

# Feedback and Comments

received during the Public Review period  
August 6 – 22, 2007

**COMMENTS received** via the School Facilities Board website: [www.azsfb.gov](http://www.azsfb.gov)

**From:** Bob Hasman [mailto:bobh@CustomEnergy.com]  
**Sent:** Monday, August 13, 2007 1:32 PM  
**To:** [kcampbell@azsfb.gov](mailto:kcampbell@azsfb.gov)  
**Subject:** 21st Century Schools

Under Maximize Energy and Water Efficiency, I see a new building message. I would suggest that you add that districts should use ARS 15-213.01 for the existing facilities. In order for districts to meet the budget challenges for the 21<sup>st</sup> century, they should be utilizing and maximizing natural resources today. This can be accomplished by becoming more efficient today. With the expiration of the excess utility funds in July 2009, a huge budget challenge is just around the corner. It is also the right thing to do to support the Governor's "Green" message.

Bob

**Robert R. Hasman**  
Business Development Manager

**CUSTOM ENERGY** [Your Energy Partner for the Future]<sup>™</sup>  
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**From:** HENRY L STABLER [mailto:H\_Stabler@msn.com]  
**Sent:** Monday, August 13, 2007 4:01 PM  
**To:** Allred, Evan  
**Subject:** SFB input

Evan,

Sorry to bother you right now but Cathy Poplin, Dan Hunt, Chris Johnson and I met with Ron Passarelli at the SFB a week ago. He is preparing the draft of the report for the Gov. on building schools for the 21st Century. One of the things Dan talked about at the meeting was the impact on schools district putting in reasonable technology infrastructure and not having money from SFB to cover the costs. He was interested in that aspect of the issue and wanted to know if that was common. We said it was especially in fast growing school districts.

Is that situation in Dysart something you could explain briefly in an email and I can then forward it to Ron? We are working on establishing some relationship with AzTEA/CTO and the SFB so they know they have access to Tech folks in the trenches.

Call me if you would like clarification. I know you are swamped so I will take whatever.  
Thanks  
Hank

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**From:** [Allred, Evan](#)  
**To:** [HENRY L STABLER](#)

**Sent:** Wednesday, August 15, 2007 7:34 AM  
**Subject:** RE: SFB input

Hank,

Our district currently contributes about \$500,000 per K-8 school above the SFB allotment for technology only. In our view, the \$130,000 SFB allocated for computers, (1:8 computer to student ratio) is woefully inadequate for a 21st Century school.

Our view of a 21st century school is:

Network infrastructure including network cabling, router, switches, wireless access points, classroom phones.

Network enabled projector in every classroom

Document camera in every classroom

Interactive whiteboard (smartboard) in every classroom. (We prefer 3-4 airliners in every classroom as a substitute for the smartboard because they facilitate cooperative learning groups better)

1:4 computer to student ratio (these really should be wireless laptops and not desktops, again because laptops better facilitate cooperative learning due to their mobility and flexibility) Especially at the K-8 level, computers should be in classrooms and not computer labs. This model better supports project based, cooperative learning environments that are hallmarks of the 21st century school.

In short, these items are what makes up our additional \$500,000 we put up above and beyond the SFB contribution. If the governor is serious about building 21st century schools, the above items MUST be included in every school. I'm very passionate about 21st century learning. Our district has embarked this year on a very comprehensive "New Century Learners" model led by our superintendent Dr. Gail Pletnick. We both would be willing to meet with any SFB staffers necessary to get our message out of what a 21st century school REALLY is.

As I attend national conferences and visit with other schools across the country, it is powerfully evident that the state of Arizona is woefully behind in standards and infrastructure to support the paradigm shift our global economy is demanding of schools. We in Arizona are not providing our children the skills and tools they need to compete with children not only in Michigan, Texas and Georgia but India and China.

Hope this helps some,

Evan

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**From:** HENRY L STABLER [mailto:H\_Stabler@msn.com]

**Sent:** Monday, August 15, 2007

**To:** Passarelli, Ron

**Subject:** SFB input

Ron,

Ok, you asked for it. Here is a spreadsheet we started in the CTO group on Goggledocs which never got finished but at least it starts to lay out the kind of information we should be looking at for District/School Internet connections. There aren't any real good metrics to establish what is needed because so much depends on what you are trying to do with the bandwidth application-wise, however, the Bandwidth per student ratios and the Bandwidth per computer ratios at least start to give us a way to make some comparisons.

I also think we need to see what district's WAN speeds are running. I know some districts have one T-1's for elementary and multiple for High schools.

The LAN speeds really should be at least what was established during the SFB LAN/WAN project which was a 1 Gigabit fiber backbone with 100 Meg to the desktops but we don't have any way of knowing for sure. Data on these installations was filled in the big warehouse along with the "lost Ark" I think. Any of these three big last mile connections can be a bottleneck for effective use of the internet resources and some guidelines or standards should be developed. New standards to meet the wireless growth also need to be included. Galen Updike at GITA has long been very interested in the cost per Meg which along with E-Rate utilization and the disappearing Excess Utilities provision will have a big impact on the funding of these pipes. let me know if your looking for something else

to read.

Hank

-----Original Message-----

**From:** Johnson, Bill [mailto:BJohnson@laveeneld.org]

**Sent:** Thursday, August 16, 2007 9:44 AM

**To:** kcampbell@azsfb.gov

**Cc:** Dickson, Ron

**Subject:** 21st Century Schools Recommendations

Following are a few comments regarding the 21<sup>st</sup> Century Schools Recommendations:

### **Instructional Environment**

I agree that classroom windows are desirable. In fact, extensive research on the relationship between facilities and student achievement show a positive direct correlation between natural lighting and higher test scores. However, the SFB's current limitation on exterior wall makes it impractical to have windows in every classroom without the school districts having to pay the penalty imposed by the SFB for additional exterior wall. Also, skylights could be considered an option to windows. But to be effective, the skylights would be expensive since they need to be equipped with the ability to shut out light when using projectors and also must be of materials and design to reduce heat gain.

Audio enhancement should be provided in all classrooms for improved student learning and for teacher health and well being.

### **Safety**

Classroom communications should include both telephone and intercom for redundancy and also to meet different needs.

Facility planning and design should address supervision issues and avoid blind corners, hidden alcoves, etc.

Facility planning and design should address "attractive nuisance" issues such as climbable gates and walls, roof access, etc. Some designs can be visually appealing, but provide a surface that a student could climb to an unsafe height.

Plants and trees should be thorn-free and non-poisonous.

Traffic flow needs to be considered. The current trend at most schools is for increased parent traffic at school start and dismissal times. Without proper facilities to handle the traffic and to separate pedestrians and bike riders from vehicles this can result in the most hazardous condition a child may face in their day.

### **Energy and Water Efficiency**

Artificial turf still has to be watered to make it safe to play on during warm sunny weather otherwise the artificial turf will be too hot. Also, I'm not aware of any artificial turf that comes with a warranty of more than 10 years. With the limited life, it is cost prohibitive.

Central plants often require specialized skill to operate and maintain if they are to be efficient and cost effective. Many school districts do not have cost effective access to these specialized skills.

Mechanical systems should be equipped with economizer cycles that take advantage of natural cooling during fair weather.

Classrooms should be equipped with CO2 sensors to maximize energy efficiency and also to increase safety.

Classrooms should be equipped with motion/occupancy sensors for lighting control.

County standards for grease traps need to be evaluated. Current standards require grease traps that are much too large. These do not reflect current school cooking practices which no longer include any frying and many schools have eliminated dish washing as well. The larger than needed grease traps are wasteful, result in higher costs for maintenance, and tend to become septic, which causes objectionable odors and requires frequent pumping.

### **Other**

The 21<sup>st</sup> Century Schools Recommendations should address durability and sustainability issues. These issues are critical for schools. Few other facilities receive the very high level of consistently hard use (one could even say abuse) that schools are subjected to with the relatively low level of resources for maintenance and repair.

Bill Johnson, Ed.D.  
Assistant Superintendent  
Laveen ESD #59  
602-237-9100 ext. 2024

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**From:** Jim Westberg [mailto:JimW@AZcommerce.com]  
**Sent:** Wednesday, August 22, 2007 6:00 PM  
**To:** Mike Nicklas, FAIA  
**Subject:** Solar water heating for k-12 schools

Hello Mr. Nicklas,

Larry Schoff suggested I contact you.

The Arizona School Facilities Board is working on a report for the Governor on "Building 21<sup>st</sup> Century Schools". We are interested in seeing solar water heating as part of the school energy solution. Yet, we are not aware of any systems in Arizona. They might be out there, we just have not found them.

Larry said that you had designed a number of systems for schools. I wanted to ask about your experiences and learn from you.

What are some of the best applications? Larry mentioned school kitchens as pre-heat.

What type of returns and paybacks are achieved?

What are limiting factors? Electric VS natural gas? Inlet water temperatures? Tanks? Pipe runs? Vandalism?

Can you share one or more of your projects?

Thank you very much for your time.

Jim Westberg, CEM, LEED-AP  
Arizona Department of Commerce  
Energy Program Administrator, Energy Office  
602-771-1145

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**From:** Mike Nicklas, FAIA [mailto:nicklas@innovatedesign.net]  
**Sent:** Friday, August 24, 2007 7:24 AM  
**To:** Jim Westberg  
**Cc:** Larry Schoff  
**Subject:** RE: Solar water heating for k-12 schools

You're in a great area for solar. My firm, Innovative Design has done over 4,700 solar buildings. Over the past couple of decades we have focused on schools. We incorporate a lot of daylighting as well as solar water heating. We have designed well over a hundred solar water heating systems in schools. I would expect that you would need about 4 or 5 collectors for an elementary school and 8 or 9 for a middle. HS's, depending upon showers and size could go up to 40 or 50. The bigger the system the better the payback.

On a 5 collector elementary school size my guess is that you will pay \$7,500 to \$9,000 and save \$900 (gas) to \$1300 (electric) per year. This would get you a simple payback of between 6 to 10 years – very good, I think.

I would suggest you go on the web site of the American Solar Energy Society called [www.Findsolar.com](http://www.Findsolar.com). It is geared to residential but it will help you get a better idea. Your systems will be bigger and, in turn, have much better paybacks but it will identify some local suppliers (solar pros) that install both commercial as well as residential systems.

One thing I learned is when bidding these systems is to put in a safe “allowance” for the solar hot water and then allow the general contractor select a good installer (that you may help identify good options). If bid as an alternate the generals will try to put together a price the day before bids are due, not know where to go, and just put in a very high dollar amount.

Photovoltaic systems are getting a lot of the attention right now but you will find that the return on investment in solar water heating will be at least three times better.

We just finished doing a comprehensive study of many different potential energy strategies for Ohio schools. One of the conclusions was that they will be “requiring” solar water heating in all future schools in Ohio. You sure have a lot more solar energy than Ohio.

Mike Nicklas

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**From:** Jim Westberg, CEM, LEED-AP, Arizona Department of Commerce,  
Energy Program Administrator, Energy Office

**Date:** August 30, 2007

Page one

First paragraph. I don't know how familiar people are with converting kilowatt-hours to dollars. You might want to include dollar amounts.

Assuming a conservative 8.5 cents a kwh:

Elementary school using 1,275,000 kwh = \$108,000/year

High School using 2,880,000 kwh = \$245,000/year

1,180,500 MWh = \$100 million/year

Second paragraph

Do you want to mention the number of the ASHRAE Standard?

ASHRAE 90.1-2004. ASHRAE plans to revise the energy standard every 3 years.

Page Two

Consider:

In 2007, the U.S. Green Building Council issued the LEED for Schools Rating System. The original LEED rating system was primarily developed for office buildings. The original rating system had 69 points to choose from. To earn LEED Certified, 26 points would be needed. For LEED Silver, 33 points would be needed. The LEED for Schools Rating System addresses the uniqueness of school spaces and children's health issues. It adds categories such as, classroom acoustics (up to 2 pts.), classroom indoor air quality, mold prevention, daylighting (up to 3 pts.), joint use facilities, additional water saving project points, and environmental site assessment. It has added 10 new points to have 79 points to choose from. Some of the existing points were clarified to make it easier for schools to earn them. With the additional points available, the award levels were raised. To achieve LEED Certified under LEED for Schools, 29 points are needed. And to achieve LEED Silver, 37 points are needed.

Here is a link for LEED for Schools. <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1586> Our local chapter of the U.S. Green Building Council will have their September 18th monthly meeting on LEED for Schools. It will be an evening meeting at the Phoenix Country Club.

Page Three

I'm gathering information from North Carolina. It seems that they have done a few/number of solar water heating projects. The best application seems to be using solar water heating as a pre-heat to kitchen/ cafeteria hot water loads. With the next application being shower loads. My contact in North Carolina says these are 8 to 9 year paybacks. Let me know if I did not share his email message with you.

Photovoltaic systems in Arizona with NO INCENTIVES or REBATES have a 30 year return on investment. It would be a tremendous leap in technology to get to the 5 year return that you mention. Now, if a third party installs a photovoltaic system and takes the federal and state tax credits, the depreciation allowance, and a utility rebate, a photovoltaic system in Arizona may have a return of 10 to 15 years. It is not to say that at some future point there maybe green credits or carbon credits that improve the return. And of course, the value of installing a system as an educational tool, demonstration or as a role model, has value too.

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**From:** Theodore C. Kraver PhD , President  
eLearning System for Arizona Teachers and Students Inc.  
not-for-profit 501-c3 volunteer design and advocacy organization  
August 27, 2007 2:40pm

I have been dealing mostly with the systems that support the 21<sup>st</sup> century design, that also provide the context. I will eschew the backup data and econometric analyses at this time.

### **Integrated Technology**

Broadband: We must get funding for GITA and get this study done within a few months, and at the latest after next year's legislative session.

LAN -- OK

Both wired and wireless infrastructure including new cabling standards, server and routing equipment and wireless equipment.

Cabling Standards -- OK

For grades K-2 a ratio of 1:1.5 (allows some 1:1 flexibility)

For grades 3-12 a ratio of 1:1

Electronic interactive white boards and visual displays in each classroom.

Physical Characteristics to Enhance Technology might want to add "charging stations, printers, cameras, etc."

### **Create Personalized Instructional Environments/Foster Productive Relationship-Building.**

Have a line that includes home and community connectivity to greatly expand and create time and relationship flexibility, and non-school adult participation in the learning space.

Create ease of entry for community folks that are volunteering to physically support learning with both parking, personal space, lockers, etc.

Randomly placed cubicals or corrals that will provide teacher, student privacy for advising and counseling.

### **Ensure Safety**

Kid tracking tags

### **Maximize Energy and Water Efficiency**

Minimize transportation fuel cost with eLearning adoption and distributed education options.

### **School Size**

Assess potential for virtual school aspects to reduce the size new school design. Consider with 1:1 laptops with homes with broadband-Internet set up a rotation of classes with one day at home and four in classroom each week.

Free up funding for eLearning (professional development, digital curriculum, computer renewal, technical support, broadband-Internet utility, eLearning savvy teacher raises) by making funds saved by construction avoidance (both delayed building of schools and smaller schools) when school sizes are reduced.

### **Classroom Size**

Consider ten percent increase of number of students in classroom because an eLearning enabled teacher is so much more effective and much higher relationship time with each student that class size can increase a small amount as academic performance increases 30% to 40% with eLearning.

### **Funding**

Decrease funding with smaller schools and delayed school construction needs as students accelerate through school system with the 30-40% increase in learning speed. Assume that students do not skip classes as such, but make “micro-skips” each academic year and leave the system when they are an average age of 16 vs. 17-18.

### **Innovation**

Center the innovation model on the teacher-student nexus. Let the expected consequences from this dynamic along with eLearning transformation of school by school, grade level by grade level or course by course drive your innovation model.

Do not do demonstration schools. There is nothing in innovation theory that says that demonstrations are effective accelerators of innovation.

Take the funding for innovation school and use it to track, support, market and show case the early adoptions by the many innovators of eLearning that are operational (or in the works) in Arizona districts statewide. Huge bang for the innovation diffusion driving buck. Help the early adopters bring their knowledge to late adopters while skimming off the best of the experiential knowledge for 21<sup>st</sup> Century School Design.

Cheers!      Ted

**From:** Catherine E. Monaco [mailto:CMonaco@art-team.com]  
**Sent:** Thursday, August 30, 2007 9:42 AM  
**To:** kcampbell@azsfb.gov  
**Subject:** 21st Century Schools Recommendations

Our additions are as follows:

**Ensure Safety**

- Safe access for students from bus/parent or guardian drop-off and pick-up to school facilities without crossing vehicular traffic
- Pick-up areas with shade canopy
- Establish evacuation procedures
- Maintain a written lockdown procedure and train staff in its use
- Visitors to have access to school facilities only through the administration office

**Maximize Energy and Water Efficiency**

- Educate the teachers, students and parents in energy efficient methodologies
- Existing item 2: would the group listed to review emerging renewable energy technologies be volunteer? It would be a good idea to also invite community members (parents) to get involved in this.

Cathy Monaco

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From: Casey O'Brien, Superintendent, Payson Unified School District  
Sent: Monday, September 17, 2007 3:34 PM  
To: Kerry Campbell  
Subject: RE: 21st Century Schools Report-DRAFT

Thank you. Comments: This is a terrific report. Implementation of an alternative financing plan is essential if we are to build schools that reflect the standards outlined in this report.

Subject: 21st Century Schools Report-DRAFT

Dear Superintendent:

The School Facilities Board is preparing to issue the 21st Century Schools Report as requested by the Governor's Executive Order 2007-06.

Below is a link to the draft report. Our Board will be holding a meeting on September 21, 2007, at 1pm to discuss the report and editing with SFB Staff.

We would welcome your comments. Please provide input by responding to this email. Thank you.

<http://www.azsfb.gov/sfb/21st%20Century%20Schools/21st%20Century%20Schools%20Report-DRAFT.pdf>

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PARTNERSHIP FOR  
21ST CENTURY SKILLS

September 20, 2007

John Arnold  
Executive Director  
Arizona School Facilities Board  
1700 W. Washington St., Ste. 230  
Phoenix, Arizona 85007

Dear Mr. Arnold:

At the request of Dr. Vicki Balentine, the Partnership for 21<sup>st</sup> Century Skills was invited to provide feedback on “Building Arizona’s 21st Century Schools,” review draft dated September 2007. The Partnership is a national business –education coalition whose mission is to position 21st century skills at the center of US K-12 education.

The Partnership commends the Arizona School Facilities Board for its focus on creating schools for the 21<sup>st</sup> century. We agree with your report’s general recommendation of improved technology and classroom design for the purpose of innovation and collaboration.

The Partnership’s overarching suggestion to the Arizona School Facilities Board is to explicitly tie its recommendations to desired 21<sup>st</sup> century skills student outcomes including creativity, communication, leadership, productivity and critical thinking skills. We also suggest that 21<sup>st</sup> century content—global awareness, health literacy, civic literacy and financial, economic, business and entrepreneurial literacy—be included as intentional outcomes of building and technology improvements.

As we have worked with states around the country, we’ve found that many school design efforts have tried to address the redesign of schools without taking into consideration student outcomes. The Partnership’s response to these efforts is the attached report, “Results that Matter,” in which we advise high school reform leaders to address 21<sup>st</sup> century skills outcomes in the earliest phases of their planning efforts. While planning for the future of Arizona’s schools, the Partnership recommends that the Arizona School Facilities Board reflect on questions like these:

- 1) Does every child in Arizona need to be globally aware?
- 2) Does every child in Arizona need to be an effective communicator?
- 3) Does every child in Arizona need to be a problem solver?
- 4) Does every teacher in Arizona need to teach 21<sup>st</sup> century skills?
- 5) Does every principal in Arizona need to lead in a 21<sup>st</sup> century learning environment?

We believe the answers to these questions have implications to the issues you are addressing and we hope that "Building Arizona's 21st Century Schools" can more pointedly address these issues.

Also attached to this letter is the Partnership's Framework for 21<sup>st</sup> Century Learning, which lists the 21<sup>st</sup> century skills that students need to succeed in the new global economy. We encourage the Arizona School Facilities Board to consider focusing its recommendations on these skills.

Please contact Maureen Cain, Director of State Partnerships, at [cain@itstrategies.com](mailto:cain@itstrategies.com) or 520-623-2466 if you have questions about this feedback or if you would like more information about the Partnership for 21<sup>st</sup> Century Skills.

Thank you for the opportunity to review and offer feedback on "Building Arizona's 21st Century Schools."

Sincerely,

A handwritten signature in black ink that reads "Ken Kay". The signature is written in a cursive, slightly slanted style.

Ken Kay  
President  
The Partnership for 21<sup>st</sup> Century Skills

cc: Vicki Balentine, Arizona State Board of Education  
Lauren Kielsmeier, Office of the Governor

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From: Cathy Rex  
Southern Arizona School Facilities Group,  
Wednesday, September 26, 2007 3:44 PM

The Southern Arizona School Facilities Group would like to express their appreciation for all of the work that went into compiling the 21st Century Schools report. It has provided interesting material for thought and discussion of the direction of educational facilities. As part of our discussions, we offer the following comments on the different sections of the report:

#### Technology

The recommendations listed are helpful for the current time, but technology changes so quickly, that only general policies supporting the latest technology should be offered rather than getting so specific. For example stating 6 drops in every classroom or ceiling mounted digital projectors may soon seem like an antiquated idea. The design competition for a prototype school could be useful if it is used as a way of assisting districts to research best practices. If it is used as a mandate for school design, it is counterproductive and not supportable by the districts.

#### Safety

It is helpful to alert district to best practices in school safety, but again, it is counterproductive to mandate that every school have all of the design features for safety when some items may not really be appropriate.

#### Energy & Water Conservation

The item on canopy trees is a good point. To add to that, canopy trees help to mitigate the "heat island" effect of our desert urban environments.

#### School Size

The item on allowing the district to offer alternate sizes of schools is helpful - again as long as it is not a mandate. Any discussion of school size has to be a local discussion because the local environment is different for every district. The statement here and in other sections on the 900 s.f. classroom as being optimal may be appropriate for many instances for classroom size, but it is not appropriate for every classroom. Again, that should be a local discussion.

#### Financing

The liaison with government and private entities is an interesting proposal and could be useful if it is effective. Many districts already are doing this and have personal relationships that help the community understand the local district's needs. We are dismayed that the recommendation for long-term debt persists. The real solution is to have a dedicated funding source for school facilities. Whether it is new construction, renovation or replacement, school facilities will always have funding needs. The proposal for a 5% funding match is encouraging as long as it is in addition to and does not replace the 20% that the districts receive for donated land. The proposal for local bonds for modernization is not an acceptable solution for aging facilities. The state needs to not only build, but help maintain schools over time. Local bonding should be for those items that the local community sees as important and distinctive to their local needs that they want to support for their schools.

In each of the categories, the items are broken down into those that require funding and those where "no significant increases to capital outlay required". This statement could be misleading in that no cost is required where in reality, there is a cost and that money will have to come from somewhere.

Thank you for allowing us this opportunity to comment on the 21st Century Schools report. Please let us know if you have any questions on these comments.  
Cathy Rex and the Southern Arizona School Facilities Group.

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## Survey Results

The Department of Education posted a survey on their website to elicit review comments about the recommendations contained in the review draft of the 21<sup>st</sup> Century Schools Report to the Governor during the public review and comment period. The results of that survey are attached.

Similarly, the Arizona Technology in Education Association, through the auspices of Dr. Christopher Johnson of Tucson, posted a similar survey on their website. The results of that survey are also attached.

## Review of SFB 21st Century Schools Recommendations

**Respondents:** 205 displayed, 205 total      **Status:** Open  
**Launched Date:** 08/16/2007      **Closed Date:** 09/14/2007

### 1. Demographics

I am a:

		Response Total	Response Percent
Superintendent		12	6%
Principal		29	14%
District Office Administrator		50	25%
Classroom Teacher		32	16%
Coach/Mentor		9	4%
Higher Ed Student		1	0%
Other, please specify		71	35%
<b>Total Respondents</b>		<b>204</b>	
(skipped this question)			1

### 2. I live in the following county:

		Response Total	Response Percent
Apache		5	2%
Coconino		25	12%
Cochise		11	5%
Gila		9	4%
Graham		5	2%
Greenlee		2	1%
La Paz		1	0%
Maricopa		84	41%
Mohave		12	6%
Navajo		5	2%
Pima		18	9%
Pinal		19	9%
Santa Cruz		0	0%
Yavapai		3	1%
Yuma		4	2%
<b>Total Respondents</b>		<b>203</b>	
(skipped this question)			2

### 3. Review the items below and rate how critical they are to **Integrate Technology** for the 21st Century School. Rate from **Critical to Unimportant**.

	Critical	Important	Unimportant	Response Total
1. Survey				
Broadband				

Access and develop plan to provide access. This should be done in conjunction with GITA and Commerce.	65% (108)	27% (45)	7% (12)	<b>165</b>
2. Each new building shall have a Local Area Network (LAN) that should be part of a district wide area network (WAN) including voice, data, and video.	83% (137)	15% (25)	2% (3)	<b>165</b>
3. Wireless infrastructure including new cabling standards.	73% (120)	26% (43)	1% (2)	<b>165</b>
4. Hard wire infrastructure of at least six drops per classroom. This system will support the wireless system.	68% (113)	28% (47)	3% (5)	<b>165</b>
5. For grades K-3 a ratio of 1:2 personal computing device.	37% (61)	52% (86)	11% (18)	<b>165</b>
6. For grades 4-12 a ratio of 1:1 personal computing device.	52% (86)	42% (70)	5% (9)	<b>165</b>
7. Electronic visual displays in each classroom.	70% (115)	29% (48)	1% (2)	<b>165</b>
8. Physical Characteristics to Enhance Technology Use. (lighting, power, data connections, furniture)	76% (126)	23% (38)	1% (1)	<b>165</b>
			<b>Total Respondents</b>	<b>165</b>
			(skipped this question)	40

**4.** For any of the items related to **Integrate Technology**, is there anything else you would like to tell the SFB in addition to your above rating? **(Please include the issue number)**

<b>Total Respondents</b>	<b>45</b>
(skipped this question)	160

**5.** Review the items below and rate how critical they are to **Create Personalized Instructional Environments/Foster Productive Relationship-Building** for the 21st Century School. Rate from **Critical to Unimportant**.

	<b>Critical</b>	<b>Important</b>	<b>Unimportant</b>	<b>Response Total</b>
1. Classroom Size of at least 900 sq. feet (regardless of class size)	56% (87)	38% (59)	5% (8)	<b>154</b>
2. Acoustical performance standards, both exterior noises into the classroom and acoustic performance within the classroom.	55% (84)	40% (61)	6% (9)	<b>154</b>
3. Each classroom should have a window	36% (56)	44% (68)	19% (30)	<b>154</b>
4. Multiple switching for lighting controls capable of providing multiple lighting levels and isolating breakout areas.	40% (61)	48% (74)	12% (19)	<b>154</b>
5. Provide 3 sq. feet per pupil in outdoor learning spaces including shade covering.	35% (54)	51% (78)	14% (22)	<b>154</b>
6. Institute a design award program to highlight best designs for personalized learning environments.	20% (31)	53% (82)	27% (41)	<b>154</b>
7. Media Center Changes – Attitude/Furniture /Equipment	45% (69)	49% (75)	6% (10)	<b>154</b>
8. Create extra classroom spaces for personalized learning including resource rooms, transitional spaces, and media centers 1.5 square feet per pupil.	56% (86)	40% (61)	5% (7)	<b>154</b>
			<b>Total Respondents</b>	<b>154</b>
			(skipped this question)	51

**6.** For any of the items related to **Create Personalized Instructional Environments/Foster Productive Relationship-Building**, is there anything else you would like to tell the SFB in addition to your above rating? **(Please include the issue number)**

<b>Total Respondents</b>	<b>28</b>
(skipped this question)	177

**7.** Review the items below and rate how critical they are to **Ensure Safety** for the 21st Century School. Rate from **Critical to Unimportant**.

<b>Critical</b>	<b>Important</b>	<b>Unimportant</b>	<b>Response</b>
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				<b>Total</b>
1. Exterior Lighting	65% (95)	31% (45)	5% (7)	<b>147</b>
2. Administration office location	35% (52)	56% (83)	8% (12)	<b>147</b>
3. Classroom door hardware	49% (72)	43% (63)	8% (12)	<b>147</b>
4. Maze entries for bathrooms	20% (30)	63% (93)	16% (24)	<b>147</b>
5. Vestibule entries	14% (21)	66% (97)	20% (29)	<b>147</b>
6. Sidelights in classroom doors	22% (33)	48% (70)	30% (44)	<b>147</b>
7. Improved perimeter fencing	53% (78)	41% (61)	5% (8)	<b>147</b>
8. Security/panic alarms including dialers	65% (95)	32% (47)	3% (5)	<b>147</b>
9. Security cameras	60% (88)	35% (52)	5% (7)	<b>147</b>
10. Create account with 211	23% (34)	58% (85)	19% (28)	<b>147</b>
11. Telephone capabilities for each classroom	78% (114)	21% (31)	1% (2)	<b>147</b>
			<b>Total Respondents</b>	<b>147</b>
			(skipped this question)	58

**8.** For any of the items related to **Ensure Safety**, is there anything else you would like to tell the SFB in addition to your above rating? **(Please include the issue number)**

**Total Respondents**      **23**  
(skipped this question)      182

**9.** Review the items below and rate how critical they are to **Maximize Energy and Water Efficiency** for the 21st Century School. Rate from **Critical to Unimportant**.

	<b>Critical</b>	<b>Somewhat Important</b>	<b>Unimportant</b>	<b>Response Total</b>
1. Executive order standards (LEED Silver, 10 percent renewable energy). However, the SFB should				

insist that when obtaining LEED silver, the school should maximize the points from energy and water efficiency.	41% (56)	53% (72)	5% (7)	<b>135</b>
2. The Governor should appoint a special committee with representatives from Commerce, the SFB, school districts, the utilities, and private industry that should review emerging renewable energy technologies that can be effectively applied and tested at schools.	44% (59)	48% (65)	8% (11)	<b>135</b>
3. Proper sizing of mechanical equipment (including central plants when appropriate)	63% (85)	36% (48)	1% (2)	<b>135</b>
4. Day lighting	56% (75)	38% (51)	7% (9)	<b>135</b>
5. Waterless urinals	24% (33)	54% (73)	21% (29)	<b>135</b>
6. Drought tolerant tree canopies	52% (70)	42% (57)	6% (8)	<b>135</b>
7. Effluent water where available for landscaping and toilet flushing	53% (71)	40% (54)	7% (10)	<b>135</b>
8. Exploration of rain water runoff capture and utilization	44% (60)	45% (61)	10% (14)	<b>135</b>
9. Exploration of artificial turf	25% (34)	44% (60)	30% (41)	<b>135</b>
			<b>Total Respondents</b>	<b>135</b>

(skipped this question) 70

**10.** For any of the items related to **Maximize Energy and Water Efficiency** , is there anything else you would like to tell the SFB in addition to your above rating?

**Total Respondents 17**  
(skipped this question) 188

**11.** Review the items below and rate how critical they are to **School Size** for the 21st Century School. Rate from **Critical to Unimportant**.

	<b>Critical</b>	<b>Important</b>	<b>Unimportant</b>	<b>Response Total</b>
1. Multiple sizes depending on local district environment.	62% (79)	35% (45)	3% (4)	<b>128</b>
			<b>Total Respondents</b>	<b>128</b>
			(skipped this question)	77

**12.** Suggestions related to **School Size** .

**Total Respondents 31**  
(skipped this question) 174

**13.** Review the items below and rate how critical they are to **Classroom Size** for the 21st Century School. Rate from **Critical to Unimportant**.

	<b>Critical</b>	<b>Important</b>	<b>Unimportant</b>	<b>Response Total</b>
1. K-3: 900 sq. feet for 15 students (assumes full day kindergarten)	61% (75)	36% (44)	2% (3)	<b>122</b>
2. 4-12: 900 sq. feet for 25 students	69% (84)	28% (34)	3% (4)	<b>122</b>
3. To achieve the above standards, the per pupil square foot amount awarded by the SFB will have to be increased for K-3 from 80 square feet per pupil to 105.5.	59% (72)	36% (44)	5% (6)	<b>122</b>
			<b>Total Respondents</b>	<b>122</b>

(skipped this question) 83

**14.** For any of the items related to **Classroom Size**, is there anything else you would like to tell the SFB in addition to your above rating? **(Please include the issue number)**

**Total Respondents 19**  
(skipped this question) 186

**15.** Review the items below and rate how critical they are to **Funding** for the 21st Century School. Rate from **Critical to Unimportant**.

	<b>Critical</b>	<b>Important</b>	<b>Unimportant</b>	<b>Response Total</b>
1. Debt financing when market conditions are right.	35% (41)	56% (66)	9% (10)	<b>117</b>
2. Shared facilities with investment from district public partners.	36% (42)	54% (63)	10% (12)	<b>117</b>
3. Public private partnerships that allow for private ownership of school district utilities.	18% (21)	42% (49)	40% (47)	<b>117</b>
4. Partnerships to bring specialized equipment and programming into schools.	58% (68)	38% (45)	3% (4)	<b>117</b>
			<b>Total Respondents</b>	<b>117</b>
			(skipped this question)	88

**16.** For any of the items related to **Funding**, is there anything else you would like to tell the SFB in addition to your above rating? **(Please include the issue number)**

**Total Respondents 15**  
(skipped this question) 190

**17.** Review the items below and rate how critical they are to **Innovation** for the 21st Century School. Rate from **Critical to Unimportant**.

	<b>Critical</b>	<b>Important</b>	<b>Unimportant</b>	<b>Response Total</b>
1. Design competitions and awards	22% (22)	52% (53)	26% (27)	<b>102</b>

2. In cooperation with the three Universities, develop a demonstration school. In partnership with school component vendors, this school would house and showcase cutting edge designs and equipment. The university could use the school to expose education students to the latest technologies and designs. Private vendors would use the school to showcase their latest innovations. Districts could use the school to expose teachers, students, parents and administrators to the latest educational innovations

	40% (41)	42% (43)	18% (18)	<b>102</b>
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<b>Total Respondents</b>	<b>102</b>
(skipped this question)	103

**18.** For any of the items related to **Innovation**, is there anything else you would like to tell the SFB in addition to your above rating? **(Please include the issue number)**

<b>Total Respondents</b>	<b>17</b>
(skipped this question)	188

**19.** What else would you like to tell the Schools Facilities Board regarding the 21st Century School?

<b>Total Respondents</b>	<b>31</b>
(skipped this question)	174

## SFB Recommendations

### Results Overview



Date: 8/20/2007 10:20 AM PST  
 Responses: Completes  
 Filter: No filter applied

#### Integrate Technology

1. Survey Broadband Access and develop plan to provide access. This should be done in conjunction with GITA and Commerce.

Not Necessary		1	8%
Necessary		0	0%
Critical		11	92%
Total		12	100%

2. Each new building shall have a Local Area Network that should be part of a district wide area network including voice, data, and video.

not Necessary		0	0%
Necessary		1	8%
Critical		12	92%
Total		13	100%

3. Wireless infrastructure including new cabling standards. This question refers to the new cabling standards which relate to the wifi system in the school that gives improved reliability and coverage throughout.

Not Necessary		0	0%
Necessary		3	21%
Critical		11	79%
Total		14	100%

**4.** Hard wire infrastructure of at least six drops per classroom. This system will augment the wireless system.

Not Necessary		1	7%
Necessary		6	43%
Critical		7	50%
Total		14	100%

**5.** For grades K-3 a ratio of 1:2 personal computing device.

Not Necessary		2	14%
Necessary		5	36%
Critical		7	50%
Total		14	100%

**6.** For grades 4-12 a ratio of 1:1 personal computing device.

Not Necessary		2	14%
Necessary		5	36%
Critical		7	50%
Total		14	100%

**7.** Electronic visual displays in each classroom.

Not Necessary		0	0%
Necessary		3	21%

Critical		11	79%
Total		14	100%

**8.** Physical Characteristics to Enhance Technology Use (lighting, power, data connections, furniture).

Not Necessary		0	0%
Necessary		4	29%
Critical		10	71%
Total		14	100%

**Create Personalized Instructional Environments/Foster Productive Relationship-Building**

**11.** Classroom Size of at least 900 sq. feet (regardless of class size).

Not Necessary		0	0%
Necessary		5	36%
Critical		9	64%
Total		14	100%

**12.** Acoustical performance standards, both exterior noises into the classroom and acoustic performance within the classroom.

Not Necessary		0	0%
Necessary		7	54%
Critical		6	46%
Total		13	100%

**13.** Each classroom should have a window.

Not Necessary		2	14%
Necessary		9	64%
Critical		3	21%
Total		14	100%

**14.** Multiple switching for lighting controls capable of providing multiple lighting levels and isolating breakout areas.

Not Necessary		2	14%
Necessary		5	36%
Critical		7	50%
Total		14	100%

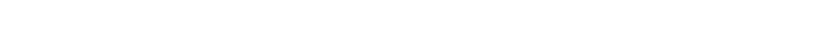
**15.** Provide 3 sq. feet per pupil in **outdoor** learning spaces including shade covering.

Not Necessary		2	14%
necessary		5	36%
Critical		7	50%
Total		14	100%

**16.** Institute a design award program to highlight best designs for personalized learning environments.

Not Necessary		5	36%
Necessary		5	36%
Critical		4	29%
Total		14	100%

**17.** Media Center Changes - Attitude/Furniture/Equipment

Not Necessary		0	0%
Necessary		4	31%
Critical		9	69%
Total		13	100%

**18.** Create extra classroom spaces for personalized learning including resource rooms, transitional spaces, and media centers 1.5 square feet per pupil.

Not Necessary		2	14%
Necessary		5	36%
Critical		7	50%
Total		14	100%

**Maximize Energy and Water Efficiency**

**22.** Executive order standards (LEED Silver, 10 percent renewable energy). However, the SFB should insist that when obtaining LEED silver, the school should maximize the points from energy and water efficiency.

Not Necessary		1	8%
Necessary		7	54%
Critical		5	38%
Total		13	100%

**23.** The Governor should appoint a special committee with representatives from Commerce, the SFB, school districts, the utilities, and private industry that should review emerging renewable energy technologies that can be effectively applied and tested at schools.

Not necessary		2	15%
Necessary		6	46%
Critical		5	38%
Total		13	100%

**24.** Proper sizing of mechanical equipment (including central plants when appropriate).

Not Necessary		0	0%
Necessary		9	64%
Critical		5	36%
Total		14	100%

**Classroom Size**

**29.** K-3: 900 sq. feet for 15 students (assumes full day kindergarten)

Not Necessary		0	0%
Necessary		5	36%
Critical		9	64%
Total		14	100%

**30.** 4-12: 900 sq. feet for 25 students

Not Necessary		0	0%
Necessary		4	29%

Critical		10	71%
Total		14	100%

**31.** To achieve the above standards, the per pupil square foot amount awarded by the SFB will have to be increased for K-3 from 80 square feet per pupil to 105.5.

Not Necessary		0	0%
Necessary		5	36%
Critical		9	64%
Total		14	100%

**Funding**

**34.** Debt financing when market conditions are right.

Not Necessary		1	8%
Necessary		8	62%
Critical		4	31%
Total		13	100%

**35.** Shared facilities with investment from district public partners.

Not Necessary		2	14%
Necessary		7	50%
Critical		5	36%
Total		14	100%

**36.** Public private partnerships that allow for private ownership of school district utilities.

Not Necessary		5	36%
Necessary		7	50%
Critical		2	14%
<b>Total</b>		<b>14</b>	<b>100%</b>

**37.** Partnerships to bring specialized equipment and programming into schools.

Not Necessary		4	29%
Necessary		5	36%
Critical		5	36%
<b>Total</b>		<b>14</b>	<b>100%</b>