21ST Century Schools

Work Session #3 Report

Issued August 19, 2011

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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:

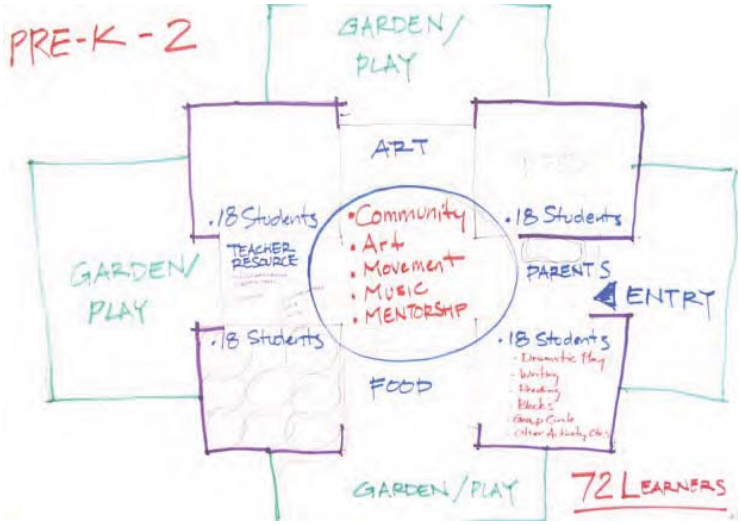
1. **Provide Student-Centered Facilities for all learners**
2. **Be Flexible and Adaptable**
3. **Be Global Community-Centered - within the school and encompassing the local and global community**

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.



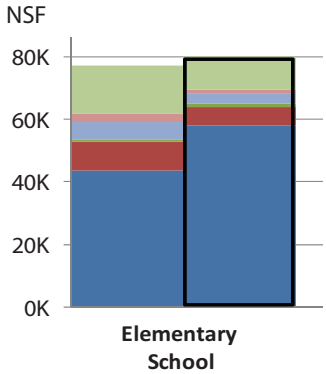
Core Spaces
The Core Spaces are considered to be the shared activity spaces, as well as the center of school and community activity. The following list of spaces and definitions represents what was most often allocated as Core Spaces during team breakout sessions: The Commons, Athletics/PE, Performance,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



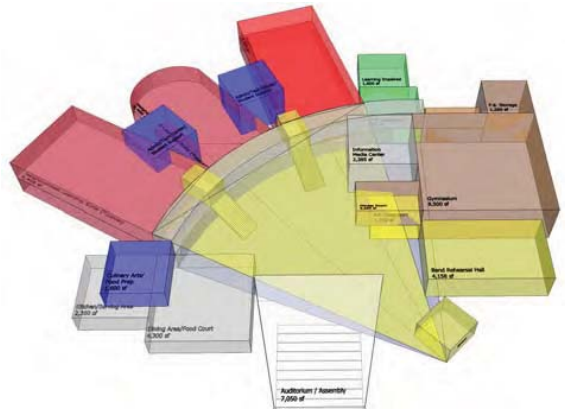
Concept Designs

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.

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 DoDEAS'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

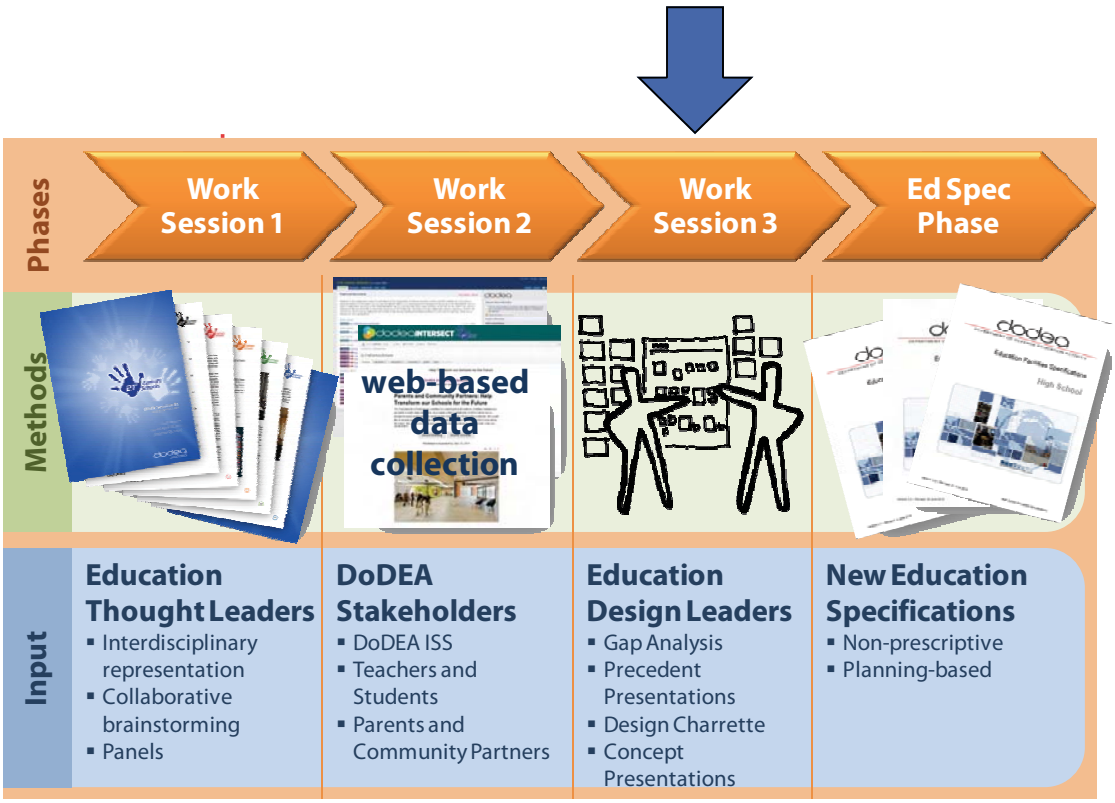
DoDEA's schools serve the children of military service members and Department of Defense civilian employees throughout the world. Through their two major components DoDDS and DDESS, they are located in the following locations in three different Area Service Centers: Americas, Europe and Asia Pacific.

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.



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.

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)	Introdution: Deputy Asst. Secretary of Defense Robert L. Gordon III Outcomes of Work-Sessions 1 and 2	Guiding Principles Exercise	Team Discussions Topic Primary Schools and Secondary Schools	Attended: Deputy Asst. Secretary of Defense Robert L. Gordon III Outbrief Wrap-up Summary Overview Next steps/action items
0900 - 1000 (9:00 am)	Break Design Team Presentations on Best Practices 21st Century Schools	Break Defining the Neighborhoods		Closing Remarks
1000 - 1100 (10:00 am)			Break	
1100 - 1200 (11:00 am)		Outbrief		
Noon	Working Lunch Results from Gap Analysis - Sam Wilson	Working Lunch	Lunch	
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 Dicussions 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.

Name	*Title*	*Company*
External Subject Matter Experts		
Victoria Bergsagel	President	Architects of Achievement
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Rick Dewar	Principal	Cannon Design
Judy Hoskens	Associate Principal	Cuningham 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
John Weekes	Founding Principal	DOWA Architects
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Christopher Gilley	PE, Facilities Engineer	DoDEA
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Karin Hornstein	Facilities Engineer	DoDEA
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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.

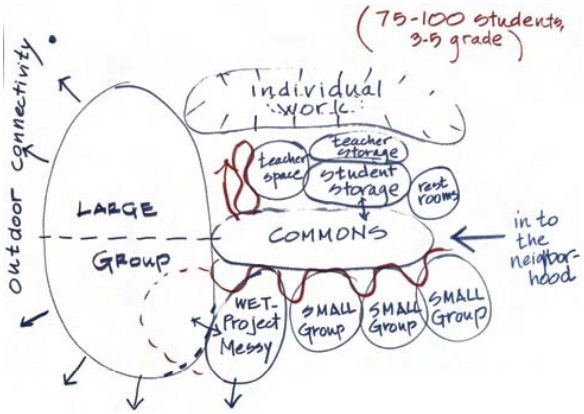
Presentations on Best Practices

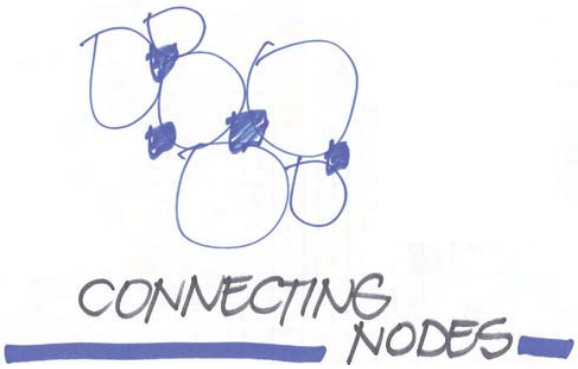
Following an in-brief presentation from Jacobs outlining Work Sessions #1 and #2, Work Session #3 began with individual presentations from industry leading architects, designers and facility programmers with proven experience in developing 21st Century schools.

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

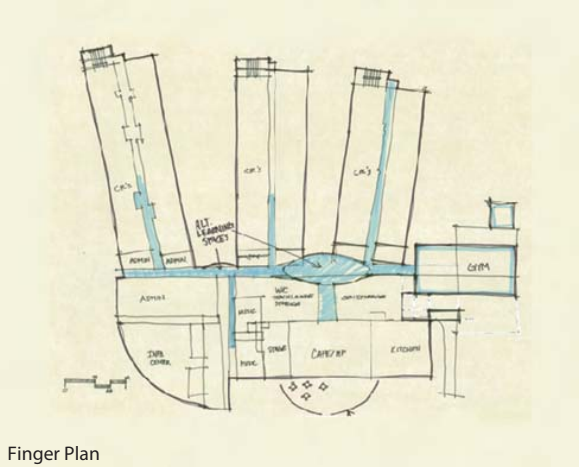
Small Learning Community Studio Progressive

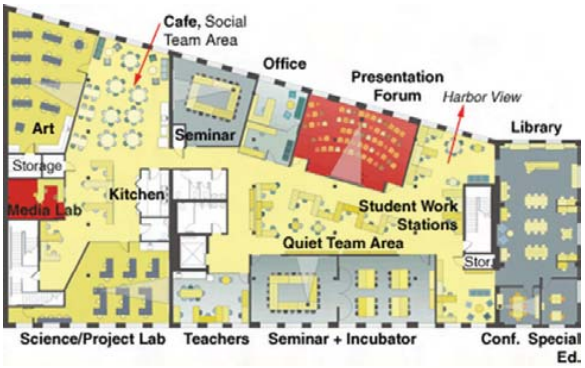
- Larger schools can be broken into smaller "Neighborhoods" connected by a "Learning Street".

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

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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

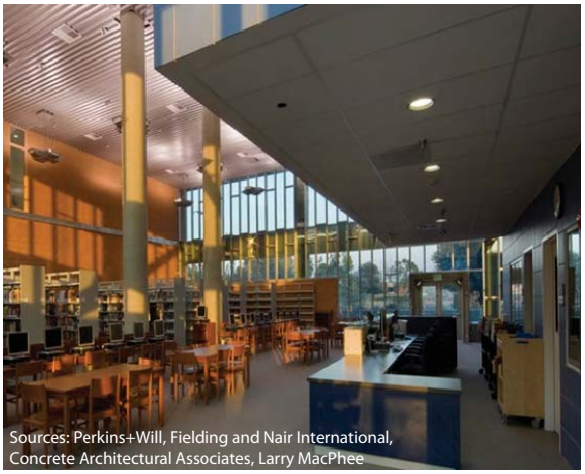
- Size learning centers to create a manageable group identity for middle school students
- Introduce students to "soft spaces" to foster exploration of social skills and personal identity
- Provide compatible learning environment diversity to allow teachers to challenge higher performing students while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

PARKHILL SMITH & COOPER

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

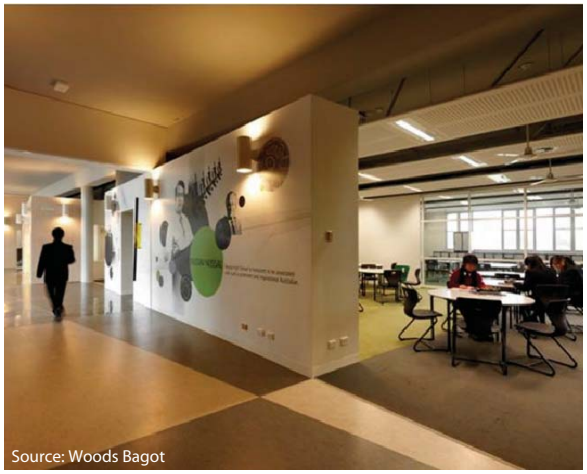
The Language of School Design (Fielding & Nair)

- 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 **Ketherine 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.

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

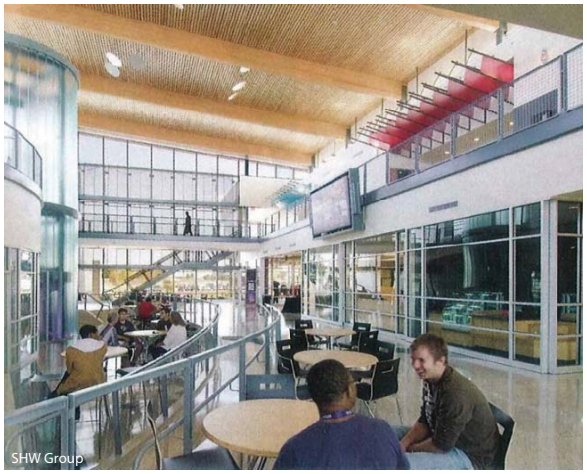
- Using on-site renewable energy
- Exposing building systems to reinforce math and science together
- Using recycled materials
- Reinforcing art throughout the facility and integrate it with music and physical education.
- Monitoring energy and/or water consumption combines science and math together

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

Woolpert, Inc.

Fielding Nair International


SHW Group

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

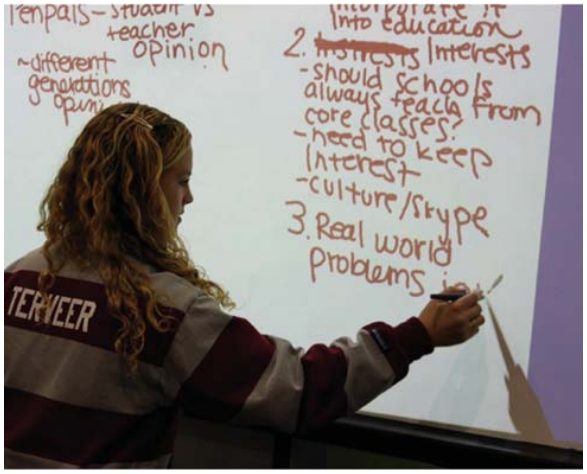
Principles

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

BE PLAYFUL

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

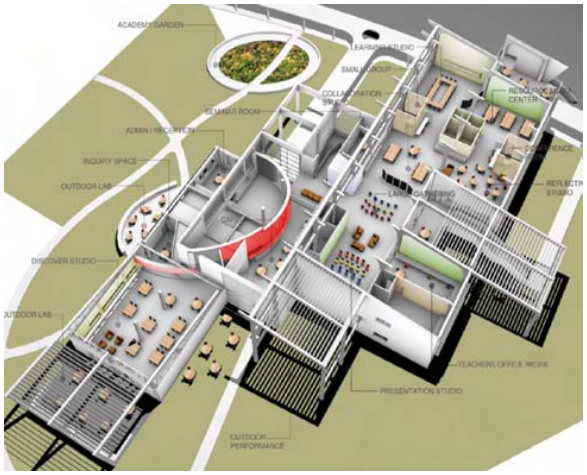
- Allowing children the tools and freedom to innovate in their own way and at their own pace
- Providing an atmosphere where failing is okay and can be used as a learning tool ("fail really well")
- Implementing technology as one of many creative learning tools
- Involving inspirational instructors /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



CANNON DESIGN

Presented by **Rick Dewar.**

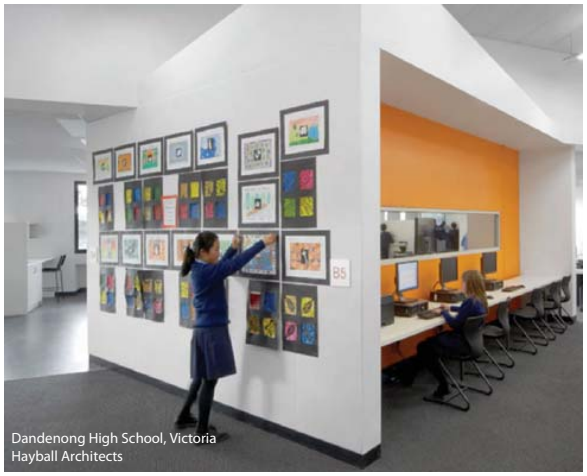
- Flexible and adaptable space
- Flexible and adaptable furniture
- Emphasize inside / outside
- Maximize natural light



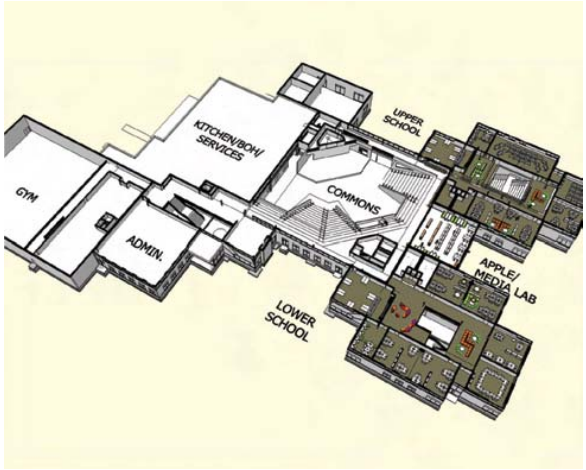
CUNINGHAM GROUP

Presented by **Judy Hoskens**.

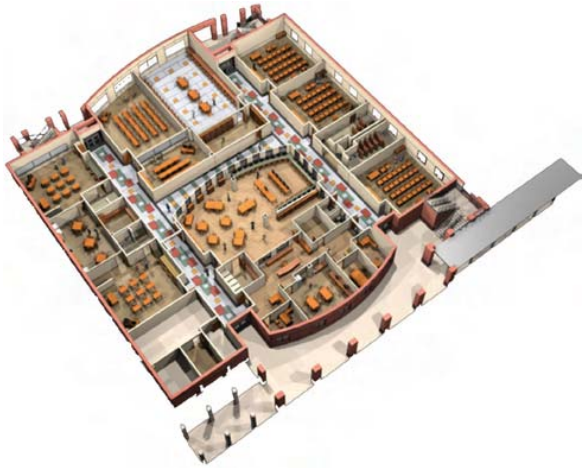
- The commons as the heart of the whole school
- Neighborhoods with their own unique hearts
- Shared core resources
- Repurpose circulation space into useable space



Dandenong High School, Victoria
Hayball Architects



JACOBS



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

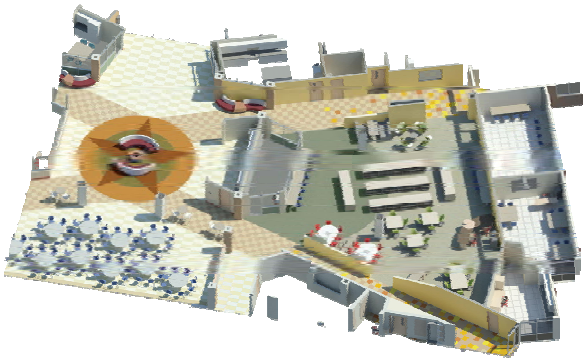
What do students need?

- 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

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

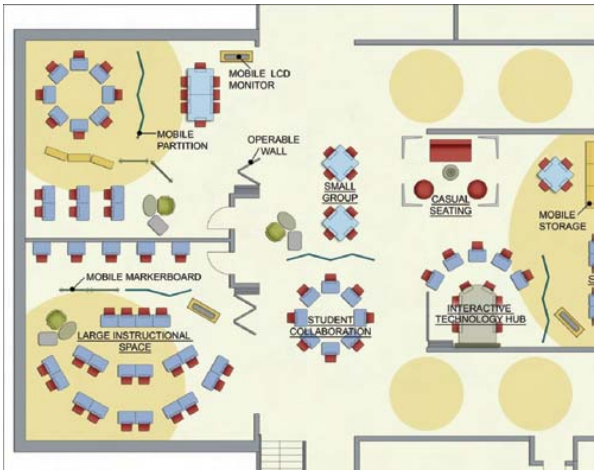
Presented by **Gregory Monberg**, this presentation is titled "21st Century Education - Creating Places to Learn."

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

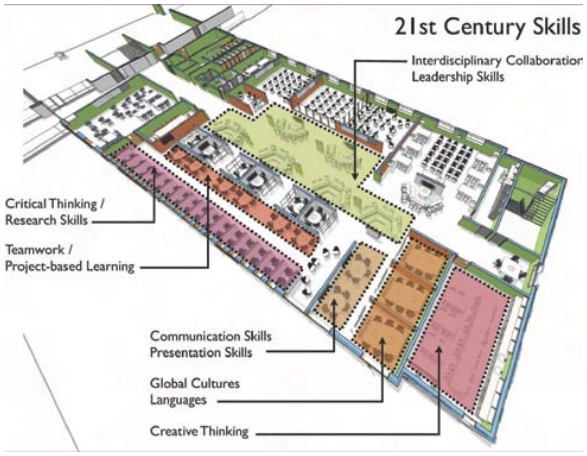


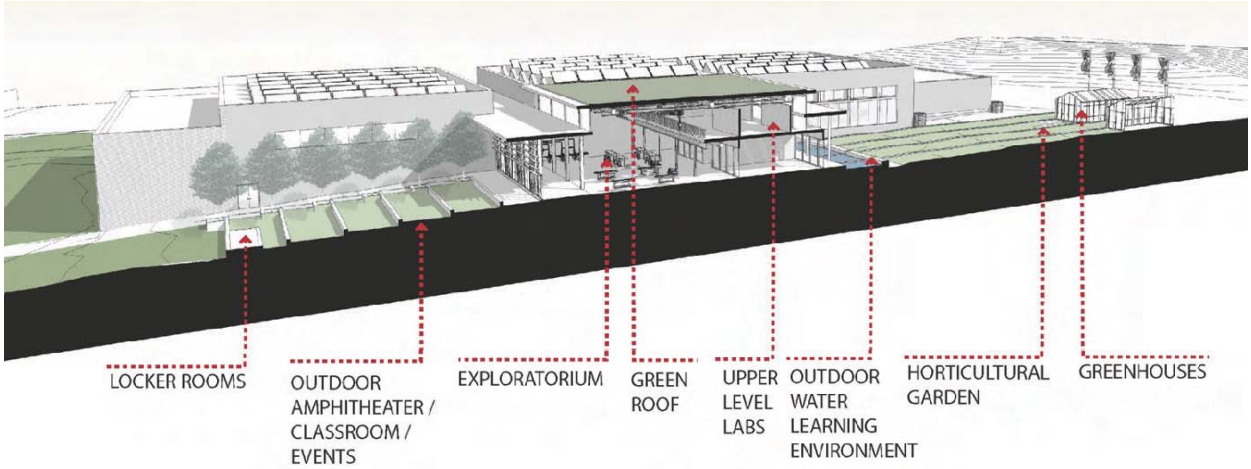
LITTLE

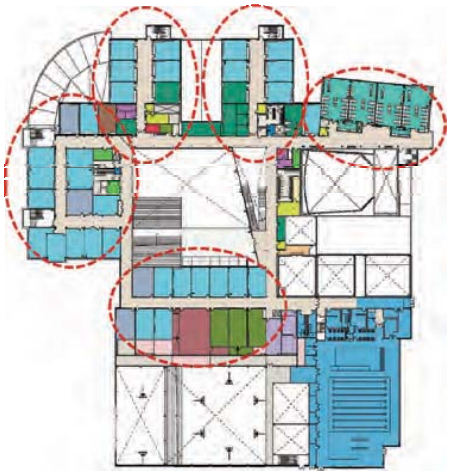
Presented by **Tomas Jimenez-Eliaeson**, this presentation is titled "Immersive Learningscape: Redefining the Classroom Wing."

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

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

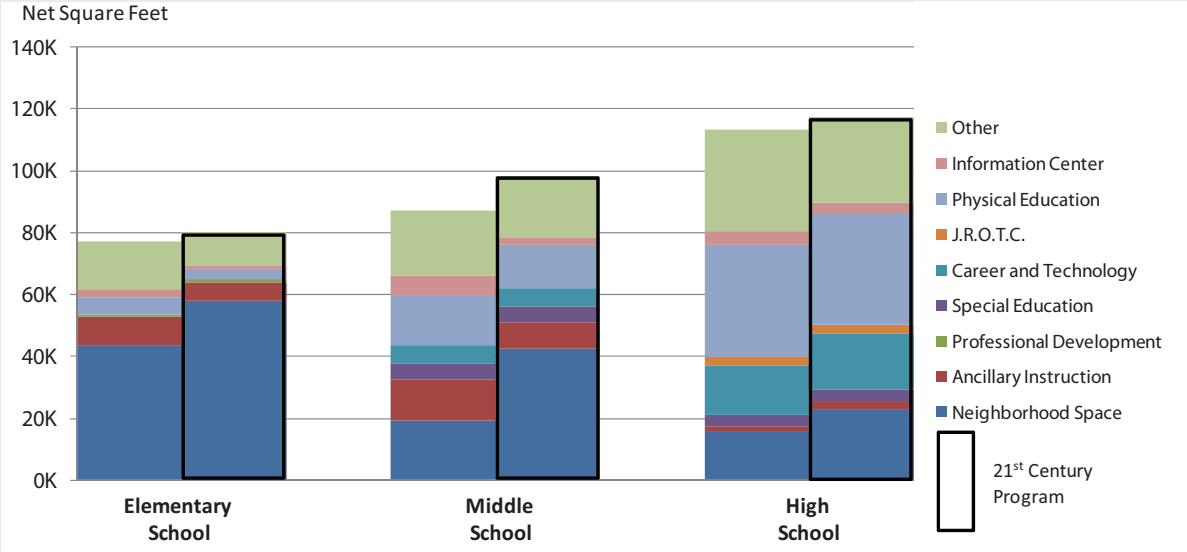
Separate team discussions focused on each of the following topics with each team establishing parameters for 21st Century facilities for:

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-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				
	0-99	100-199	200-299	300-399	400-499	500-599	600-699	700-799	800-899	900-999	1000+	Total
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:

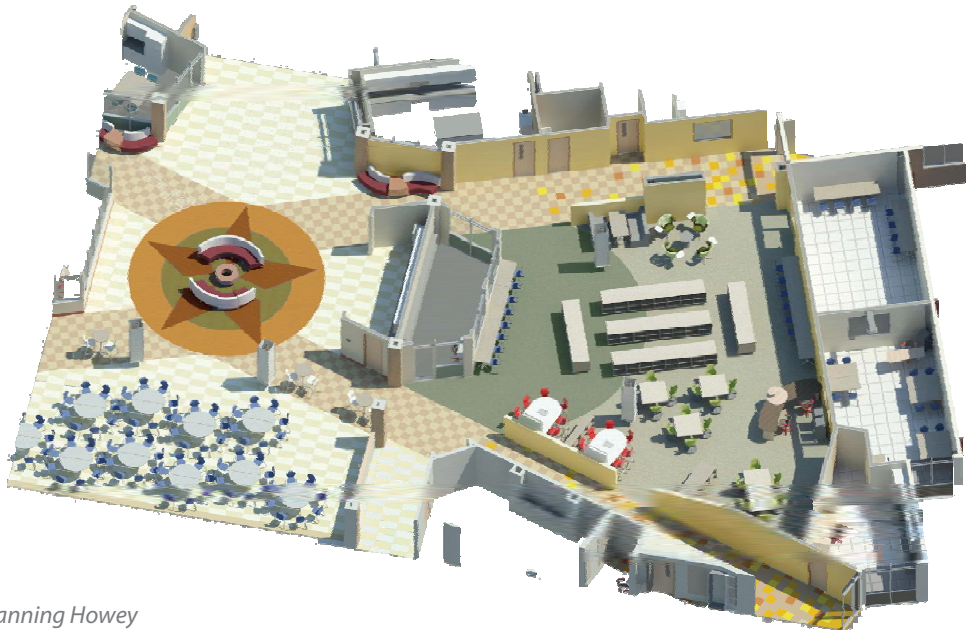
Defining the Core

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.

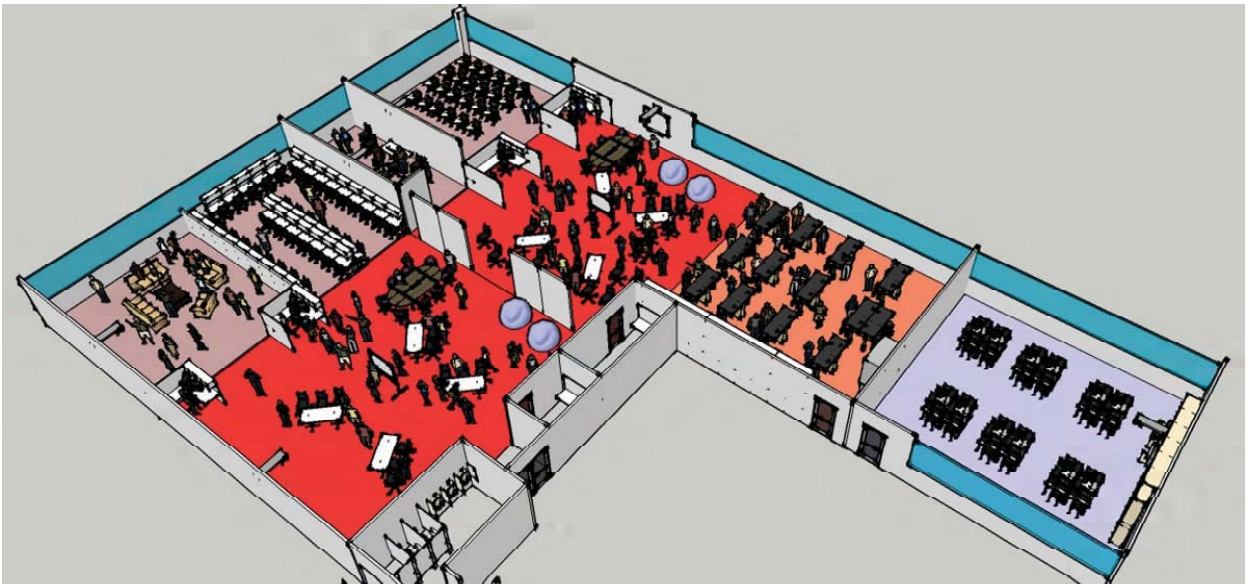


Fanning Howey

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.

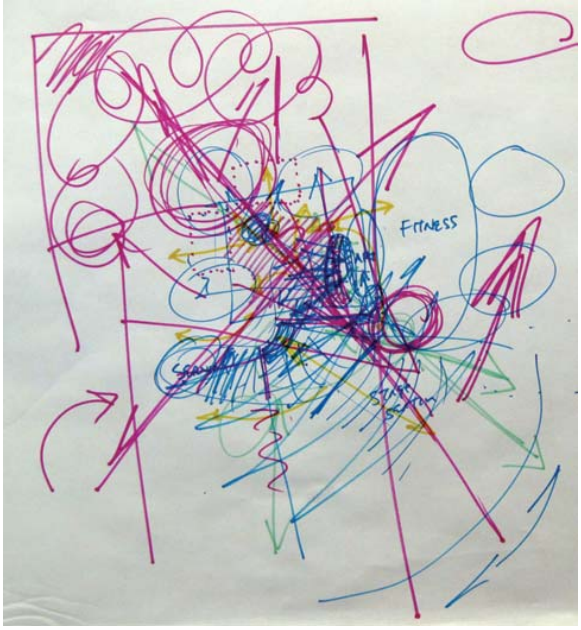


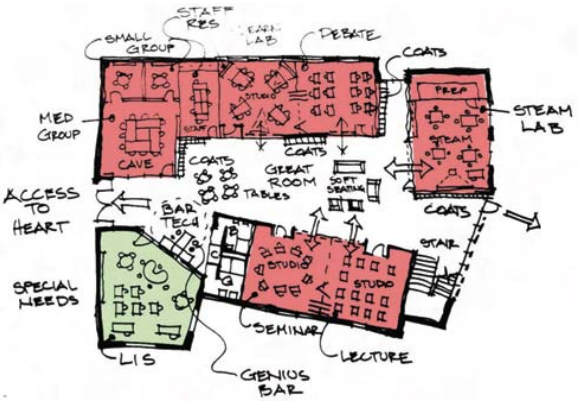
Neighborhood model sketch

DAY THREE - CONCEPT DESIGNS

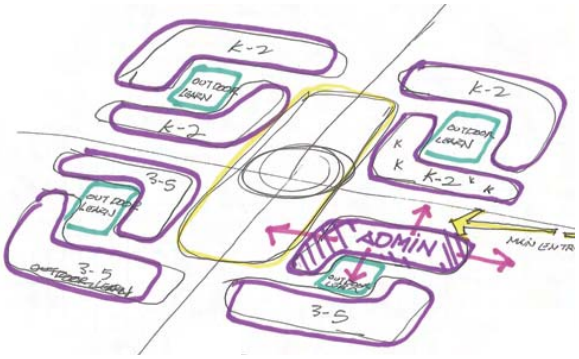
Day three involved developing the guiding principles and Neighborhood models into concept designs for all four school types:

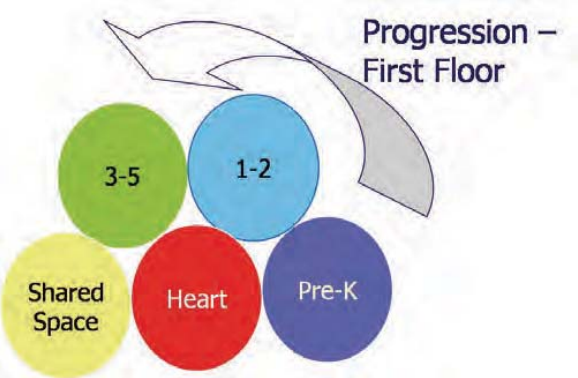
- Elementary School (K-5)
- Middle School
- High School
- Unit School (PreK-12)

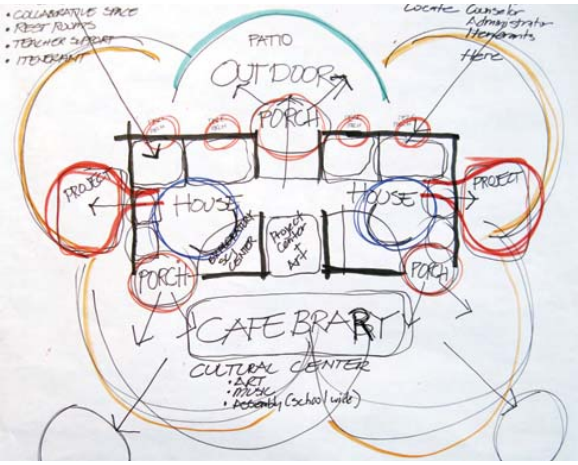




Based on the specific school space lists, each team developed bubble (adjacency) diagrams, blocking and stacking diagrams, concept floor plans and perspective sketches. The following section of this report provides detailed descriptions of both the Neighborhood models and concept designs for the four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

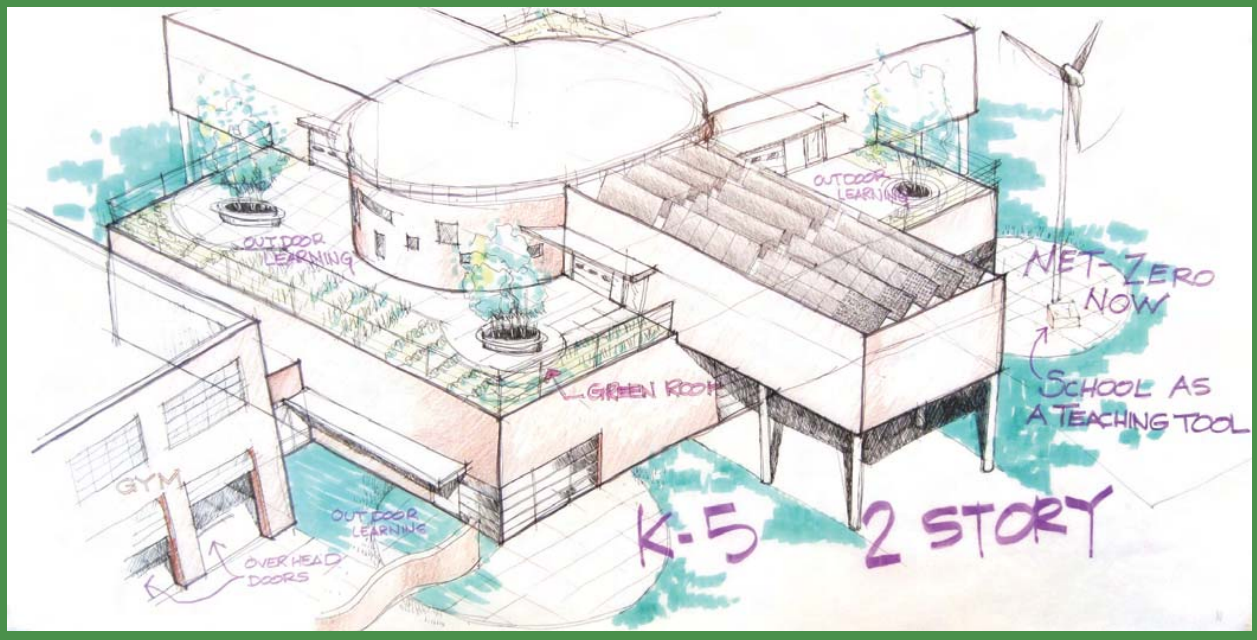






The design of the K-5 elementary school should provide a place for learning that is welcoming, comprehensible, transparent, sustainable, safe, connected to the outdoors and has at its heart: learning neighborhoods, information center and cafeteria.

▸ *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:

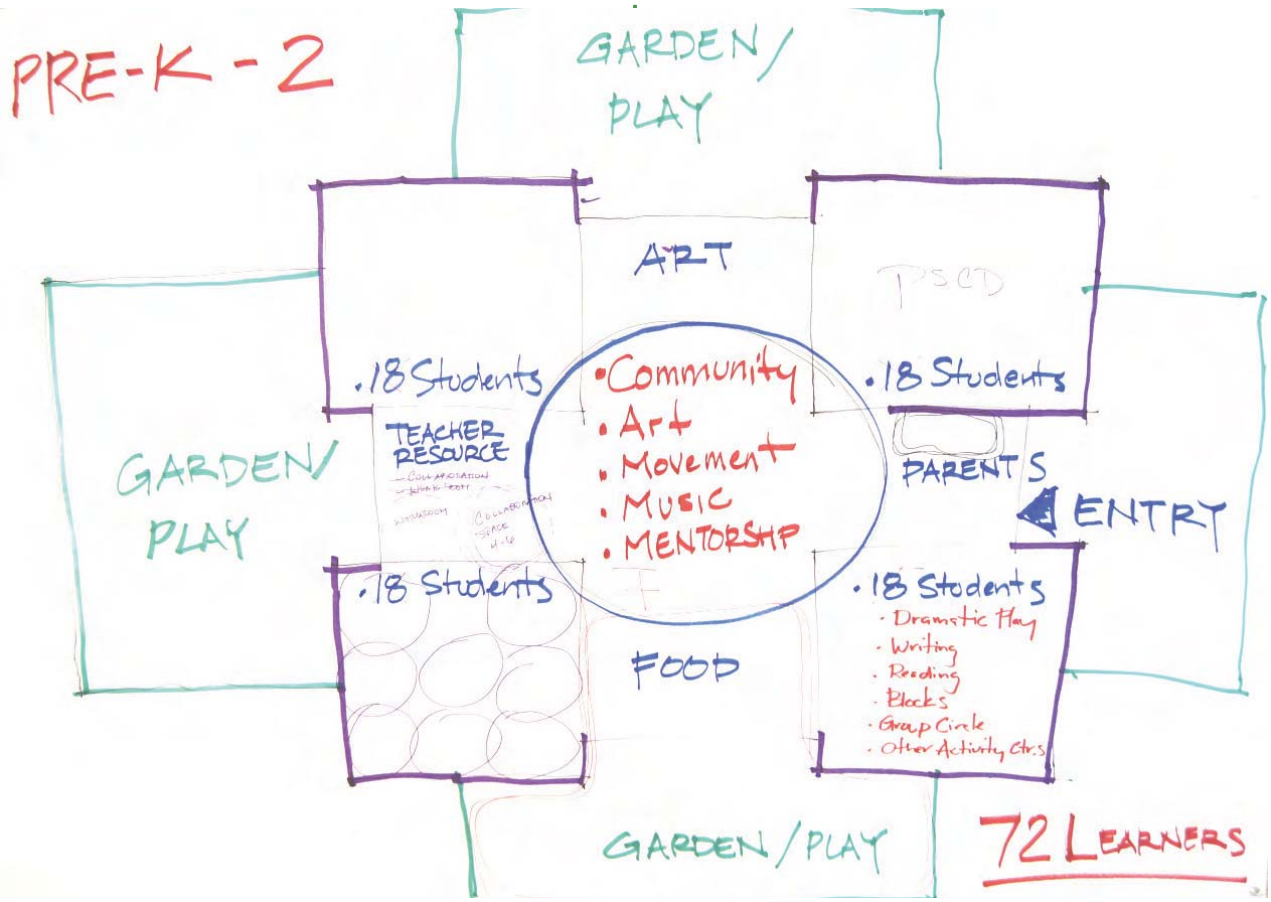
- Large Group/"Commons" (72 – 100 occupants)
- Medium Group (18 – 25 occupants)
- Small Group/Team Project (4 – 6 occupants)
- One—to—one (2 occupants)
- Independent Learning
- Outdoor Learning
- Parents Center
- Teacher Resource Area (4 – 8 occupants)
- Teacher Storage
- Instructional Storage
- Student 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)*



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.

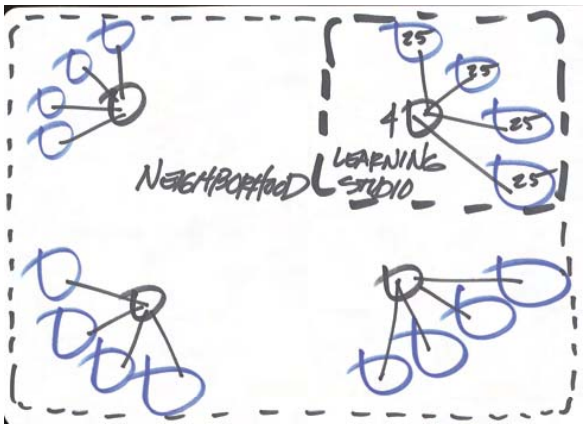
For the 3-5 grades, the same major space types are included, with some variances: **Core Spaces** (instead of Neighborhood) include Learning Impaired – Severe (LIS), art and music/band and dining area/food court. Similarly, the wet labs and stage are located in the core area of the school rather than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

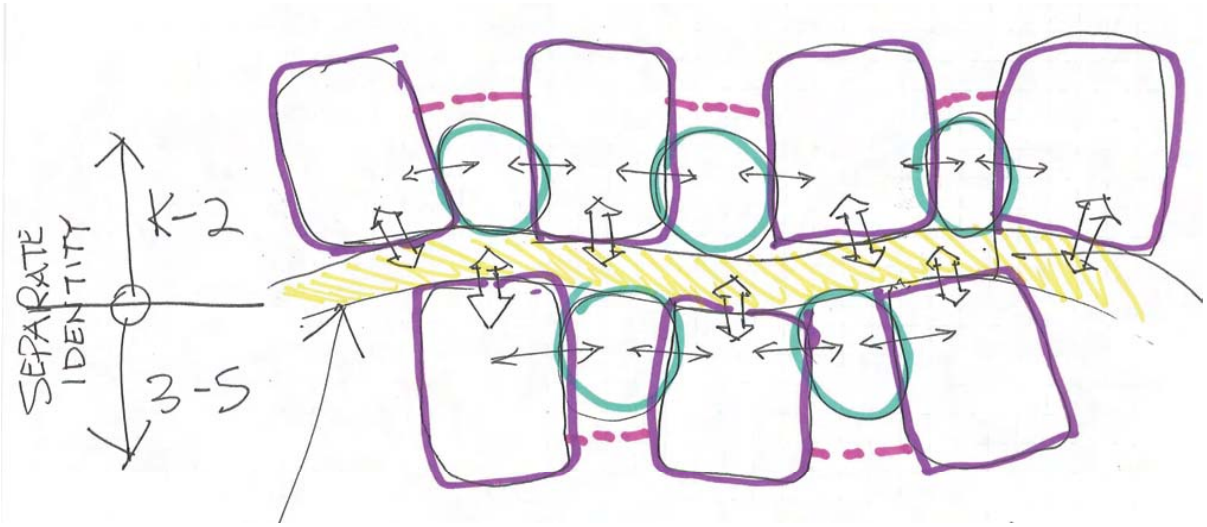
- The K-2 Neighborhood should provide space(s) for physical activity
- Direction is needed about children-sized plumbing fixtures for K-2 areas
- The gym for 3-5 should be larger, 5,000 square feet versus 2,000 square feet, to provide for a basketball court
- Is virtual online learning necessary within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

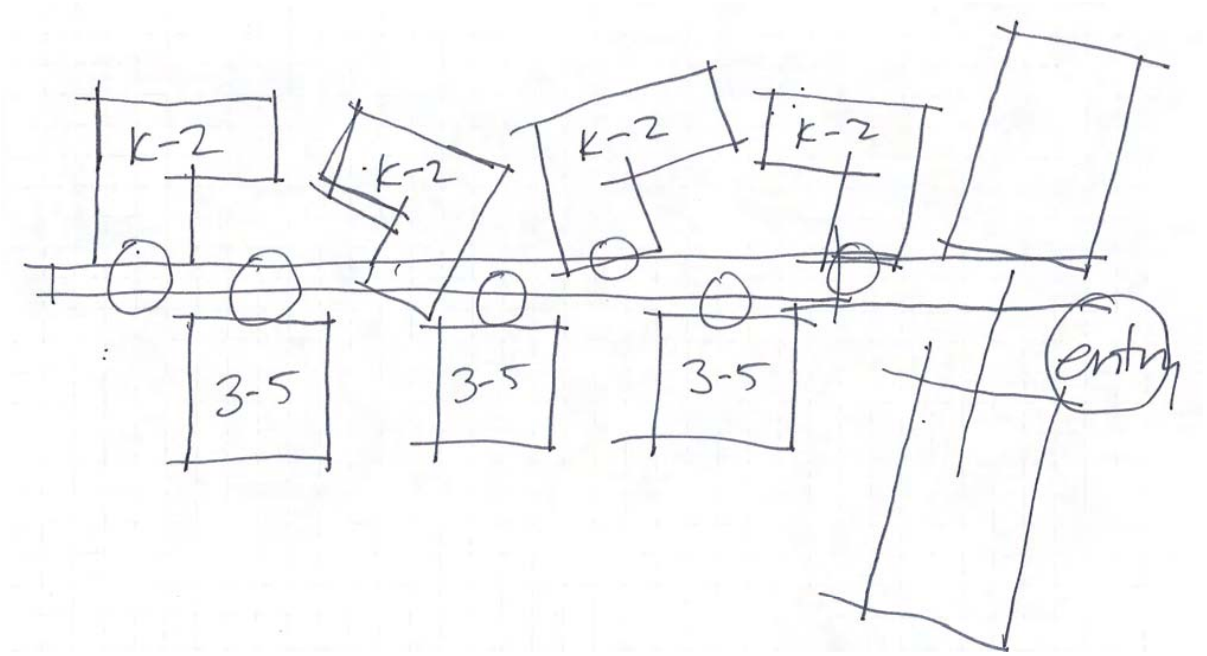
Program Concepts were developed that described important relationships of program functions, as illustrated by these graphics.

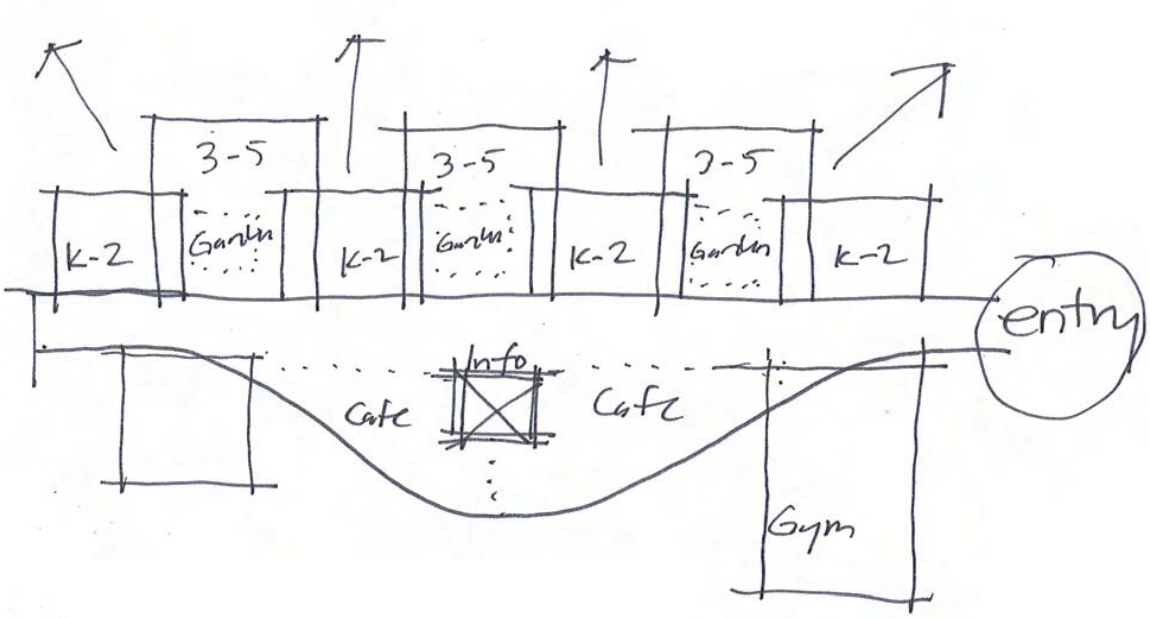


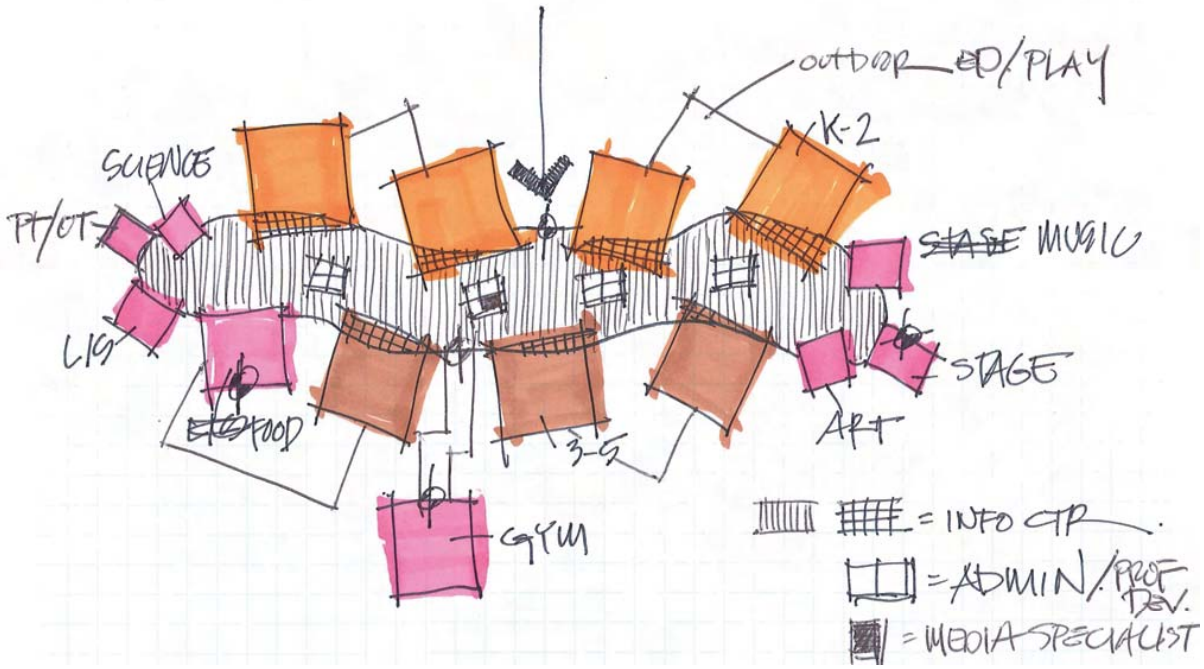
Adjacencies (Bubble Diagrams)

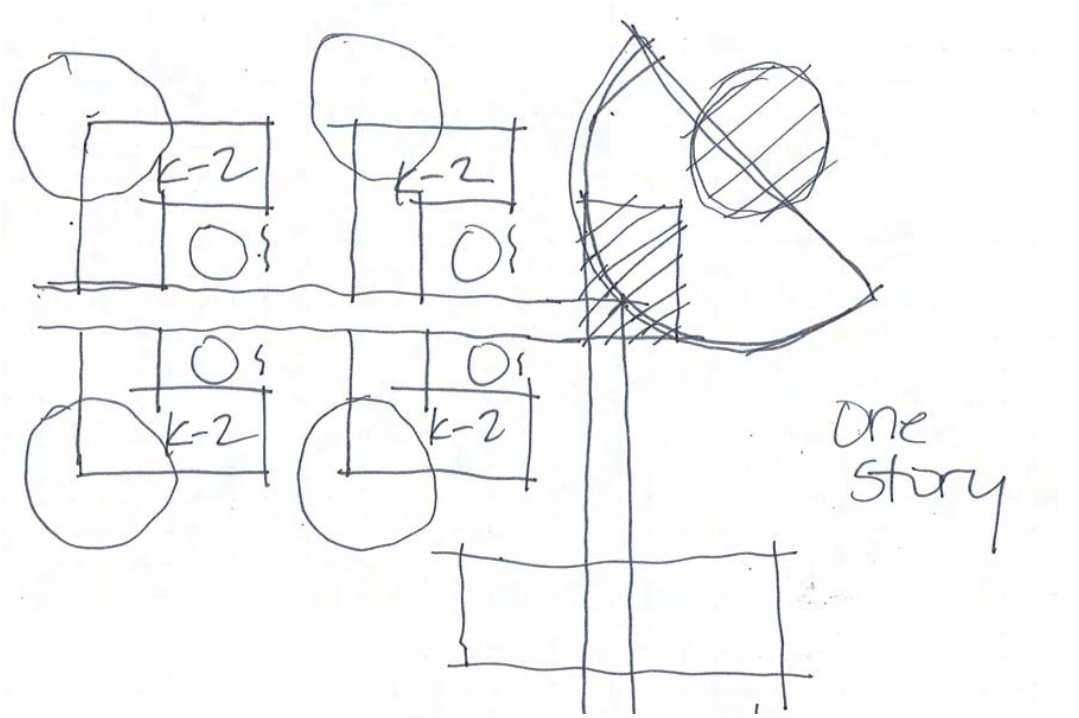
A variety of alternative layouts is produced - ranging from linear to radial and single-story to two-story approaches, as illustrated by this representative sampling.

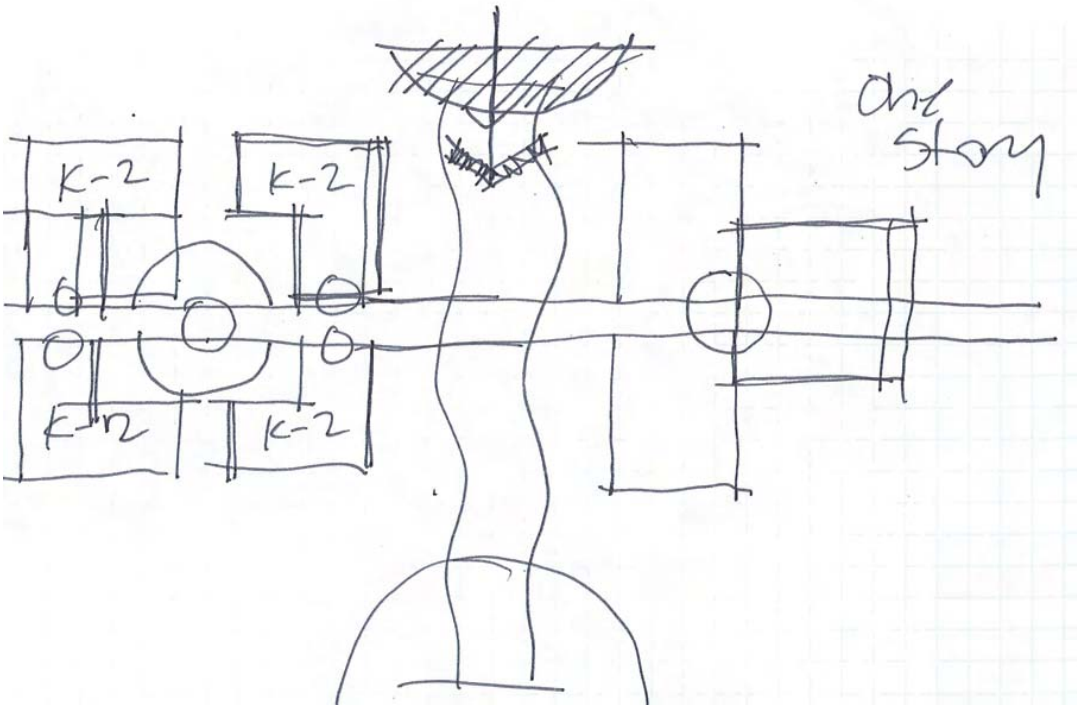





3-5
3-5
3-5
K-2
Garden
K-2
Garden
K-2
Garden
K-2
entry
Info
Cafe
Cafe
Gym

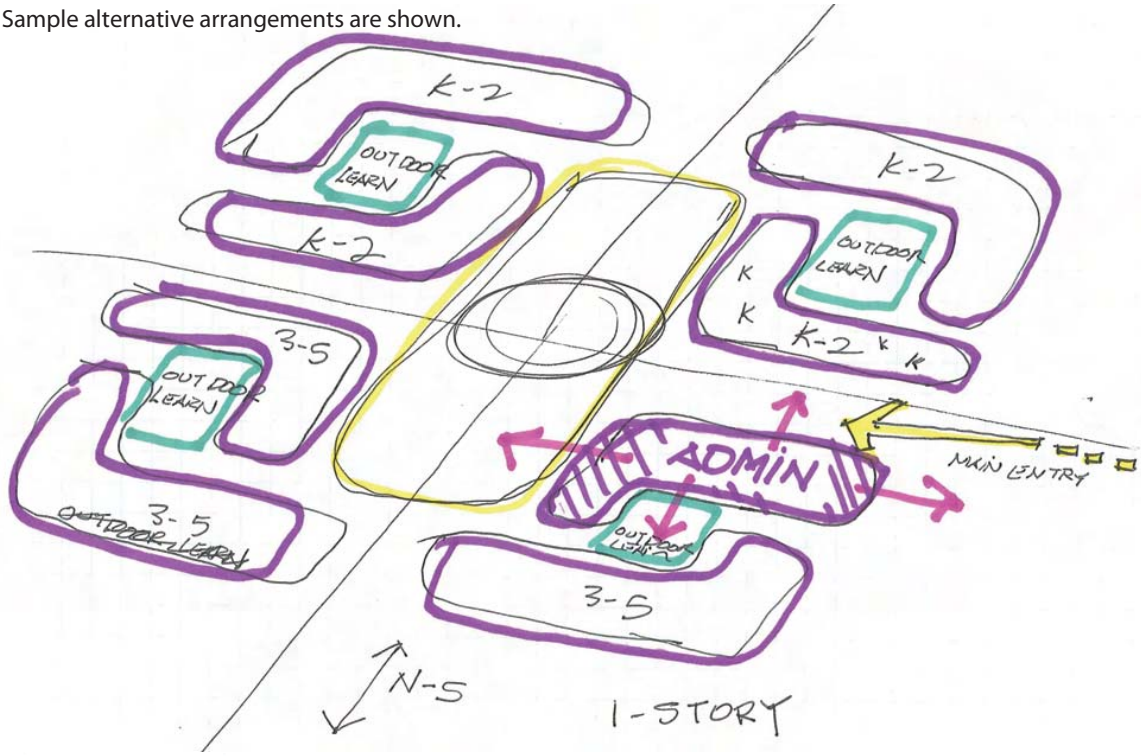

OUTDOOR ED/PLAY
K-2
SCIENCE
PT/OT
STAGE MUSIC
LIB
STAGE
FOOD
ART
3-5
GYM
= INFO CTR
= ADMIN/PROF DEV.
= MEDIA SPECIALIST

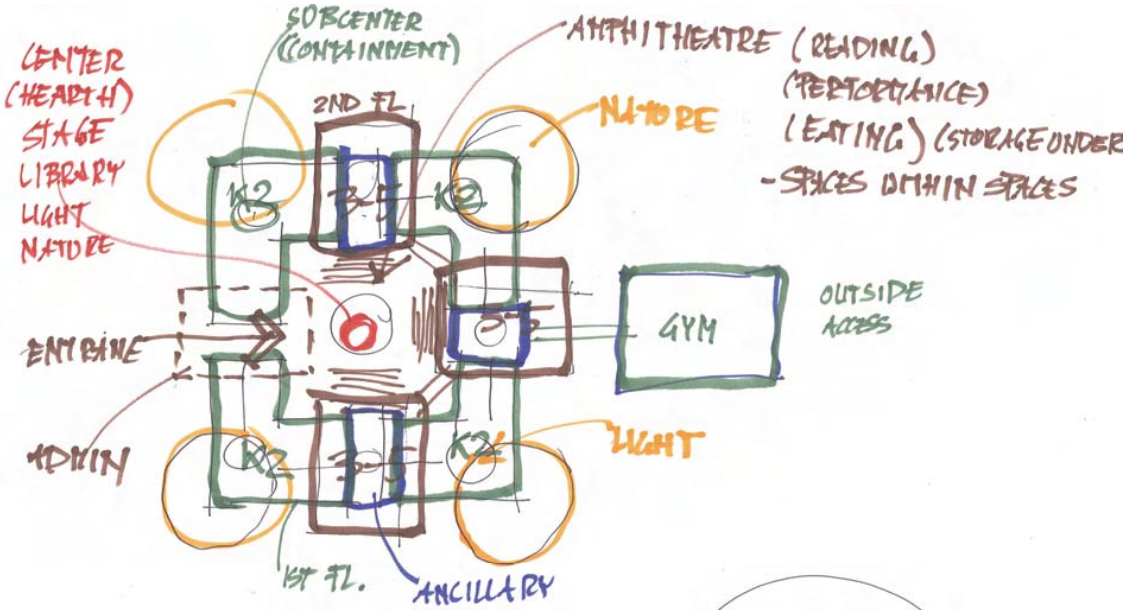

K-2
K-2
K-2
K-2
One Story

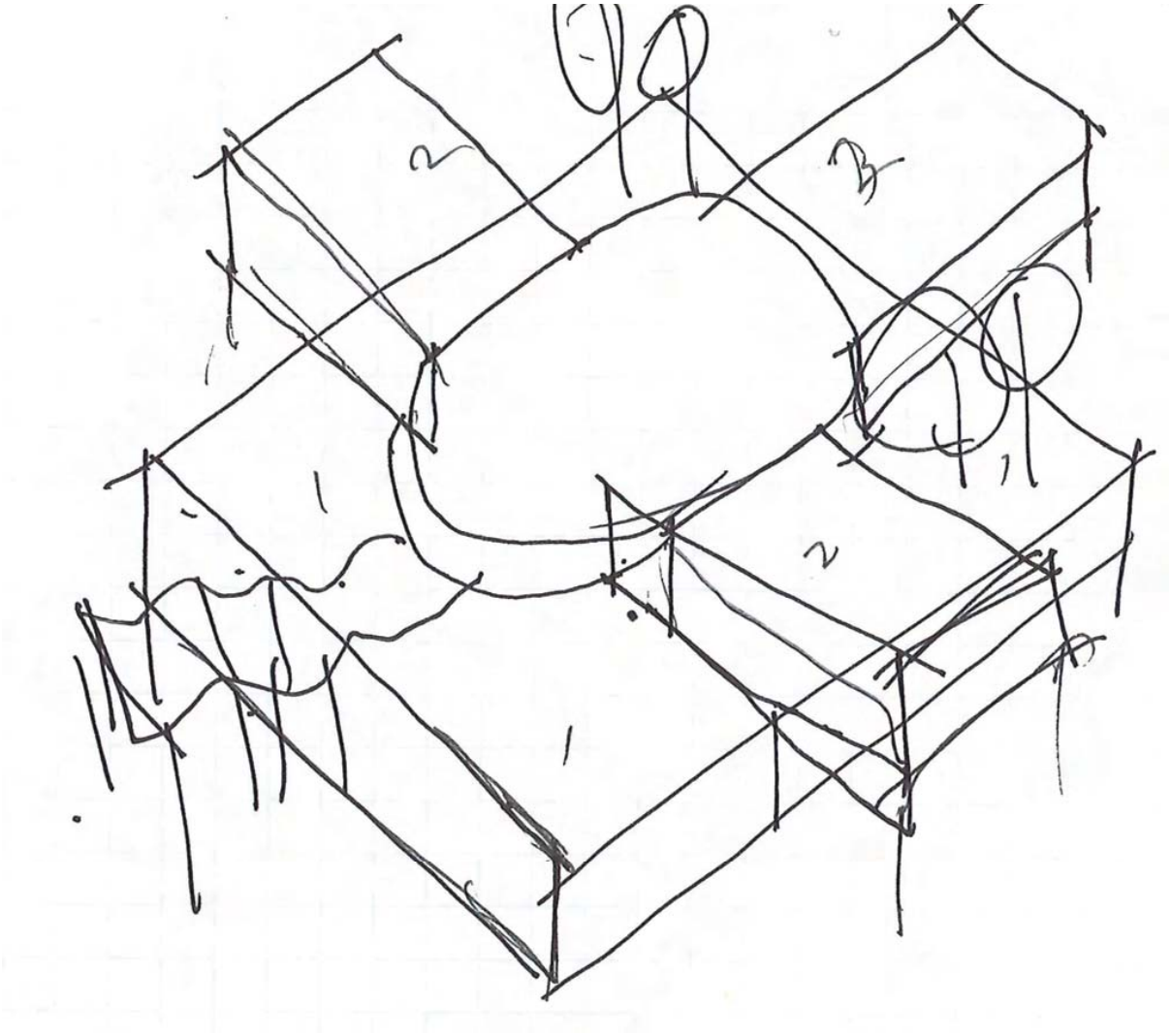

K-2
K-2
K-2
K-2
One Story

Blocking and Stacking

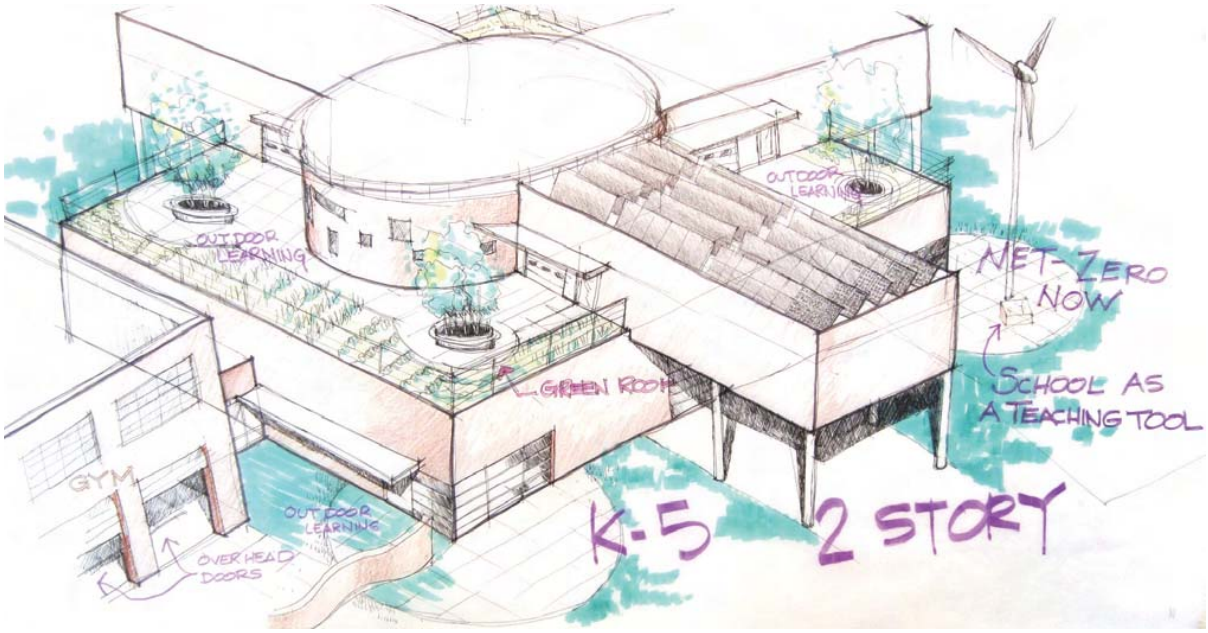
Sample alternative arrangements are shown.



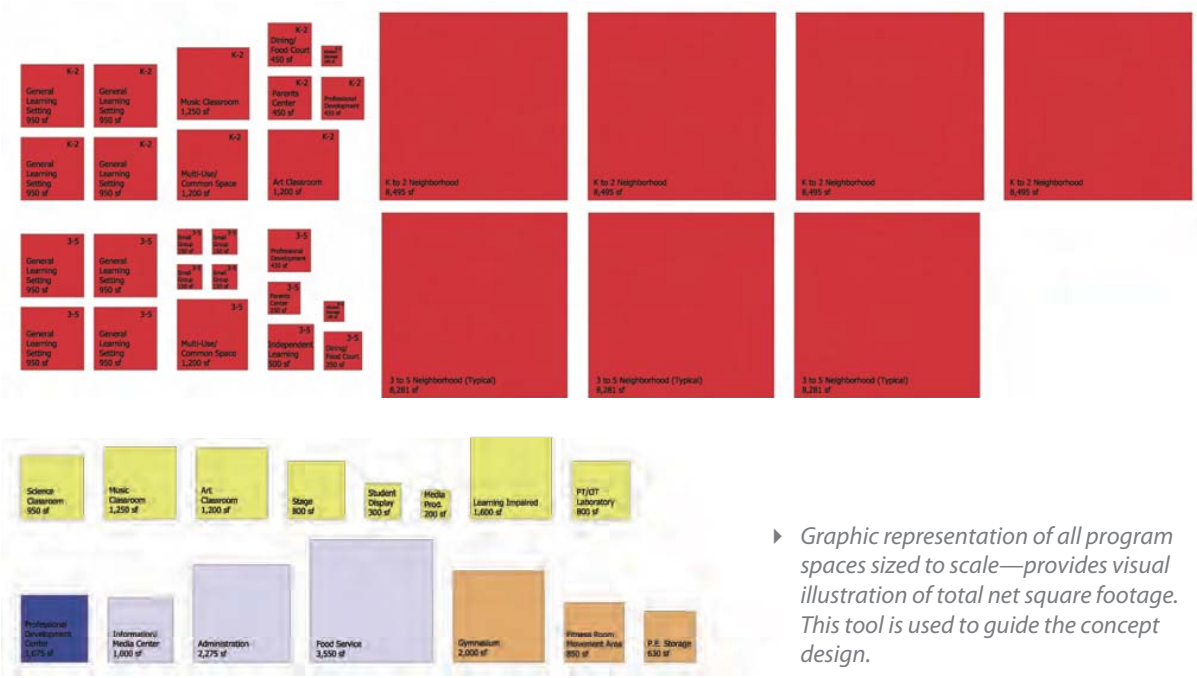




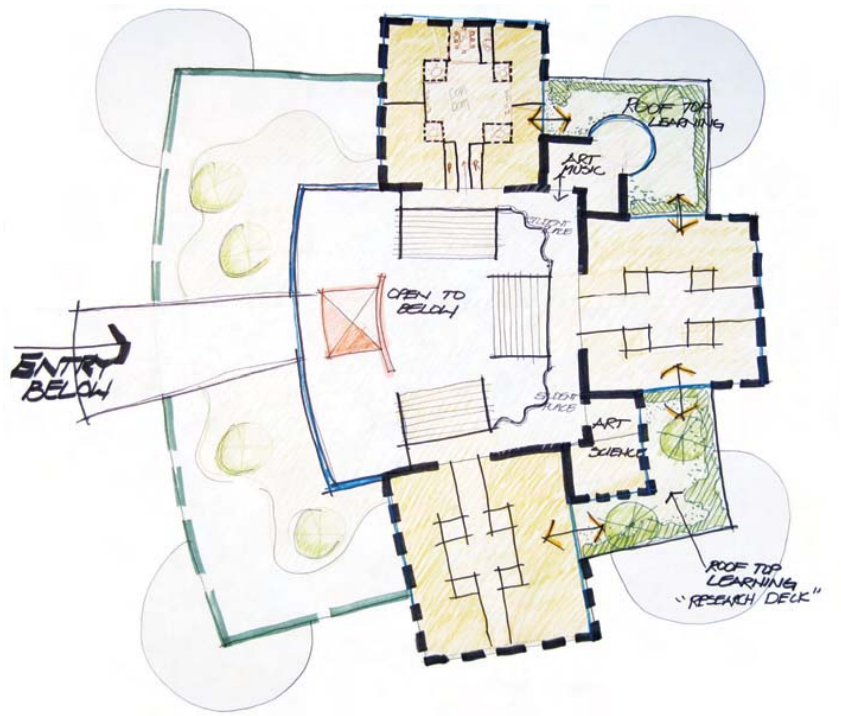
Axonometric sketch of K-5 School



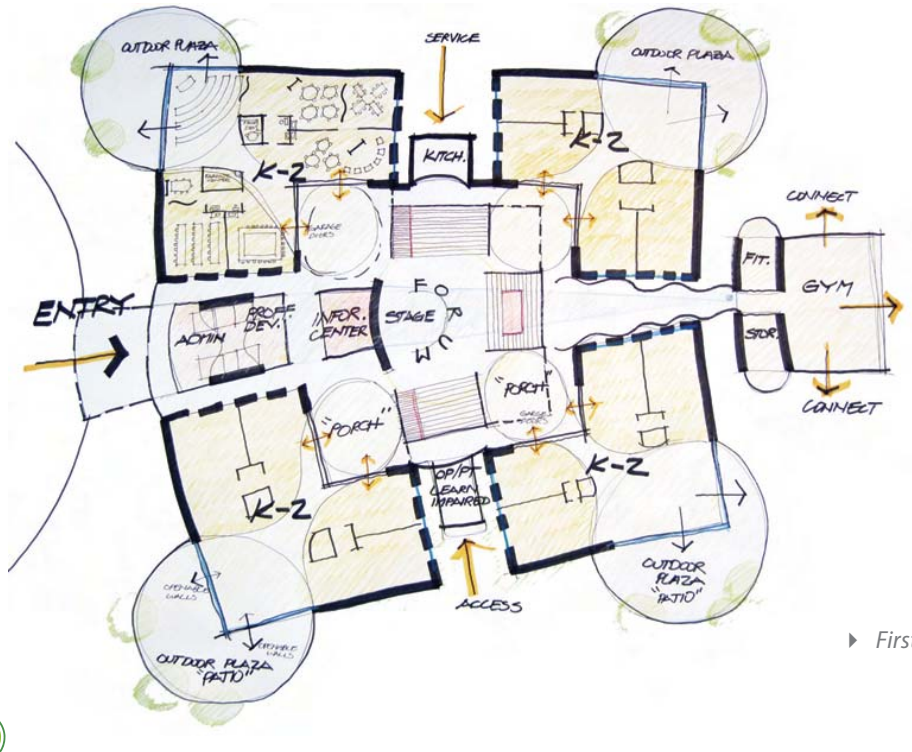
Perspective rendering of K-5 School



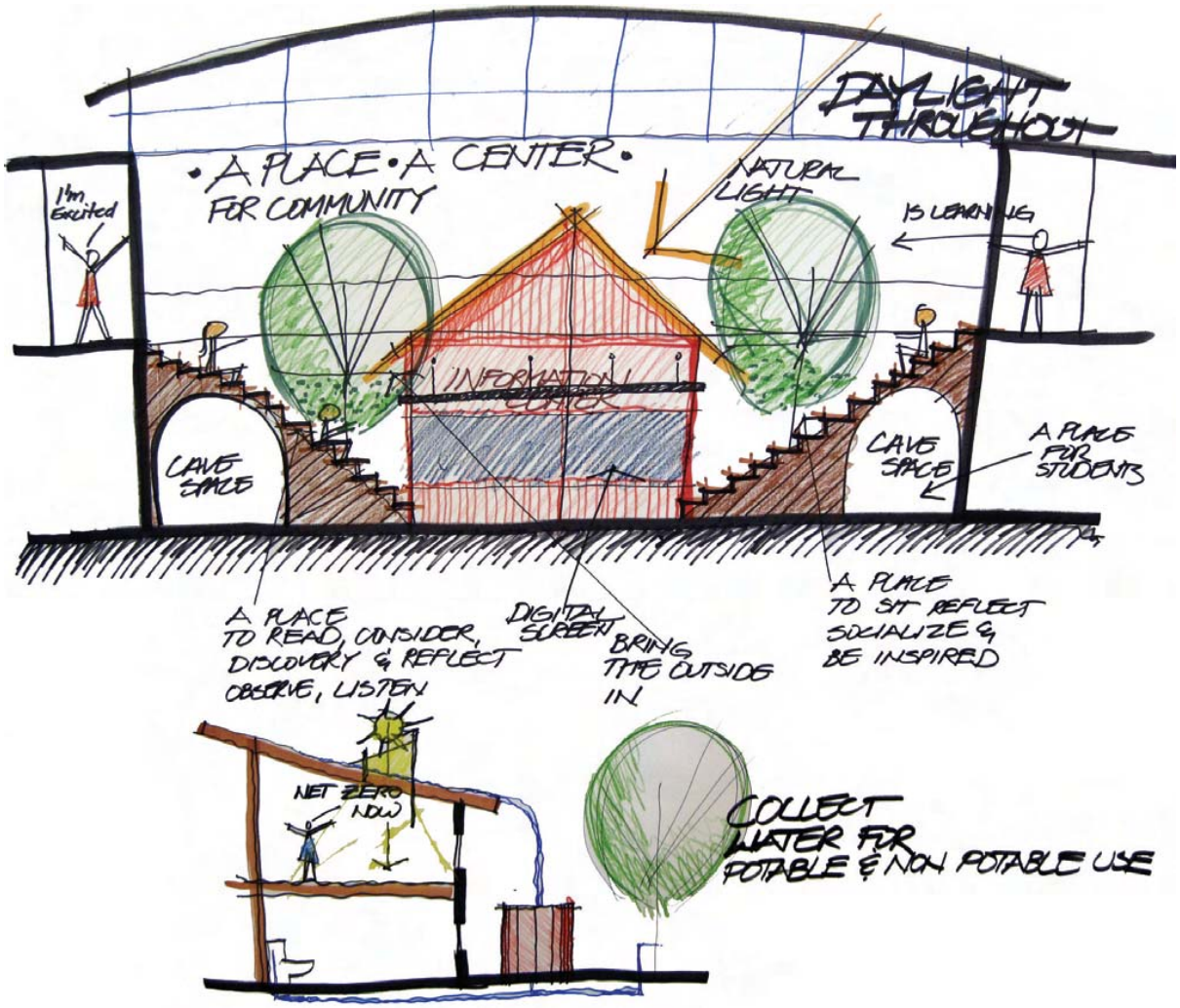
Graphic representation of all program spaces sized to scale—provides visual illustration of total net square footage. This tool is used to guide the concept design.



Second floor plan of K-5 School



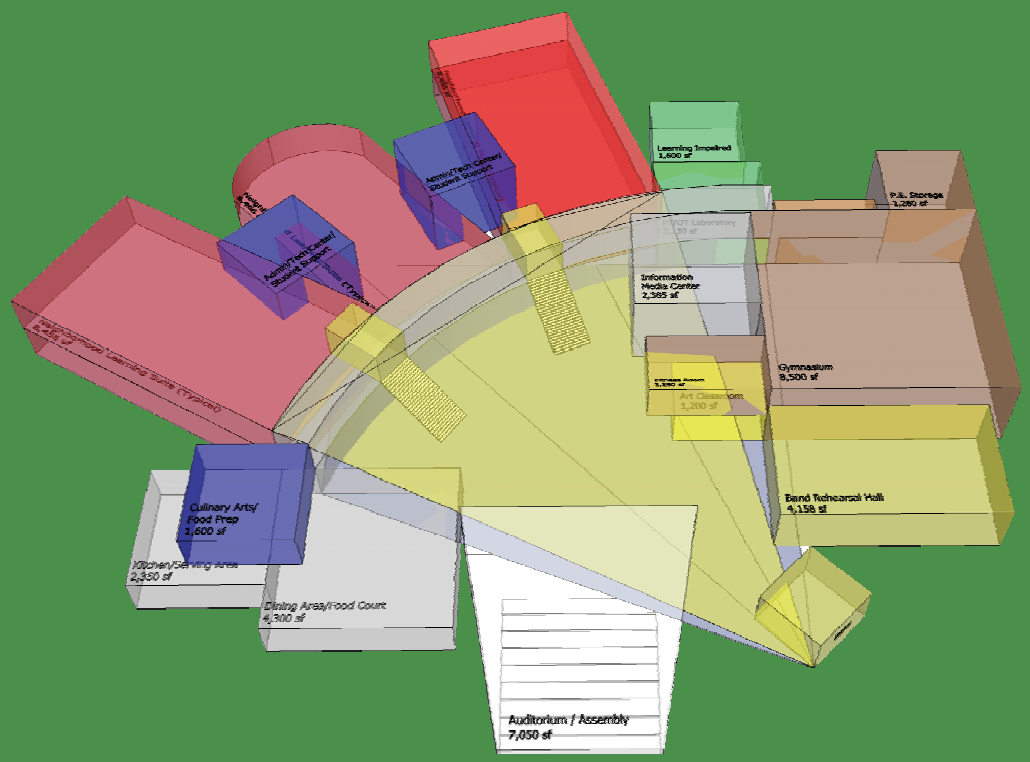
First floor plan of K-5 School



Cross-section through central forum space of K-5

The middle school design should provide a nurturing and comfortable environment for each student. The design concept creates a central "heart" in the building. This central space includes the cafeteria, information center, commons and auditorium. The neighborhoods and common spaces radiate out from the open central "heart."

▸ *Concept Design Team for Middle School*



▸ *Middle School Concept*

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:

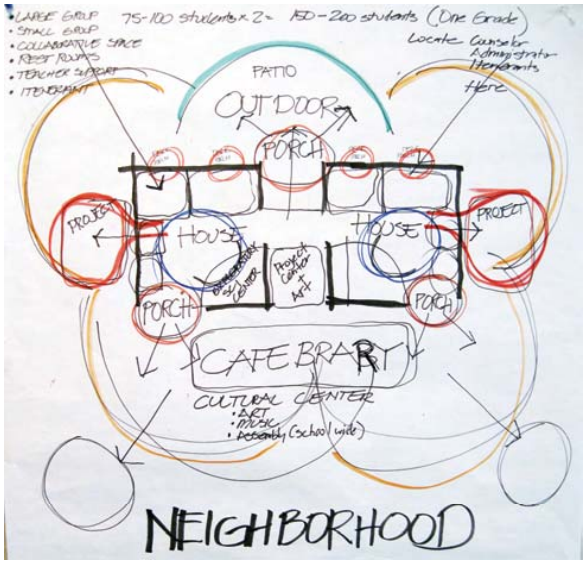
- **Scalable** and **adaptable** to a wide range of students
- Supportive of **differentiated learning**
- **Resource based** organized with shared spaces that support the **learning suite**

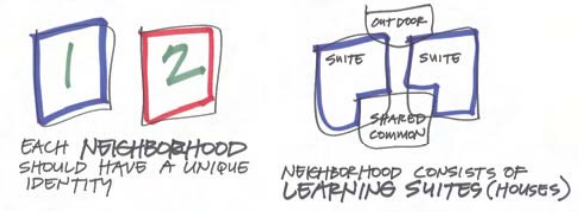
Designing a facility that is flexible enough to accommodate various learning scenarios is essential. Agile, multi-purpose space is inherent to providing differentiated learning at various grade levels. The Neighborhood model provides for unique learning environments tailored to each student. Middle schools 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.

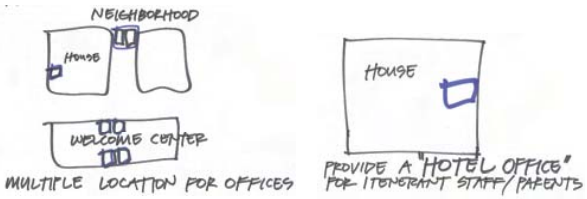
A home school partnership/parents center is located within the suite to foster improved student-teacher-parent relationships.

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.

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.

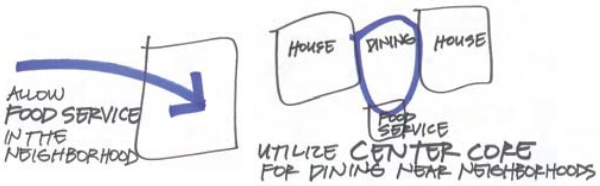
Supporting functions are now decentralized and incorporated both in an administrative area and within the learning suite. Social workers, administrators and itinerant teachers play a crucial role in student development; thus, locating supporting functions closer to the students increases efficiencies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

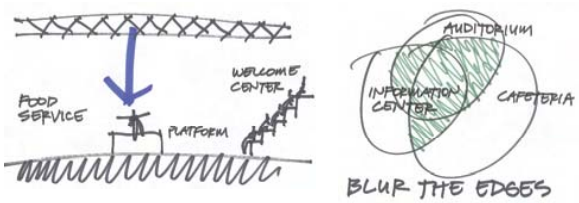
- Full size gym capable of seating whole school
- Wellness/fitness center
- Coaching offices (professional development)

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:

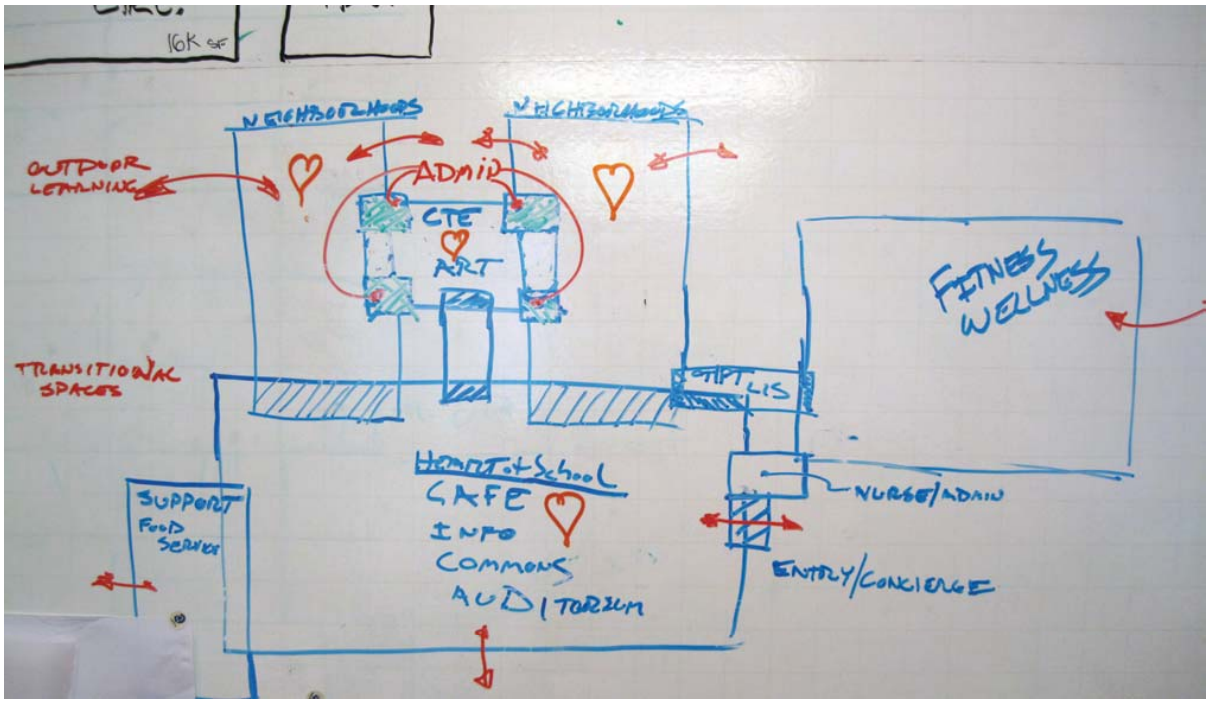
- Art Classroom
- Media Production Studio
- Band Rehearsal Hall
- Tech Center
- Learning Impaired/Special Needs
- PT/OT Laboratory
- Culinary Arts
- Gymnasium/Fitness Center
- Information Center
- Auditorium/Assembly
- Food Service
- Administration

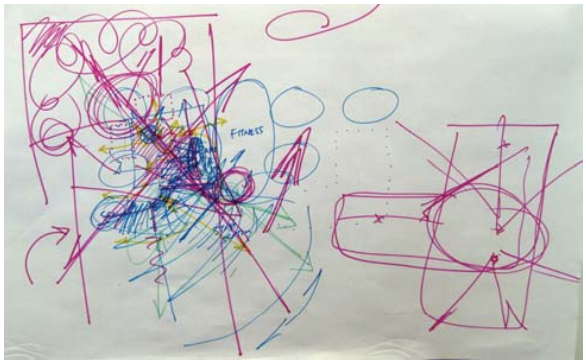
What's Missing? - Issues regarding the space list

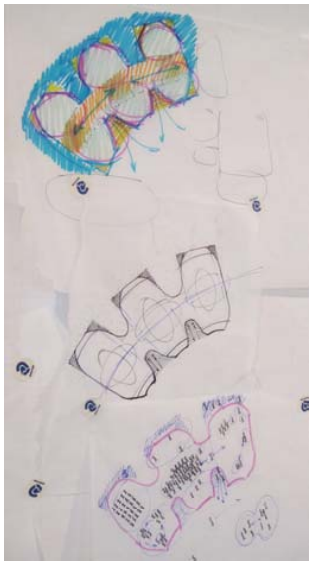
- Need to resolve food service-delivered to school or within Neighborhoods
- Performance venue acoustical issues with surrounding functions

Program Concept Development

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

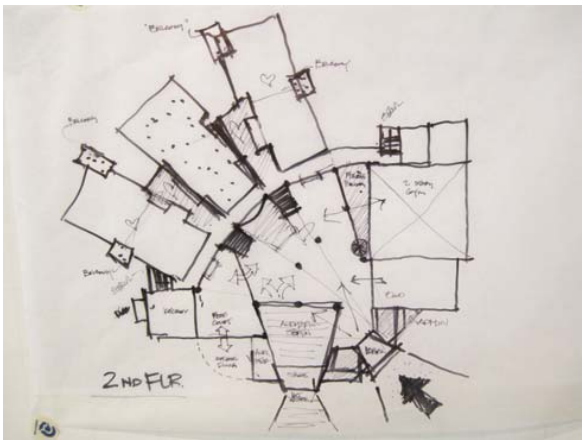


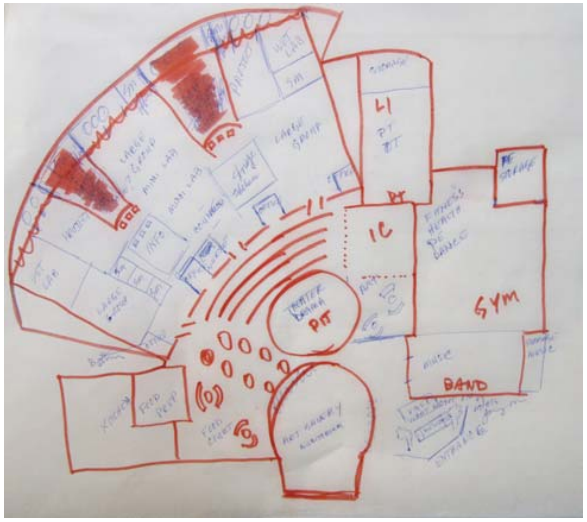


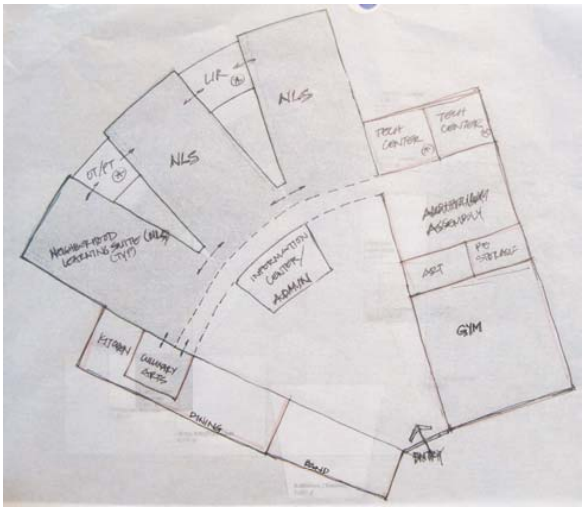


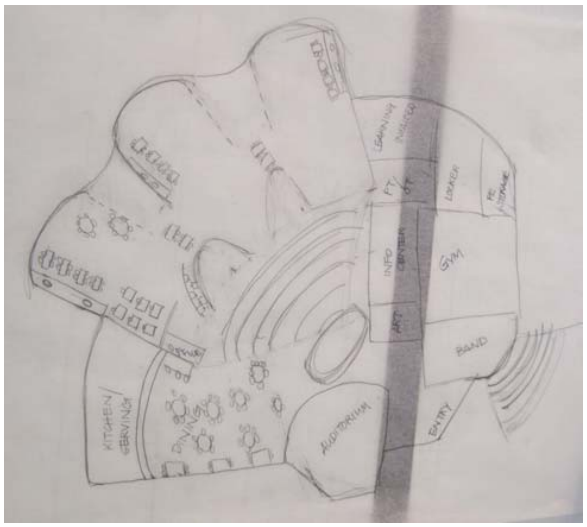
Several variations on a theme developed following the initial concepts. The Neighborhoods and common spaces radiate out from an open central space. The Neighborhoods occupy both the first and second stories and have connections between each other.

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



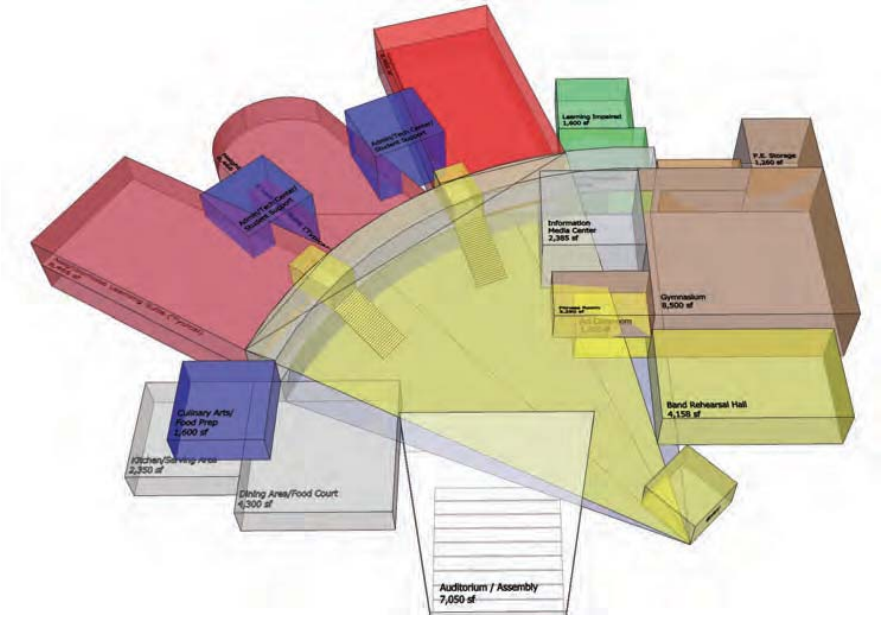


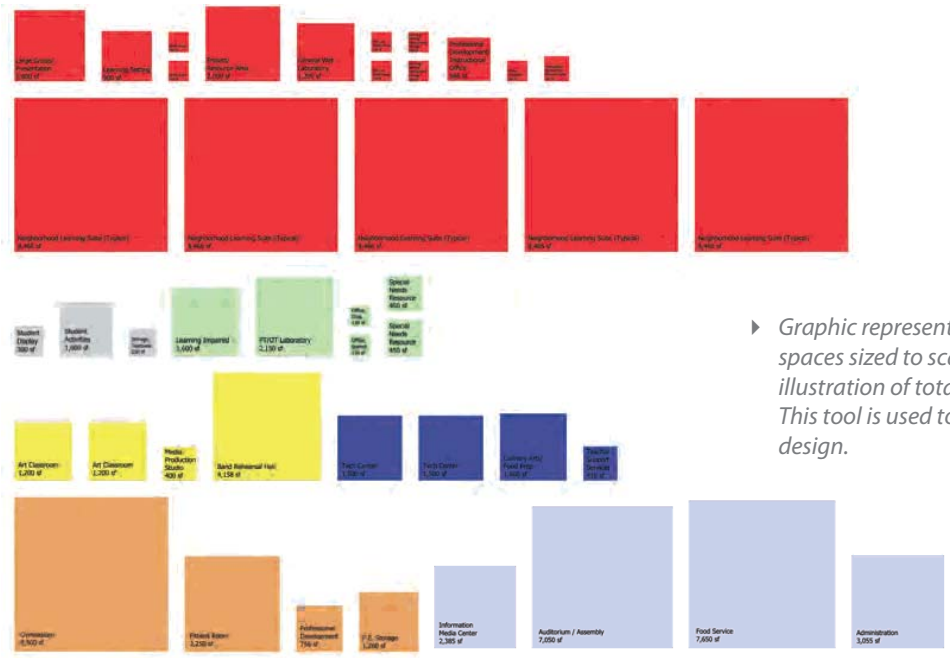




Concept Design

The following graphic represents the concept design for the middle school.

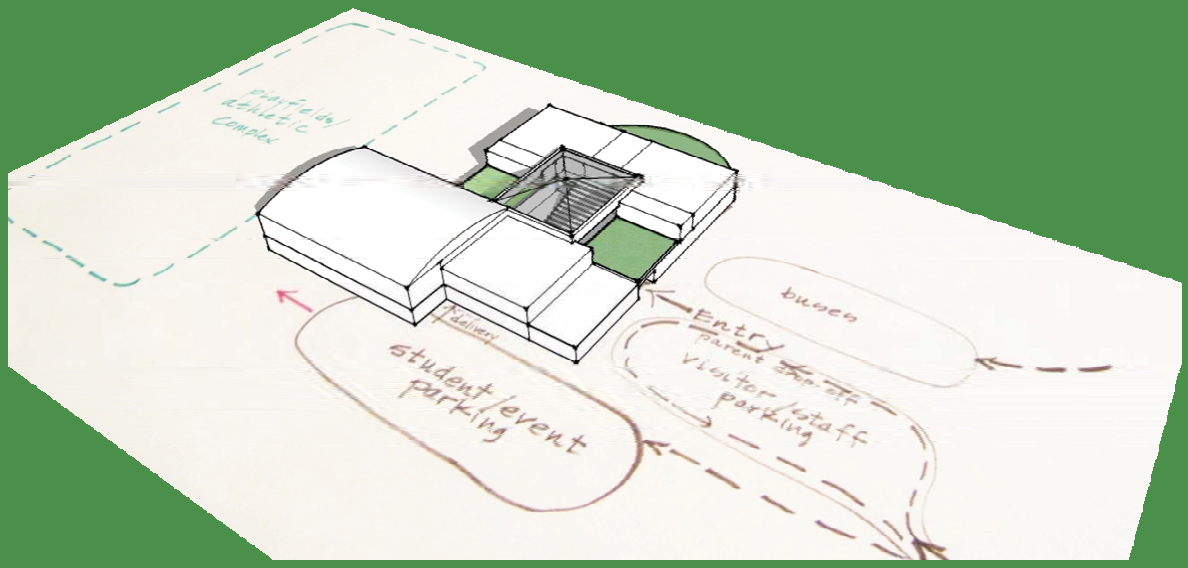




Graphic representation of all program spaces sized to scale—provides visual illustration of total net square footage. This tool is used to guide the concept design.

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

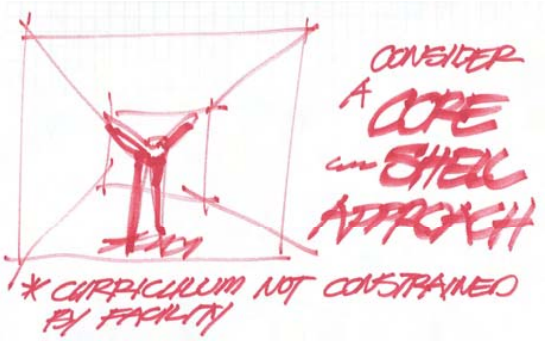
NEIGHBORHOOD MODEL

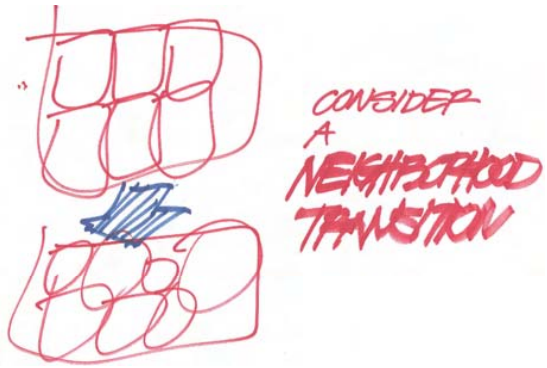
DoDEA currently has 22 high schools ranging between 100 and 900 students with the average population at approximately 600. The current structure for high schools is departmentalized into the following categories:

- 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*

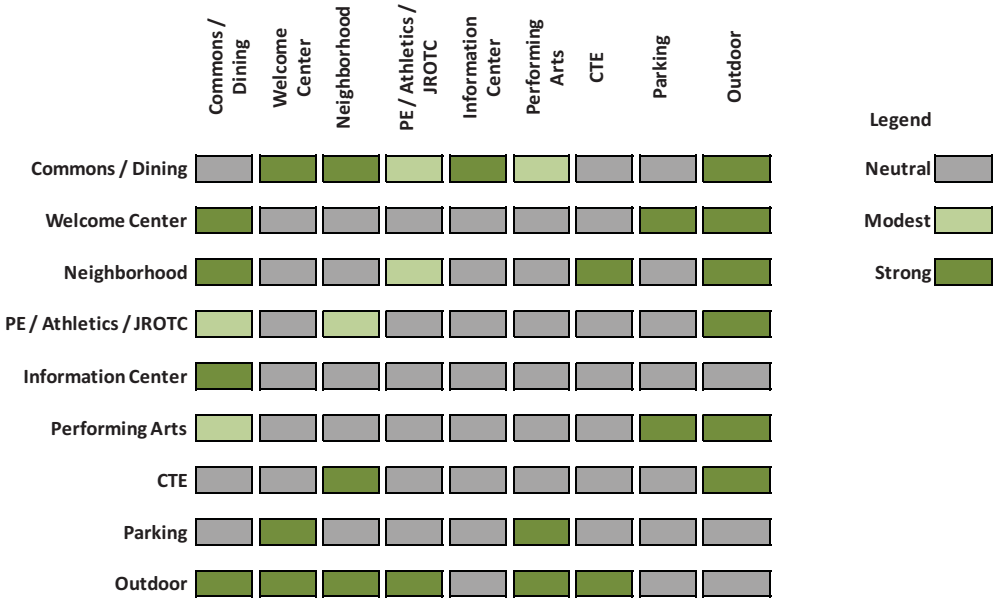
What's Missing? - Issues regarding the space list

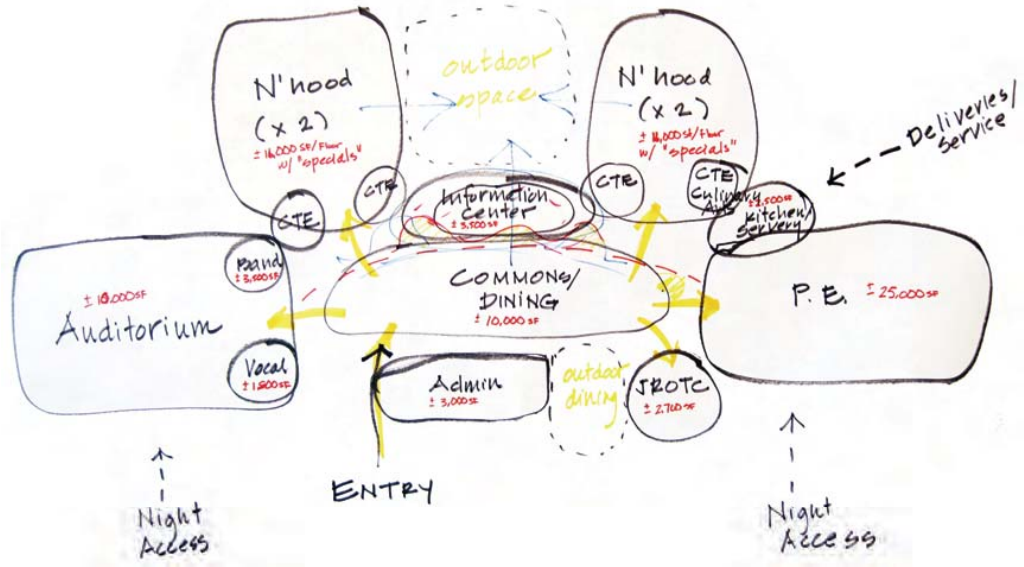
- Only (2) Neighborhoods indicated – Need (4) – will increase sq. footage to approx. 45,000
- PE program excessive for 600 students?
- (2) gyms plus auxiliary gym, fitness
- Delete (1) gym and auxiliary gym?
- 2,500 SF of PE storage? (seems excessive)
- CTE shows (7) teaching stations – will you have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

High School Academic Neighborhood			
Space	**House**	**Neighbor-hood**	**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**

Adjacencies and bubble diagrams

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



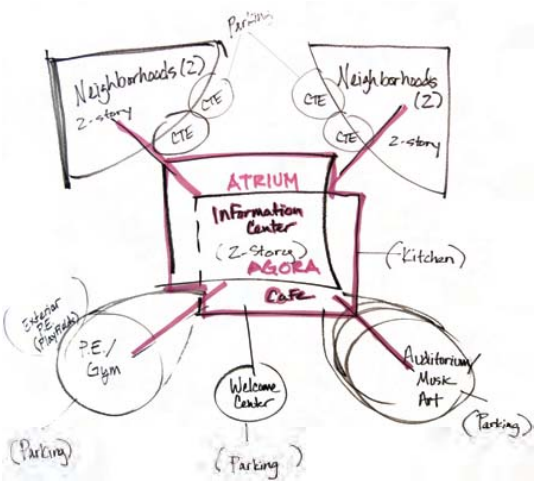


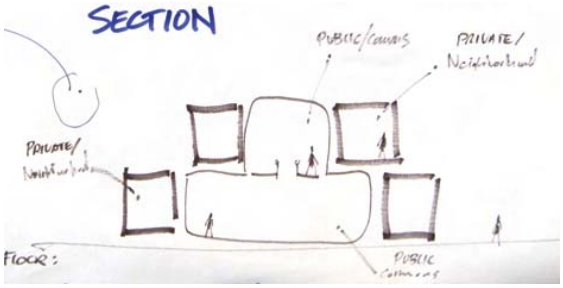
Public vs. private

Public	Private
• Administration Welcome Center • PE • Information Center • Performing Arts • Food/Eating • Food/Kitchen • Ancillary Commons • JROTC	• 4 Neighborhoods • Special Education • CTE/STEM

First vs. second floor

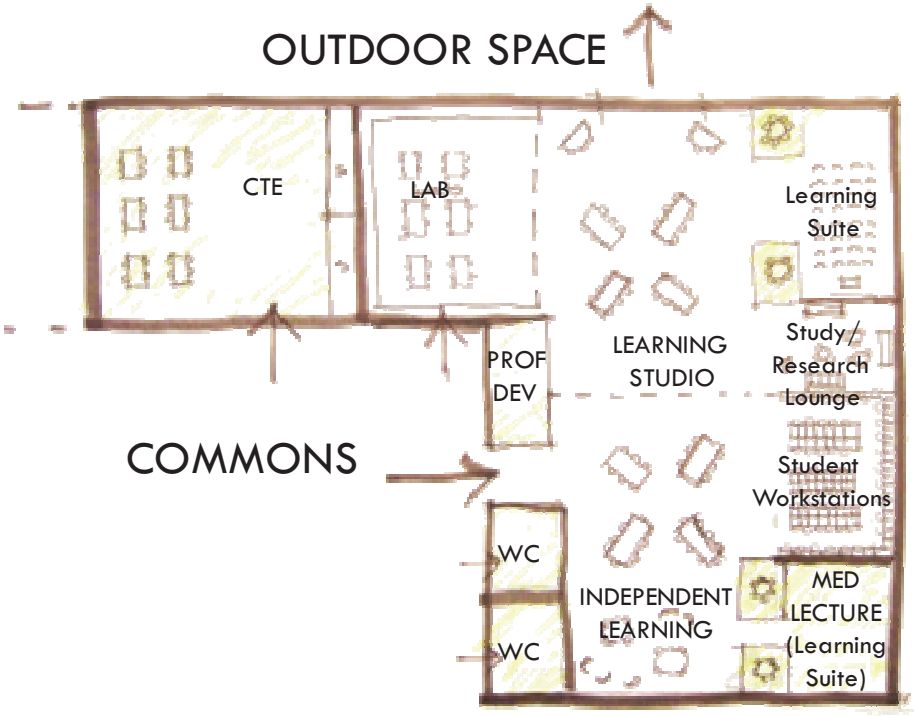
first	second
• Administration Welcome Center • Special Education • Performing Arts • PE • JROTC • Food/Eating • Food/Kitchen • Neighborhoods • CTE • Ancillary Commons	• Neighborhoods • Information Center • Ancillary Commons • Food/Eating

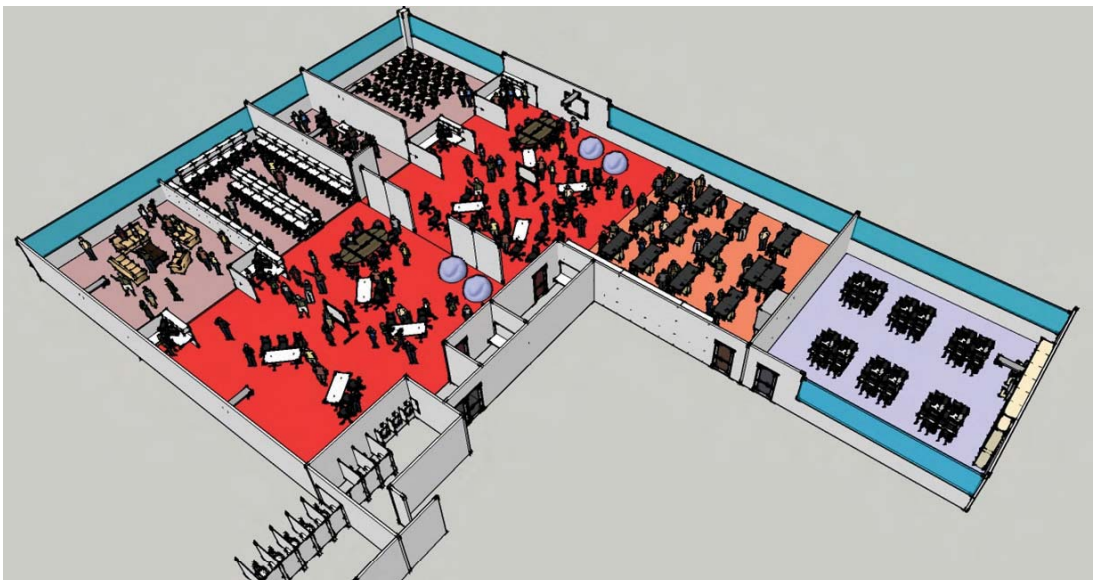




Neighborhood Concept

The following illustrates the conceptual Neighborhood layout housing 150 students.

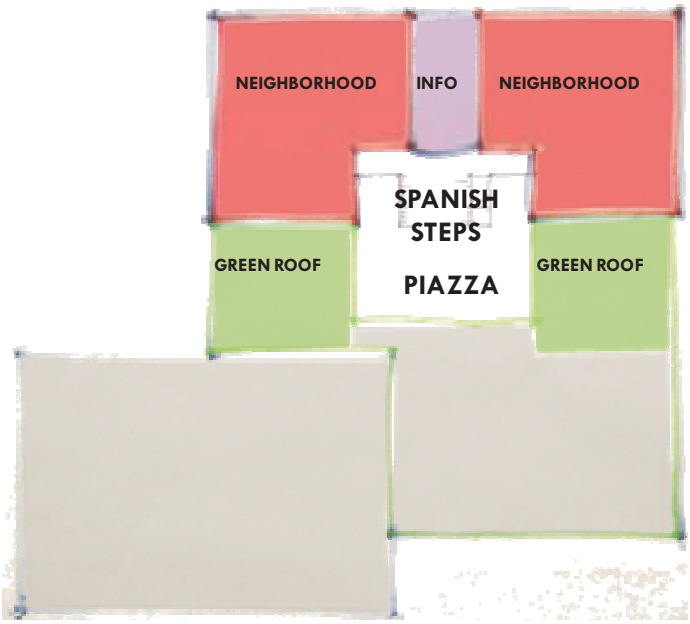




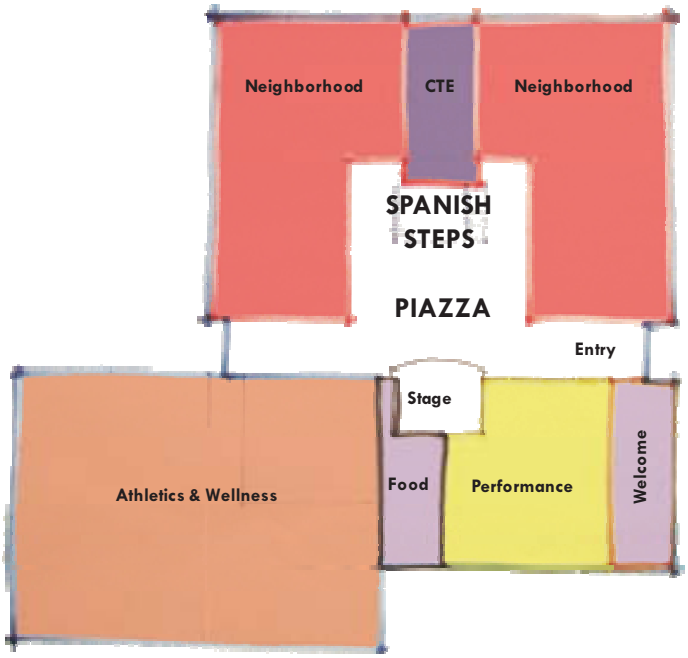
Neighborhood model sketch

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

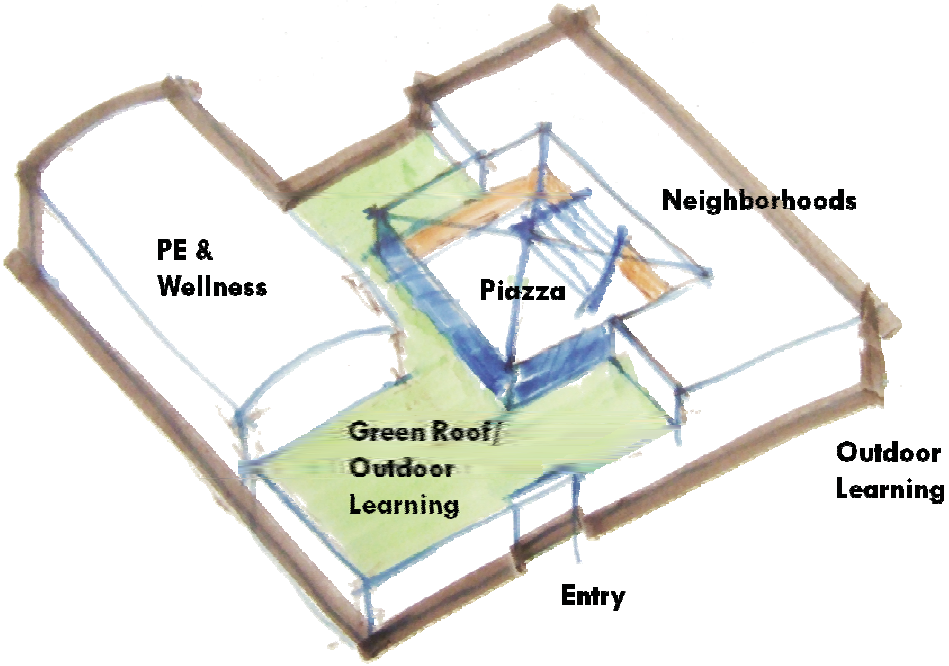
Jack Britt High School, Fayetteville, NC

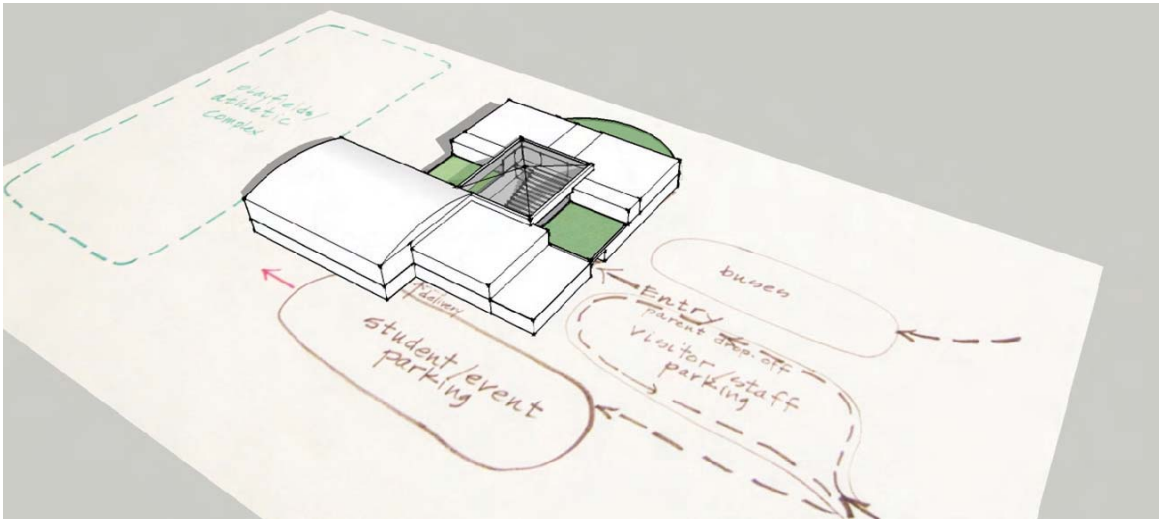
Crosswinds Art & Science Middle School
Cuningham Group Architecture, PA

Spanish Steps

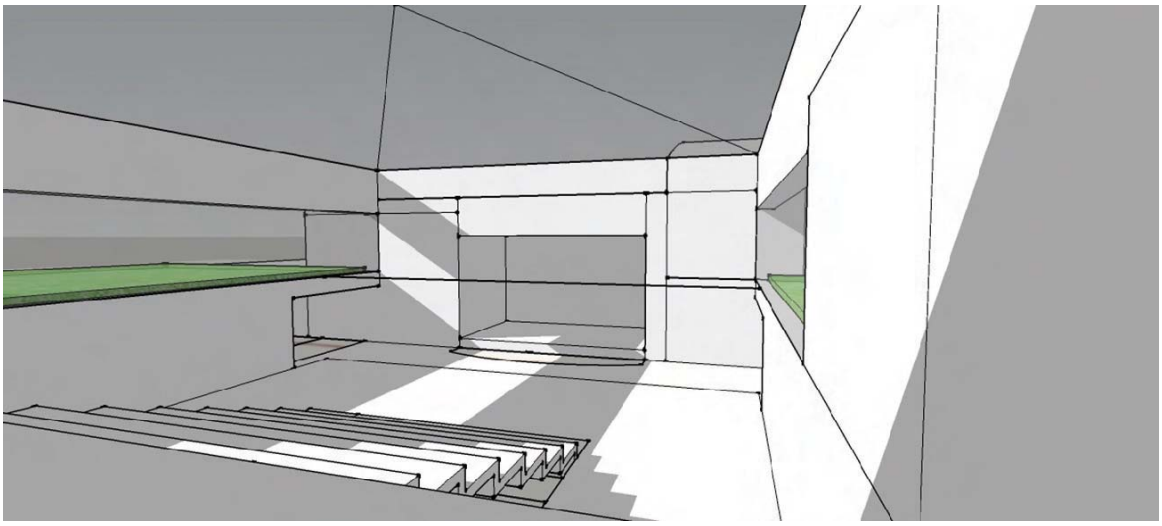
Concept Design

These graphics represent the concept design for the high school.

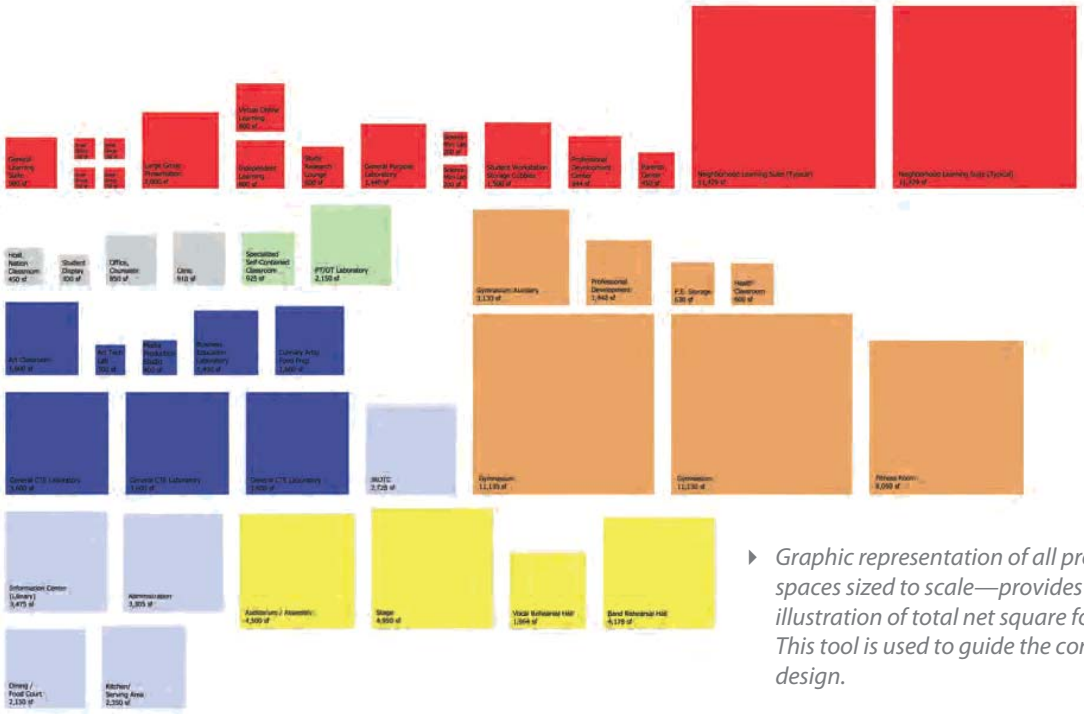




Exterior perspectives of high school



Interior perspective of high school piazza



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.

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:

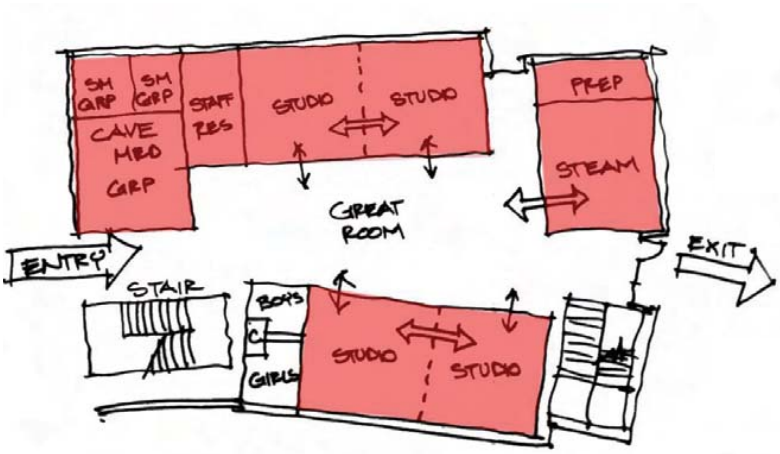
- Large Group/"Commons" (72 – 100 occupants)
- Medium Group (18 – 25 occupants)
- Small Group/Team Project (4 – 6 occupants)
- One-to-one (2 occupants)
- Independent Learning
- Outdoor Learning
- Parents Center
- Teacher Resource Area (4 – 8 occupants)
- Teacher Storage
- Instructional Storage
- Student 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.

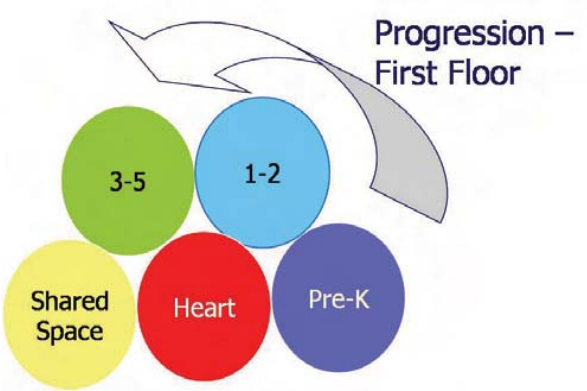
Additional major **Core Spaces** within the school include administration (including reception), professional development center, counselor/itinerant, PT/OT, clinic, ROTC and gym.

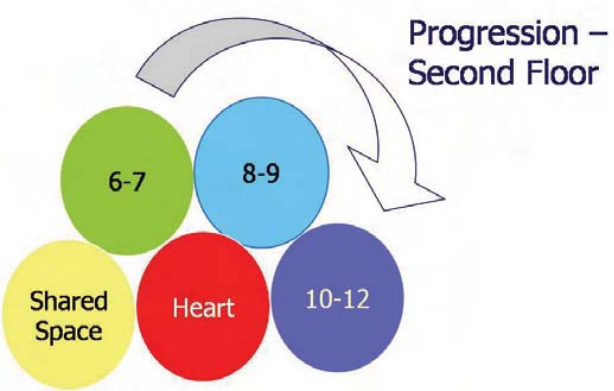
What's Missing? - Issues regarding the space list.

- 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)

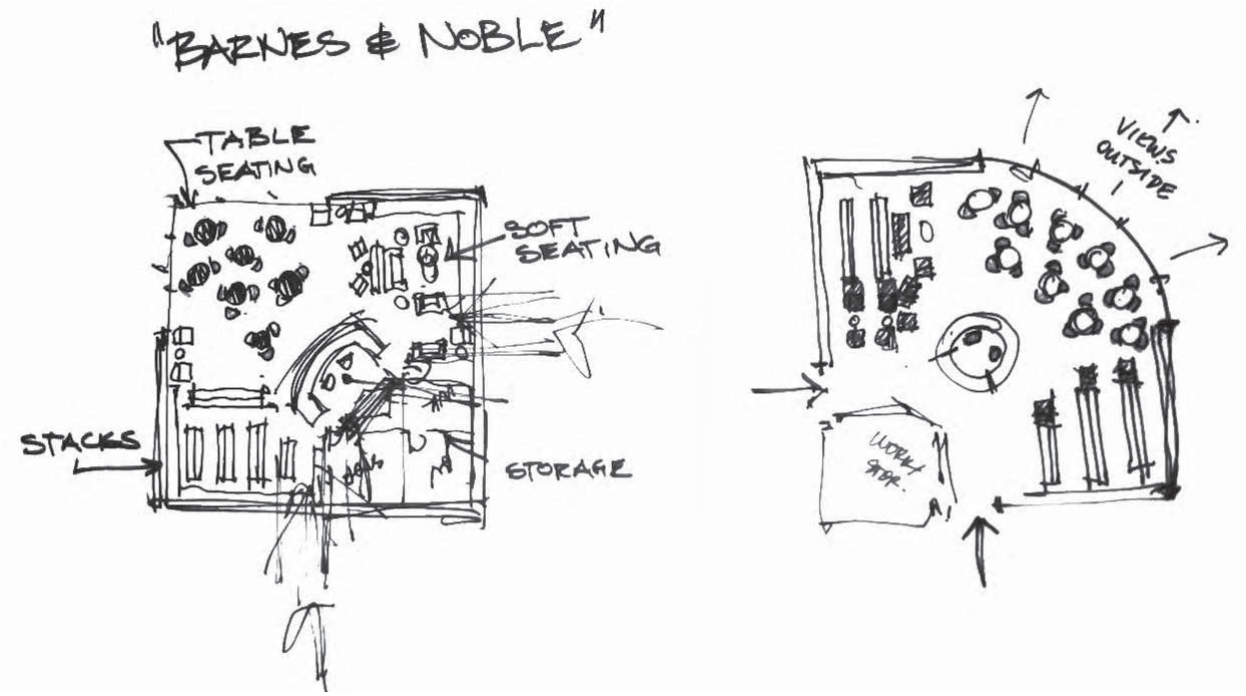
Two layouts are produced indicating the anticipated flow of academic levels through neighborhoods - separated by floors that are vertically aligned, as illustrated by these two diagrams.

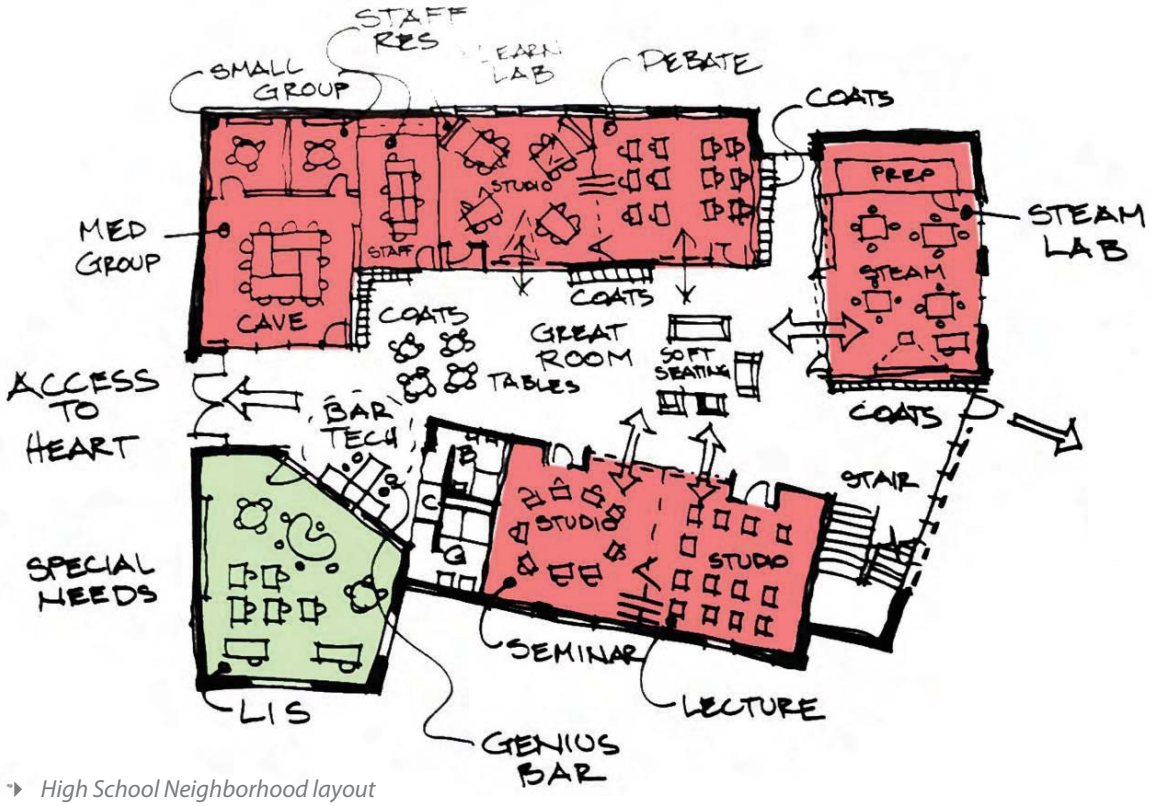




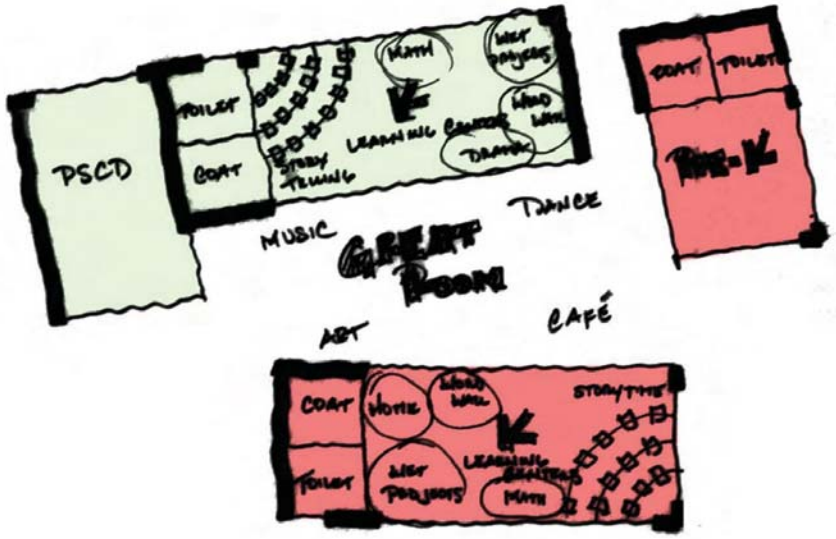
Blocking and Stacking

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





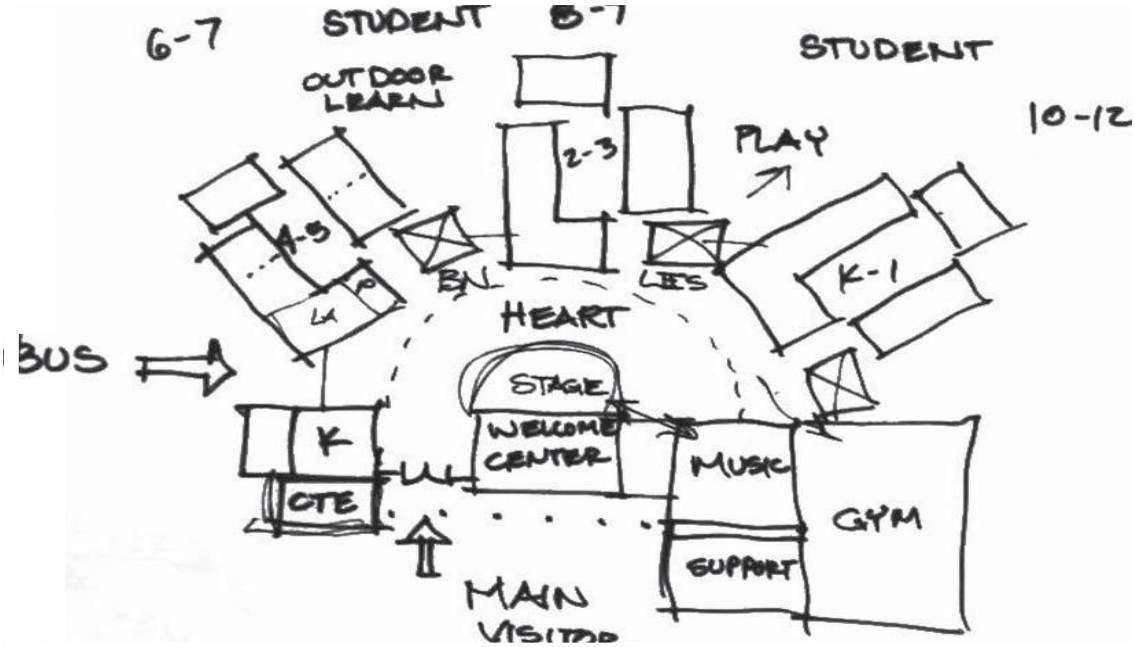
High School Neighborhood layout



PreK—K Neighborhood layout

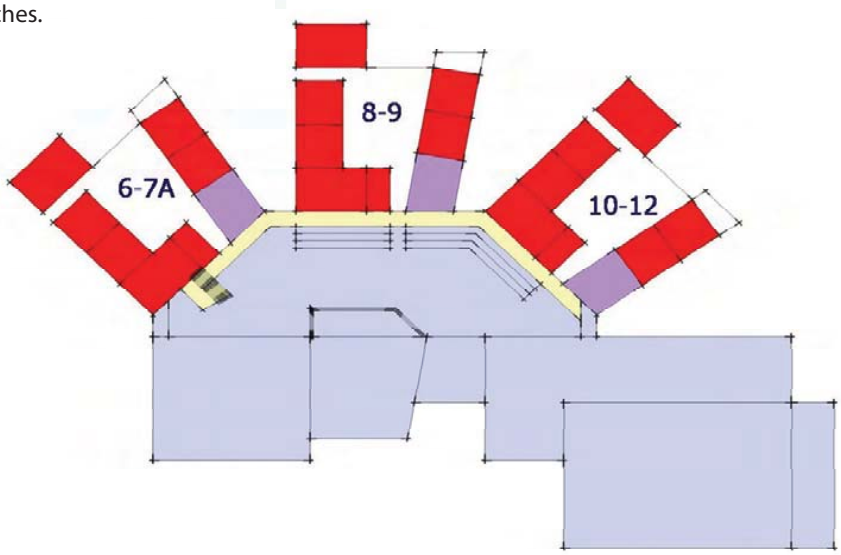
Concept Design

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

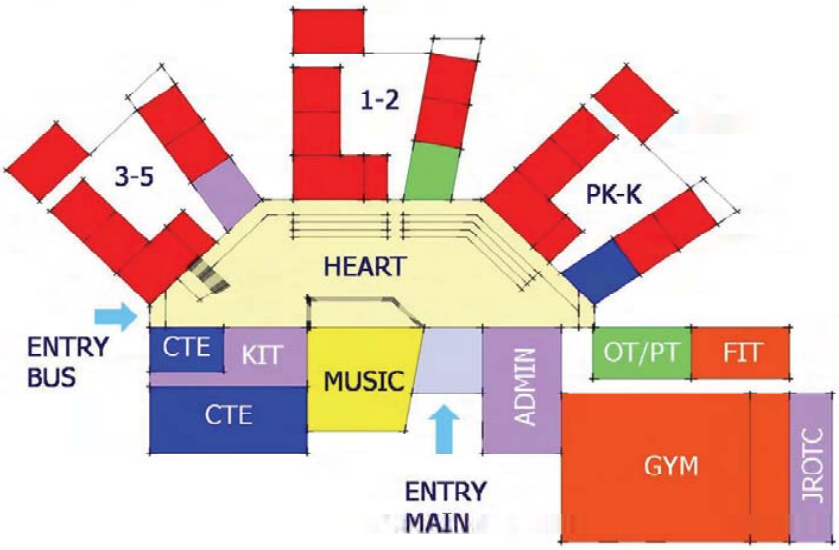


A parking lot is located to the left of the bus entry and PE athletic fields are located to the right of the Gym in this illustration.

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

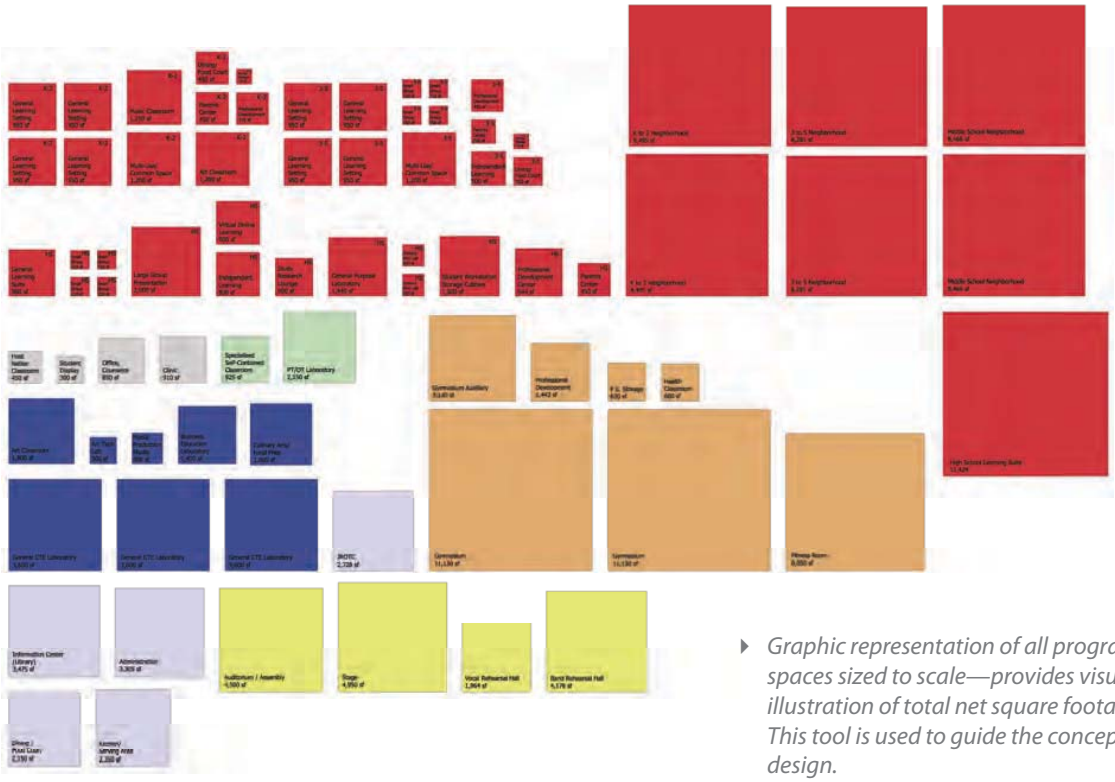


Second floor plan of unit school



First floor plan of unit school

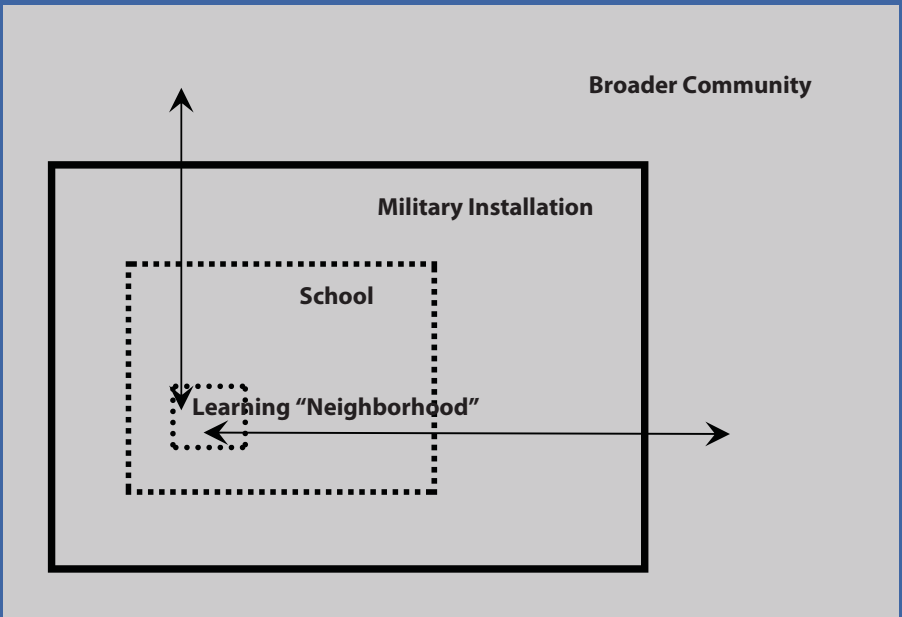
The concept design for the unit school is placed into a site located across the road from the existing Ramey DoDEA unit school in Puerto Rico for comparison of relative building area.



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.

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.

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	21st	Standard 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 Developmnet/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	21st	Standard 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	21st	Standard Area	Cap.	21st Century Schools 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 Developmnet/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	21st	Standard Area	Cap.	21st Century Schools 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	21st	Standard Area	Cap.	21st Century Schools 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 Developmnet/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	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
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 Area	Cap.	21st Century Schools 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 Area	Cap.	21st Century Schools 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**
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 Area	Cap.	21st Century Schools 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	21st	Standard Area	Cap.	21st Century Schools 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	21st	Standard Area	Cap.	21st Century Schools 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 Developmnet/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 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
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	21st	Standard Area	Cap.	21st Century Schools Qty	NSF	Total
Special Education						
Learning Impaired (Severe)	Yes	**1,600**	**Yes**	1	1,600	1,600
Office, Speech		**150**		1	150	150
Office, Diagnostician		**150**		1	150	150
Specialized Self-Contained Classroom		**925**	**Yes**	1	925	925
PT/OT Laboratory		**2,150**		1	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**		1	64	64
Special Education Subtotal						**6,099**
Ancillary Instruction						
Art Classroom MS		**1,200**	**Yes**	1	1,200	1,200
Kiln		**100**		1	100	100
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
Learning Setting/Instructional Storage		**150**		1	150	150
Video/CCTV/Media Production Studio	**Yes**	**400**		1	400	400
Student Display/Gallery Space	**Yes**	**300**			300	-
Music Classroom		**1,250**		1	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**	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						**9,508**

21st Century PreK-12 Unit School

Space Name	21st	Standard Area	Cap.	21st Century Schools 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 Area	Cap.	21st Century Schools 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	21st	Standard Area	Cap.	21st Century Schools 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**

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