



## Work Session #2 Report

*Issued July 8, 2011*

Facilities for **21<sup>ST</sup>** Century Learning



# CONTENTS

<b>ABSTRACT</b>	<b>i</b>
<b>INTRODUCTION</b>	<b>1</b>
Objective	1
Mission Statement	1
Approach: The How in Education	3
Background	4
DoDEA Today	4
DoDEA Military Communities	4
Work Sessions	5
Work Session #2 Overview	5
<b>METHODOLOGY</b>	<b>9</b>
Data Categorization	10
Participation	13
<b>STAKEHOLDER INPUT</b>	<b>17</b>
Parents and Community Partners	18
Teachers Input	30
Students Input	44
Instructional Systems Specialists (ISS) Input	54
<b>ANALYSIS</b>	<b>61</b>
Gap Analysis	61
<b>WHAT WAS LEARNED</b>	<b>69</b>
Key Insights	69
Next Steps	70
Final Considerations	40
<b>RESOURCES</b>	Published separately
Examples of submissions	

## ABSTRACT

### WORK SESSION #2

*This abstract provides a four-page summary of the published report that documents the results of Work Session #2.*

From May 6 through June 16, 2011, DoDEA stakeholder engagement was broadened as teachers, students, parents and community partners joined DoDEA's Instructional Systems Specialists (ISS) to contribute their input. The task: to target key groups with DoDEA connections, and obtain input on their vision for education—based on their experience, best-practices and promising new trends that promote student success. This vision 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

This work session tapped into a **vast reservoir of innovative thinking**. The input received during this six-week period confirmed **similar themes from Work Session #1**. As a result of this collaboration, a **deeper awareness of significant programs and opportunities was generated**. **Gaps in existing facility requirements were identified** that will better inform the purpose of Work Session #3.

#### PARTICIPATION - THREE AUDIENCES

Comprehensive input was received with more than 500 entries submitted including ideas, concerns and general knowledge related to 21<sup>st</sup> Century schools. Teachers and students provided their input via the Intersect website established by DoDEA with more than 200 entries, including group and individual student projects. Parents and community partners contributed nearly 150 postings via a website blog created by DoDEA for this purpose. In addition, there were about 200 DoDEA's ISS participants providing global, cross-curriculum expertise via email, teleconference and the Intersect website.

#### METHOD - CAPTURING THE DATA

During this six-week work session, weekly downloads from the websites were captured, categorized and summarized. In addition, participation by the ISS was monitored and collated at the DoDEA headquarters. The process is illustrated by the following graphic:

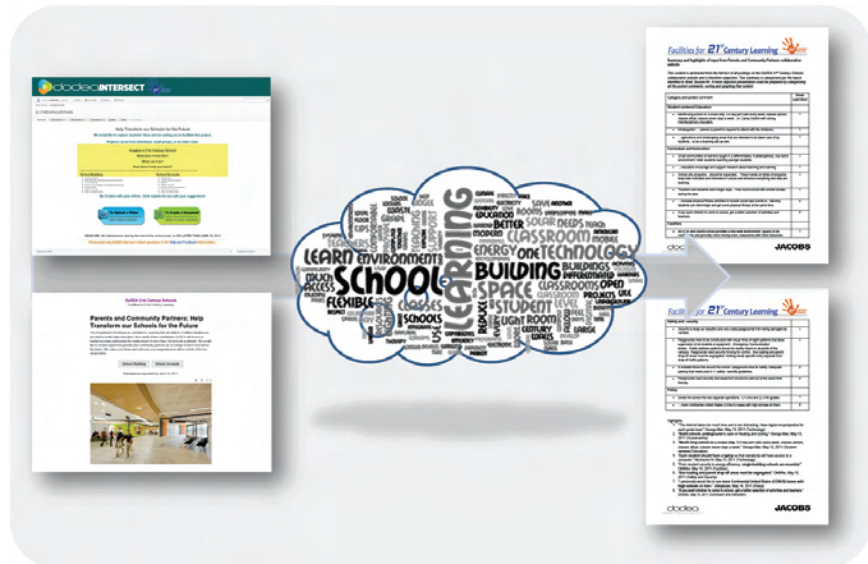


*A report summarizing the results of Work Session #2 was prepared by the Jacobs Advance Planning Group.*

*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.*



Weekly downloads from the websites were captured, categorized and summarized. In addition, participation by the ISS was monitored and collated at the DoDEA headquarters.



\*Figure illustrates process; full size graphics are provided in the body of this document.

### METHOD - MAPPING THE CATEGORIES

DoDEA classified and sorted the ISS contributions from all the academic areas using four Quality Indicator Map Categories:

- Curriculum
- Instruction
- Assessment
- Environment

The adjacent graphic is an example of a categorized horizontal slice through the collected data.

This method provided the tools to academically categorize and evaluate quality and compliance of disciplines represented within the horizontal slice.

Curriculum	Instruction	Assessment	Environment
<ul style="list-style-type: none"> <li>• Individualized</li> <li>• Experience-based</li> <li>• Real-world life skills</li> <li>• Increase in flexible research opportunities</li> <li>• Role playing</li> <li>• Language immersion</li> <li>• Career / technical education</li> <li>• Hands-on instruction / less virtual</li> <li>• Enhanced athletic and fitness education</li> <li>• Performance training</li> <li>• Strength training</li> <li>• Exercise to &amp; from school</li> <li>• Technology training</li> <li>• Community service</li> </ul>	<ul style="list-style-type: none"> <li>• Student-centered</li> <li>• 21st century teachers</li> <li>• Expanded instruction</li> <li>• Year-round school</li> <li>• Classrooms for one</li> <li>• Encourage discussions</li> <li>• Encourage expression</li> <li>• Sharing of ideas</li> <li>• Small groups</li> <li>• One-to-one tutoring</li> <li>• Cross-age &amp; peer tutoring</li> <li>• E-textbooks</li> <li>• Paperless classrooms</li> <li>• Parents in schools</li> <li>• Special interest clubs</li> <li>• Individual mobile learning devices</li> </ul>	<ul style="list-style-type: none"> <li>• Individualized &amp; equitable</li> <li>• Adaptable to meet the needs of each child</li> <li>• Track progress via wikis</li> <li>• Technology assessment</li> <li>• Virtual tutoring</li> <li>• Higher than 2.0 grade requirement</li> <li>• Electronically assignments &amp; feedback</li> <li>• Teacher professional development</li> </ul>	<ul style="list-style-type: none"> <li>• Variety of space types</li> <li>• Think-tank spaces</li> <li>• Living classrooms</li> <li>• Learning gardens</li> <li>• Performance spaces</li> <li>• Dedicated science spaces</li> <li>• Natural light</li> <li>• Sound attenuation</li> <li>• Accommodating of all disabilities</li> <li>• Technology infrastructure</li> <li>• VPN &amp; cloud computing</li> <li>• Integrate sustainability</li> <li>• Recycling and renewable energy</li> <li>• Passive heating/cooling</li> </ul>

### METHOD - CORRELATION OF KEY VARIABLES

The input received from all three sources: teachers and students; parents and community partners; and ISS was further analyzed and processed to





## NEXT STEPS

*Given the quality of input received, Work Session #2 sets a solid foundation for Work Session #3. As DoDEA prepares for Work Session #3, there are several items to consider. The data received must be translated from “academic-speak” into “facility-speak” for expedited inclusion in the design consideration process. Greater understanding of user (stakeholder) perspective will substantially enhance the advancement of this initiative and improve the design exploration process because stakeholder input will be used to inform designers during the design charrette process. Now that the gap analysis is completed it will be used to guide the architects and engineers innovative solutions with real-world, measurable parameters. In Work Session #3 architects and engineers will present their most creative projects to generate synergy. In summary, the “puzzle pieces” are now being fit together – crafting an overall plan for optimal guidance to DoDEA.*

## WHAT WAS LEARNED

**Student assessment** should be (1) individualized, (2) more frequent, (3) more qualitative and (4) provided to students more quickly for on-the-fly adjustment for optimized performance.

**Teacher professional development** should be expanded to better prepare teachers for paradigm shifts in (1) curriculum, (2) technology, (3) collaboration, and (4) broadened participation.

**Real world experience for students** is important for academic achievement in a student-centered delivery model and can be achieved through an integrated curriculum, hands on learning, and access to a variety of educational environments.

Output from Work Session #2 is in large part **aligned with many of the conclusions of Work Session #1**. This alignment is considered in many ways to be outside the traditional approach to current educational delivery methods, and a conclusion that can be drawn is while there is alignment on 21<sup>st</sup> Century education, until DoDEA’s 21<sup>st</sup> Century Schools initiative, **there was not a comprehensive mechanism for implementation** where instructional pedagogy, technology, curriculum, and facilities are designed to work together to support this new paradigm in instructional delivery.

**Work Session #2 provided significant value to DoDEA.** The process of soliciting input from stakeholders conveyed DoDEA’s need for and expressed appreciation to those participants. Indeed, the active participation from a comprehensive spectrum of global stakeholders produced broad buy-in from a representative body of participants. The relevant data received will be used to inform the evolution of education specifications. Ultimately, the process highlighted the need for facilities space-type “gap” analysis so that the new schools in the 21<sup>st</sup> Century will improve over their predecessors.

## CONCLUSION

By broadening stakeholder engagement and soliciting input regarding experience, best practices and promising trends for school design, DoDEA has extended the process of re-visioning their mission. From all perspectives, the additional time and effort spent to collect broad stakeholder input was a value added exercise for DoDEA that will provide benefits far in excess of the resources expended and present an accessible and visible platform for participation. Furthermore, the input gathered enhanced the understanding of what needs to be accomplished from a broad-based user perspective. Most importantly, this effort has expanded the real-world body of information from which architects and engineers can draw for design inspiration.

## Facilities for **21<sup>ST</sup>** Century Learning

*DOPEA 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



*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.*

## 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 excellence in military children's' education. 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 enrollment in only the DoDEA schools, this identifies DoDEA as the 34<sup>th</sup> 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 21<sup>st</sup> largest school system just after Baltimore City Public Schools. By some measures, DoDEA is like any other large school district with all of the challenges present in our nation's public schools, including student achievement and dropout rates, curriculum, technology, teacher performance, and facilities improvement. In fact, the organizational structure at DoDEA for the most part mirrors just about any other large urban school district. However, DoDEA schools face a number of unique challenges including the large geographical distribution of facilities, the variability in climate for school facilities, the multi-cultural influences, and the need for consistency across the educational platform as service men and women migrate from base to base.



## Facilities for **21<sup>ST</sup>** Century Learning

In a recent interview 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 21<sup>st</sup> 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 \$3.7B 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 21<sup>st</sup> Century schools supporting 21<sup>st</sup> 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 21<sup>st</sup> 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 20<sup>th</sup> Century, if not 19<sup>th</sup> Century, factory models with long double-loaded corridors of classrooms. While architects are now constructing award-winning 21<sup>st</sup> 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 21<sup>st</sup> 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 Education 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 stakeholders perspective for architects to address in their designs.

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

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

## **BACKGROUND**

### **DODEA TODAY**

The Department of Defense Education Activity (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, April 25, 2011.





This report is a continuation of the previous Work Session #1 that focused on the development and deployment of the 21<sup>st</sup> Century Schools, concentrating on four variables:

- Curriculum
- Facilities
- Technology
- Energy and Sustainability

## **WORK SESSIONS**

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

- Work Session #1 - Vision For 21<sup>st</sup> Century Education: focused on providing an overarching vision and definition for 21<sup>st</sup> Century education, deriving 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: will 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 design. The goal is to establish an optimal standard for modules, which can be site adapted.

## **WORK SESSION #2 OVERVIEW**

### **PARENTS AND COMMUNITY PARTNERS**

This group provided comments, suggestions and ideas to an online forum. Their submissions were separated into two categories, school building and school grounds. For the school building category, participants were asked to consider more detailed topics such as learning spaces, specialty areas (labs/gyms/performing space), community use, access to technology & informational resources, sustainability, safety & security, and other important considerations. For the school grounds category, participants were asked to consider more detailed topics such as playgrounds, outdoor learning spaces, athletics, safety & security, environmental considerations, performance spaces, other key variables.

## TEACHERS AND STUDENTS

Teachers and students provided comments, suggestions and ideas to the DoDEA Intersect intranet site. While teacher submissions were mostly conveyed through written text, students were encouraged to use any medium to share their ideas: videos, images, website links, and more. Similar to Parents and Community Partners, input was requested according to two categories: school building and school grounds. For the school building category, participants were asked to consider more detailed topics, such as learning spaces, specialty areas (labs/gyms/performing space), community use, access to technology & informational resources, sustainability, safety & security, and other important considerations. For the school grounds category, participants were asked to consider more detailed topics, such as playgrounds, outdoor learning spaces, athletics, safety & security, environmental considerations, performance spaces, other key variables.

## INSTRUCTIONAL SYSTEMS SPECIALISTS (ISS)

DoDEA Headquarters led an effort to capture perspectives from its global leadership and ISS. Topics were discussed via teleconference and submitted via email, as well as on DoDEA's Intersect Intranet site. Input included a broad range of topics that included, but were not limited to, curriculum, instructional coursework, CATE (career and technology education), STEM (science, technology, engineering and math education), special needs education, enrichment programs, libraries, athletics, instructional technology, nutrition, health, and safety.

## WORK SESSION TIMELINE

The following is a timeline for Work Sessions 1- 3.

### 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 design experts*

### Work Session 4

- June 27-Oct 1 *21<sup>ST</sup> Century Education Facilities Specifications*





## ACKNOWLEDGEMENTS

The following is a listing of Work Session #2 participants. DoDEA thanks everyone for their participation in this very important project.

<i>Name</i>	<i>Title</i>	<i>Company</i>
<b>DoDEA</b>		
Mike Smiley	Chief, Facilities	DoDEA
John St. Louis	General Engineer	DoDEA
Karin Hornstein	Facilities Engineer	DoDEA

### DoDEA Horizontal

Mark Bignell	Arts, Information, and Careers Chief	DoDEA
Clarence Bostic	Science, Health, and Physical Education Chief	DoDEA
Jill Burruss	Program Evaluation Chief	DoDEA
David Cantrell	Student Services Chief	DoDEA
Sandy Emblar	Research and Evaluation Chief	DoDEA
Erin Gerhard	DoD Ed Review Coordinator	DoDEA
Joel Hansen	DoD Education Review Team Chief	DoDEA
Karin Hornstein	Facilities Engineer	DoDEA
Susan Karlesses	Education Liaison Chief	DoDEA
Michael Kestner	Mathematics Chief	DoDEA
Faatimah Muhammad	Advancement via Individual Determination (AVID); Gifted; and Advanced Placement Coordinator	DoDEA
Lori Pickel	Early Childhood Education Chief	DoDEA
Steve Schrankel	Assessment and Accountability Chief	DoDEA

### DoDEA Vertical

180 Participants	Including representation from: Assessment and Accountability with Program Evaluation; Career and Technical Education; Early Childhood Education; Education Technology; English as a Second Language; English Language Arts; Fine Arts; Foreign Language; Physical Education; Pupil Personnel Services; Research and Evaluation; School Library Information Centers; Science; Social Studies; Special Education; Virtual Schools Program	DoDEA
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### DoDEA Communications/IT

Christopher Dahl	Information Assurance DoDEA	DoDEA
Martin Fernandez	Title?	DoDEA
Jeffrey Friedler	Chief, Information Officer	DoDEA
Frank O'Gara	Title?	DoDEA

### USACE Norfolk

Bryan Burge	Architect	USACE
Cheryl Fromme	Chief, Engineering	USACE
Melody Will	Architect	USACE

### Work Session Specialists and Coordinators

Stacey Shepard	Corporate Vice President	Jacobs
Cathy Minberg	President & CEO	Center for Reform of School Systems
Tim Scarbrough	Division Vice President	Jacobs
Sam Wilson	Division Vice President	Jacobs
Cecilia Gil	Senior Consultant Advanced Planning Group	Jacobs
Jeff Hendrick	Senior Consultant Advanced Planning Group	Jacobs
Joel Kirzner	Consultant Advanced Planning Group	Jacobs
Derek Roberts	Consultant Advanced Planning Group	Jacobs

## Facilities for **21<sup>ST</sup>** Century Learning

*“LEARNING WILL NOT BE LIMITED TO A “CLASSROOM” BUT WILL BE MUCH MORE MOBILE, TAKING ADVANTAGE OF TECHNOLOGIES THAT WILL ALLOW STUDENTS TO MOVE ABOUT THE CAMPUS AND COMMUNITY, SEEING “REAL WORLD” EXAMPLES OF SUCH THINGS AS ARCHITECTURE, ENGINEERING, AND PROBLEM SOLVING... THE APPLICATION OF LEARNING IN THE REAL WORLD.”*

▶ DoDEA Instructional Systems Specialists



▶ Source: Architects of Achievement and DLR Group

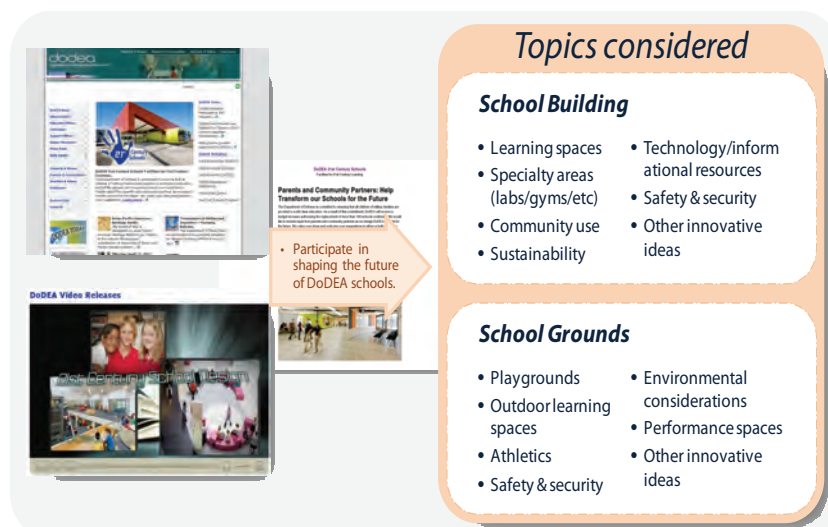
## METHODOLOGY

The focus of Work Session #2 was to capture ideas and visions for 21<sup>st</sup> Century schools from a representative array of DoDEA stakeholders. Relevant participants were identified as Parents and Community Partners, Teachers and Students, and DoDEA Instructional Systems Specialists (ISS). All of these groups were asked for input.

The intent of this exercise was to generate awareness of this initiative and garner input from a wide cross-section of DoDEA stakeholders within a six-week period. To achieve this, the Internet was determined as the best means for global and immediate reach to this diverse audience. The means of data gathering were separated by each representative group and addressed discretely. As shown in the graphics below, methods included:

- **Parents and Community Partners** were provided a blog-style website where they could download background information, observe exemplary images, and provide their own text-based input.
- **Teachers and Students** were provided a page on DoDEA's interactive "Intersect" intranet site where teachers could upload their own ideas or students' work, including both class and individual projects.
- **DoDEA ISS** first conducted a "vertical" capture of information within their various curriculum areas to identify unique features for their education requirements. A smaller group manually distilled this comprehensive information into a "horizontal" cross-section of common themes, using a process DoDEA calls the Quality Indicator Map.

Submissions to the websites occurred from May 6 through June 16, 2011. Among the three sources, there were more than 500 entries of submitted

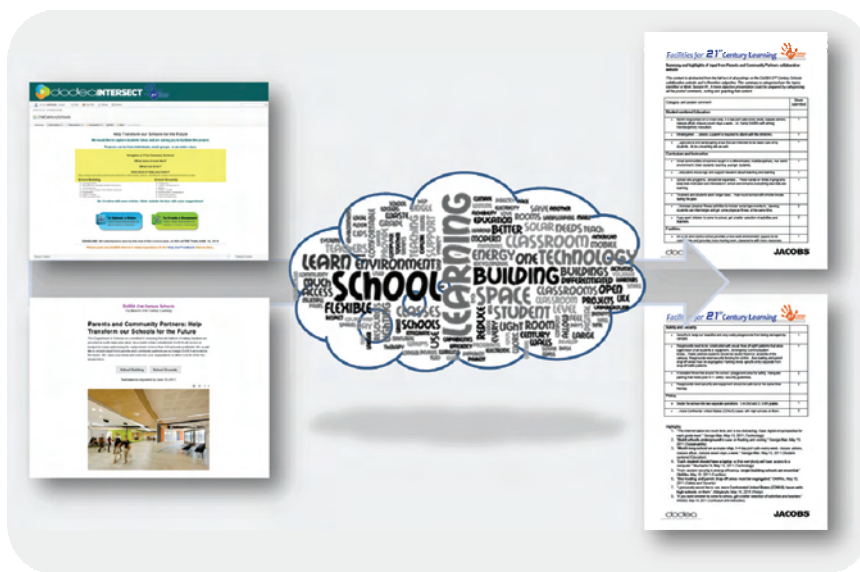


\*Figure illustrates process; full size graphics are provided in the body of this document and/or Appendix.

# Facilities for 21<sup>ST</sup> Century Learning

ideas, concerns and general knowledge related to 21<sup>st</sup> Century schools. The results of this effort will be used in conjunction with the results of Work Session #1 to further inform the process of defining and designing 21<sup>st</sup> Century schools.

Weekly downloads were captured and collated from two of the three websites throughout the submission process, as represented in the graphic below. ISS information was monitored and collated internally at DoDEA Headquarters.



Weekly downloads from the websites were captured, categorized and summarized. In addition, participation by the ISS was monitored and collated at the DoDEA headquarters.

## DATA CATEGORIZATION

The process of seeking broad input from such a wide spectrum of DoDEA stakeholders subsequently generated a large treasure-chest of relevant data. Therefore, results were gathered and aggregated on a weekly basis using a variety of mechanisms.

## WORD CLOUD

The first mechanism by which data was aggregated is the most whimsical in nature. Using the website wordle.com, all of the input text for Parents and Community Partners, as well as Teachers and Students, was put in per its respective group to generate a “wordle,” or word cloud. A word cloud is an algorithmically-based graphic that correlates the number of times a word is used with its font size. As represented in the graphic above and that follows, all the most frequently used words in the document are then automatically arranged in a pattern that resembles a cloud shape. This methodology is useful in gaining a quick understanding of key words represented by the submissions.





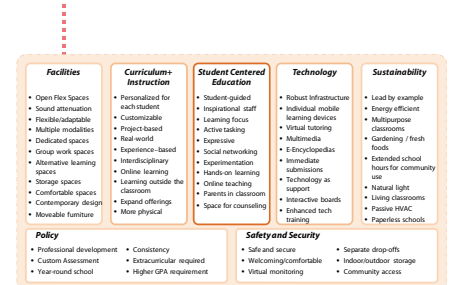
# Facilities for 21<sup>ST</sup> Century Learning

## FACILITY CATEGORIES FROM WORK SESSION # 1

One major goal of this exercise was to derive facility-relevant implications of stakeholder input for eventual use in the development of new 21<sup>st</sup> Century DoDEA Education Specifications. During Work Session #1, renowned subject matter experts worked with DoDEA and Jacobs to determine topical areas that covered the spectrum of facilities for 21<sup>st</sup> Century Education while also taking a **more facilities-driven approach**. These categories include the following:

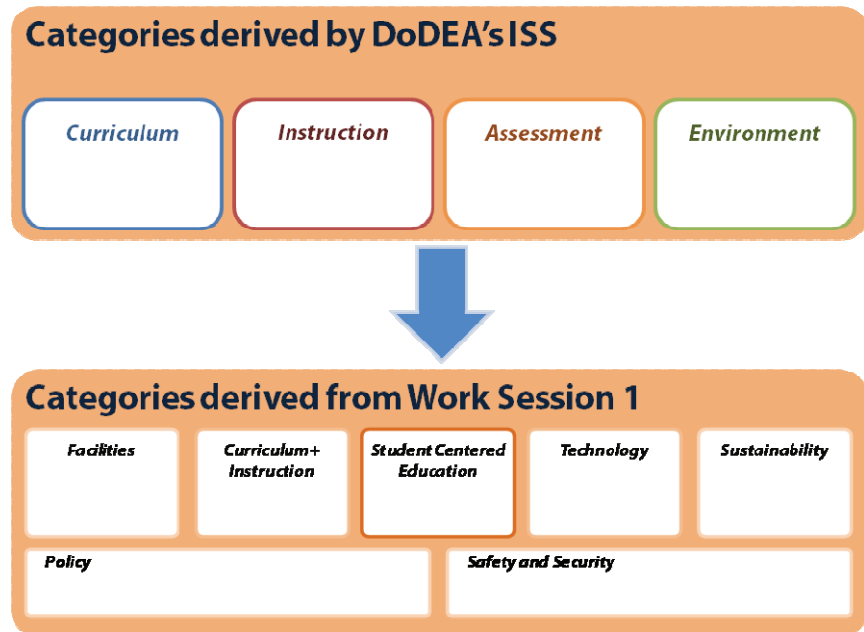
- **Student-Centered Education:** Focusing on educating each individual student holistically, including facilitation of emotional, physical, social and cultural development.
- **Curriculum and Instruction:** The subjects students learn and the way teachers deliver instruction.
- **Facilities:** The physical spaces in which students learn, play, and grow.
- **Technology:** Computer-specific hardware and software and instructional technology used to enhance teaching capabilities.
- **Sustainability:** Environmentally friendly physical structures and enhanced post occupancy evaluations that include student participation and learning.
- **Safety and Security:** Providing safe and secure learning environments aligned with DoDEA regulations.
- **Policy:** Core DoDEA policies and values that are incorporated on a global basis.

The adjacent graphic indicates the key words from the collected data sorted into the seven categories established in Work Session #1. It is further described in the following report section.



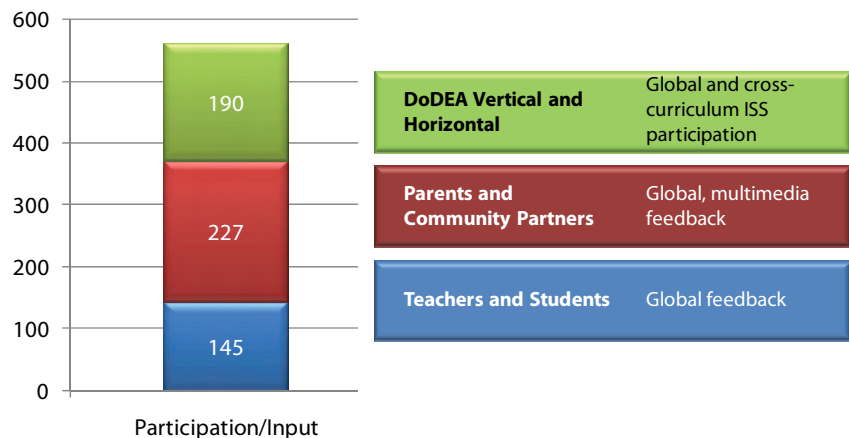
The input received from all three sources was analyzed and processed to correlate it to the seven key categories previously established in Work Session #1

As mentioned previously, input received was first organized via DoDEA's Quality Indicator Map categories. It was then subsequently reorganized via the seven facility-based categories that were determined in Work Session #2. The diagram below represents the process used.



## PARTICIPATION

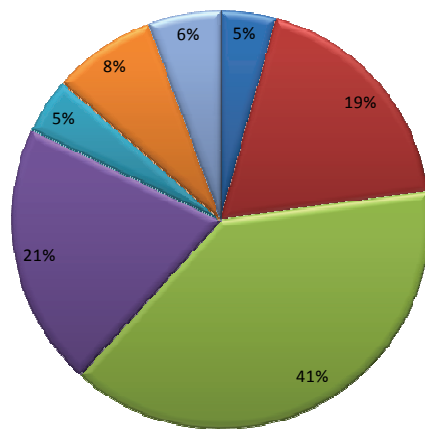
Participation amongst the various DoDEA stakeholders was robust, diverse and representative of the many facets of DoDEA perspectives. Below is a chart illustrating participation levels per stakeholder category.



## PARENTS AND COMMUNITY PARTNERS

The Parents and Community Partners website was separated into two main categories—School Building and School Grounds. Within each category, participants were asked to consider various topics to aid in the online discussions. Each response was categorized under the seven Work Session #1 topics. The following chart illustrates the breakdown.

**Parents and Community Partners  
Category Breakdown**

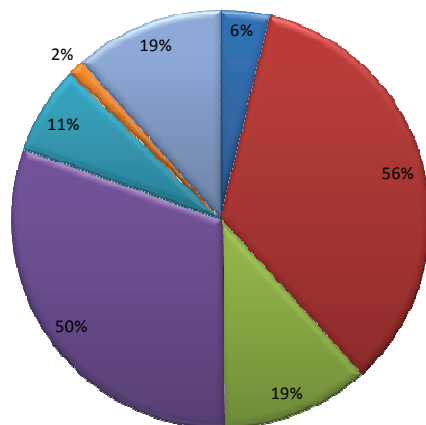


- Student Centered Education (6)
- Curriculum and Instruction (16)
- Facilities (45)
- Technology (21)
- Sustainability (7)
- Safety and Security (10)
- Policy (8)

## TEACHERS AND STUDENTS

The Teachers and Students website was also separated into two main categories—School Building and School Grounds. Within each category, participants were asked to consider various topics to aid in the online discussions. Each response was categorized under the seven Work Session #1 topics. The following chart illustrates the breakdown:

**Teachers and Students  
Category Breakdown**

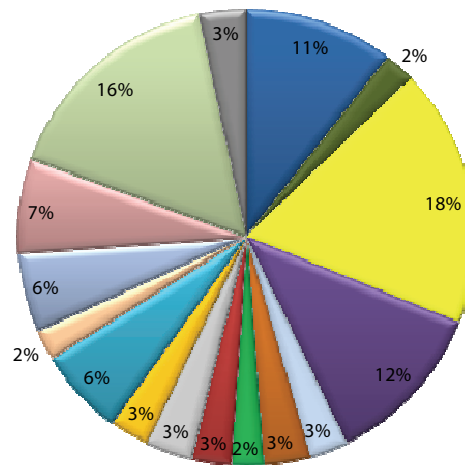


- Student Centered Education (9)
- Curriculum and Instruction (81)
- Facilities (27)
- Technology (72)
- Sustainability (16)
- Safety and Security (3)
- Policy (27)

### INSTRUCTIONAL SYSTEMS SPECIALISTS (ISS)

The Education Directorate Chiefs met on 23 May 2011 to review the vertical responses from Instructional System Specialists in the field. The following curriculum areas were addressed.

ISS Discipline Responses



- Assess.&Account w/ Program Eval. (19)
- Career and Technical Education (4)
- Early Childhood Education (33)
- Educational Technology (21)
- English as a Second Language (5)
- English Language Arts (3)
- Fine Arts (4)
- Foreign Language (5)
- Physical Education (6)
- Pupil Personnel Services (5)
- Research & Evaluation (11)
- School Library Information Centers (4)
- Science (10)
- Social Studies (12)
- Special Education (29)
- Virtual Schools Program (6)

## Facilities for **21<sup>ST</sup>** Century Learning

*"A UNIQUE, MODERN LOOKING BUILDING IS SOMEWHERE A STUDENT WOULD WANT TO BE AND SPEND 5+ HOURS A DAY... FOR TEACHERS, A PROFESSIONAL LOOKING CLASSROOM WITH NEW TECHNOLOGY WOULD MAKE THEM FEEL LIKE THEIR JOB IS IMPORTANT. ARCHITECTURE FOR MINIMIZING DISTRACTIONS; THAT IS INTERESTING, EXCITING AND NOT DISRUPTIVE."*

▶ [Parents and Community Partners website](#)



▶ [Source: Wilson Architects](#)





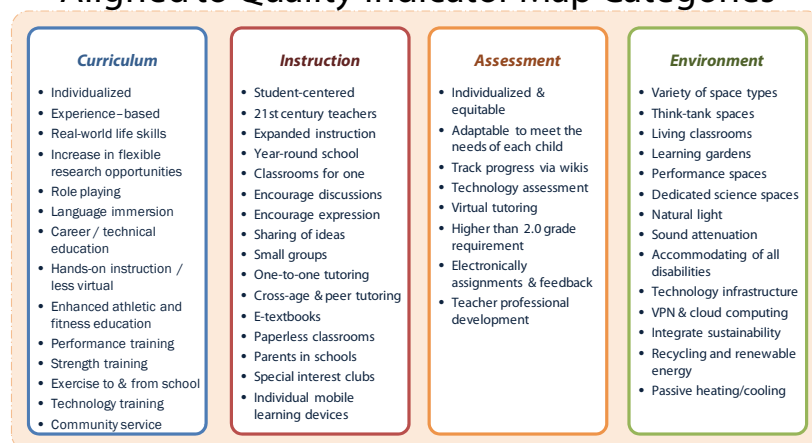
1. Student Centered Education
2. Curriculum and Instruction
3. Facilities
4. Technology
5. Sustainability
6. Safety and Security
7. Policy

## STAKEHOLDER INPUT

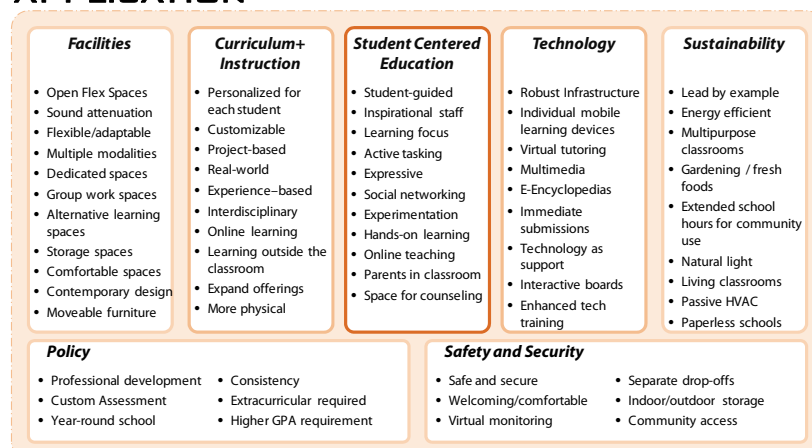
The following represents a summary of the worldwide input extracted from five weeks of downloads from the websites and reports. As explained in the methodology section the data categorization was done through filtering the information through both DoDEA ISS Mapping and the seven themes established in the Work Session #1. The input in this chapter will be shown only in these seven themes since they provide more specificity for facility implication solutions.

### PRELIMINARY RESULTS – KEY WORDS

#### ▪ Aligned to Quality Indicator Map Categories



### RESULTS – RECONFIGURED FOR FACILITY APPLICATION



This input is representative of that received and is presented below as quotations, followed by a listing of the key ideas that have facility implications. *The full record of input will be included separately with comprehensive documentation of the results of Work Session #2.*

## **PARENTS AND COMMUNITY PARTNERS**

### **1. STUDENT CENTERED EDUCATION**

#### **PROGRAMS FOR LEARNING**

“**Month-long-school** on a cruise ship, 3-4 day port calls every week, classes ashore, classes afloat, classes seven days a week...or, Camp DoDEA with strong **interdisciplinary education.**”

“Kindergarten ... (where) a **parent is required to attend** with the child (ren).”

“Put a whole lot more emphasis on **Project Based Learning** and **collaboration.** Give the students projects to work on – have them figure out how to do things – let them **problem solve.** And collaborate. They need to learn to work in groups and with others.”

#### **MODELS FOR LEARNING**

“...recommend the **Reggio Emilia Approach** to help guide the redesign of the school buildings. Reggio approach is an educational philosophy focused on preschool and primary education. It is based on the principles of **respect, responsibility, and community** through **exploration** and **discovery in a supportive and enriching environment** based on the interests of the children through a self-guided curriculum.”

“...**class size** and **teacher student ratio** impacts education more than buildings and grounds.”

“Small communities of learners taught in a **differentiated, multidisciplinary, real world environment;** Older students teaching younger students.”

“Teacher’s getting to **stay with their students** for **2-3 years** creating **consistency** and an environment where there are **no added pressures** from having to form new relationships.”

#### **HOLISTIC LEARNING**

“**Outdoor Experiential Education** (OEE) needs to be a critical component of the Facilities for 21st Century Learning initiative. This program provides the whole child with the necessary skills needed to navigate a world that increasingly values the domains of **leadership, teamwork, wellness, and problem-solving.**”

“...**agricultural** and **landscaping** areas that are intended to be taken care of by students...to be a **teaching site** as well.”

## 2. CURRICULUM AND INSTRUCTION

### PROFESSIONAL STAFF DEVELOPMENT

"It would be nice if DoDEA would spend more on helping the teachers become better. Have **training courses** on **new teaching skills**, or different **teaching styles** for different students. Refresher course for the teachers to refresh basic skills i.e....lesson plans, year plans, how to talk and relate to children."

"...educators **encourage** and **support research** about teaching and learning."

"Invest in **quality staff development** to inspire teachers...**Refresher course** for the teachers to refresh basic skills i.e....lesson plans, year plans, how to talk and **relate to children**."

"...**every teacher should have an aid**... one teacher can't help all the children. Especially some of the classes have 20-30 children."

"Rather than hiring additional personnel for managing "disruptive" students, consider making **Occupational Therapists** "Building Therapists," where they can actually become an integral part of the school team."

"Start a DODEA wide program where any new hire must complete an **in-class course on effective ways of teaching**; this needs to happen before these people are released to teach the kids. Make it mandatory for all teachers to attend refresher training quarterly (people need updates as frequently as our computers) and **encourage teachers to rotate between schools** as often as possible, and stop home steading."

"DoDEA needs to allow their **principals to teach as well as lead**, and bring back the secretarial and clerical positions to lessen the administrative load. The positions created to "manage the business" side of education should maybe be returned to HQ."

"A **social worker** – designated for each school, depending upon the student population would serve to **address the gap in services** to our students that is missing in our schools and bring **invaluable insight to the educational team** in identifying and addressing biopsychosocial issues that hinder a child's ability to focus and thrive in their learning environment."

### SCHOOL PROGRAMS

"**School arts programs**...should be **expanded**... These **hands-on** kinds of programs keep kids **motivated** and interested in school and **enhance**

**everything else kids are learning.”**

“...**increase physical fitness** activities to include **social type events** ie., dancing; students can intermingle and get some physical fitness at the same time.”

“DoDDS schools have leaned away from the **hands-on technology courses**... Hands-on technology courses are not just for those students (~50%) that need grooming for technology schools, but also for all scientists, engineers, aeronautics, and application mathematicians.”

“...new facilities include **engaging areas** for the students to have one full hour of **physical activity** daily, whether through sports participation or a basic PE program.”

“Curriculum Change Proposal: Developing **Personal Finance Education Classes** For DoDEA Schools... “Society needs to make sure students graduate from high school with a better understanding of basic economics, basic finance and the benefits and risks associated with debt!”—Timothy Geithner”

“A part of school involves the **extracurricular**, like **sports, music and drama**, because those are also an educational time. Students need to learn **more than the academics...**”

“Curriculum for all schools should be **applicable to everyday/modern life** and should be **intergraded in activities** that are not only fun for the students to do but also will **prepare** them for the **future world.**”

“Technology should not be the curriculum, but should support the curriculum. Classrooms should **support the technology** and not make sacrifices of proven teaching methods to do something “new” that has no evidence to increase learning.”

“Every school should also have a **TAG program.**”

“...every school needs a **faculty member** strictly **devoted to curriculum**. Or establish a scope and sequence for every class DODEA offers.

“**Foreign students** should be on **similar curriculum path** as in the U.S.”

“Some kids will learn better in the **virtual school** because it is more **self directing** and **empowering.**”

“The learning environment **integrates fundamental functions of management** for organizations of **planning, organizing, leading and controlling** as part of a routine management while learning necessary subject matter. **Communication is key** and **face to face communication** is the best. Objectives must be clearly understood by every student.”

“DoDEA should develop an **on-line curriculum** that would be **synched** with many of the existing schools, but could also be accessible by DoD children



worldwide. If done well, this would have many benefits:

- 1) Would allow students at small DoD schools to participate in classes not available at their school.
- 2) Would allow students at locations not served by DoD schools to enroll, providing a **more certain education** than is available in many areas and saving DoD and families millions. For example, Joint Base Anacostia Bolling (DC) spends a million dollars a year to bus base students to private and charter schools throughout the city and many base families spend thousands to send their kids to private schools because the public schools are abysmal. Offering an online curriculum would be a pittance in comparison and would aid families and students all over.
- 3) It would allow students at different DoD schools to **work together and interact** on a wide array of projects, **improving worldwide insight and cross flow of ideas**.
- 4) Would **boost** overall DoD **school enrollment** with negligible cost and huge savings.

“Currently, there is no criteria for joining an **Honors class** in DoDEA... For the sake of the students who are striving to learn at a higher level but are not yet ready to take an Advanced Placement course, there should be some form of criteria for being placed in an Honors class.”

#### **COLLEGE PREPARATION**

“...the **educational structure** and method should be **similar to our Universities** so that our children are not introduced into a college learning environment that is significantly different from a High School.”

“...the older students should be taught in similar ways that are being taught in some of our more affluent universities. If high school students are not taught in classrooms by a teacher that teaches in a lecture style setting, and concentrate on **individual studying efforts**, and go through the rigors of **university type testing**, then our students will not be ready for college.”

“Top high schools in the United States are offering the **International Baccalaureate program**. This program is experiencing tremendous growth and is viewed as the educational program for the 21st century. Students graduating with an International Baccalaureate have **scored consistently higher in SAT’s and ACT’s** even when compared to students taking a full load of AP classes. American students graduating with an International Baccalaureate are **eligible to enter into prestigious European Universities** such as Cambridge and Oxford. European Universities do not consider our High School degree as a sufficient level of instruction for admission, but they do accept the International Baccalaureate.”

#### **SCHOOL OPERATIONS**

“Teachers and students **work longer days...Year-round school** with

shorter breaks during the year.”

“...there is a low percentage of **parental involvement** across different social economic environments. Parent’s physical bodies are needed in the school environment.”

“The system is not helping the students because instead of taking classes that would help them in college they are forced to take classes just to take the class to get the credit.”

### **3. FACILITIES**

#### **SCHOOL DESIGN**

“An **open** and **colorful** school provides a nice work environment; (space) to be **comfortable** and (provide) more **moving room**; classrooms with more resources; (localized teaching resources.)”

“The overriding theme is schools that are **flexible** and **adaptable**.”

“A unique, modern looking building is somewhere a student would want to be and spend 5+ hours a day...For teachers, a professional looking classroom with **new technology** would make them feel like their job is important. Architecture for **minimizing distractions**; that is **interesting, exciting** and **not disruptive**.”

“**Classroom space** is the first priority for each school.”

“A school building that is **not so radical in design**, but **practical** would be far more efficient in terms of materials, money, and student and staff satisfaction... Classrooms should be **wide open** which will cause students **less stress** as opposed to a smaller, more confined room.”

“...emphasis on **comfort**... chairs and desk/tables that are **adjustable**.”

“**Covered walkways** are needed in most geographical locations.”

“Desks should be arranged in a horse shoe, so that the teacher can see every student and every student has access to the teacher. ”

“... a **flexible classroom** where there are **discussion spaces** connected to rooms would allow student to un-tether from the computer: their comfort area.”

“The use of **color** can be very **powerful** and **beneficial** if done right.”

“All the schools should have **performing arts facilities**, designed only for that.”

“**Outdoor spaces** for recess, exercise, and learning experiences that are shielded from the sun and rain to reduce heat and skin damage, as well as to provide recess during inclement weather, are essential.”

“Should the room and furniture be able to be configured into multiple work group areas? ....Will each of these spaces require any interactive device or



white boards for instruction? If so, do they require specific device connections and power outlets? **Interactive devices** need to be **wireless** to provide **flexibility** in the classroom.”

#### **BUILDING LAYOUT**

“From **student security** to **energy efficiency**, **single-building schools** are essential.”

“**Outdoor classrooms** are a must, especially for science...Each school should have a quarter-mile track (yes, even elementary schools)...Larger classrooms so that younger kids may move around and exercise between workstations. **Outdoor garden space** so that kids can grow and taste new kinds of vegetables. **More storage space** all around but especially for the cafeteria (cold storage) so they can serve more fruits and veggies.”

“...**buildings should be attached** and not separated because students don’t have enough time to walk across campus and get to their classes...The class rooms shouldn’t be too big or spaced out because that can be really distracting. It should be big enough for us to walk around or have space to work in groups.”

“**Campuses** should be built more like **colleges** with buildings designed to support the curriculum, not just classroom after classroom.”

“The best location for an **Information Center (IC)** is in a separate building or at the end of a hallway. No other staff member’s office or teacher’s classroom or conference room should be located in the IC.”

“Every school should have a **track**-even elementary. Children and teachers need to run-off **excess energy** and keep **stress down**.”

#### **OPERATIONAL IMPLICATIONS**

“...space to walk around (for) **group activities**.”

“Dedicated space for **speech therapy** and **counseling**.”

“**Operational sinks** and **drinking fountains**, as well as **built in storage** needs to be put into every single classroom.”

“**Experiments in the classroom**. Sinks should all be at student level, with hot water and a counter around the sink to set materials. New classrooms should have **large windows** to enable the students to get **natural light** and help them to be able to easily **draw connections** to the **inside and outside world**.”

“...so that kids can focus on their learning and not on everything else, the school just needs to be more **comfortable**.”

“...the **cafeteria** should be spaced out so there is room for people to walk around. The tables should also be longer with more seats so there is room

for everybody to sit down.”

“All **one building** or at least **enclosed walkways**. It’s terrible for students and staff to have to go through the day wet because of the architecture.”

“...schools should be **welcoming...comfortable** and **friendly**.”

“Open areas may cause distractions. Maybe **portable screens** could be used or areas that are more “**room like**” with fewer open places to look out of can be provided for small groups to meet with wireless internet access for discussions or direct instruction.”

“Need to **monitor open spaces**.”

“Elementary schools need **dedicated science spaces**, and probably a teacher, to cover that academic area. The science conducted in the normal classroom, too often, just seems too rudimentary.”

“For elementary schools, there needs to be enough space so there can be a **reading area**, a **writing area**, a **math area**, a **science area**.”

“All schools should have a **gym** and a **cafeteria**. They should not be combined. Cafeterias need to have **special acoustical walls, floors, ceilings to absorb noise**. That would enhance the dining experience of our students. The same acoustical material could be used throughout the building to make it a quieter environment.”

“Areas of the school should be **open to the community** after school hours. However there should be a way of **locking down the rest of the school** so people don’t wander into unsupervised/secured areas.”

“**Improve acoustics in the classrooms** so that all students can hear teachers; this can be done easily with small speakers and less sound-reflective surfaces.”

“Cafeterias need to have special acoustical walls, floors, ceilings to absorb noise. That would **enhance the dining experience** of our students. The same acoustical material could be used throughout the building to make it a **quieter environment**.”

“Consider using **substantial tree breaks** around the schools to cut down on noise and to slow down the wind. Many of us live next to air fields with severe jet and helicopter noise. Schools need to be buffered from this. Put the schools in wooded areas, not big open fields.”

#### 4. TECHNOLOGY



#### MOBILE/ONLINE COMPUTING

“Every school should have a **one-to-one program**, giving **each student a laptop** to use, bring to class, do their work on, communicate with teachers and other students they’re working with. The vast majority of jobs we are preparing our students for involve using a computer – and they’re using computers at home – for play, for entertainment, for communicating. As teachers (and schools) we need to get where the **students are technology wise.**”

“More computers in classrooms, **Mobile computer labs** (a cart of a classroom set of laptop computers), **projectors, interactive white boards.**”

“A dream classroom would be very **comfortable**...Each student should have a laptop so that **everybody will have access to a computer.**”

“Schools need to provide **wiki workspaces** for all the classes. They are great workspaces and they are cheap, reliable and anyone who can use a word processor will be online in minutes.”

“Expand student access to the **virtual school** and the kind of classes that the kids can take.”

“Buying more laptops is not a viable solution unless you **hire more IT people** for each school.”

#### INFORMATION CENTERS

“...eliminate computer labs, and **increase the size of the information center** or have two information centers, where true research and computer use can be optimized. This “**super information center**” could include glass enclosed small group work areas or pods; multiple smart board locations, mobile desks and chairs; mobile smart boards. The information center could have an outdoor study area or possibly a solarium type sun room with plants and settings for a relaxing and learning conducive environment.”

#### PAPERLESS CLASSROOM

“Textbooks (are) too confining...The internet takes too much time and is too distracting. Have **digital encyclopedias** for each grade level...with links to other...multimedia sources...each student (has) a mobile learning device.”

“There will be no library. All books will be digital.”

“The paperless school room is coming soon so we need a place for a **Smart Board** or (boards) or have a built -in shelf that will accommodate a smartboard with outlet and space for the computer to close by.”

#### DESIGN INTEGRATION

“**IT infrastructure** should be **flexible.**”

“...**flexible power grids** for rooms to allow flexible room configuration.”

“One piece of very effective and inexpensive technology that every classroom should have is a **sound field system** that allows the teacher to amplify his or her voice. With this, the teacher has **better communication, better classroom management, and greater command of student attention.**”

## 5. SUSTAINABILITY

### ENERGY SAVINGS

“(Have a) model **green school**...high up-front costs, but over 45 years save a lot of money...supporting green technology through construction projects directly **benefits local and national economies in the short- and long-term.**”

“Build schools **underground** to **save on heating and cooling.** Above would be a **park like environment** for outdoor classes, class projects on sustainability and renewable projects, play grounds, and sport fields...solar light tubes/walls/fiber optics can be used to reduce electricity costs.”

### STUDENT GARDENS

“Having a **garden** allows students to have something to do, **reduce carbon and increase oxygen,** and creates an **alternative source of food.** Gardening can also can be a class, and maybe create a job.

“...for the “community” aspect of student socialization. **Inner-courtyards** where students can plant things, feed birds, etc. gives them a **sense of ownership** in their surroundings as well as teaches them some agriscience and the care for animals.”

“...**students grow** and **prepare** some of their own food.”

“...**agriculture areas**...provide a **great educational opportunity** for children of all ages...an **interactive environment** where students and teachers experiment and work on **real world issues** right on their school grounds.”

“Bring non-toxic plantings indoor to naturally **improve air quality.**”

““**Lead by Example**” (with) farming, gardening, landscaping, and water management.”

## 6. SAFETY AND SECURITY

### OUTDOOR PARKING/PLAYGROUND SAFETY

**“Security** to keep our beautiful and very costly playgrounds from being **damaged by vandals.**”

“Playgrounds need to be constructed with visual **‘lines of sight’** patterns that allow **supervision of all students & equipment...**Emergency Communication kiosks...**Public address systems** should be clearly heard on all points of the campus. Playgrounds need security fencing for control... **Bus loading and parent drop-off areas must be segregated. Parking needs specific entry** separate from drop-off traffic patterns.”

“A **lockable fence line** around the school / playground area for safety.

“Adequate parking that meets **post 9-11 safety / security guidelines.**”

“Playgrounds need security and equipment should be safe but at the same time friendly.”

#### **CLASSROOM MONITORING**

“Install **classroom monitors...**classroom monitors help **parents check up** on the **behavior of their children.**”

#### **BUILDING SAFETY**

“In areas prone to tornados there should be **safe rooms** where students can go to wait out the warning without kneeling against a wall in a hall with their hands over their heads for considerable lengths of time.”

## **7. POLICY**

#### **DoDEA PROGRAM OPERATIONS**

“Divide the school into **two separate operations:** 1) K-2nd and 2) 3-5th grades.”

“DoDEA schools should be on the **same learning program.** When the children move so much they should be able to go to the next school and be on the same learning cycle.”

“RES is a K-2 school they often fall into the K-5 written policy trap. ...teacher staffing is inadequate... RES Kindergarten was running at a 27:1 ratio; where policy drives a 18:1 ratio. Well understaffed for the normal class. Now the kids with special needs, require more attention. Staffing remains the same no matter what the needs of the child–this **MUST** change.”

#### **DoDEA SCHOOL DRESS CODES**

“...**institute uniform requirements** on our schools. It could be a very simple design, for example white polo shirt, maybe some type of school logo and

jeans for the boys and maybe the girls have the option to wear a particular color skirt, but keep everyone with the same type of uniform, and keeping the **same standards of dress code**.

## **DoDEA SCHOOL LOCATIONS**

"...more **Continental United States (CONUS) bases** with high schools on them."

## **KEY POINTS FROM PARENTS AND COMMUNITY PARTNERS INPUT**

### **STUDENT CENTERED EDUCATION**

- **Smaller class sizes** and **student-teacher ratios**.
- **Differentiated, multi-disciplinary** learning environment.
- Students take care of their surroundings and have **more responsibilities**.
- **Teachers** have stronger, **longer lasting relationships** with **each student**.
- Create an **environment** that **reflects the interests of the students**.

### **CURRICULUM AND INSTRUCTION**

- Create **ongoing training** and **refresher programs** for **DoDEA teachers/ staff**.
- Provide **additional support** for teachers, such as **teacher's aids** and **social workers**.
- Expand **extracurricular: performing arts** and **physical fitness** programs.
- Curriculum should **reflect real world** conditions.
- Create a more **standardized curriculum** across all DoDEA schools.
- Integrate **technology** into the curriculum as a **supporting role**.
- Develop **online/virtual school curriculum** that is accessible on a **global** scale.
- Create **curriculum** that better **prepares** students for **college courses**.
- Provide a **criteria** to place students in an **Honors Class**

### **FACILITIES**

- Spaces that are both **flexible, adaptable** and allow for **collaboration**.
- More **open** and **colorful spaces** throughout school building.





- **Flexible classroom layouts** that are more **engaging** between students and teachers.
- **Outdoor** space for **sports** and **recreation**.
- **Comfortable** and **lively space** that students enjoy spending time in.
- Preference for one **single school building**.
- Provide **wireless** interactive devices to provide **flexibility** in the classroom.

#### **TECHNOLOGY**

- **Every student** should be issued a **laptop** or have **access to a computer**.
- Increased size for **Information Centers**.
- Incorporate **Smart Boards** and **sufficient power** for each classroom.
- Migrate physical textbooks to **digital e-books**.
- Embrace **online forums**, such as wikis.
- **Integrate technology** into the building during the **design phase**.

#### **SUSTAINABILITY**

- Create gardens for students to have **stronger connections** with **environment**.
- Green, more **energy efficient** buildings will **save money** in **long-term**.

#### **SAFETY AND SECURITY**

- Need to be able to **secure** outdoor **playground** areas.
- Ability to **monitor** classrooms.
- Provide **safe zones** for inclement weather.
- Adhere to **DoD AT/FP** requirements.

#### **POLICY**

- DoDEA schools should all be on **similar learning program** for **consistency**.
- Standardize **student-teacher ratios**.
- Institute **dress code** requirements for students.
- **Teacher staffing** needs to be more **consistent**.

## TEACHERS INPUT

### 1. STUDENT-CENTERED EDUCATION

#### CREATIVE THINKING OUTLETS

"...More areas in schools need to be developed to let that creativity flow automatically. For Pre-K and Kindergarten, open spaces to play with **play houses, store fronts, lemonade stands**, and setups for **hospitals and police stations**. Let them see and **experience role playing**. With plenty of books and accessories."

"...Older children can appreciate the wonder of the outside world, how about **indoor gardens** and **wall sized aquariums**? Today's ecosystem is at risk and upcoming generations need to learn the value of it and how to care for it. This area could be stocked with books, and all things science to **engage young minds** toward the future."

"...why not have a room designated as a **children's forum**, a **think tank** for and about children. This room would have computers, white boards, TV news 24/7, writing and research materials, books that tackle world views or current events (newspapers /magazines) this room is different from the library because it would encourage discussion and the sharing of ideas."

"...**Art rooms** need to let children express their own ideas more freely, that is having more **items** and **variety of art supplies** on hand to unlock some dormant Picasso's or Degas' to their full potential."

#### LANGUAGE IMMERSION

"...**Language immersion should be offered and support should be given through monies and staff development**. I would like to see DODDS/ DODEA offer Spanish, Mandarin, or whatever other language that is currently offered as a foreign language offered as immersion programs."

"...Language immersion - **Learning a second or third language is really a vital 21<sup>st</sup> Century skill that all students need**."

### 2. CURRICULUM AND INSTRUCTION

#### CAREER/TECHNICAL EDUCATION (CTE)

"Before I came to DoDDS I worked at a Charter School where we had four objectives which were to prepare each student:

1. To succeed at the next level of schooling appropriate for that **individual's** talents, wants, and needs. (Read between the lines... vocational school, junior college, military services boot camp, college...one size does NOT fit all...)

2. To work at meaningful employment **sufficient to support one's-self** while attending the next level of schooling. (Read: how to succeed at job interviews, keep appointments, and have office or other skills beyond flipping burgers...)

3. To recognize opportunities for **community service** and do the needed service. (Life-long service..."Ask not what your country can do for you, but ask what you can do for your country.")

4. To **care for one's-self financially**. (i.e. basic banking, balance checkbooks, save and invest wisely, rent or buy wisely the necessities of life to live within one's means...)

I still believe these are the objectives for all secondary education.

5. Be prepared to care for family, including extended family members. "

"...When **adopting textbooks**, particularly at a HS and a MS level, DoDEA should insist to all prospective publishers and vendors that a **E-textbooks** and **teacher/student resource materials** should be available online for every student and teacher."

"...I have seen this system work in a high school that was chosen as a 21<sup>st</sup> Century School of Excellence (First Place) nationwide in the year 2004. It works. It adds more options to the kids and if you insist that both book versions (hard-bound and electronic) are available during the adoption process, you get twice as much bang (if not more) for the same buck."

"...In the 21<sup>st</sup> Century Classroom, expert, professional electronic tutors will be available to ALL students including U.S. military and civilian dependents, foreign-national military students, and civilian tuition-based students. This service should be one on one and **available 24 hours a day, 7 days a week**."

"...Because DoDEA hasn't yet made this service available to all its student world-wide, this "idea" needs to continue to be listed as one that will someday help bring DoDEA into the 21<sup>st</sup> Century Classroom."

#### **BIG PICTURE CHANGES - TO HELP INCREASE STUDENT ACHIEVEMENT IN THE 21<sup>ST</sup> CENTURY**

"...Switch to **year round school**."

"...With shorter breaks throughout the year, students will be able to retain more information from year to year."

"...Teach for **4 days a week** - The 5th day is an actual teacher work day when teachers can grade, lesson plan, sort through the data, collaborate with peers, meet with parents, work on professional development, etc."

"...With the responsibilities of teachers increasing from year to year we just need more time to develop and talk over ideas."

..."Once a month the 5th day can be used for official meetings (department, faculty, training, etc)."

“...On the 5th day, students are organized into groups to do forced community service Parent Volunteers “

“...Each parent with a student in school should be required to volunteer in the school in some way for **2 hours a month.**”

“...Since the education experience includes students, teachers, and parents, requiring the 2 hours a month will help keep all parties actively involved.”

### **INTEREST-BASED CLUBS**

“...I see a lack of **interest-based clubs** in our schools. We have a tutoring club, but no vocational clubs, arts-related clubs, sports or intramural clubs, or anything else that really sparks a different side of the students we teach. School, after all, is not purely an academic place. It's got to focus on **teamwork** and instilling a **sense of unity** and **citizenship** amongst the students. Clubs and sports are a great way to do this, and many of them help with the academic side as well. The problem is that we have an over-worked staff that has no time or energy to volunteer, but no budget to pay them for heading up a club.”

“...All DoDEA children should have the opportunity to attend a free preschool program.”

“...Get rid of **2.0 to graduate**. DODEA's 2.0 to graduate does not accomplish its goal. Student achievement is not positively impacted by this requirement. Grade inflation occurs and does not prepare students adequately for college.”

### **GET RID OF SILOS OF SUBJECTS**

“We need a new system of educational taxonomy that **does away** with the **current silos** of **subjects** and **departments**.....Each group would be focused on an **over-arching real world goal.**”

### **A PEP FOR EVERY STUDENT**

“Provide an electronic collaborative **Personal Educational Plan** (PEP) for every student. The PEP would allow students, parents, teachers, counselors, and administrators to **chart progress**, and **adjust** on the fly a student's educational path....Seat time and grade levels to become irrelevant. If a student meets the standards they should be able to **adjust** their **PEP** and focus on **new goals.**”



### 3. FACILITIES

#### CTE - FACILITIES

"...When we talk about 21 Century skills we have to keep in mind all those **Career and Technical Education** facilities. Each course in Career and Technical Education requires students to do hands on work, not all computer work either. The physical facility has to allow space for students to do group work. The facility has to be large enough to accommodate more than 10 or 12 students. The schools will also need to build green. "

"...The middle school years should be the place for exploratory experiences, setting a good foundation for the HS course work, and preparing for the **"work environment and jobs."** This means during the informative years it is VITAL that students are provided with more than just a place to sit and a computer to use, but needs to be a place where **experimentation, hands-on activities, and 'real world' applications are brought to light.** Students in the middle school are still very 'literal' learners which means that building on imaginative concepts and thinking beyond tomorrow is something 95% of the students are incapable of doing."

"...We're doing a great job of preparing students for a 4-year university setting, but what about the world of work? Just how many students are going to be able to afford college without working? Wouldn't it serve our students better to have more job training at the high school level in order to give them a way to pay for college? Whatever happened to life-long learning? Who is going to build my house when I retire from DoDDS? Who is going to fix my plumbing? - Yes, these programs cost money. But in the long-run, our students and our society will reap the benefits of money well spent."

#### ACTIVE LIFESTYLE - FACILITIES

"...I think that a 21<sup>st</sup> Century school should promote and provide facilities for an **active lifestyle.** Each school should have a **gymnasium** for Physical Education classes that is **separate from an auditorium/multi-purpose room.** "

"...A healthy lifestyle shouldn't be something that is simply talked about in schools. **A 21<sup>st</sup> Century school should live a healthy lifestyle.** If our students and staff become more active, we will all be healthier and our students will be better prepared for learning."

## **ON INFORMATION CENTERS**

"...The news is that we will be rebuilding the majority of DoDEA schools and it is recommended that a **task force** of **media** and **technology** specialist be convened to design a **library/technology center** that would bring DoDEA schools forward to the 21<sup>st</sup> Century."

"...A wonderful and inspiring view of how this could work for DoDEA can be found at the following link. It shows an outstanding library model for the complete concept of a 21<sup>st</sup> Century DoDEA library! - <http://www.imaginon.org/default.asp>

"...Through the evolution of **communication technology**, there has never been more information available to our students. The 21<sup>st</sup> Century **Librarian/Information Specialist** acts as a guide and mentor through this universe of information, providing access for those who don't have it, and collaboration for those who do."

## **THEATER/PERFORMING ARTS**

"...**Tech central studio** that would integrate the media and real world applications needed for the future success of all our students. Digital technology to include but not limited to: E-books, nooks, flip cameras "

## **ELEMENTARY GUIDANCE COUNSELING OFFICES**

"...Elementary school guidance counselors often run group counseling sessions. It would be extremely helpful if we could have offices big enough to accommodate several students for such groups."

## **WEIGHT ROOM FOR HIGH SCHOOL GYMS**

"...Schools in the 21<sup>st</sup> Century need **weight rooms** -- adequate in size to handle approximately 20 to 35 students safely at a time and equipped with both free weights and machine weights. Many schools in the US have such weight rooms as they can be used for both physical education classes and athletics. Research has shown the great value of **strength training** to the health and wellness of our populations including young people -- increases strength levels, increases bone density, contribute to weight control measures as more lean tissue is being developed and so on."

## **ROOM FINISHES**

"...Non-squeaky floors, rooms that don't echo, sets of small bookcases fitting only chapter books (about four shelves high) and up to bottom of window height."

## **ON SCHOOL DESIGN**

"...Elementary schools need **dedicated science spaces**...The typical classroom isn't configured for good observation of real science, plus the equipment then must be shared and moved around, when a single place, that is set up for it, can be much more focused and developed."



“...**Too much focus is on converting hands-on instruction into virtual labs and animations.** This gives a false impression that good data and real observations can be generated on computers. This leads to pseudo-science ideas. Schools still need labs for science.”

“...**Hands-on technology courses are not just for those students** (~50%) that need grooming for technology schools, but also for all scientists, engineers, aeronautics, and application mathematicians. The Ivy League schools expect their science and engineering students to actually complete the building of projects in the metal, wood, and electronics shops. High School design needs to incorporate these teaching areas.”

#### **21 CENTURY SCHOOLS FOR STUDENTS WITH DISABILITIES**

“...1. Bandwidth should be increased so current and future technology can be more reliable.

2. Find ways for teachers to access YouTube or similar sites for video clips that have educational value and cannot be found elsewhere.

3. Embedded technology in all classrooms for **students with disabilities** (hearing, vision, etc) so the students would feel **empowered throughout the school.**

4. Playground equipment that includes **sensory stimuli** (sound, visuals, and movement) for students with disabilities.

5. Video game type exercise activities incorporating Wii or similar technologies.”

#### **LEARNING SPACES FOR ELEMENTARY SCHOOLS**

“...I would love to walk into an elementary classroom and **not see clutter.**” - The teacher should have an area to him/herself that can incorporate all of the research materials, training space, with enough room to have whatever is being worked on at the teacher's reach. A **large enough area** for children to **sit** on the **floor** and comfortably read at their leisure, be read to, or discuss what has been read without climbing all over each other. Centers that can be truly separate from each other with the necessary equipment and technology to challenge students to gain skills that will prepare them well into the future. **Specialty rooms** such as a **science lab, reading room, computer lab, rainy day recess room** where games can be played or videos watched, **auditorium** that would accommodate the entire school at one time for presentations exclusive of the cafeteria and gymnasium, **PTO room** and **store**, and a multipurpose room that has no assigned function but can be used for such things as school photos and visiting demonstrations. I am saying....build it big with lots of room for kids and storage.”

## ON LARGER CLASSROOMS

"As a teacher I find that I continuously in need of more space. Classrooms should be **larger** with **built in shelving** everywhere. Research has shown that when student have access to **free-choice reading** in the classroom their love of reading expands as well as their comprehension. There should always be a large collection of children's literature in the classroom. I have a collection of about 7,000 books and it's always expanding depending on the needs of the students."

## ON RECORDING STUDIOS

"MUST have a **Recording Studio**. Our school is breaking ground this summer on a whole new school facility at Shape American Elementary School in Belgium. Presently the plans DO NOT include a state-of-the-art recording studio, yet we have received thousands of dollars worth of recording equipment and software. .... The **Music Room** of the **21<sup>st</sup> Century** will be **RECORDING !!** .... Audio, visual music and movement using **MORE** technology !!! We already have the technology, now we need the **SPACE**."

## ON INFORMATION CENTERS

"...Need to either have transparent walls or some type of scanner that alerts you to things being taken out of the IC without being scanned. Need **flexibility** in shelving and space for **different learning/teaching styles and technologies**. Need a strong technological infrastructure that can be changed and adapted to meet new technological advancements. Need to consider lighting and HVAC conditions. Connect IC to video/audio production studio."

## LOCATIONLESS CLASSROOMS

"**Gathering places** for students to **physically** and **virtually** meet to collaboratively tackle the challenges that their group has been assembled to solve that are **independent** of physical **location** and **time**."

## 4. TECHNOLOGY

### PAPERLESS CLASSROOM

"...The **paperless classroom** is truly the wave of the future. The benefits to this style of instruction include a drastic increase in flexibility of available research resources for students as well as opening up a host of possible assignments and assessment opportunities."

"... Our accrediting organization, **Advanc-Ed**, is **paperless**. It seems to work pretty well for them, but I agree that we won't be paperless in DoDEA until every child and teacher has a way to input and retrieve what they are working on. In the meantime, the suggestions here about refraining from making copies of things and instead having students write in their own notebooks are great."



“...The benefits to this style of instruction include a drastic **increase** in **flexibility** of **available research** resources for students as well as opening up a host of possible assignments and assessment opportunities. Limited access and school's slow bandwidth are constant barriers.”

“...DoDEA won't be paperless until every child and teacher has a way to input and retrieve what they are working on.”

#### **“WI-FI CONNECTIVITY”**

Schools should come equipped with **Wi-Fi capability throughout**. All students should be provided a color capable tablet computer that contains all school books and has Wi-Fi internet access. These tablets should also contain interactive capabilities, so that students can wirelessly submit documents or other forms of work.

#### **TRAINING TEACHERS ON THE TECHNOLOGY**

“...iPads, Smart Boards, ebooks, and any other technology that comes along will only impact student achievement if there is an equal amount of time and resources spent on training teachers to maximize the effectiveness of these tools. **The focus of our 21<sup>st</sup> Century schools needs to be on 21<sup>st</sup> Century TEACHERS, and not just 21<sup>st</sup> Century technology.**”

On iPad technology

“...My idea new/ (old) is to allow students use **iPads for taking notes** in class and in seminars. I feel that by using iPads, parents will save money on paper for binders, show students how to manage less notebooks for all class, the rising potential for keep up with changing technology and less for the students to carry to class by having homework on digital files”.

“...Honestly, iPads and other tablets are really neat but taking notes on them...not at all user friendly unless you pay for the extra keyboard. Paper binders for \$1.50 or \$500 iPad...not so sure that's the best approach for a cost saving idea”.

“...As a parent, I'm not buying the idea that taking notes on an iPad (which is ridiculously cumbersome in my opinion) is better or cheaper than a binder.”

“...Yes, the days of back-breaking book bags loaded down with textbooks should be ending soon. Load all the text books into e-readers (Kindle, Nook, iPad, name your device) and we'll have more portable and easier to update books.”

#### **POST ASSIGNMENTS FOR ALL CLASSES ONLINE USING ELECTRONIC GRADE BOOKS**

“...Online assignments through an electronic grade book (such as Gradespeed and Aspen) simplify the process and make it possible for all teachers and students to use one system.”

## ON SMART BOARDS

"...Smart Board interactive whiteboard lets the teacher create **collaborative learning** opportunities for the teacher and student alike. The 21<sup>st</sup> Century student is all about technology, and this is a superb collaborative tool to enhance and promote learning."

"...Teachers can **collaborate** with other teachers on successful strategies in many subjects, to include: Art and Design, Citizenship, ESL, English Language Arts, Geography, Health and Physical Education, History, Math, Foreign Language, Music. A Smart Board in every classroom reinforces technology in the learning environment and allows the student to see how technology can apply to all facets of life, better preparing them for the future."

"...I have to **disagree** on a Smart Board in **every classroom**. I see Smart Boards in some classrooms that only collect dust. This is a waste of money. Teachers who would like to use Smart Boards should be provided with one. I don't think that the 21<sup>st</sup> Century should be all about technology; it should be all about learning. If we can use technology to enhance learning then that is outstanding. However, I can do a lot with kids on a simple white board as well. Using technology just to say you use technology is doing it for the wrong reason. Smart Boards are great for teachers who can put them to good use, however, we should be wise with the little money we have as well."

## IPOD TOUCH IN THE CLASSROOM

"...The **iPod Touch** is a 21<sup>st</sup> Century example of **instructional technology**. Today's 21<sup>st</sup> Century students are all about technology. The teaching applications - "apps"- available provide a wide range of collaborative learning opportunities for students and teachers alike. Language arts apps, such as Word Cub Letters and Sounds, is used with a reading tutor. The Cloud Math app is used to practice multiplication, either individually or in groups. Games such as "Stack the States", in which correctly guessing the corresponding capital with one of four states on the screen drops the state-shaped object. The goal is to stack the states as high as possible. Technology, the student and the future. The iPod Touch is an example of students using 21<sup>st</sup> Century skills with 21<sup>st</sup> Century technology."

## A PROPOSAL FOR DESIGNING A COMPUTING ENVIRONMENT OPTIMIZED FOR EDUCATION

"...Primary to the design was the realization that it would be most efficient and effective if our students and teachers could use the same devices, applications and files on and off campus 24 hours a day 7 days a week. This would provide the opportunity for students and teachers to produce projects when it is most appropriate and productive. How could we meet this challenge? Darby Elementary School had purchased sufficient Wireless Access Points (WAP's) to make the whole campus wireless, about a \$1000 to buy about a dozen WAP's"....

## ON THE USE OF SMART BOARDS

- 0% - "I do not have a Smart Board in my room and I don't want one"
- 19% - "I do not have a Smart Board in my room and I do want one"
- 44% - "I do have a Smart Board in my room and I use it all the time"
- 25% - "I do have a Smart Board in my room and I use it sometimes"
- 12% - "I do have a Smart Board in my room and I use it as a projector"

“...DoDEA schools are already using Intranets and SharePoint websites to create online collaborative environments, but this could be enhanced by adding more social networking options, such as private NINGs, Facebook pages or other social networking avenues.”

“...Much of what would be needed to implement such a network optimized for education is already in place throughout DoDEA Pacific. The DoDEA Pacific Virtual Private Network (VPN) and Virtual Local Area Network (VLAN) switched routing architecture makes it possible to create a separate logical network using existing equipment that can be made as a hotspot within the school to support these mobile computing devices. To implement the student network, maybe all that would be needed is the purchase of sufficient Wireless Access Points (WAP's) to make the each of the school campuses wireless, some reconfiguration of the switched routers, plus some implementation guidance on how this additional network and the computing devices would be managed.”

#### **STUDENT DASHBOARDS**

“Student dashboards will act as a gateway for students. Like the player stats of a video game it will show each of the students and their Personal Educational Plan (PEP), group goals and milestones, current assignments and missions, rewards, honors, and achievements, as well as, access to collaborative communication tool.”

### **5. SUSTAINABILITY**

#### **SOLAR ENERGY**

“... **Green energy is a renewable resource** that we should utilize in our schools. Efforts should be taken in the planning of new school facilities to include alternative energy. Solar panels and small wind generators could and should become regular fixtures on the school campus. Just imagine the savings if the roof space of school buildings were covered with photo voltaic cells. Studies could also be conducted in the feasibility of fitting current schools with solar cells. In addition, schools could be encouraged to look at the local rules and regulations and perhaps install small prototype systems as a trial.”

“... Using Green energy is going to become more and more important due to global warming and other energy sources dwindling. Having a school that utilizes these type of renewable resources will help students understand its importance to our environment.”

#### **RECYCLING**

“...It would also be great for now if schools would at least conserve and recycle the tons and tons of paper used and recycle other renewable resources used on a daily basis in schools.”

## **BUILDING GREEN**

"...As we enhance old schools and build new ones we need to **keep it green**. This sets a great example to our kids and saves money in the long run. The kids are into these new technologies so it would be a perfect learning opportunity to get the kids to study how these new ideas work. Don't forget a school garden as well!!!"

## **YOGA GARDENS**

"...My idea is to integrate fitness into the school day and promote environmental sustainability by teaching yoga to students and planting a school/community garden where students can actively grow herbs and vegetables for classroom cooking lessons. Yoga and gardening can offer children new possibilities for meaningful emotional, physical, intellectual and spiritual development. The popularity of children's yoga is increasing. It can be found in after school and lunch time programs, special education classes, pre-schools, daycares, yoga centers and dance studios. **The design of these important spaces would need to be thoroughly researched and carefully engineered.**"

## **SUSTAINABILITY IN SCHOOL BUILDINGS**

"...Classrooms in warmer climates should have plenty of windows in order to allow air conditioners to be turned off for large parts of the year. School buildings should install solar panels whenever possible to allow for some power generation. When building new schools, designs should take into account the trees that are on the planned grounds and attempt to incorporate some of the pre-existing larger trees into the design. Schools should encourage students to bike, walk, or run to school with covered bike rack areas and access to locker rooms and/or showers before school."

## **SCHOOL GARDENS- YARD/KITCHEN COMPOSTING, WATER RETENTION**

"...One idea is further implementation of school gardens that include yard/kitchen composting systems and water retention...Classrooms should incorporate their gardens into science learning and teaching."

## **6. SAFETY AND SECURITY**

### **ON WEIGHT ROOM FOR HIGH SCHOOL GYMS**

"...At Guam HS, all of our free weights and machines are received and donated from Navy MWR in working condition. **Safety is paramount** and **training** the students how to operate the equipment is fundamental. Because our room capacity is limited when we set up our weight room, specific machines were selected that contribute to gross motor development.







Without a doubt, Guam HS physical education students, JROTC , varsity athletes and staff use the weight room regularly to build strength and endurance, increase flexibility, maintain body composition and supplement their cardio-vascular conditioning. One challenge in setting up the weight room is to schedule some maintenance by a technician. With daily regular use by students and teachers, cables fray, joints need to be lubricated, bolts tightened and the seat cushions become loose.”

## **7. POLICY**

### **FULL TIME DIRECTOR / ACTIVITIES COORDINATOR**

“...Any normal school district in the U.S. has a **full time Athletic Director**, often with an assistant. It is unfortunate that DODEA has not realized this yet. DODEA should take the AD job and also take the current Activities Coordinator position and roll them both together to create one full time job. DODEA has acknowledged that these extracurricular activities are very beneficial to our students and has already invested a lot of money in our sports and activities. It is time to take the final step of creating the full time position.”

“...**Grounds and Facilities** are indeed important when thinking about a 21<sup>st</sup> Century school, however, more importantly for any school in any century is the Quality of Staff and Leadership that is employed. We should look for staff that are problem solvers.”

### **TRAINING TEACHERS IN NEW TECHNOLOGY**

“...Finding ways to **foster learning communities** in schools and encouraging administrators to provide opportunities for will be challenges that we must be ready to face. The tools alone will not be **professional development** enough to increase student achievement; we must have 21<sup>st</sup> Century teachers as well.”

### **TEACHERS ON THE USE OF SMART BOARDS**

“...Teachers need TRAINING and applicable staff development to use the technology they have. It takes years to make a paradigm shift and begin to incorporate new methods in the classroom. Teachers need TIME to observe others and work in teams to develop technology integrated lessons. DoDEA must recognize that above all, teachers need to be supported as new initiatives are placed in classrooms.”

### **ON E-TEXTBOOKS**

“...I suggest that DoDEA deliberately target ALL textbook publishers to provide online electronic versions of textbooks with electronic versions of teacher/student resource materials in addition to hardbound copies. This is achievable and affordable now.”

## KEY POINTS FROM TEACHERS INPUT

### STUDENT CENTERED EDUCATION

- Provide **open spaces** to encourage the experience of **role playing**, i.e., play houses, store fronts, lemonade stands, etc.

### CURRICULUM AND INSTRUCTION

- Provide opportunities for kids to learn a **second** or **third language**.
- DoDEA should insist on all prospective publishers for kids textbooks and teachers' resources to be **available on-line** for every kid and teacher.
- Provide **electronic tutoring** to all students **24/7** in case of an unexpected emergency
- "...Switch to **year-round school**."
- Encourage **volunteerism** by parents to **become more involved**.
- Provide a new system of educational taxonomy that gets rid of the current silos of subjects and departments.
- Provide an electronic collaborative **Personal Educational Plan** for every student.

### FACILITIES

- Provide educational facilities that will promote an **active lifestyle**.
- Provide a high technology studio that will integrate the media and real world applications for a 21<sup>st</sup> Century Theater/Performing Arts Center.
- Provide weight rooms in High Schools gyms
- Embed **technology** in all classrooms for **students** with **disabilities** (hearing, vision, etc.) so they feel empowered.
- Provide **performance areas** that could be use for **music, drama** , and **video production** with a robust media delivery system.
- Information Centers need to have flexibility in shelving and space for the different learning/teaching styles and technologies along with a strong technological infrastructure that can change as technology advances.
- Provide **larger classrooms** with a lot of built-in shelving.
- Provide recording studios as the new music room of the 21st Century School.

### TECHNOLOGY

- "...(strive for) **paperless classrooms**."
- "...Schools should come equipped with **Wi-Fi capability throughout**.
- Provide a **student dashboard** to act as the gateway for students and to track each student **Personal Educational Plan**.





### **SUSTAINABILITY**

- "...Efforts should be taken...to include **alternative energy**. Solar panels and small wind generators could and should become regular fixtures on the school campus...this sets a **great example** to our kids and saves money in the long run."
- Provide "**Yoga Gardens**" in schools to promote environmental sustainability by integrating fitness for kids with school/community gardening and cooking lessons for meaningful emotional, physical, intellectual and spiritual development
- Designs of new schools should take into account the **existing trees** on the planned grounds.
- Schools should encourage students to **bike, walk, or run** to school with **covered bike rack areas** and access to **locker rooms and/or showers** before school."
- "Incorporate their **gardens** into **science learning and teaching.**"
- Use **geothermal system** for **heating** and **cooling** school.
- Use windows with **solar panels built in**
- Use **energy-star appliances** wherever possible.
- Display **energy meter** to **educate students** about power usage.
- Reuse school gray water.
- Create a **school greenhouse**. The students will have access to this greenhouse for educational purposes or interest.

### **SAFETY AND SECURITY**

- When providing a Weigh Room in a High School, allow for safety and training the students on how to operate the equipment.

### **POLICY**

- provide **opportunities for professional development for** teachers on how to use the **technology (iPad, iTouch, Smart Boards)** DoDEA is providing for the kids at schools.
- DoDEA should deliberately target textbook publishers to provide online electronic versions of student textbooks and teacher resources.

# Facilities for 21<sup>ST</sup> Century Learning

## STUDENTS INPUT

The following list describes the student input submitted:

- PowerPoint presentation on "Our Future School" by students: Nicolle Rivera, Brandon Cardona, Brian Acosta and Dianette Ramirez from Ramey School, Puerto Rico
- Write up on "Changes" by student: Marie Munoz from Ramey School, Puerto Rico
- Write up on "Designing a New School for the 21<sup>st</sup> Century" by students: Rachel Hansen, Cristopher Puglielli, Cristian Ramos and Kristina Lassalle from Ramey School, Puerto Rico
- Write up on "Ideas for a PHENOMENAL DoDEA 21<sup>st</sup> Century School System" submitted by Ms. Brenda Hoff and Ms. Debora Ingersoll and their 2nd/4th grades at Aviano Elementary School, Aviano, Italy
- 21<sup>st</sup> Century School by student: Samantha Frongilla, from Edgren High School, Misawa, Japan, Grade 11
- 21<sup>st</sup> Century School by student: Cody Scherrer, from Edgren High School, Misawa, Japan, Grade 11
- 21<sup>st</sup> Century School by student: Keith Saunders, from Edgren High School, Misawa, Japan, Grade 11



- 21<sup>st</sup> Century School by student: Keith Johnson, from Edgren High School, Misawa, Japan, Grade 11
- 21<sup>st</sup> Century School by students: Alexis Coronado and Nick Moore, from Edgren High School, Misawa, Japan, Grade 11
- 21<sup>st</sup> Century School by Jesse Cocciolone, from Edgren High School, Misawa, Japan, Grade 8
- 21<sup>st</sup> Century School by William Appel, from Edgren High School, Misawa, Japan, Grade 8
- 21<sup>st</sup> Century School by Ally Krussick, from Edgren High School, Misawa, Japan, Grade 8
- PowerPoint on 21<sup>st</sup> Century Classroom by student: Gretchen Crockett
- PowerPoint on 21<sup>st</sup> Century School by students from Bolden Middle School Applied Technology classes.
- 21<sup>st</sup> Century Schools Suggestion by Ms. Hobson's 2<sup>nd</sup> Grade Class





## 1. STUDENT-CENTERED EDUCATION

### CHANGE SCHOOL GOALS

**“Future schools will need to change their school goals....kids in school don’t strive for excellence, they strive for victory. The school doesn’t allow any mistakes...forcing the student to try and become perfect...It is best for a student to make mistakes and not strive for perfection because humans aren’t perfect.”** (Edgren High School, Misawa, Japan)

### AFTER SCHOOL CLUBS

**“Cooking Club, Dance Club, Chess or Game Club, Chemistry or Science Club, Math Club, Poetry or Writing Club, Geography Club and Adventurer’s Hiking Club.”** (Aviano Elementary School, Aviano, Italy)



## 2. CURRICULUM AND INSTRUCTION

### FITNESS AND ATHLETICS

**“P.E. every day for every kid!** Scheduled P.E. classes (at least 20 minutes per day) for all students in all grade levels...Visiting community P.E. instructors: martial arts, ballet and dance, skateboarding and bicycle safety classes...Scheduled trips to local fitness areas: swimming pool, bowling center, recreation areas (hiking, skiing, skating)...Demonstrations or lessons by Command and local personnel in a health profession: dental clinic, pediatrician, optometry clinic, nutritionist, sports medicine, field cook and fitness trainer.” (Aviano Elementary School, Aviano, Italy)



## Facilities for 21<sup>ST</sup> Century Learning



### YEAR-LONG SPORTS

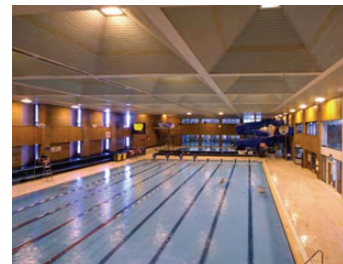
"Year-long sports should be offered for high school sports...would let the athlete focus and master the skills in the sport. Competition would be more serious and you'd be able to achieve more with that." (Edgren High School, Misawa, Japan)

### VIRTUAL LABS

"You could have people dissecting without needing the specimens."

### CTE CLASSES

"Classes that will give kids not going to college many options...shop or robotics."



### 3. FACILITIES

#### INTERIOR SPACES

“Students want **sunlit areas where they can socialize and meet**...like the idea of **adjustable rooms and walls** to meet various needs over the years... **well lit labs** with both electric and sunlight and plenty of space.” (Bolden Middle School Applied Technology, Beaufort, South Carolina)

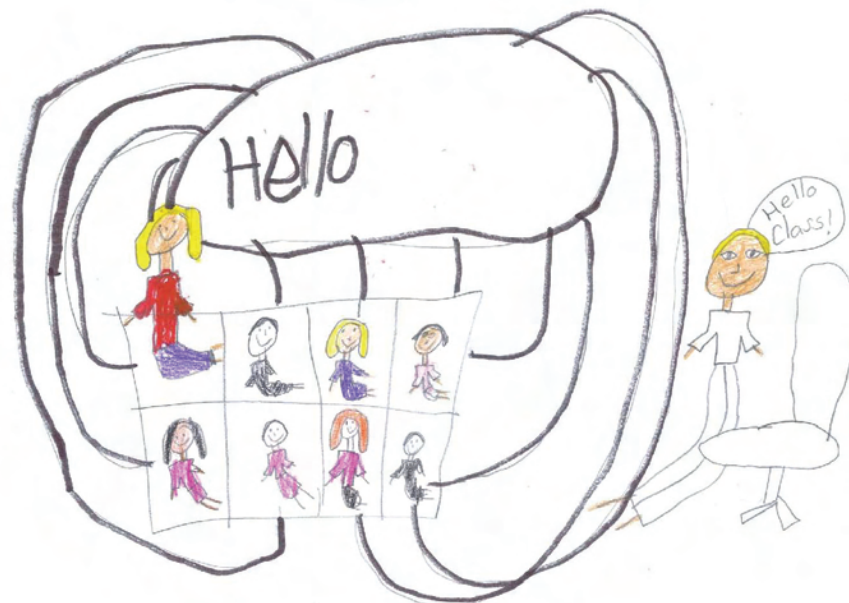
#### FUN ON A STAGE

“**Small stages** for little performances, **medium stages** for cooperative performance of one or two classes, **large stages** for whole school assemblies and performances and **outdoor amphitheater** for impromptu or open air shows.” (Aviano Elementary School, Aviano, Italy)

#### FITNESS AND ATHLETICS

“**Each school should have its own auditorium...each person should have their own seat...be able to see the stage.**” “Getting an auditorium helps for the pep rallies (better than using a gym), helps the drama arts area get used to having a stage instead of using a small classroom, helps keep storage for props and lots of more space for stuff.” (Edgren High School, Misawa, Japan)

- Track and Field
  - “...The track should be well-built and shouldn’t feel like the sidewalk; the football and soccer field should be well-trimmed and soft; the field events for track should have nice long jump pits, high jump bars and mat, net and and drainable circles fro both shot and discus.” (Edgren High School, Misawa, Japan)





# Facilities for 21<sup>ST</sup> Century Learning

- Fitness Center
  - “Having a **nice gym** in the school may allow the students to workout during free periods.” (Edgren High School, Misawa, Japan)
- Fitness Course
  - “...P.E. **indoor or covered fitness courses**: climbing course with rock walls, ropes and net bridges; changeable obstacle course; trampoline and ball pit.” (Aviano Elementary School, Aviano, Italy)
- Recreation
  - “A **skatepark** would be nice to have...It would allow kids to do something productive with their free time...A **nice plaza**...students could relax, study and socialize whenever they have nothing to do...A **swimming pool** would allow students to get into shape while having fun...and host a class focused on swimming.” (Edgren High School, Misawa, Japan)

## A PLACE TO COOL OFF

“Kids need a place to go when they are under pressure and need **a place to cool off...where kids can throw stuff** to get some of the anger and pressure off”... (Edgren High School, Misawa, Japan)



#### FURNISHINGS

**“Individual desks:**...allow teachers to arrange desks the way they want them...easily work with others or by yourself...help you concentrate more...**Blackboards:** as good as smart boards and projectors...extremely useful tool in a classroom especially when the server goes down—a black board never fails.”

“Classroom places for recharging and securing all electronics, i.e., iPads, Tablet Computers, laptops, etc.”

#### 4. TECHNOLOGY

##### VIRTUAL CONNECTIVITY

“...In class I think **technology will be easily seen** as you walk in...iPads would be delivered to each student for use...that enables the **kids to do their work with no pencils and paper and turn their assignment in by sending it to their teachers**...grades and upcoming events would be displayed on the School Network which is displayed on the iPad.” (Edgren High School, Misawa, Japan)

iPad versus Textbooks and Laptops

The “way of working” will see the “new age” post-computing devices, such as the **iPad, replace printed books and laptop computers.** (Edgren High School, Misawa, Japan)



##### HIGHEST TECHNOLOGY

“Getting the **best equipment** needed in classrooms to help get us used to what is new, **Wi-Fi** everywhere, helps get you the most experience needed for the latest technology.” (Edgren High School, Misawa, Japan)

“Wireless charging for electronics’

“...Be paperless’

‘Platforms for laptops that pop up from the floor when needed’

“Places for activities: music, PE, foreign language, art, etc.”

“Tablets that type”

“Tablets with touch screen for each student—able to pop up out of the table with a release catch to move to other locations and a cover for protection”

“Computers that work with voice commands.”

##### WI-FI

**“Wi-Fi through the whole school**...being able to work with Internet is important.”

##### SMART BOARDS

Classrooms would start replacing Smart Boards with **touch screen desks and walls.** Lockers and doors would start using smart technologies.

## 5. SUSTAINABILITY

### ENVIRONMENTALLY FRIENDLY

"...In our school we would like about 85% of the energy to come from the energy collected from the **solar panels**...The energy we do not receive from the solar panels we will receive from **wind energy**. Since we live in the tropics we are fortunate to have the trade winds...In our school we will get about 25% or more of our **vegetables and fruits for the cafeteria from our garden**. This will help us economically by reducing the cost of our lunch but also set an example of how we can be a sustainable campus...we would make all the bus stops a **shelter made from recycled bus parts**." (Ramey School, Puerto Rico)



### ENVIRONMENTAL CHANGES

"...We should put **wind turbines, windows with solar panels and geothermal cooling and heating** into our new schools...changes must be made not just for the environment but for the generation after us...By doing this we are making a better school and a better world for generations to come." (Ramey School, Puerto Rico)

### ECO-FRIENDLY SCHOOL

"Our new school **should be eco-friendly**...to help save money on electricity and water bills,...better for our environment, reduce our carbon footprint and will educate students. Living in the Caribbean comes with many advantages...sunlight year round, therefore install **solar panels** on the



roofs...ocean breeze that can be used to power **mini-windmills** and receive air supply from the nice breeze, using **window shutters**...using **geothermal energy** to cool down rooms...create **sunroofs** to let in the sunshine...We feel that having a **display of the energy meter** for students to see which way our energy use is going will educate them...We plan to **reuse our gray water** to water the gardens...The playgrounds should be made out of more than 80% recycled material...The school will create a greenhouse...and also start an outdoor garden...to **grow our own plants, fruits, and vegetables** which can be used in the cafeteria for fresh food." (Ramey School, Puerto Rico)

## 6. SAFETY AND SECURITY

### HIGHEST SECURITY

"Having **pin number locks and cameras**." (Edgren High School, Misawa, Japan)



## 7. POLICY

### EDUCATION WILL BE EASIER

“My image of a future 21<sup>st</sup> Century school...will become a more equal standard for all students...**all resources would become available for research...School will make life easier for students, parents and teachers (through technology).**” (Edgren High School, Misawa, Japan)

### FREE PERIODS

“All schools should **allow free periods to be an option** if the student has the set amount of credits to graduate.” (Edgren High School, Misawa, Japan)

### PERSONAL LISTENING DEVICES

“Students should be able to **listen to their iPods in all classes, once done with your work and you have free time...**it’s not doing any harm for the kids.” (Edgren High School, Misawa, Japan)

### MORE SCHOOL SPIRIT

“Getting the school more involved in enjoying their stay at the school; **having more pep rallies that involve everyone**, so no one is left out; more school dances; getting people to come see games or into a sport.” (Edgren High School, Misawa, Japan)

### LUNCH BREAK

“Lunch is a big deal during school...**9-12<sup>th</sup> graders should be allowed to go off-campus for lunch** (at least on base)...students should be able to **go outside during their lunch period...**” **“No more poor lunches** (having our meals freshly cooked), nothing that is expired and no leftovers for the next day.” (Edgren High School, Misawa, Japan)

## KEY POINTS FROM STUDENTS INPUT

### STUDENT CENTERED EDUCATION

- Understand that **mistakes are part of the learning process.**

### CURRICULUM AND INSTRUCTION

- Scheduled daily P.E. classes and invite visiting community P.E. instructors, scheduled trips to local fitness areas, demonstrations or lessons by Command and local personnel in a health profession.
- Establish **year-long sports programs** to programs to **promote specialization.**
- Support CTE classes and **vocational options.**



#### **FACILITIES**

- Design **sunlit areas** for meeting places...**adjustable rooms and walls** to meet various needs over the years...**well lit labs** with both electric and sunlight and plenty of space."
- "**Small stages** for little performances, **medium stages** for cooperative performance of one or two classes, **large stages** for whole school assemblies and performances and **outdoor amphitheater** for impromptu or open air shows."
- **Each school should have its own auditorium** to support performing arts and permit prop storage.
- "Having a **nice gym** in the school may allow the students to workout during free periods."
- Activity spaces like a **gym**, a **skatepark**, a nice **plaza...a swimming pool**"
- Focus on **anger management** and **stress relief**.

#### **TECHNOLOGY**

- **Improved equipment, universal wi-fi, optimized technology**
- Individual iPads...**work submitted electronically**...information shared virtually

#### **SUSTAINABILITY**

- Considerations for alternative **energy as a social and educational priority**.
- Build **greenhouses**...**outdoor garden, fresh food** for cafeteria menus...**reuse gray water** for garden saturation.
- Energy meter generates awareness and educates.
- "...We feel that having a **display of the energy meter** for students to see which way our energy use is going will educate them."

#### **SAFETY AND SECURITY**

- Optimize technology to increase security through cameras and pin numbers.

#### **POLICY**

- Increase **resource availability for research**.
- **Flexibility of scheduling**.



## INSTRUCTIONAL SYSTEMS SPECIALISTS (ISS) INPUT

### 1. STUDENT CENTERED EDUCATION

"...Teachers will need to be skilled in the 5 non-negotiables of **differentiated instruction** and be able to **pre-assess students to determine current levels of performance.**"

"...Classroom environments must have spaces that allow **students to construct their learning in different modalities.**"

"...Ultimately, students should leave our schools with a strong **foundation in critical thinking, and a working knowledge of experimental design.** That framework provides a roadmap for student learning that easily accommodates **individual learning styles.** The skills students gain from this will transfer easily, and can be **applied to a wide range of situations and disciplines.**"

"...**Frequent formative assessment** is the first step in meeting the needs of the **individual learners. Common formative assessment with immediate feedback** is imperative. Data from **formative assessments** must be used by teachers to guide and information instruction in order to adjust teaching and meet learner needs. All this requires **in-depth professional development.**"

"...Teaching must be designed to reach all learners. To do this, instruction must be **differentiated by content, process, and product.** This means that teachers need to know **each individual student on a deeper level,** understand their **learning styles, interests,** and **identify strengths and areas of need**"

"...The role of the **teacher must become a coach and facilitator for students. Students must become co-creators and evaluators of their own learning process.** When students are metacognitive of their learning, they are able to **participate and advocate for instructional and educational approaches** that best meet their **individual needs.**"

### 2. CURRICULUM AND INSTRUCTION

"...Teachers will need to have a **solid knowledge of instructional practices** that **engages students.** They will also need to be accustomed to **working collaboratively with colleagues.** Gone are the days of closing the door and you are in business for yourself."

"...Integrate **nature into the curriculum** with an emphasis on **science, art and general health and fitness programs** for children."

"...Teachers will need opportunities to learn the skills of **problem solving and inquiry, cognitive coaching, facilitation, collaboration, and team building** for teacher teams and student teams."





“...Characteristics of a successful program would include: **teachers as leaders and guides, project-based curriculum, final presentations** (to classmates and outside experts).”

“...Educators will need to **plan curriculum** through the eyes of how **one discipline fits within other disciplines** (as in **real life**).”

“...Class discussions will focus on **higher order thinking skills**, engaging the learner in “**What if**” **comparisons** when learning history, rather than a rote memorization of facts. Students will be completing **hands-on experimentations, hands-on conceptual development of mathematics and science**. Such topics as “cursive writing” will be as archaic as a slide rule.”

### **3. FACILITIES**

“...The learning spaces of the future must be **adaptable to a variety of uses**. Students need to be able to **flow from one activity to another**, and take advantage of **small group discussions, small group or team hands-on learning** and **experimentation** and **exploration, guided instruction, and peer teaming**. Learning will not be limited to a “classroom” but will be much **more mobile**, taking advantage of technologies that will allow students to move about the campus and community, seeing “**real world**” examples of such things as architecture, engineering, and problem solving...the **application of learning in the real world**.”

“...The school must have spaces that **simulate opportunities** to transfer new acquired knowledge into **real-world experiences**.”

“...Learning spaces will need to not always resemble a classroom. Spaces need to be made available for **learning labs**. These **labs would give the students the ability to do something and expand beyond theory**. Labs could resemble **real world work spaces**.”

“...Physical environment must be **adaptable to the learning situation**; purposeful changes in the physical environment must be readily available; **learning resources are readily available to all students at all times**.”

“...Consider the **Apple Store** as a model for learning spaces that are **open, inviting, and participatory** with **specialty areas** for targeted support functions.”

## 4. TECHNOLOGY

“...Curriculum will evolve to reflect the growing use of **technology as a means of delivery of information** as well as a **method for learning**. Holograms, 3-D simulations, virtual “**hands on**” **classroom activities** will become the norm of instruction. **Textbooks will be replaced with web-based or virtual formats**, likely in a **more engaging** layout than currently exists.”

“...Great teachers can teach well with a whiteboard and markers (stick and sand if needed). However, in the world in which we currently live, great learning also occurs when students have access to those **real-world tools** that they will be using in their **productive life outside of the school**.”

“...It is **not the shape of the classroom** which will drive how teachers teach and how students learn. It is what is **inside the classroom which is more important**.”

## 5. SUSTAINABILITY

“...Focus on **developing sustainability** that can be **incorporated into instruction—outdoor laboratories**.”

## 6. SAFETY AND SECURITY

### APPLIED SUSTAINABILITY

“...**Balance** the need for a **securable facility** with desired characteristics of **open, collaborative** and **aesthetically pleasing** space.”

## 7. POLICY

### INTERDISCIPLINARY CURRICULUM REALIGNMENT

“...**Constant teacher collaboration**, breaking away from the silo mentality. **Curriculum guides** that address **themes and alignment between disciplines**. **Competency based learning** and **student advancement/credit**. **Multi-age classrooms/courses** where appropriate.”

### ENHANCED AND MORE FREQUENT ASSESSMENT

“...To **tailor instruction to the needs of each student**, it is necessary, first, to **assess students’ learning and cognitive styles, as well as personalities** (through a **qualitative and/or quantitative approach**). Once teachers understand how each student differs from the other in his/her style, skills and knowledge, **different approaches can be used, based on students’ characteristics**, including **peer-teaching, cooperative learning, frontal teaching, class discussions, and individual learning coached by the teacher**.”

“...**Multi-disciplinary based assessments** would be aligned with the **new standards/curriculum** and would be **available in a variety of formats, supporting student choice and modality**.”

#### PARTNERSHIPS BEYOND SCHOOL WALLS

“...**Community partnerships** with **businesses**, especially those involving technology components that our students must learn and use. This includes not only taking our students out into the community, but involves **strategic, ongoing, and frequent involvement of community members interacting with our students**. These interactions can **enhance learning on a regular basis** through the **sharing of knowledge, skills, and abilities by experts**.”

“...Through **building relationships with the base and surrounding communities**. These relationships are essential so that we can allow our **students** to venture **beyond the school building out into the “real” world** so they can gain an understanding of how life could look like after school.”

#### KEY POINTS FROM ISS INPUT

##### STUDENT CENTERED EDUCATION

- **Differentiated** instruction
- **Pre-assess students** to determine current levels of performance
- Students to construct their learning in **different modalities**
- Strong foundation in **critical thinking**, and a working knowledge of **experimental design**
- **Individual** learning styles applied to a wide range of situations and disciplines.
- Common **formative assessment** with **immediate feedback** is imperative
- **Data** from **formative assessments**
- Teachers to **guide** and **information instruction** in order to adjust teaching and meet learner needs
- In-depth **professional development**.
- Teaching must be designed to **reach all learners**
- Instruction must be **differentiated** by **content, process, and product**
- Teachers need to know each **individual student** on a deeper level, **understand** their **learning styles, interests, and identify strengths and areas of need**
- Teacher must become a **coach** and **facilitator** for students
- Students must become **co-creators** and **evaluators** of their own learning process
- (Students) able to **participate** and **advocate** for instructional and **educational approaches** that best meet their **individual needs**.

## CURRICULUM AND INSTRUCTION

- Teachers will need to have a **solid knowledge** of **instructional practices** that **engages** students
- Accustomed to **working collaboratively** with colleagues
- **Integrate nature** into the **curriculum**
- Emphasis on **science, art** and **general health** and **fitness programs** for children
- Teachers will need opportunities to learn the skills of **problem solving** and **inquiry, cognitive coaching, facilitation, collaboration, and team building** for teacher teams and student teams
- Teachers as **leaders** and **guides**, project-based curriculum, final presentations (to classmates and outside experts)
- Plan curriculum through the eyes of how **one discipline fits within other disciplines**
- Higher order **thinking skills**, engaging the learner in **“What if” comparisons** when learning history
- Hands-on **experimentations**, hands-on **conceptual development** of mathematics and science

## FACILITIES

- **Learning spaces** of the future must be **adaptable** to a **variety of uses**
- Flow from one activity to another, and take advantage of **small group discussions, small group or team hands-on learning** and **experimentation** and **exploration, guided instruction, and peer teaming**. Learning will not be limited to a “classroom”
- **Mobile**, taking advantage of technologies that will allow students to move about the campus and community
- The application of learning in the **real world**
- Spaces that **simulate opportunities** to transfer new acquired knowledge into **real-world experiences**
- **Learning labs** would give the students the ability to do something and expand **beyond theory**
- **Real world** work spaces
- **Adaptable** to the learning situation
- **Learning resources** are **readily available** to all students at all times
- Consider the **Apple Store** as a **model for learning spaces** that are **open, inviting, and participatory** with **specialty areas** for targeted support functions



#### TECHNOLOGY

- **Curriculum** will evolve to reflect the growing use of **technology** as a means of **delivery of information** as well as a **method for learning**
- **Hands on** classroom activities
- Textbooks will be replaced with **web-based** or **virtual formats**
- **More engaging**
- Great learning also occurs when students have access to those **real-world tools** that they will be using in their **productive life outside of the school**
- The activity of learning, which occurs **inside the classroom**, is most important.

#### SUSTAINABILITY

- Developing **sustainability** that can be incorporated into instruction
- **Outdoor** laboratories

#### SAFETY AND SECURITY

- **Balance**
- Need for a **securable** facility
- Desired characteristics of **open, collaborative** and **aesthetically pleasing** space

#### POLICY

- Interdisciplinary Curriculum **realignment**
- **Enhanced** and more **frequent assessment**
- **Partnerships** beyond school walls

## Facilities for 21<sup>ST</sup> Century Learning

*"ESTABLISH A MEANS FOR DODEA MANAGED SCHOOL FACILITY PROJECTS TO BE BUILT IN AN EDUCATIONALLY APPROPRIATE, COMMUNITY FOCUSED, COST EFFECTIVE, SUSTAINABLE, ENERGY EFFICIENT, SAFE, SECURE, CLEAN, AND ENVIRONMENTALLY FRIENDLY MANNER."*

▶ -Parents and Community Partners website



▶ Source: Birrelli Architects

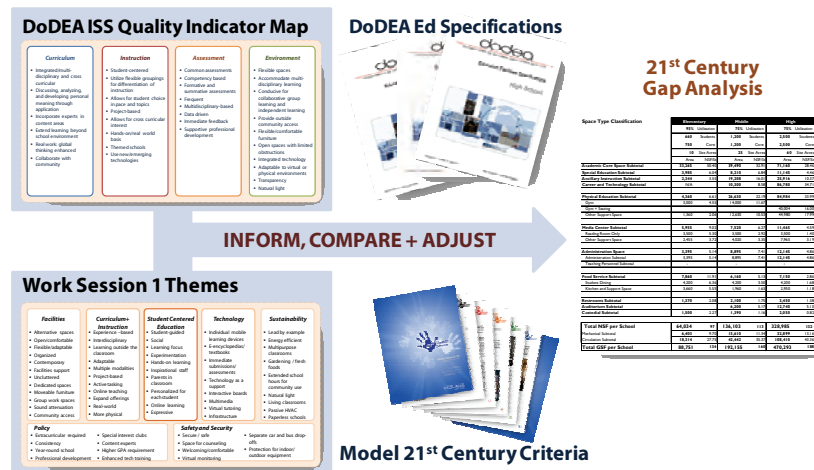
## ANALYSIS

This section illustrates the analysis done to identify the gaps between the existing DoDEA Educational Specifications and the 21<sup>st</sup> Century School Criteria. This Gap Analysis will be further developed to develop a framework for direction for Work Session #3.

Work Session #3 will encompass a set of sessions that will incorporate Innovation into Design and will 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 design. The goal is to establish an optimal standard for modules that can be site adapted.

## GAP ANALYSIS

The Gap Analysis step represents the process of absorbing all the great ideas from Work Session #1 and Work Session #2 to create a 21<sup>st</sup> School Criteria and compare this criteria with the existing DoDEA Educational Specifications.



\*Figure illustrates process; full size graphics are provided in the body of this document and/or Appendix.



## PRELIMINARY RESULTS

The following is a sample list drawn from the initial comparison among the current DoDEA Education Specification and Work Session #1 and Work Session #2 findings. More analysis is being done as we prepare for Work Session #3. This list will be expanded to highlight the key areas of concentration for the design architects to focus on during the final Work Session.

Example of Ideas	Current Ed Specs	Work Session 1	Work Session 2
<b>Elementary</b>			
<b>Academic Core Spaces</b>			
Learning Impaired (Severe)	◆	◆	◆
Multi-Use/Cluster Space ES		◆	◆
Independent Learning		◆	◆
Half-Size Classroom ES / Small Group	◆	◆	◆
Reduced Size Classroom ES / Large Group		◆	◆
Virtual Classroom Online Learning		◆	◆
Quiet Space / Contemplative Learning		◆	◆
<b>Professional Dev. Teacher Supp. Servs.</b>			
Professional Development/Instructional Office	◆	◆	◆
Home School Partnership/Parents Center		◆	◆
<b>Ancillary Instruction</b>			
Small Auditorium/Little Theatre		◆	◆
Student Display/Gallery Space		◆	◆
Video/CCTV/Media Production Studio		◆	◆
<b>Information Media</b>			
Library / Media Center	◆		
Information Center (Library)		◆	◆
<b>Physical Education</b>			
Gymnasium	◆	◆	◆
Fitness Room		◆	◆
General Classroom		◆	◆
<b>Food Services</b>			
Cafeteria	◆		
Dining Area / Food Court		◆	◆
<b>Plant Services</b>			
Janitorial Recycling Center		◆	◆

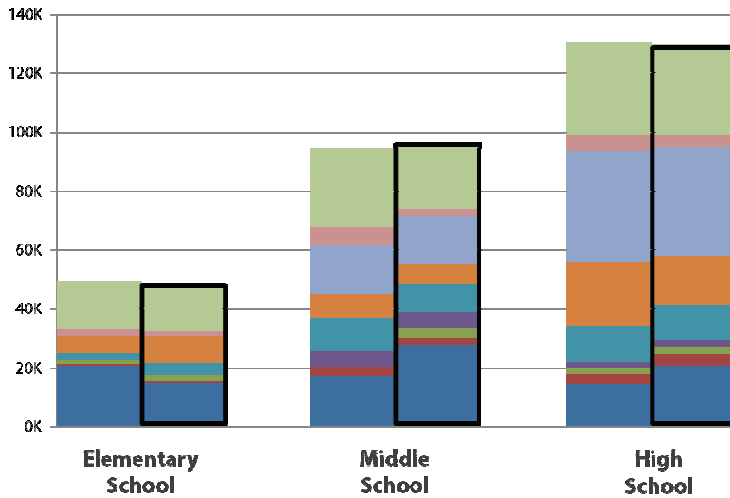
Example of Ideas	Current Ed Specs	Work Session 1	Work Session 2
<b>Middle School</b>			
<b>Academic Core Spaces</b>			
Large Group/Presentation		◆	◆
Independent Learning		◆	◆
Half-Size Classroom ES / Small Group		◆	◆
Virtual Classroom Online Learning		◆	◆
Quiet Space / Contemplative Learning		◆	◆
Information Center (Satellite)		◆	◆
<b>Academic Core Spaces - Science</b>			
Science Mini Lab (Small Group)		◆	◆
Science Mini Lab (Project Team)		◆	◆
<b>Student Commons Area</b>			
Student Display/Gallery Space		◆	◆
<b>Teacher Support Services</b>			
Professional Development/Instructional Office		◆	◆
Home School Partnership/Parents Center		◆	◆
<b>Information / Media Center</b>			
Library / Media Center	◆		
Video/CCTV/Media Production Studio		◆	◆

Example of Ideas	Current Ed Specs	Work Session 1	Work Session 2
<b>High School</b>			
<b>Academic Core Spaces</b>			
Large Group/Presentation		◆	◆
Independent Learning		◆	◆
Half-Size Classroom ES / Small Group		◆	◆
Virtual Classroom Online Learning		◆	◆
Quiet Space / Contemplative Learning		◆	◆
Information Center (Satellite)		◆	◆
Science Mini Lab (Small Group)		◆	◆
Science Mini Lab (Project Team)		◆	◆
<b>Student Common Areas</b>			
Student Display/Gallery Space		◆	◆
<b>Teacher Support Services</b>			
Professional Development/Instructional Office		◆	◆
Home School Partnership/Parents Center	◆	◆	◆
<b>Information / Media Center</b>			
Library / Media Center	◆		
Video/CCTV/Media Production Studio	◆	◆	◆

## SUMMARY OF GAP ANALYSIS

The graph below begins to inform the re-shifting on some of the types of areas and how some spaces would need to be re-purposed to a different function.

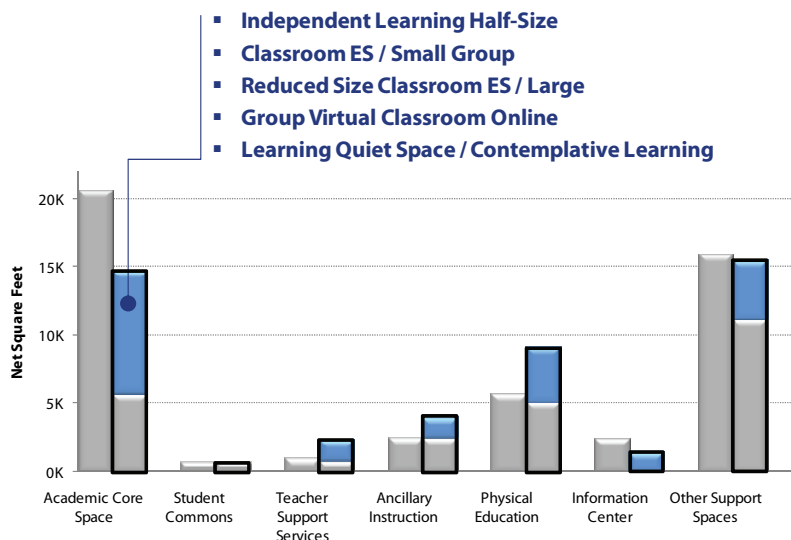
Net Square Feet



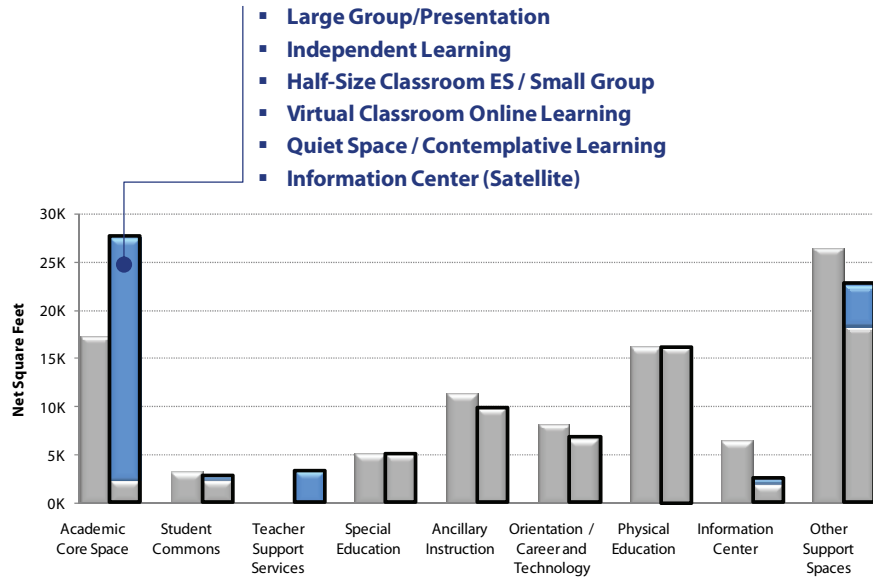
## CHANGES BY SCHOOL TYPE

The individual graphs below show the preliminary differences uncovered by integrating 21<sup>st</sup> Century School spaces into the existing curriculum spaces for an elementary, middle, and high school. The graphs also show an

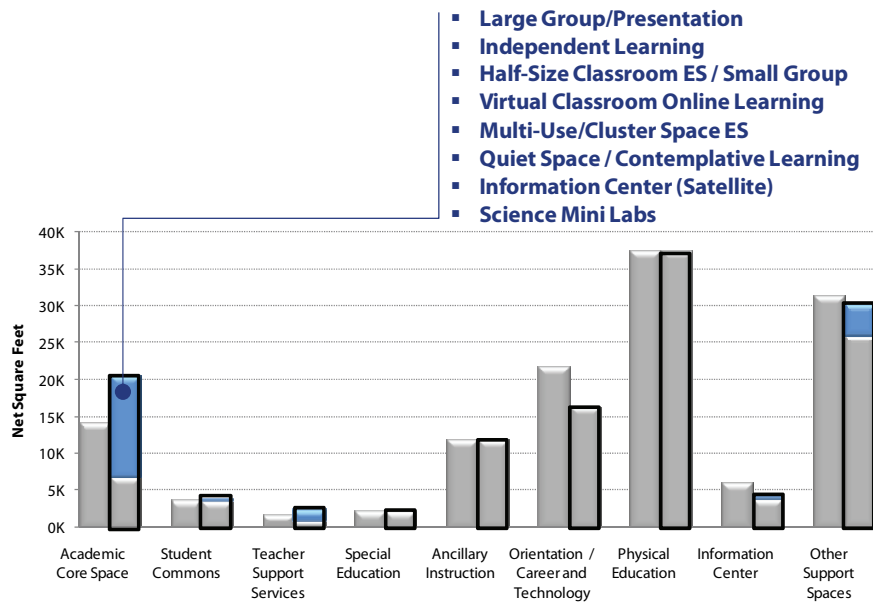
### ELEMENTARY SCHOOL



## MIDDLE SCHOOL



## HIGH SCHOOL

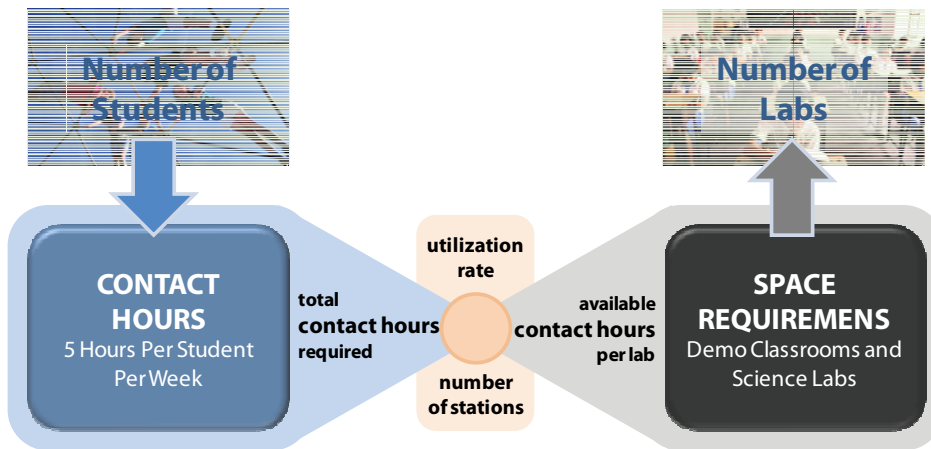


# Facilities for 21<sup>ST</sup> Century Learning

example of spaces under the Academic Core Spaces category that have surfaced as new 21<sup>st</sup> Century School spaces.

## METHODOLOGY FOR SIZING NEW SPACES

Below is an example applied to the Science Labs of the methodology that will be used to size and quantify the new 21<sup>st</sup> Century spaces. Contact hours required will be taken into consideration, factoring number of students, utilization rate, and number of stations desired in the new space. This methodology ensures that these 21<sup>st</sup> Century spaces will meet the required contact hours per type of instruction.





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## Facilities for **21<sup>ST</sup>** Century Learning

LEARNING WILL NOT BE LIMITED TO A "CLASSROOM" BUT WILL BE MUCH MORE MOBILE, TAKING ADVANTAGE OF TECHNOLOGIES THAT WILL ALLOW STUDENTS TO MOVE ABOUT THE CAMPUS AND COMMUNITY, SEEING "REAL WORLD" EXAMPLES OF SUCH THINGS AS ARCHITECTURE, ENGINEERING, AND PROBLEM SOLVING... THE APPLICATION OF LEARNING IN THE REAL WORLD.



► Source: Birrelli Architects





## WHAT WAS LEARNED

### KEY INSIGHTS

Six weeks of gathering input from DoDEA stakeholders has generated an extraordinary quantity of qualitative information that will benefit Work Session #3. The level of participation garnered generated a number of high-level key insights including:

**Student assessment** should be (1) individualized, (2) more frequent, (3) more qualitative and (4) provided to students more quickly for on-the-fly adjustment for optimized performance.

**Teacher professional development** should be expanded to better prepare teachers for paradigm shifts in (1) curriculum, (2) technology, (3) collaboration, and (4) broadened participation.

**Real world experience for students** is important for academic achievement in a student-centered delivery model and can be achieved through an integrated curriculum, hands on learning, and access to a variety of educational environments.

Output from Work Session #2 is in large part **aligned with many of the conclusions of Work Session #1**. This alignment is considered in many ways to be outside the traditional approach to current educational delivery methods, and a conclusion that can be drawn is while there is alignment on 21<sup>st</sup> Century education, until DoDEA's 21<sup>st</sup> Century Schools initiative, **there was not a comprehensive mechanism for implementation** where instructional pedagogy, technology, curriculum, and facilities are designed to work together to support this new paradigm in instructional delivery.

**Work Session #2 provided significant value to DoDEA.** The process of soliciting input from stakeholders conveyed DoDEA's need for and expressed appreciation to those participants. Indeed, the active participation from a comprehensive spectrum of global stakeholders produced broad buy-in from a representative body of participants. The relevant data received will be used to inform the evolution of education specifications. Ultimately, the process highlighted the need for facilities space-type "gap" analysis so that the new schools in the 21<sup>st</sup> Century will improve over their predecessors.

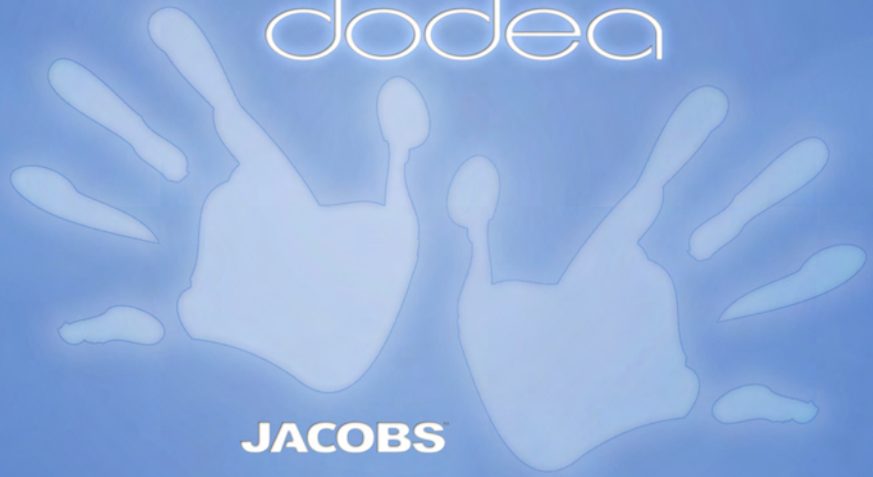




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