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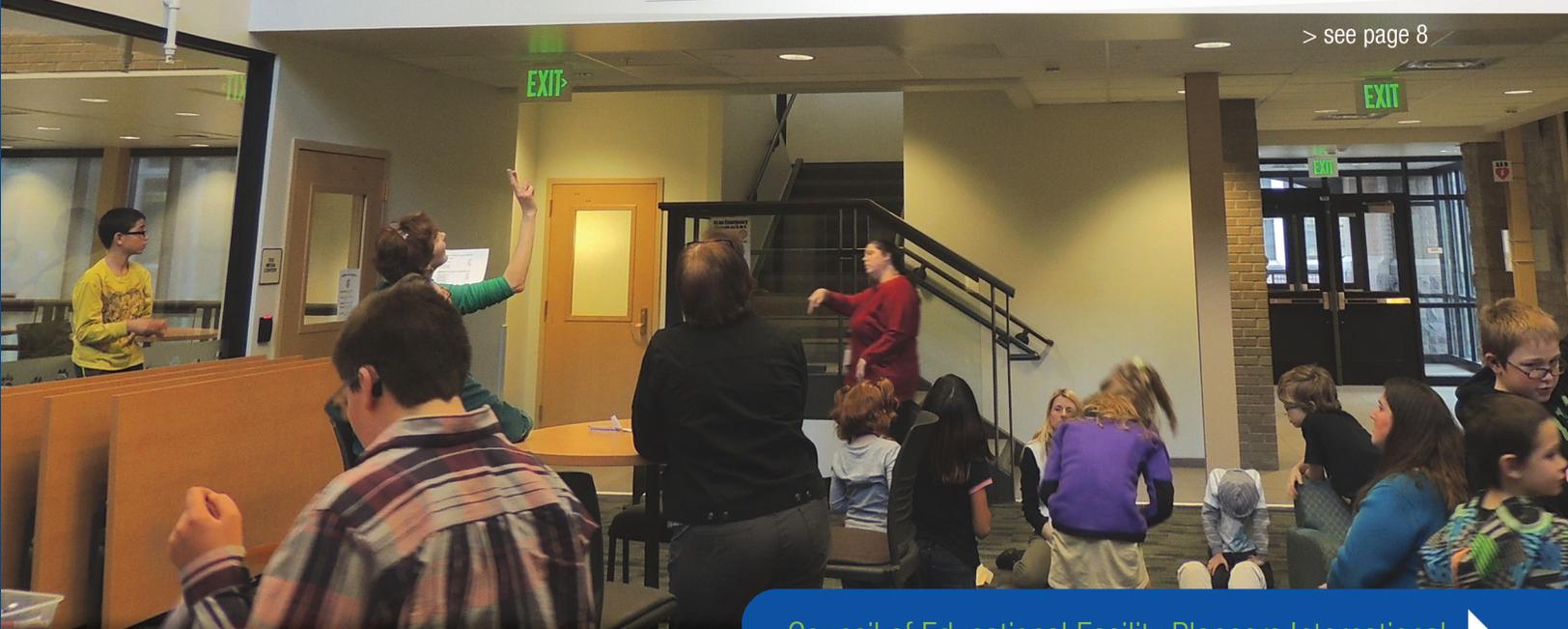
Volume 48 | Issue 1



EXPANDING VIEWS

Building a Wide-Open Student Experience at the Colorado School for the Deaf and the Blind

> see page 8



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As you read and enjoy articles inside this issue, make it a point to talk about it with your co-workers and colleagues in educational facility planning, design and construction. Your feedback is important to us. We would like to share your comments. Please send to MembersConnect Open Forum at Council of Educational Facility Planners International (CEFPI) or e-mail your comments to Barbara Worth at barb@cefpi.org.

ON THE COVER: Colorado School for the Deaf and Blind

The Colorado School for the Deaf and the Blind, although unique, is simply a school serving the children of Colorado. "Our students just happen to be deaf and blind." - Superintendent Carol Hilty

IN THIS ISSUE...

INNOVATIVE EDUCATIONAL DELIVERY...

5

Establishing a Strong Foundation — Developing an Ed Spec Rooted in Your Strategic Plan and Educational Best Practices

By Bill Bradley and Derk Jeffrey

8

Expanding Views — Building a Wide-Open Student Experience at the Colorado School for the Deaf and the Blind

By Brian T. Calhoun

FACILITIES RESEARCH

14

Linking Performance and Experience — Findings from a Recent Study on the Impact of Green Schools

By Jim French

19

Building Condition and Student Achievement: The Paradox

By Dr. Daniel M. Seaton and Dr. Shirley A. Turner

25

Faith-Based Education Culture — A Study into the Influence of Faith-Based Pedagogy on School Facility Design

By Wayne Hay and Tais Borges

32

Why Don't We Have Colored Walls in Our Classrooms? ~ A Case Study of (79) U.S. Educational Facilities ~

By Kathryn J. Grube

8

EXPANDING VIEWS — BUILDING A WIDE-OPEN STUDENT EXPERIENCE AT THE COLORADO SCHOOL FOR THE DEAF AND THE BLIND

The Colorado School for the Deaf and the Blind, although unique, is simply a school serving the children of Colorado. "Our students just happen to be deaf and blind."

- Superintendent Carol Hilty

> page 8



PLANNING PERSPECTIVES

36

Modernizing Washington DC Schools and its Measurable Effect on Learning

By Michael Quadrino and Nikkia Martin

40

From Publishing House to School House Reading List for Educational Planning and School Design

By Philip J. Poinelli

44

Smarter Buildings Building Automation Systems Free-up Money for Mission-critical Education Needs

By Kevin Callahan

47

The Focus on Solar Quality and Long-Term Reliability

By Sam Tsou

HEALTH, SAFETY AND SECURITY

50

Can Children's School Sites Make Them Fat?

By Brian Fellows

ESTABLISHING A STRONG FOUNDATION: DEVELOPING AN ED SPEC ROOTED IN YOUR STRATEGIC PLAN AND EDUCATIONAL BEST PRACTICES

By Bill Bradley and Derk Jeffrey

Does your district have standards to facilitate the design of its capital projects? Most do. Do your standards establish the kinds and quantities of spaces to be included in your various facilities? Most do. Do they enumerate your preferences for systems and materials to be specified as part of the contract documents? Many do. But are your district's standards rooted in your strategic plan and educational best practices? Most are not, and therefore run the risk of being invalidated.

Horry County Schools covers 1,255 square miles along South Carolina's Grand Strand. It serves 39,500 students in nine high schools and has an annual operating budget of \$650 million. But since the educational specifications haven't been updated in several years, the standards that guided the design of their capital projects predated multi-modal learning, ubiquitous technology, concerns about school shootings, and the Millennials for whom the facilities were intended. With that in mind, the district set out to establish new standards aimed at creating spaces to support teaching and learning for both today and tomorrow. But where to begin?

Many educational specifications are developed from the perspective of either the project manager charged with overseeing construction, or the director of buildings charged with maintaining the facilities post-completion. While both perspectives are important, they are just two of several to consider when leveraging the tremendous opportunity that renovating a facility or building a new school affords. The perspectives of the school board, school administrators, and staff of professional educators charged with setting the course for and delivering education in those schools should also be in the mix. The single best repository of their collective experience and insight is the district's strategic plan, from which the dialogue should begin. But how does that result in design standards?

Horry County Schools' strategic plan is exemplary. It is guided by a set of "beliefs" that "serve as a foundation for all [its] efforts." Among those beliefs are at least two with direct implications for the planning, design, and construction of learning environments:

All who share our schools deserve a safe, respectful, and nurturing environment.

Our students' learning opportunities are enhanced when multiple approaches to learning are provided and positive relationships are formed.

Those two statements alone provide plenty of fodder, but along with these beliefs are "areas of focus" and "actions to be taken" that further clarify and provide actionable items for each. Examples with implications for facilities include:

In the "Resources and Support Systems" area of focus, a strategy that directly references the need to maintain "...the site, facilities, services, and equipment to provide an environment that is safe and orderly for all occupants," states the requirement for using "approved educational specifications," and directs the utilization of "environmentally-friendly materials and equipment and emerging green design [strategies]" in the future.

In the "Teaching and Learning" area of focus, a strategy to "provide researched-based curriculum and instructional methods that facilitate achievement for all students," has major implications for the design of facilities. Although this seems standard, in fact, it acknowledges research on learning styles and suggests that the "one-size-fits-all" factory model for educating students is no longer applicable. This strategy advocates that facilities should be designed to support collaborative, hands-on, digital and self-directed learning opportunities as well as more traditional forms of teacher-guided instruction.

These and other examples establish the requirement for the educational specifications and provide the guidance necessary to develop it. The latter is absolutely essential because only those elements that can be tied back to the strategic plan are unquestionably valid. In other words, upon review of the

completed ed specs, those elements that could be linked directly to the strategic plan – like the use of sustainable materials or the inclusion of a variety of learning spaces to supplement multi-modal learning – are the ones that will garner absolute support from the school board and administration. If, like Horry County, you view the development of new standards as an opportunity to raise the bar, making connections to your district’s strategic plan is the place to begin.

Once the central themes for the ed specs have been mined from the district’s strategic plan - or mission statement absent a plan - the next step is to poll educators and pull from the literature to determine links between facilities and educational best practices. Horry County, for instance, referenced seminal works from Howard Gardner on “multiple intelligences” and Dunn and Dunn on “learning modes.” SHW Group, the educational planning and design firm hired by Horry County to develop their ed specs, then defined 18 different “educational space types” that collectively comprise a kit-of-parts from which future schools could be assembled. Examples included the iBar for small group collaboration and the Brainstorm Room which can flex between a traditional classroom and one geared toward project-based learning.

Equipped with these space types, architects working for the district in the future could draw upon them with the assurance that they were supported by research and directly applicable to the district’s plan.

Similarly, other topics addressed in Horry County’s ed specs included information and ideas about learner-centered environments, adaptability, learning landscapes, buildings as teaching tools, interior design, educational furnishings, acoustics, sustainable design, and safety and security. Determining which

topics should be covered in your educational specifications will depend upon your district’s strategic plan and other circumstances, but providing some reference to educational best practices as a means for guiding architects and engineers, who are neither educators nor necessarily well-versed in the latest dialogue about instruction and delivery, is essential.

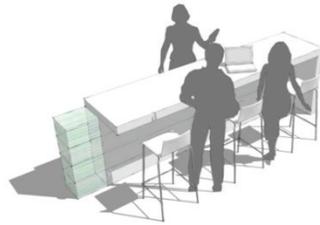
Only after direct links have been made to your district’s strategic plan and educational best practices should your ed specs converge around more quantifiable information. The kinds and quantities of spaces to be included, the specification of systems and materials, and any other particulars related to the construction and eventual operation and maintenance of the building are all factors which must be addressed. And even then, all of those more tangible elements should be filtered through the lens of the strategic plan and educational best practices. You may discover that the default is no longer applicable.

Other topics and additional guidance that Horry County included in their ed specs included district-approved calculations for determining capacity, requirements for utilizing BIM, a statement of fact about energy budgets and energy modeling, information about pursuing building-rating systems (e.g. LEED for Schools), particulars about the design and construction process, lists of expected deliverables, and a summary of the other regulations and documents to which the design team was beholden (e.g. Guidelines from the State of South Carolina’s Office of School Facilities).

Regardless of what’s included, your educational specifications should provide the guidance necessary to ensure that your school facilities are planned and designed to support the mission and vision of your district. Further, the document should

genius bar

formal



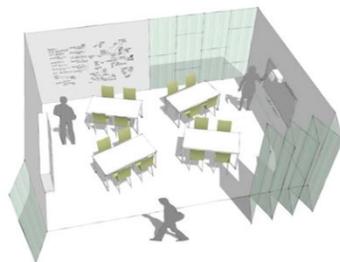
The genius bar is a long, technologically rich station where students can “plug in”, print, study, and receive support from tutors or peers. Designed to be an optimal setting for groups of 2 or 3, it can also serve for individual study, and occasionally group study. The iBar is typically located in a public, highly visible area of the building, making it an obvious resource for all students.

FUNCTION	resource
FURNITURE	bar, stools
FLEXIBILITY	low
TECHNOLOGY	computer stations, printer
LEARNING STYLE	support

of people 2-3

ideation room

informal



A brainstorm room is a less formal version of a conference room typically used for impromptu working sessions or project study groups. It is a technology rich, flexible environment meant to encourage collaboration and idea sharing. It is typically closed off by a set of track doors and can be opened to the outside to become part of a larger student commons or lounge space.

FUNCTION	medium group
FURNITURE	movable table and chairs
FLEXIBILITY	high
TECHNOLOGY	screenshare, whiteboard, power and data
LEARNING STYLE	collaborative

of people 8-16

seek to align the philosophical and pedagogical beliefs of your school board as articulated in your district’s strategic plan with the qualities and characteristics of the learning environments in which the district’s strategic objectives for instruction and

delivery are realized. In this manner, you can be assured that your standards are valid, that everyone is on the same page, and that your district’s mission or strategic plan is being advanced.

About William S. Bradley, Ph.D, AIA, REFP, LEED AP

Dr. Bradley is a Principal with SHW Group (now Stantec). He has led project teams and worked with educators in K12 and higher education across the country to develop project visions, obtain design consensus, and implement designs that enhance learning. He is currently president of the Southeast Region of CEFPI.

About Derek N. Jeffrey, AIA

Mr. Jeffrey is a Principal with and the Director of Planning for SHW Group (now Stantec). For the last 30 years he’s led planning and design efforts aimed at leveraging capital projects to bridge the gap between traditional models of instruction and more forward-leaning approaches to education.

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EXPANDING VIEWS

BUILDING A WIDE-OPEN STUDENT EXPERIENCE AT THE COLORADO SCHOOL FOR THE DEAF AND THE BLIND

BY BRIAN T. CALHOUN

Since its humble beginning in 1874 with just seven students who were deaf, the Colorado School for the Deaf and Blind (CDSB) has grown to serve an average of 235 students on campus and 500 students statewide annually, from birth to age 21. The campus occupies 17 buildings and sits on 37 acres in Colorado Springs.

In 2010 the school won a BEST Grant that funded a much-needed expansion and complete renovation to its 58 year-old Gottlieb Building, which now serves as the hub of student activity on the campus. The existing building had several security and life-safety issues, general building condition problems, program-to-space matching challenges that had to be resolved and poor visibility within the facility—especially problematic for a building focused primarily on serving students who are deaf.

RTA Architects, a K-12 education design firm, was selected as the architect for the challenging project. “Two of the most important goals for the renovated building were an open design that would facilitate better visibility and communication for the deaf community, and flexible spaces that could be used for multiple purposes at any given time,” noted Stuart Coppedge, AIA, RTA’s principle-in-charge for Gottlieb.

The planning process was centered on a strategy that RTA would provide the school design expertise and the Design Advisory Group (DAG) consisting of superintendent, board member, facilities manager, and teachers from CDSB, would provide strong guidance concerning the needs of this student population. Residential schools have a unique culture, educational approach and philosophy.

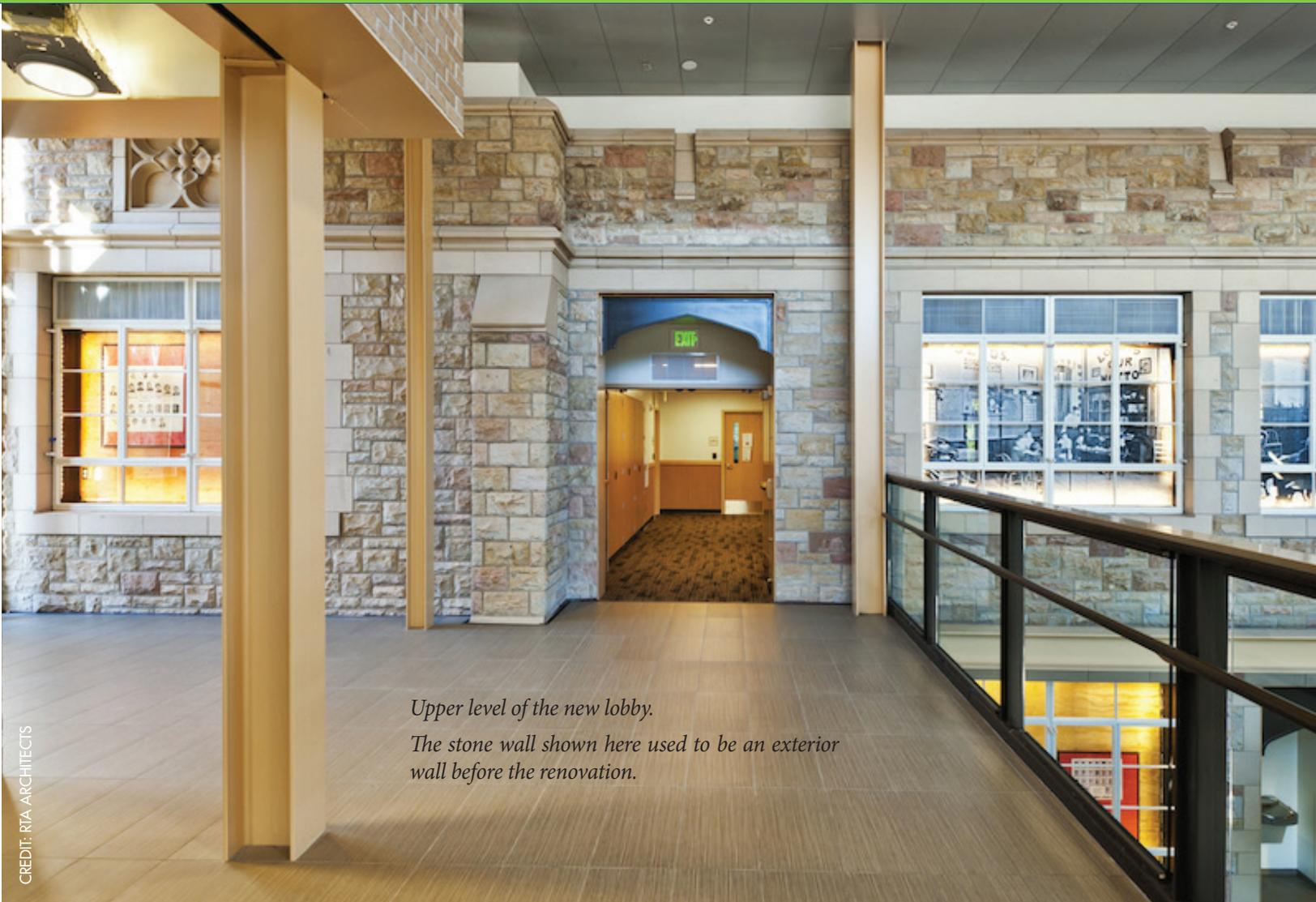
“CDSB was very clear we wanted to work in close collaboration with the architect to develop the design concepts that support the needs of our students,” explained Superintendent Hilty. “Utilizing interpreters, RTA Architects conducted design charrettes in our



CDSB’s new two-floor media center allows students to study and do their research without leaving the building. “Before the renovation, students had to go outside and enter another building, which housed the old library. Now, we have a fully equipped media center as part of the addition to the Gottlieb building. It’s comfy, warm and cozy and you can see throughout the openness,” Superintendent Hilty (not pictured).

DAG meetings which included administrators, staff who are deaf, and a Board of Trustees member. I always thought we had the perfect scenario. This is what the BEST program should be about: the partnership among school, architect, engineer and contractor,” added Hilty. This partnership was rounded out by HCDA Engineers (structural), Plant Engineering Consultants (mechanical, electrical and plumbing), Bean Engineering (civil), and general contractor GH Phipps.

Superintendent Carol Hilty likes to say that the Colorado School for the Deaf and the Blind, although unique, is simply a school serving the children of Colorado. “Our students just happen to be deaf and blind,” she says.



*Upper level of the new lobby.
The stone wall shown here used to be an exterior
wall before the renovation.*

THE NEW BUILDING

Upon entering the Gottlieb lobby, one is first struck by its bright airiness and upbeat atmosphere. Expansive windows let in a wealth of natural daylight. A sense of timelessness pervades the foyer, as two of the original exterior stone walls now serve as interior walls, with original windows showcasing photographs of students in the Gottlieb classrooms who studied here in days gone by. “We wanted to provide a world-class facility while maintaining the rich history,” explained Coppedge.

A plaque on the wall tells the story of the original building, erected in 1890, which burned down in 1950 and was rebuilt in 1952. Students occupied the old building from 1952 until vacating it for the spring and summer of 2011, reoccupying it for the Fall 2011 semester.

“One of my favorite features of the new building is this—I can stand here in the foyer and have a conversation in complete view of a student or teacher up on the second floor. It’s a far cry from the old 1950’s style school made up of classrooms and long

corridors,” remarks Hilty.

Indeed, it doesn’t take long to grasp the value of this open, naturally lit building when you see the students and faculty conversing in American Sign Language (ASL). According to Hilty, openness was what they most wanted at the outset of the design for the new building. Not incidentally, this openness not only enhances communication for the deaf; it provides “passive supervision,” enhancing security and encouraging appropriate behavior.

The Block’s rear section with comfortable sofas can be sectioned off as a commons area for students to relax between classes. When the superintendent addresses the entire staff—usually once a month—she’ll stand at podium the front, with seating set up for about 145 people. The monitors on either side of the room allow visibility of the interpreter to people seated toward the back of the room. Technology allows the superintendent to connect to staff members who work off campus during these monthly meetings.

CSDB’s intent was to reconstruct this historic building in a manner that repaired all of the identified deficiencies, many



Carol Hilty has plenty to say, with words and hands, as she converses with students and faculty who happen by.



The 200 Block is equipped with a sliding glass partition that can section off smaller spaces, or be left open and set up as an auditorium to accommodate a seated audience.



The 200 Block utilized for literacy morning story.

of which centered on security, safety, and accessibility; and, upgrade the student experience by installing state-of-the-art technology specific to the needs of students who are deaf, both in Gottlieb and around the state.

The project scope included a total renovation of the 29,000 square foot existing school building, including exterior envelope repair, new historically compatible windows, as well as new mechanical, electrical, communication and fire protection systems. Also included was an approximately 6,000 square foot addition which provides an accessible yet secure main entrance, adjacent administrative space, the central building “commons,” a media center within the school and a new science lab. The entire facility provides appropriate lighting levels for signed communication, acoustical control for hard-of-hearing students and staff, and education spaces that meet 21st Century education standards.

“From an architect’s planning and design perspective, our goals extended beyond those set forth by the school’s planning committee,” explained Coppedge. “We wanted to craft beautiful, functional spaces that create a feeling of wellbeing and school pride from the moment one steps into the building foyer. It was our goal to preserve the historical aura of this beautiful 62-year-old structure while gracefully introducing modern technology and style.

THE STUDENTS RESPOND

Robin Hubbard has been a student at CSDB since 1998 when she was three years old. She graduated high school in December of 2013 and is now attending CSDB’s Bridges to Life program. Robin has plenty to say about the school before and after the renovation. “I’ve gone through a lot of changes here,” Robin signs. “There’s a lot of new stuff—I love the exposure to all the different things we need to understand. I especially love the technology! We didn’t have much of that before—and now we have Smart Boards, open space, and lots of windows. It’s much easier now. I can pick up things much more quickly. The technology hooks me into the rest of the world all the time.”

Robin adds that the new building is better because it’s so much more open visually. “School is so much more social now. With the old narrow hallways it was harder to communicate; now with the open spaces it’s so much easier to see what the person’s saying.”

“The outdoor science classroom is awesome! Now we get to learn more about biology, animals and plants—the earth. Being outdoors makes it more fascinating to me. Now I’m interested in being able to save the environment. The openness feels fresh and it has made a big impact on me. I feel like there’s more information and communication taking place here.”

Aaron Kellogg, a senior at CSDB, has grand ambitions. He wants to be the CEO or CFO of a large company. What is front-of-mind for him, and the most exciting aspect of the Gottlieb renovation, is the 21st century learning environment it offers and the impact the new technology has had on his education.

“It’s easier to use things; we used to have to carry around our laptops and we had to work harder because nothing was there. Now, each classroom is fully equipped with all the technologies we need. The technology makes everything faster, easier, smoother.”

“The new open spaces make it feel like it’s not so crowded, and it’s definitely much more visual and social. Especially for an individual who’s deaf—because we use our eyes so much to communicate. The old building was limited visually. Now it’s great because we can see everything—the middle school, the office staff, the counselors and teachers, and it’s much easier to communicate. It’s just wonderful that you can see so much and it’s definitely better for communication.” Then he adds, “But I have a choice to pay attention or not to. I’m the one in control of my body, not the school.”

Dania Daniel came to CSDB in fifth grade. She’s now a sophomore. Although it took her some time to get accustomed to the change in her school environment, she likes the historical parts, and is glad they kept the historical connection when they added on. Dania is most enthusiastic about the outdoor classroom and the technology present throughout the school. She found the renovation challenging, though. “There’s so much happening, and I had to get used to all the changes.”

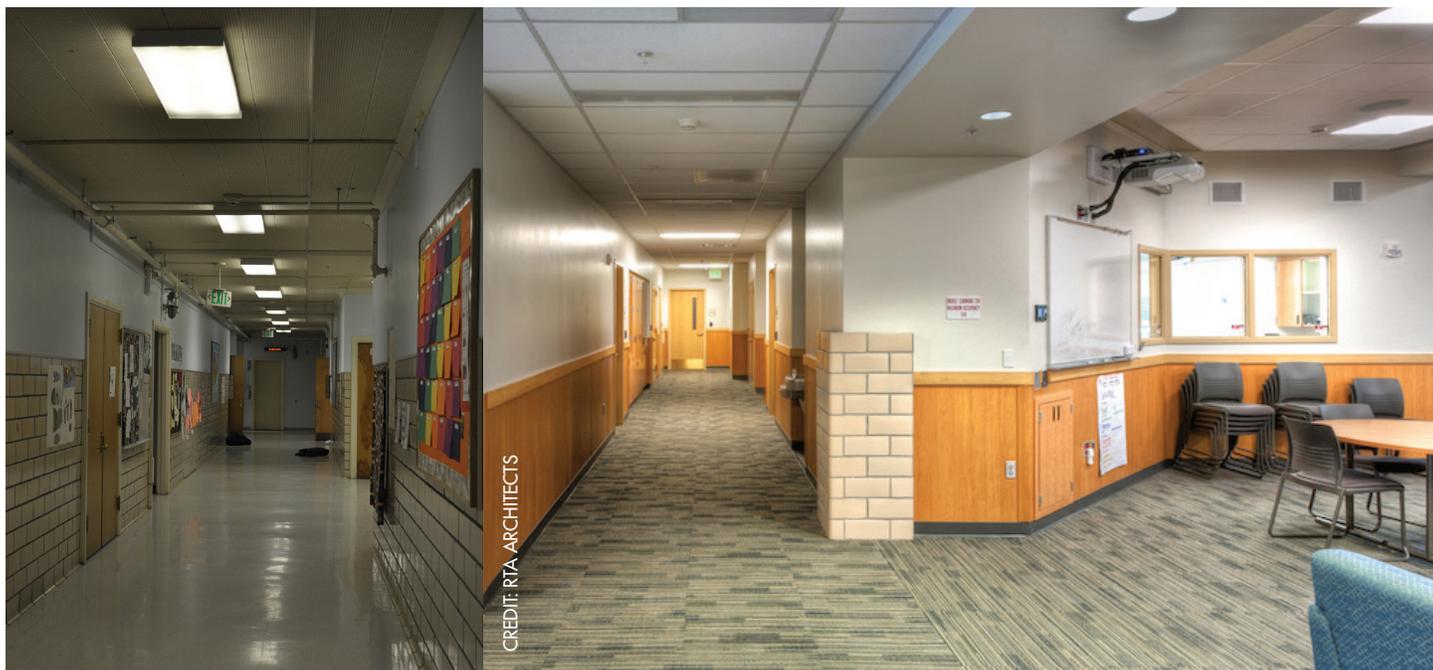
Dania expressed some frustration having to learn how to get around the new building. She feels like she’s always running up and down and tends to make it to classes late. The openness of the new building makes her feel like there is too much activity going on. “It can be annoying.”

On the up side, Dania likes the technology. “We didn’t have this before, so this is new and different. We have more equipment and technology. I’m much more interested in science now. I love science. I really like learning about plant and animal cells. I also like using the technology to investigate things. For example, people can check out things like bad allergies with the equipment we have now. I love that because I want to do CSI (crime scene investigation). The only problem with that is that I can’t stand math!”

COMMUNITY INVOLVEMENT

“The renovated Gottlieb Building has been a great source of pride for students, staff, and the CSDB community,” notes Superintendent Hilty. “We’ve worked to build critical partnerships in the community, and are presently very engaged.” For example, CSDB is partnering in a research study with the US Air Force Academy specific to employability of individuals who are deaf or blind.

Technology exists in virtually every area of the building. The building contains a media center and multi-purpose room in which community sign language instruction is offered. Distance



Hall corridor before and after the renovation.



learning environments allow the classroom to fully connect to students who are deaf in remote areas of Colorado. The ability of these remote students and families to fluidly connect with the students and staff on campus enriches their lives in a way that was not previously possible.

Families of children with sensory disabilities are always welcome to visit CSDB whether they are considering enrollment or not.

LESSONS LEARNED

As architects and planners, RTA found the student responses to the newly designed building instructive. “Overall the students are happy and proud of their school,” muses Stuart Coppedge. “We did, however, gain a new appreciation for the degree of difficulty change makes to students with special challenges. 100 percent visual all of the time isn’t necessarily for everyone. Dania’s comments have given us more to think about, like providing ‘zones of refuge’ or visual privacy areas for students who may get overwhelmed by the increased visual stimulation created by the open floor plan. RTA Architects continues to engage with the users of our buildings for this reason. Our learning never stops.”



CREDIT: RTA ARCHITECTS

Before and after photos of the Gottlieb’s southeast corner, where the addition, including the new entrance, animates and enhances the campus.



About Brian Calhoun

Brian Calhoun, AIA is a Principal at RTA Architects. With both a Bachelor of Architecture and a Bachelor of Science in Structural Engineering, Brian brings a strong technical and organizational background to the RTA architectural team. Since graduating from Texas Tech University in 1993, Brian has acquired almost two decades' experience working in the field of architecture. LEED® accredited, Brian has an extensive knowledge of high-performance building systems and is an advocate for energy efficient buildings.

For more than 60 years RTA Architects has created award winning architectural and interior designs for the Colorado built environment. RTA specializes in education, healthcare, retail, and commercial properties, delivering beautiful buildings that serve the unique needs of their owners and occupants. The Gottlieb Building earned awards from the American Institute of Architects, the Council of Educational Facilities International, and the Historic Preservation Alliance of Colorado Springs.



These photos show the vivid contrast between the old science classroom and the new, state-of-the-art science lab.

