty	NSF	Total
Neighborhood Learning Suite						
Large Group/Presentation	Yes	1,800	Yes	1	1,800	1,800
Learning Setting		900	Yes	1	900	900
Small Group - Project Based Learning	Yes	150		2	150	300
Project / Resource Area	Yes	2,000	Yes	1	2,000	2,000
Independent Learning	Yes	50			50	-
Virtual Online Learning	Yes	800			800	-
Quiet Space / Contemplative Learning	Yes	64			64	-
Study Research Lounge (Satellite)	Yes	600			600	-
General Wet Laboratory	Yes	1,200	Yes	1	1,200	1,200
Science Laboratory Prep Room/Storage		350		1	150	150
Mini Lab (Small Group)	Yes	150		2	150	300
Restroom, Student - Male		160		1	200	200
Restroom, Student - Female		160		1	200	200
Learning Setting/Instructional Storage		150		2	150	300
Professional Development Center						
Professional Development/Instructional Office		64		4	64	256
Small Group Area / Conference Room		200		1	200	200
Teacher Resource Area		50		1	50	50
Restroom, Staff - Both Sexes		80		2	80	160
Office, Counselor		150		1	150	150
Home School Partnership/Parents Center	Yes	450		1	225	225
Administrative Storage		75		1	75	75
Neighborhood Learning Suite (Typical)				4		33,864
Neighborhood Space Subtotal				5	8,466	42,330
Student Commons Area						
Student Display/Gallery Space	Yes	300		1	300	300
Student Activities Area		1,000		1	1,000	1,000
Storage, Textbook		400		1	250	250
Ancillary Instruction Subtotal						1,550
Professional Development Center						
None						
Professional Development Subtotal						-



21st Century Middle School Program

Space Name	Standard			21st Century Schools		
	21st	Area	Cap.	Qty	NSF	Total
Special Education						
Learning Impaired (Severe)	1,600	Yes		1	1,600	1,600
PT/OT Laboratory	2,150	Yes		1	2,150	2,150
Restroom, Student - Both Sexes	80			2	80	160
Office, Speech	150			1	150	150
Office, Diagnostician	150			1	150	150
Special Needs Resource Room	450			2	450	900
Special Education Subtotal						5,110
Ancillary Instruction						
Art Classroom MS	1,200	Yes		2	1,200	2,400
Kiln	100			1	100	100
Video/CCTV/Media Production Studio	Yes	400		1	400	400
Vocal Rehearsal Hall MS	1,250	Yes			1,250	-
Professional Developmnet/Instructional Office	64				64	-
Practice Room	100				100	-
Music Library	150				150	-
Storage, Robe/Uniform	300				300	-
Storage, Instrument	500				500	-
Small Group Ensemble	144				144	-
Band Rehearsal Hall MS	2,000	Yes		1	2,000	2,000
Small Group Ensemble	144			1	144	144
Practice Room	100			6	100	600
Professional Developmnet/Instructional Office	64			1	64	64
Music Library	150			1	150	150
Storage, Robe/Uniform	300			1	300	300
Storage, Instrument	500			1	500	500
Band Booster Storage	300			1	300	300
Restroom, Student - Male	160			1	50	50
Restroom, Student - Female	160			1	50	50
Ancillary Instruction Subtotal						7,058
Carreer Tech Education (CTE)						
Tech Center 21	Yes	1,500	Yes	2	1,500	3,000
Learning Setting/Instructional Storage		150		1	150	150
Culinary Arts / Food Prep		1,600	Yes	1	1,600	1,600
Classroom (Related to Lab Instruction)		800		1	800	800
Learning Setting/Instructional Storage		150		1	150	150
Teacher Support Services					-	-
Professional Developmnet/Instructional Office		64		4	64	256
Restroom, Staff - Both Sexes		80		2	80	160
Career and Technology Subtotal						6,116

21st Century Middle School Program

Space Name	Standard		21st Century Schools		
	21st	Area Cap.	Qty	NSF	Total
Physical Education					
Gymnasium, Middle School	6,500	Yes	1	6,500	6,500
Athletic Seating (Bleachers)	3,000		1	2,000	2,000
Gymnasium, Auxiliary	2,500	Yes		2,500	-
Fitness Room	Yes	850	1	850	850
Lockers/Dressing/Toilets/Showers - Male		1,200	1	1,200	1,200
Lockers/Dressing/Toilets/Showers - Female		1,200	1	1,200	1,200
Professional Development/Instructional Office		64	4	64	256
Lockers/Dressing/Toilets/Showers - Staff Female		150	1	150	150
Lockers/Dressing/Toilets/Showers - Staff Male		150	1	150	150
Storage, Outside		100	2	100	200
P. E. Storage		630	2	630	1,260
Physical Education Subtotal					13,766
Information / Media Center					
Information Center (Library)	1,500		1	1,500	1,500
Library Workroom	325		1	325	325
Restroom, Staff - Both Sexes	80		2	80	160
Library/Media Center Storage	200		1	200	200
Small Group Area / Conference Room	200		1	200	200
Information Center Subtotal					2,385
Auditorium					
Auditorium / Assembly	4,500		1	4,500	4,500
Stage	2,000		1	800	800
Stage/Drama/Auditorium Storage	600		2	600	1,200
Control Booth/Projection Room	150		1	150	150
Dressing Room	400		1	400	400
Auditorium Subtotal					7,050
Food Service					
Dining Area / Food Court	4,300		1	4,300	4,300
Kitchen And Serving Area	2,350		1	2,350	2,350
Chair Storage	400		1	400	400
Teacher Lounge/Dining	600		1	600	600
Food Service Subtotal					7,650



21st Century Middle School Program

Space Name	Standard		21st Century Schools		
	21st	Area Cap.	Qty	NSF	Total
Administration					
Office, Principal/Director	200		1	200	200
Office, Assistant Principal	175		2	175	350
Secretarial Space, Open Office	300		2	300	600
Small Group Area / Conference Room	200		1	200	200
Workroom/Mail/Copy	250		1	250	250
Computer Equipment Room	120		1	120	120
Restroom, Staff - Male	50		1	50	50
Restroom, Staff - Female	50		1	50	50
Clinic	600		1	600	600
Restroom, Student - Both Sexes	80		1	80	80
Administrative Storage	75		1	75	75
In School Suspension Classroom	480		1	480	480
Administration Subtotal					3,055
Restrooms					
Restroom, Staff - Male	50		1	50	50
Restroom, Staff - Female	50		1	50	50
Restroom, Public Use - Male	125		1	125	125
Restroom, Public Use - Female	125		1	125	125
Restrooms Subtotal					350
Plant Services					
Janitorial/General Receiving	120		1	120	120
Janitorial Service Closet	60		6	60	360
Janitorial Work Area	720		1	720	720
Main Distribution Frame Room	120		1	120	120
Intermediate Distribution Frame Room	80		8	80	640
Plant Services Subtotal					1,960
Total Net Assignable Square Feet					98,380
Mechanical Subtotal					9,838
Total Net Square Feet					108,218
Circulation Subtotal					16,233
Total Gross Square Feet					124,451

21st Century High School Program

Space Name	21st	Standard		21st Century Schools		
		Area	Cap.	Qty	NSF	Total
Neighborhood Learning Suite						
General Learning Setting		900	Yes	1	900	900
Small Group - Project Based Learning	Yes	150	Yes	4	150	600
Large Group Presentation	Yes	2,000	Yes	1	2,000	2,000
Independent Learning (1 to 2 People)	Yes	50	Yes	16	50	800
Virtual Online Learning	Yes	800	Yes	1	800	800
Study Research Lounge (Satellite)	Yes	600		1	600	600
General Purpose Laboratory HS		1,440	Yes	1	1,440	1,440
Science Mini Lab (Small Group)	Yes	200	Yes	2	200	400
Science Laboratory Prep Room/Storage		350		1	350	350
Student Workstation / Storage Cubbies		10	Yes	150	10	1,500
Restroom, Student - Male		160		1	160	160
Restroom, Student - Female		160		1	160	160
Professional Development Center						
Professional Developmnet/Instructional Office		64		6	64	384
Office, Itenerant		150		1	150	150
Small Group Area / Conference Room		200		1	200	200
Teacher Resource Area		50		1	50	50
Restroom, Staff - Both Sexes		80		2	80	160
Home School Partnership/Parents Center	Yes	450		1	450	450
Administrative Storage		75		1	75	75
Storage, Textbook		400		1	250	250
Neighborhood Learning Suite (Typical)				1		11,429
Neighborhood Space Subtotal						22,858
Ancillary Student Commons Area						
Host Nation Classroom HS		1,200		1	450	450
Student Display/Gallery Space	Yes	300		1	300	300
Office, Counselor		150		2	150	300
Office, Administration/Staff		150		1	150	150
Small Group Area / Conference Room		200		1	200	200
Reception/Waiting Area		200		1	200	200
Vault		80		1	80	80
Clinic		600		1	600	600
Office, Itenerant		150		1	150	150
Restroom, Staff - Both Sexes		80		2	80	160
Ancillary Instruction Subtotal						2,590
Professional Development Center						
None						
Professional Development Subtotal						-



21st Century High School Program

Space Name	21st	Standard Area	Cap.	21st Century Schools		
				Qty	NSF	Total
Special Education						
Specialized Self-Contained Classroom		925	Yes	1	925	925
PT/OT Laboratory		2,150	Yes	1	2,150	2,150
Restroom, Student - Both Sexes		80		2	80	160
Special Needs Resource Room		450		1	450	450
Professional Developmnet/Instructional Office		64		1	64	64
Special Education Subtotal						3,749
Career and Technology Education						
Art Classroom HS		1,800	Yes	1	1,800	1,800
Learning Setting/Instructional Storage		150		1	150	150
Art Technology Lab		300	Yes	1	300	300
Kiln		100		1	100	100
Learning Setting/Instructional Storage		150		1	150	150
Video/CCTV/Media Production Studio	Yes	400		1	400	400
Business Education Laboratory		1,400	Yes	1	1,400	1,400
Professional Developmnet/Instructional Office		64		1	64	64
Learning Setting/Instructional Storage		150		1	150	150
General CTE Laboratory		3,600	Yes	3	3,600	10,800
Professional Developmnet/Instructional Office		64		1	64	64
Learning Setting/Instructional Storage		150		1	150	150
Culinary Arts / Food Prep		1,600	Yes	1	1,600	1,600
Learning Setting/Instructional Storage		150		1	150	150
Professional Developmnet/Instructional Office		64		1	64	64
Classroom (Related to Lab Instruction)		800		1	800	800
Career and Technology Subtotal						18,142
J.R.O.T.C.						
J.R.O.T.C. Classroom		900	Yes	1	900	900
Armory		150		1	150	150
Firing Range (Indoor)		1,400		1	1,400	1,400
Professional Developmnet/Instructional Office		64		2	64	128
Learning Setting/Instructional Storage		150		1	150	150
J.R.O.T.C. Subtotal						2,728

21st Century High School Program

Space Name	21st	Standard		21st Century Schools		
		Area	Cap.	Qty	NSF	Total
Physical Education						
Gymnasium, High School		7,500	Yes	2	7,500	15,000
Athletic Seating (Bleachers)		3,000		2	3,000	6,000
P. E. Storage		630		2	630	1,260
Gymnasium, Auxiliary		2,500		1	2,500	2,500
P. E. Storage		630		1	630	630
Fitness Room	Yes	850		1	850	850
Athletic Lockers/Dressing/Showers-Female		1,200		2	1,200	2,400
Athletic Lockers/Dressing/Showers-Male		1,200		2	1,200	2,400
PE Lockers/Dressing/Showers-Female		1,200		1	1,200	1,200
PE Lockers/Dressing/Showers-Male		1,200		1	1,200	1,200
Professional Development/Instructional Office		64		8	64	512
Lockers/Dressing/Toilets/Showers - Staff Female		150		1	150	150
Lockers/Dressing/Toilets/Showers - Staff Male		150		1	150	150
P. E. Storage		630		1	630	630
P. E. Storage		630		1	630	630
Health Classroom		900		1	600	600
Physical Education Subtotal						36,112
Research Information Center						
Information Center (Library)		1,500		1	1,800	1,800
Office, Administration/Staff		150		2	150	300
Library Workroom/Office		325		1	325	325
Audio-Visual Storage Area		400		1	400	400
Small Group Area / Conference Room		200		2	200	400
Restroom, Public Use - Male		125		1	125	125
Restroom, Public Use - Female		125		1	125	125
Information Center Subtotal						3,475



21st Century High School Program

Space Name	21st	Standard		21st Century Schools		
		Area	Cap.	Qty	NSF	Total
Administration						
Office, Principal/Director		200		1	200	200
Restroom, Staff - Both Sexes		80		1	80	80
Office, Assistant Principal		175		2	175	350
Reception/Waiting Area		200		1	200	200
Secretarial Space, Open Office		300		4	300	1,200
Office, Administration/Staff		150		3	150	450
Small Group Area / Conference Room		200		1	200	200
Workroom/Mail/Copy		250		1	250	250
Vault/Testing Material Storage		80		1	80	80
Restroom, Staff - Male		50		1	50	50
Restroom, Staff - Female		50		1	50	50
Administrative Storage		75		1	75	75
Main Distribution Frame Room		120		1	120	120
Administration Subtotal						3,305
Auditorium						
Auditorium / Assembly (450 Seats)		4,500		1	4,500	4,500
Stage		2,000		1	2,000	2,000
Stage/Drama/Auditorium Storage		600		1	600	600
Ticket Booth		100		1	100	100
Control Booth/Projection Room		150		1	150	150
Costume Storage		600		1	600	600
Drama Shop		700		1	700	700
Dressing Room		400		2	400	800
Vocal Rehearsal Hall HS		1,250	Yes	1	1,250	1,250
Professional Developmnet/Instructional Office		64		1	64	64
Practice Room		100		2	100	200
Music Library		150		1	150	150
Storage, Robe/Uniform		300		1	300	300
Band Rehearsal Hall HS		2,500	Yes	1	2,500	2,500
Professional Developmnet/Instructional Office		64		1	64	64
Practice Room		100		6	100	600
Music Library		150		1	150	150
Storage, Robe/Uniform		300		1	300	300
Storage, Instrument		500		1	500	500
Professional Developmnet/Instructional Office		64		1	64	64
Auditorium Subtotal						15,592

21st Century High School Program

Space Name	21st	Standard Area	Cap.	21st Century Schools		
				Qty	NSF	Total
Food Service						
Dining Area / Food Court		4,300		1	2,150	2,150
Kitchen And Serving Area		2,350		1	2,350	2,350
Office, Administration/Staff		150		1	150	150
Janitorial Service Closet		60		1	60	60
Restroom, Staff - Both Sexes		80		1	80	80
Chair Storage		400		1	200	200
Food Service Subtotal						4,990
Restrooms						
Restroom, Student - Male		160		2	160	320
Restroom, Student - Female		160		2	160	320
Restroom, Staff - Male		50		1	50	50
Restroom, Staff - Female		50		1	50	50
Restroom, Public Use - Female		125		1	125	125
Restroom, Public Use - Male		125		1	125	125
Restrooms Subtotal						990
Plant Services						
Janitorial/General Receiving		120		1	120	120
Janitorial Work Area		720		1	720	720
Janitorial Service Closet		60		4	60	240
Storage, General		1,200		1	1,200	1,200
Main Distribution Frame Room		120		1	120	120
Intermediate Distribution Frame Room		80		6	80	480
Plant Services Subtotal						2,880
Total Net Assignable Square Feet						117,411
Mechanical Subtotal						11,741
Total Net Square Feet						129,152
Circulation Subtotal						15,498
Total Gross Square Feet						144,650



21st Century PreK-12 Unit School

Space Name	Standard			21st Century Schools		
	21st	Area	Cap.	Qty	NSF	Total
K to 2 Neighborhood						
General Learning Setting		950	Yes	4	950	3,800
Independent Learning	Yes	50		-	50	-
Half-Size Classroom ES / Small Group	Yes	150		-	150	-
Reduced Size Classroom ES / Large Group	Yes	800		-	800	-
Virtual Online Learning	Yes	800		-	400	-
Quiet Space / Contemplative Learning	Yes	64		-	64	-
Learning Impaired (Severe)	Yes	1,600		-	950	-
Restroom, Student - Both Sexes		80		2	80	160
Learning Setting/Instructional Storage		150		4	150	600
Multi-Use/Common Space	Yes	1,200		1	1,200	1,200
Home School Partnership/Parents Center	Yes	450		1	450	450
Professional Developmnet/Instructional Office		64		4	64	256
Small Group Area / Conference Room		200		1	200	200
Restroom, Staff - Both Sexes		80		2	80	160
Administrative Storage		75		1	75	75
Dining Area / Food Court		450		1	450	450
Kitchen Storage Area		100		1	100	100
K to 2 Neighborhood (Typical)				#		-
3 to 5 Neighborhood						
General Learning Setting		950	Yes	4	950	3,800
Reduced Size Classroom ES / Large Group	Yes	800		-	800	-
Virtual Online Learning	Yes	800		-	800	-
Quiet Space / Contemplative Learning	Yes	64		-	64	-
Restroom, Student - Both Sexes		80		2	80	160
Learning Setting/Instructional Storage		150		4	150	600
Multi-Use/Common Space	Yes	1,200		1	1,200	1,200
Half-Size Classroom ES / Small Group	Yes	150		4	150	600
Independent Learning	Yes	50		10	50	500
Science Classroom (Exploratorium)	Yes	950			950	-
Home School Partnership/Parents Center	Yes	450		1	250	250
Professional Developmnet/Instructional Office		64		4	64	256
Small Group Area / Conference Room		200		1	200	200
Restroom, Staff - Both Sexes		80		2	80	160
Administrative Storage		75		1	75	75
Dining Area / Food Court		450		1	350	350
Kitchen Storage Area		100		1	100	100
3 to 5 Neighborhood (Typical)				1		8,251
Neighborhood Space Subtotal				3	7,984	23,953

21st Century PreK-12 Unit School

Space Name	Standard			21st Century Schools		
	21st	Area	Cap.	Qty	NSF	Total
6 to 8 Neighborhood Learning Suite						
Large Group/Presentation	Yes	1,800	Yes	1	1,800	1,800
Learning Setting		900	Yes	1	900	900
Small Group - Project Based Learning	Yes	150		2	150	300
Project / Resource Area	Yes	2,000	Yes	1	2,000	2,000
Independent Learning	Yes	50			50	-
Virtual Online Learning	Yes	800			800	-
Quiet Space / Contemplative Learning	Yes	64			64	-
Study Research Lounge (Satellite)	Yes	600			600	-
General Wet Laboratory	Yes	1,200	Yes	1	1,200	1,200
Science Laboratory Prep Room/Storage		350		1	150	150
Mini Lab (Small Group)	Yes	150		2	150	300
Restroom, Student - Male		160		1	200	200
Restroom, Student - Female		160		1	200	200
Learning Setting/Instructional Storage		150		2	150	300
Home School Partnership/Parents Center	Yes	450		1	225	225
Professional Development/Instructional Office		64		4	64	256
Small Group Area / Conference Room		200		1	200	200
Teacher Resource Area		50		1	50	50
Restroom, Staff - Both Sexes		80		2	80	160
Administrative Storage		75		1	75	75
6 to 8 Neighborhood Learning Suite (Typical)				#		-
Neighborhood Space Subtotal				1	8,316	8,316
9 to 12 Neighborhood Learning Suite						
General Learning Setting		900	Yes	1	900	900
Small Group - Project Based Learning	Yes	150	Yes	4	150	600
Large Group Presentation	Yes	2,000	Yes	1	2,000	2,000
Independent Learning (1 to 2 People)	Yes	50	Yes	16	50	800
Virtual Online Learning	Yes	800	Yes	1	800	800
Study Research Lounge (Satellite)	Yes	600		1	600	600
General Purpose Laboratory HS		1,440	Yes	1	1,440	1,440
Science Mini Lab (Small Group)	Yes	200	Yes	2	200	400
Science Laboratory Prep Room/Storage		350		1	350	350
Student Workstation / Storage Cubbies		10	Yes	###	10	1,500
Restroom, Student - Male		160		1	160	160
Restroom, Student - Female		160		1	160	160
Home School Partnership/Parents Center	Yes	450		1	450	450
Professional Development Center						
Professional Development/Instructional Office		64		6	64	384
Office, Itenerant		150		1	150	150
Small Group Area / Conference Room		200		1	200	200
Teacher Resource Area		50		1	50	50
Restroom, Staff - Both Sexes		80		2	80	160
Administrative Storage		75		1	75	75
Storage, Textbook		400		1	250	250
9 to 12 Neighborhood Learning Suite (Typical)				#		-
Neighborhood Space Subtotal						11,429



21st Century PreK-12 Unit School

Space Name	Standard			21st Century Schools		
	21st	Area	Cap.	Qty	NSF	Total
Special Education						
Learning Impaired (Severe)	Yes	1,600	Yes		1,600	1,600
Office, Speech		150			150	150
Office, Diagnostician		150			150	150
Specialized Self-Contained Classroom		925	Yes		925	925
PT/OT Laboratory		2,150			2,150	2,150
Restroom, Student - Both Sexes		80		2	80	160
Special Needs Resource Room		450		2	450	900
Professional Developmnet/Instructional Office		64			64	64
Special Education Subtotal						6,099
Ancillary Instruction						
Art Classroom MS		1,200	Yes		1,200	1,200
Kiln		100			100	100
Art Classroom HS		1,800	Yes		1,800	1,800
Learning Setting/Instructional Storage		150			150	150
Art Technology Lab		300	Yes		300	300
Learning Setting/Instructional Storage		150			150	150
Video/CCTV/Media Production Studio	Yes	400			400	400
Student Display/Gallery Space	Yes	300			300	-
Music Classroom		1,250			1,250	1,250
Vocal Rehearsal Hall MS		1,250	Yes		1,250	-
Professional Developmnet/Instructional Office		64			64	-
Practice Room		100			100	-
Music Library		150			150	-
Storage, Robe/Uniform		300			300	-
Storage, Instrument		500			500	-
Small Group Ensemble		144			144	-
Band Rehearsal Hall MS		2,000	Yes		2,000	2,000
Small Group Ensemble		144			144	144
Practice Room		100		6	100	600
Professional Developmnet/Instructional Office		64			64	64
Music Library		150			150	150
Storage, Robe/Uniform		300			300	300
Storage, Instrument		500			500	500
Band Booster Storage		300			300	300
Restroom, Student - Male		160			50	50
Restroom, Student - Female		160			50	50
Ancillary Instruction Subtotal						9,508

21st Century PreK-12 Unit School

Space Name	21st	Standard		21st Century Schools		
		Area	Cap.	Qty	NSF	Total
Physical Education						
Gymnasium, High School		7,500	Yes	2	7,500	15,000
Athletic Seating (Bleachers)		3,000		2	3,000	6,000
P. E. Storage		630		2	630	1,260
Gymnasium, Auxiliary		2,500		1	2,500	2,500
P. E. Storage		630		1	630	630
Fitness Room	Yes	850		1	850	850
Athletic Lockers/Dressing/Showers-Female		1,200		2	1,200	2,400
Athletic Lockers/Dressing/Showers-Male		1,200		2	1,200	2,400
PE Lockers/Dressing/Showers-Female		1,200		1	1,200	1,200
PE Lockers/Dressing/Showers-Male		1,200		1	1,200	1,200
Professional Developmnet/Instructional Office		64		8	64	512
Lockers/Dressing/Toilets/Showers - Staff Female		150		1	150	150
Lockers/Dressing/Toilets/Showers - Staff Male		150		1	150	150
P. E. Storage		630		1	630	630
P. E. Storage		630		1	630	630
Health Classroom		900		1	600	600
Physical Education Subtotal						36,112
Career and Technology Education						
Tech Center 21	Yes	1,500	Yes	1	1,500	1,500
Learning Setting/Instructional Storage		150		1	150	150
Teacher Support Services					-	-
Professional Developmnet/Instructional Office		64		4	64	256
Restroom, Staff - Both Sexes		80		2	80	160
Business Education Laboratory		1,400	Yes	1	1,400	1,400
Professional Developmnet/Instructional Office		64		1	64	64
Learning Setting/Instructional Storage		150		1	150	150
General CTE Laboratory		3,600	Yes	1	3,600	3,600
Professional Developmnet/Instructional Office		64		1	64	64
Learning Setting/Instructional Storage		150		1	150	150
Culinary Arts / Food Prep		1,600	Yes	1	1,600	1,600
Learning Setting/Instructional Storage		150		1	150	150
Professional Developmnet/Instructional Office		64		1	64	64
Classroom (Related to Lab Instruction)		800		1	800	800
Career and Technology Subtotal						10,108



21st Century PreK-12 Unit School

Space Name	21st	Standard		21st Century Schools		
		Area	Cap.	Qty	NSF	Total
J.R.O.T.C.						
J.R.O.T.C. Classroom		900	Yes	1	900	900
Armory		150		1	150	150
Firing Range (Indoor)		1,400		1	1,400	1,400
Professional Developmnet/Instructional Office		64		2	64	128
Learning Setting/Instructional Storage		150		1	150	150
J.R.O.T.C. Subtotal						2,728
Auditorium / Performance Space						
Auditorium / Assembly (450 Seats)		4,500		1	4,500	4,500
Stage		2,000		1	2,000	2,000
Stage/Drama/Auditorium Storage		600		1	600	600
Ticket Booth		100		1	100	100
Control Booth/Projection Room		150		1	150	150
Costume Storage		600		1	600	600
Drama Shop		700		1	700	700
Dressing Room		400		2	400	800
Auditorium Subtotal						9,450
Ancillary Student Commons Area						
Host Nation Classroom HS		1,200		1	450	450
Student Activities Area		1,000		1	1,000	1,000
Student Display/Gallery Space	Yes	300		1	300	300
Office, Counselor		150		2	150	300
Office, Administration/Staff		150		1	150	150
Small Group Area / Conference Room		200		1	200	200
Reception/Waiting Area		200		1	200	200
Vault		80		1	80	80
Clinic		600		1	600	600
Office, Itenerant		150		1	150	150
Restroom, Staff - Both Sexes		80		2	80	160
Ancillary Instruction Subtotal						3,590
Research Information Center						
Information Center (Library)		1,500		1	1,800	1,800
Office, Administration/Staff		150		2	150	300
Library Workroom/Office		325		1	325	325
Audio-Visual Storage Area		400		1	400	400
Small Group Area / Conference Room		200		2	200	400
Restroom, Public Use - Male		125		1	125	125
Restroom, Public Use - Female		125		1	125	125
Information Center Subtotal						3,475

21st Century PreK-12 Unit School

Space Name	21st	Standard Area	Cap.	21st Century Schools		
				Qty	NSF	Total
Administration						
Office, Principal/Director		200		1	200	200
Office, Assistant Principal		175		2	175	350
Secretarial Space, Open Office		300		2	300	600
Small Group Area / Conference Room		200		1	200	200
Workroom/Mail/Copy		250		1	250	250
Computer Equipment Room		120		1	120	120
Restroom, Staff - Male		50		1	50	50
Restroom, Staff - Female		50		1	50	50
Clinic		600		1	600	600
Restroom, Student - Both Sexes		80		1	80	80
Administrative Storage		75		1	75	75
In School Suspension Classroom		480		1	480	480
Storage, Textbook		400		1	250	250
Administration Subtotal						3,305
Food Service						
Dining Area / Food Court		4,300		1	2,150	2,150
Kitchen And Serving Area		2,350		1	2,350	2,350
Office, Administration/Staff		150		1	150	150
Janitorial Service Closet		60		1	60	60
Restroom, Staff - Both Sexes		80		1	80	80
Chair Storage		400		1	200	200
Food Service Subtotal						4,990
Restrooms						
Restroom, Student - Male		160		2	160	320
Restroom, Student - Female		160		2	160	320
Restroom, Staff - Male		50		1	50	50
Restroom, Staff - Female		50		1	50	50
Restroom, Public Use - Female		125		1	125	125
Restroom, Public Use - Male		125		1	125	125
Restrooms Subtotal						990



21st Century PreK-12 Unit School

Space Name	Standard		21st Century Schools			
	21st	Area	Cap.	Qty	NSF	Total
Plant Services						
Janitorial/General Receiving		120		1	120	120
Janitorial Work Area		720		1	720	720
Janitorial Service Closet		60		4	60	240
Storage, General		1,200		1	1,200	1,200
Main Distribution Frame Room		120		1	120	120
Intermediate Distribution Frame Room		80		6	80	480
Plant Services Subtotal						2,880
Total Net Assignable Square Feet						136,933
Mechanical Subtotal						13,693
Total Net Square Feet						150,626
Circulation Subtotal						18,075
Total Gross Square Feet						168,701

