2013 CEFPI Utah
Educational Facility
Innovation Award

Endeavour Elementary

Davis School District
Endeavour Elementary School
New Primary School
Jeanne Jackson, FAIA
Endeavour Elementary, named after the space shuttle, stimulates children’s imaginations with a playful and appealing astronomy theme; lighting, signage, play equipment, and floor and ceiling patterns reinforce the theme. Visitors and students cross a scale model of our solar system laid out graphically in the entry plaza to enter the school adjacent to the Media Center, which features spectacular planetarium quality planets and moons visible from outside.

The school is designed to support a project-based educational pedagogy. Students are divided into four smaller groups, (one specifically for kindergartners), each clustered around a central open space that incorporates a flexible learning space, daily access to technology, and space for many different types of activities. Each color coded small learning community is named for a different galaxy; constellations laid out in the collaboration areas’ carpet tiles pique student interest and provide an additional layer of identity for students. Within each of these “galaxies”, teachers have their own place to prep and collaborate with each other.

Small Learning Communities can be individually secured, allowing the school to be ‘selectively permeable’ for community activities in the evening – in other words, access can be restricted or permitted to each zone of the building – Media Center, Multipurpose Room, or a Learning Community, for flexible use by the larger community. Exterior courtyards between the wings are carefully designed in 4 unique zones to provide an extended outdoor learning environment – students “Listen”, “Act”, “Experiment”, and “Think” in specifically designed outdoor spaces.

While the school district does not typically seek LEED accreditation, they are extremely interested in high performance sustainable facilities. As detailed in the technical information, Endeavour is designed to fulfill very high energy performance criteria.
**Project Narrative, Continued**

**Site Considerations**

- The building was oriented to take advantage of proper solar orientation for the classrooms with shading devices on the south facing windows.

- Visitors to the school enter between the administrative offices and the “Planetarium” – i.e., the Media Center – which bracket the front entry. These spaces feature large expanses of glass that take advantage of the stunning mountain views.

- Natural landscaping was utilized everywhere except the actual playfields in order to promote water conservation.

**Technology Systems**

- All classrooms and collaboration areas incorporate sound reinforcement.

- Ceiling-mounted projectors in all classrooms.

- Wireless computer capability throughout building.

**Technical**

- Low maintenance ground stained concrete floors with inlaid metal stars and moons, are utilized throughout circulation and restroom areas.

- Sustainable ground source heat mechanical system.

- Proper solar orientation for all classrooms, shading devices on the south facing windows.

- High output T-5 lamping with automatic dimming and motion detectors.

- Locally-produced concrete block building materials.

- High performance glazing.

- Highly insulative building envelope.
Endeavour Elementary began as the latest iteration of a prototype plan that Davis School District had successfully utilized several times before. The building was a prototype in the true sense of the word – post-occupancy evaluations of the most recently completed school were used to influence the design and the mechanical and electrical systems were reconsidered for each school. At Endeavour, however, the process was far more in depth than it had been for the previous versions.

While the earlier prototypes had been very successful, the Superintendent challenged the design team to push the envelope on what a school building can be. A committee was established with the architects, senior district administration, and several faculty and staff to participate in the process. To begin, more in-depth post-occupancy interviews were conducted at all the prototype schools built to that point. Several design workshops were conducted with participants from all levels of the administration and staff.

One of the main objectives that came out of this process was the desire to increase the educational saturation within the building. Using the buildings as a teaching tool has been well established; indeed the previous versions of the school had included educational pieces throughout to engage the students. The question was, could the idea of the building of a teaching tool be expanded to create place that not only enables education but truly fosters and nurtures that education? Additional goals that came out of the planning process were to give the school a proper identity that the students could be proud of and to create a more fun and playful atmosphere that would excite the students. After the objectives were identified, it became clear to the team that these were not distinct items to be addressed and checked off a list. The only way to successfully satisfy all the goals was to consider them holistically and seamlessly incorporate the educational components through all aspects of the building. The result of that integration is Endeavour Elementary School.
Narrative – Planning process, stakeholders and goals

A theme would be introduced to the prototype that would be pervasive and evident in all areas of the building from the exterior site down to the floor finish. The intent was to create a science based theme that the students would be unable to ignore and would excite their imagination everywhere they went in the school. Space and Astronomy was identified as a theme that was robust enough to engage the students and contribute ample educational opportunities to meet all the goals set out by the committee.

As the design progressed, the team became more and more excited at finding new and innovative ways to incorporate the new theme. The heart of the school had always been the Media Center – it was located right at the entry and right at the pivot point of the building. Because this space was so important to the school, it was here that the most visible parts of the theme would be placed. Large scale, custom painted, museum quality planets were designed to hang in the Media Center, highly-visible from both the interior and the exterior. The theme was extended into the houses in several ways. They were each named after different galaxies and the entry included large, high resolution images of those galaxies from the Hubble Space Telescope. The carpet pattern in each houses emulated star patterns from the galaxies as well. All of this was documented in easy to understand signage for the students to discover. All this led to a school that is a vibrant, fun environment for the students in which they can’t avoid learning.
Typically it is very difficult to accurately evaluate the efficacy of architectural moves. How does one scrupulously demonstrate that a school building improves and enhances the educational environment of the students? In the case of Endeavour Elementary, however, it is very easy; the school has hard data showing the success of the program, examples of which have been included in this package. Across the board, Endeavour is outperforming all other public schools in the state. In the most recent school rankings issued by the Utah State Comprehensive Accountability program, Endeavour ranked #1 in the state with 584 points out of 600, compared to the state average of 435 points.

The school district has a database of student achievement it uses to keep track of individual student performance and improvement over time. At Endeavour, in Science, Math and Language nearly 100% of the student population is proficient, the highest level in the district. More importantly, in those same subjects, nearly 100% of the students showed improvement from the year before. The only thing that changed for the students that caused improvement was moving to a new school. But what helped facilitate that improvement? The faculty and staff at Endeavour embraced the space and astronomy theme of their school and integrated it into all aspects of their curriculum and daily life. For reading assignments, biographies of astrophysicists are discussed. Naturally, astronomy and space exploration are favorite topics for the sciences. Every department has embraced the challenge of integrating the theme of the school into the lesson.
And the administration has gone beyond that to keep kids’ heads in the stars. When talking to students they refer to which galaxy they are in instead of which grade. Rather than an horror roll to highlight high performing students, they have a list of Super Nova. The principal has stated that the theme of the building and the informative signage are directly related to the high performance of the students. It energizes them and makes them excited to learn more. And the cross-curriculum integration has enabled all departments to benefit and improve, not just the sciences.

A fun atmosphere and iconic graphics throughout the building are punctuated with informative signs describing what the students are seeing. Each display is coupled with a description written for any child to understand with probing questions designed to encourage the student to think about the topic further – What is a galaxy? How are stars formed? How much of your body is made up of stardust? Both the anecdotal evidence and the hard data evidence prove that the school has exceeded every educational goal that was established. And that same evidence points to the building and its theming as a major driver of that success.

**Narrative – How the completed project accomplished desired methodology and goals**

**Antennae fast facts**
Distance from Earth: 62 million light-years
Width: 10,000 light-years
The Antennae galaxies are two giant spiral galaxies in the constellation Eridanus, forming a tidal connection. The two galaxies are moving apart. The interstellar gas in the interacting region is seen as a bright blue star-forming region, with bright stars and ionized gas surrounding it.

**What is a galaxy?**

The Antennae galaxies are two of the nearest and youngest examples of a pair of colliding galaxies. The Antennae galaxies are moving apart and will collide in the future. The Antennae galaxies are the site of an active star formation region. The Antennae galaxies are also the site of an active star formation region, with bright blue stars and ionized gas surrounding it.

**What is the name of our galaxy?**

The name of our galaxy is the Milky Way. All of the stars that you see at night are part of the Milky Way. When you look at the night sky, you see a spiral galaxy stretching across the sky.
Science Percentile Results for DAVIS DISTRICT

(Report filtered by grades: 01, 02, 03, 04, 05, 06)

School Year: 2011
District: DAVIS DISTRICT
Gender: All
SES: All
ELL: All

Subject: Science
Ethnicity: All
SWD: All
Mobile: All

Scale Type: Percent

Options:
- Filter: Select grade(s) and click Submit
- Select

Schools listed on the graph include:
- Endeavour Elementary
- Morgan School
- Windridge School
- Heritage School
- Snow Horse Elementary
- Valley View School
- Stewart School
- Oak Hills School
- Adams
- Boulton School
- Bluff Ridge School
- Centerville School
- East Layton School
- Saginaw School
- Centennial
- Champion
- Liberty Elementary
- Fremont School
- West Point School
- Cozy School
- Foxboro Elementary
- Sunset School
- Mountain View School
- Washington
- Ainsworth
- H. D. Burton School
- Lakeridge
- Antelope School
- South Weber School
- South View School
- South Mill School
- Lincoln School
- Highland View School
- East Layton School
- Layton School
- Parkside Elementary
- West Clinton School
- White Deer School
- Hill Field School
- King School
- Woods Cross School
- Millville
- Shadow Ridge
- Ogden

Note: Scale values are approximate and should be verified with actual data.
Math Percentile Results for DAVIS DISTRICT
(Report filtered by grades: 01, 02, 03, 04, 05, 06)
Language Arts Percentile Results for DAVIS DISTRICT
(Report filtered by grades: 01, 02, 03, 04, 05, 06)
CRT Results for ENDEAVOUR ELEMENTARY

Gender: All  SES: All  ELL: All  
Ethnicity: All  SWD: All  Mobile: All

2012 CRT % Proficient for ENDEAVOUR ELEMENTARY

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<td>DAVIS DISTRICT</td>
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<tr>
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<td>71%</td>
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% Prof Over Time for ENDEAVOUR ELEMENTARY

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Progress Scores

Percent Proficiency

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<th>2010</th>
<th>2011</th>
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<tbody>
<tr>
<td>Language Arts</td>
<td>94%</td>
<td>95%</td>
<td></td>
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<tr>
<td>Mathematics</td>
<td>92%</td>
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<tr>
<td>Science</td>
<td>92%</td>
<td>95%</td>
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* Mathematics scores from 2009 received a new cut score which changed the scaling and equating. Data from 2009 and on are not comparable to prior years.
Front entry with view of planets in Media Center. Visitors and students of Endeavour Elementary cross a scale model of our solar system laid out graphically in the entry plaza.
The Media Center is intended to excite students’ imaginations besides the planets, space themed quotations and graphics are sandblasted on the glazing.
Each Small Learning Community is named after a different type of Galaxy - visual imagery is from The Hubble Space Telescope.
The daylit Collaboration Spaces are highly supervisable from classrooms, supporting multiple learning activities.
The feature window of the Multipurpose Room not only provides valuable daylighting, it highlights the Hubble image of the Eagle Nebula.
One of two courtyards between Small Learning Communities. Courtyards include 4 distinctly different zones, planned to accommodate different activities: “Listen”, “Act”, “Experiment”, and “Think”.
Endeavour Elementary stimulates children’s imaginations with a playful and appealing astronomy theme; lighting, signage, play equipment, and floor and ceiling patterns reinforce the theme throughout the school.
The daylit Collaboration Spaces are highly supervisable from classrooms, supporting multiple learning activities.

Students gather in the stepped area named after the Constellation above their heads – Draco.
Courtyards are zoned for different learning activities: “listen”, “act”, “experiment”, “think”

Play equipment reinforces the astronomy theme

Classroom windows are oriented to the north or south to allow daylight to be harvested and controlled

main entry

map of our solar system on the entry plaza

kindergarten play area

Lake Ridge Drive

255 West Street

bus drop-off

drop-off

parking

play fields

playground

new elementary school

north
# Project Details

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<tr>
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<td><strong>Endeavour Elementary School</strong></td>
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<td>2. District Name</td>
<td><strong>Davis School District</strong></td>
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<td>3. Award Category</td>
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<td>4. Superintendent</td>
<td><strong>Dr. W. Bryan Bowles</strong></td>
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| 5. Contact Person | **Name:** Gary Payne  
                      **Email:** gpayne@dsdmail.net  
                      **Phone Number:** 801.402.5346 |
| 6. Type of Facility | **New Elementary School** |
| 7. Number of Students Impacted | **900** |
| 8. Project Size | **74,870 square feet** |
| 9. Occupancy Date | **August 2010** |
| 10. Design Professional | **VCBO Architecture** |
| 11. General Contractor | **Hogan & Associates Construction** |
Print, Sign, Scan and Submit with Package

Name of Project: Endeavour Elementary School

Location of Project: Kaysville, UT

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✓ Print photos on CEFPI marketing materials, i.e. brochures, awards, call for entries, etc.
✓ Print photos and project details in the CEFPI Design Portfolio, if selected as a finalist.
✓ Display photos at local or regional CEFPI, UFOMA, CAE or USBA events.

Please Note: CEFPI maintains an in-house archive of school designs as part of our research library. Your information will be entered and recorded as one of those designs.

School District: Davis School District

Responsible Party/Photographer: Dana Sohm, Sohm Photografx

Print Name: Jeanne Jackson, FAIA

Signature: [Signature]

Date of Release: November 15, 2013

Photo Release: (Return SIGNED copy with your submittal)