THE WORKDAY LEARNING CENTER
Monte Vista High School, Danville, California

01/ PLANNING PROCESS
02/ BUILDING PROGRAM
03/ BUILDING DESIGN
04/ EDUCATIONAL & PHYSICAL ENVIRONMENT
05/ OUTCOME
“Even the most misfitting child who’s chanced upon the library’s worth, sits with the genius of the earth and turns the key to the whole world.”
Monte Vista High School (MVHS) is one of three high schools in the San Ramon Valley Unified School District in northern California. It is a comprehensive 9-12 public high school with a student population of approximately 2,200. It is located in the suburban town of Danville, 35 miles east of San Francisco, in a community with a high level of parental education and high expectations for the education of its children. As a result, MVHS is rated in the top 2% of high schools in the nation and the top 3% in California.

In March of 2011, the school district hired an architect to design a new student learning center to replace the current library on campus, following a generous gift from a private donor. The donor’s vision for the new building was to combine the library functions into a forward-looking, student-centered learning commons, in which collaborative learning, peer interaction, and regular exchange became the main focus of use.

The Workday Student Center was to symbolize the cooperative learning process by providing a mix of active, busy spaces for social interaction and quiet, contemplative spaces for group or individual study. A large café and lobby on the first floor with small study alcoves allow for open collaboration in which students can be noisy and consume snacks or drinks at the same time. Two large project rooms off the main lobby support larger cooperative student projects, or serve as a venue for testing or college counseling presentations. Social spaces on the first floor spill into the adjacent exterior academic and senior courtyards. On the second floor, the typically quieter library functions, including stack areas, house a reading room with a variety of seating options, a large group-study area, and smaller individual study rooms and computer areas. The library circulation desk provides supervision for the second floor, while the college counseling office and two additional IT support staff members oversee the first floor.

The building design incorporates the basic principles of sustainability – a durable, efficient design that imposes minimal impact on its immediate surroundings and is responsive to an exceptionally beautiful site nestled into the base of famed Mount Diablo, a geographically significant icon in northern California.

The architects were tasked to deliver an iconic, world-class building, which departs from, but still ties into, the current dominant campus aesthetic of red standing-seam metal roofs. The building also needed to provide warm and inviting outdoor spaces that help extend indoor use to the outside.
PLANNING PROCESS

STAKEHOLDERS AND CHALLENGES

Through a series of workshops, meetings, open forums, presentations, and collaborative dialogue, the architects initiated the shared governance process, leading to campus, district, and donor input on the space needs and design aspects (fig. 1 on page 5).

The determination and quantifying of the required building needs developed into a schematic assembly of building functions. Participants in this process collaborated on the selection of the project site, investigating the pros and cons of five specific sites, two of which are described in this document.

Finally, two workshops in which students were given visual examples of similar buildings and spaces helped the team identify important student priorities for the new building.

During the project kick-off meeting, all stakeholders were asked to verbalize their vision for the new building. The resulting dialogue revealed that expectations varied significantly (fig. 2, page 5). At one end of the spectrum, the librarian and her staff proposed recreating the traditional library, in which quiet, individual study and the display of books were most valued. The new building was to provide better lines of sight for easier supervision of entries, stack areas, and study tables. On the opposite end, the donor advocated a library without books, in which students would be able to hone necessary collaboration skills in a variety of settings in preparation for college entrance. A flexible and modular layout was envisioned to allow students and staff to configure and re-configure the spaces as need be. The district and school administration saw a building that would foster 21st-century learning in an environment conducive to the pursuit of academic instruction and social interaction. Last, the school IT staff proposed a building with state-of-the-art digital tools and audiovisual equipment in support of varied learning styles, giving students access to skill sets necessary in a rapidly changing world.

At the end of the meeting, it was evident that the library staff was at considerable odds with the rest of the group. In order to overcome the impasse, the architects returned to the next group session with an in-depth look at how libraries developed over their long and famous history, which is summarized on the next two pages. The presented material brought to light the close correlation of technology and space, and how radically library space and use changed when watershed events, such as the invention of the alphabet or the printed book, took hold. It became evident to all participants, including the librarians, that we find ourselves in an age of equally profound changes affecting the use and function of contemporary libraries. This opened the minds of the group to an ongoing lively dialogue which ultimately culminated in compromise and consensus supported by all.

fig. 1: Stakeholders in numbers --- of participants
(* ) The number of students attending meetings varied through the project duration

fig. 1

fig. 2: Surveyed group during initial kick-off meeting

Librarian
College Counselor
propose to build
new library similar to
the existing 50-year
old library

District
Administration
Propose building
library relevant to
21st century learning

Donor
Proposes to build
a bookless library

Students/IT
Envision an
information commons

Challenge at project kick-off
## Reflections on the History of the Library

<table>
<thead>
<tr>
<th>Method of Communication</th>
<th>Type of Communication</th>
<th>Type of Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000-500 BC</td>
<td>Hieroglyphic</td>
<td>Vault</td>
</tr>
<tr>
<td>Stone/Clay/Papyrus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500 BC-AD 1300</td>
<td>Alphabet</td>
<td>Vault</td>
</tr>
<tr>
<td>Papyrus Rolls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AD 500-1500</td>
<td>Alphabet</td>
<td>Room</td>
</tr>
<tr>
<td>Animal Parchment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Decorated books)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500-1800</td>
<td>Printing Press</td>
<td>Library</td>
</tr>
<tr>
<td>Paper (books)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1800-2000</td>
<td>Mass Production Printing</td>
<td>Library</td>
</tr>
<tr>
<td>Paper (books, journals, newspapers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900-present</td>
<td>Electronic Digital</td>
<td>Computer Disk</td>
</tr>
<tr>
<td>Electronic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 1:** Source
When fire destroyed the library at Alexandria in Roman antiquity, over half of all mankind’s recorded knowledge was lost, or as Ted Hughes put it in his poem, *Hear It Again*, the burning of the library “brain-damaged the human race.” It was not until the development of the monastic libraries in Europe around AD 1200 that humanity again amassed in a single place what approached the collective wisdom and knowledge of the age. Today, if you were to destroy all the world’s libraries, it is unlikely that more than 20% of human knowledge would be lost.

<table>
<thead>
<tr>
<th>Reading Position</th>
<th>Type of Space</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td>Combined Library/Museum</td>
<td><img src="image1.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Standing</td>
<td>“Cloister” System with Book Cupboards</td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Standing/Sitting</td>
<td>“Lectern” System with Open Shelves for Chained Books</td>
<td><img src="image3.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Standing W/ Stall System</td>
<td>“Stall” System with Integrated Shelved Partitions and Seats</td>
<td><img src="image4.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Sitting W/ Tables</td>
<td>Open Plan Center with Enclosed Perimeter Rooms</td>
<td><img src="image5.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Sitting/Lying W/Screen</td>
<td>Large, Open Plan with Integrated Shelves and PC’s</td>
<td><img src="image6.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>

*fig. 1: Brian Edwards, Libraries and Learning Resource Centres, 2009*
THE CHANGING FACE OF THE LIBRARY - CURRENT TRENDS

In addition to detailing the long history of the library as an institution of knowledge and civic pride, the architects presented a careful comparison and study of current trends and changes in library programming, including an in-depth visual tour of some of the most forward looking contemporary case studies. With the help of this information, the stakeholder group emerged with a deeper understanding of the needs and once-in-a-lifetime opportunities this project presented to all who had a voice in shaping it.

Before breaking into smaller work sessions with individual user groups, the team was able to formulate an overarching vision (see page 9), which included and met the expectations of the district, administration and staff, and donor. It formed the basis for all subsequent programming discussions and ultimately informed the design of the building itself.

fig. 1: ibid.
THE ROLE OF THE 21ST-CENTURY LIBRARY LEARNING COMMONS - Stakeholder Vision Statement

The 21st-century library learning commons increasingly exists independent of the written word. It provides a place for sharing of knowledge, welcomes the use of the spoken word, and encourages the pleasure of discovery and exchange. Contrary to its earlier counterpart, the contemporary library reinforces the joint support of knowledge, equips students with digital skills needed in a changing world, and takes on an increasing role in awakening the joy of life-long learning.

fig. 2: ibid.
WORKSHOPS

Four workshops with end users of the building were conducted to gather more detailed information about habits, needs, and desires. Case studies of related buildings, spaces, and uses served as a point of departure for each workshop and to help the discussion stay focused.

STUDENTS

The workshop with students consisted of two parts. The first was a survey in which they were asked how they use the library, what they use it for, and when. The second part consisted of responding to precedent images which covered a wide range of issues, such as furniture, building aesthetic, colors, and open space. At the conclusion of the workshop, the students prioritized their vision for the new library as a place where they can work on their assignments, have access to copiers, printers, and scanners, do research, write essays, and work on their projects. They also are looking for quiet space where they can focus and read, and wait for class or to be picked up. They long to be able to relax and socialize with friends in a place that is safe, comfortable, bright, and uplifting.

When asked what they thought about the existing library, they mentioned the following issues that deterred them from using it:

- Building is too crowded
- Long waitlist for computers or tablets
- Don’t know how to locate books
- Better book selection at local public library
- Noise control is harsh/no opportunity for socializing
- Claustrophobic and dark
- Need to re-invent librarian

LIBRARY STAFF AND SCHOOL ADMINISTRATION

The librarian was instrumental in determining the peak hours of library use. As a result, the new building was sized for 100 students at peak hours during lunch, and 40-60 students on average during the rest of the day. The librarian and staff also prioritized a list of functions the new building should provide. They are, in order of priority:

- Printing, computers, textbooks
- Homework, studying
- Reading, projects
- Classrooms
- Instruction

The librarian had specific issues with security and requested a building with no windows, or only high windows with no views into the inside.
IT/AV

The IT/AV group, consisting of school and district personnel, listed their top two priorities for the new building. The primary function of the building should be academic: a place which fosters creativity and collaboration, can be flexibly used for multiple purposes, and accommodates ever-changing future needs. The secondary function should be social: a commons where young people can enjoy friendship and leisure during their busy daily schedules.

This group also listed specific IT equipment needs such as video-conferencing capability, touch-screen card catalogues, interactive displays, and information kiosks. They anticipated an increase in mobile and personal devices, and requested furniture solutions with integral power and data access.

SUMMARY

At the end of the extensive planning phase, a summary of adjectives that best describe the new facility formed the basis for the space program and the architectural layout and design:

Flexible
Collaborative
Wireless
IT integrated
Open and inviting
Comfortable
Secure
Sustainable
Uplifting to the spirit
Accessible during longer hours

fig. 2: Images of the existing campus
STUDENT CLASSES

During the schematic and design development phases, the architects, in collaboration with the school administration, conducted 5 class sessions with a select group of students who showed a particular interest in building design and construction.

Each session was tailored to share design concepts and engage the students in developing their own solutions. The five sessions, held over a 5-month period, had the following themes:

1. Design Update
2. Earthquakes and Buildings
3. Landscape Design
4. Furniture Layouts
5. Sustainable Design

In the first session, we gave them an update on the ideas behind the exterior and interior design of the building. We asked them to brainstorm, in groups, ideas for the red circulation spine that dissects the building and connects to the library circulation desk on the second floor. Some of their most compelling ideas included glow-in-the-dark stair steps, shadow pictures similar to the Exploratorium, “star” ceiling with twinkle lights, and a timeline of Monte Vista history.

In the second workshop, they created a collage on top of the site plan describing with images what they envisioned for the open areas around the new building. At the end of the session, the strongest ideas included giving all three quads their own identity, using wayfinding and commemorative devices, and providing diverse settings with bench layouts that create opportunity for interaction and discussion. They were most drawn to images of patterns in paving and planting, and preferred asymmetrical layouts. Most of their comments were directly translated into the overall landscape design.

fig. 1: Structural model of new building
The third workshop was an introduction into how buildings are held up and built to resist earthquakes. With simple demonstration frames, they learned to distinguish between moment frames and brace frames. Given the structural model of the building, they were asked to identify the two different framing systems and describe what they achieved.

In the fourth class session, students were introduced to Google Sketchup and were given a model of the building. Their task was to furnish one of the spaces with furniture components. Most students chose to furnish the tiered seating area. The resulting solutions all called for a variety of movable seating, ideas which were later incorporated into the furniture selection for the building.

The fifth and last session consisted of a walk around campus during which they were asked to consider different design features and how they could be made more sustainable. The discussion ranged from storm-water runoff to energy-efficient lighting and drought-resistant planting. The session ended with a reminder to the designers to consider sustainability. Of all five of the class sessions, this one was the most urgent and important to them.
The information gathered in the workshops supplied the basis for the space program, which was first broken into space types of louder or quieter areas. Seven types based on activity were identified, with considerable overlap and duplication of similar types in both loud and quiet areas (see list below). This strategy was to ensure that no space type was under utilized, and to guarantee the most efficient and optimum use of the building.

Room data sheets spelled out programmatic needs for each space (see room data sheets in separate document named Program Requirements), with detail on

### Space Type Identification Based on Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cafe</th>
<th>Lobby</th>
<th>Lounge</th>
<th>Group Study</th>
<th>Bar Study</th>
<th>Classroom</th>
<th>Learning Commons</th>
<th>Stacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating &amp; Drinking</td>
<td>CAFE</td>
<td>LOBBY</td>
<td>LOUNGE</td>
<td>GROUP STUDY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socializing</td>
<td>CAFE</td>
<td>LOBBY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Study</td>
<td>CAFE</td>
<td>LOBBY</td>
<td>LOUNGE</td>
<td>GROUP STUDY</td>
<td>BAR STUDY</td>
<td>CLASSROOM</td>
<td>LEARNING COMMONS</td>
<td>STACKS</td>
</tr>
<tr>
<td>Reading</td>
<td>CAFE</td>
<td>LOBBY</td>
<td>LOUNGE</td>
<td>GROUP STUDY</td>
<td>BAR STUDY</td>
<td>CLASSROOM</td>
<td>LEARNING COMMONS</td>
<td>STACKS</td>
</tr>
<tr>
<td>Computer Use</td>
<td>LOBBY</td>
<td>LOUNGE</td>
<td>GROUP STUDY</td>
<td>BAR STUDY</td>
<td>CLASSROOM</td>
<td>LEARNING COMMONS</td>
<td>STACKS</td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>LOBBY</td>
<td>LOUNGE</td>
<td>GROUP STUDY</td>
<td>CLASSROOM</td>
<td>LEARNING COMMONS</td>
<td>STACKS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
furniture configurations and IT/AV needs. The space program formed the basis for the design of the building, although the donor requested an upward adjustment of first floor space sizes twice during the design phase in anticipation of the popularity of the café, tiered seating, open study alcoves, and bar.
PROGRAM SUMMARY

<table>
<thead>
<tr>
<th>Category</th>
<th>Gross Square Feet (Gross SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social (loud)</td>
<td>2,096 SF</td>
</tr>
<tr>
<td>Study (loud)</td>
<td>2,959 SF</td>
</tr>
<tr>
<td>Information &amp; Study (quiet)</td>
<td>7,143 SF</td>
</tr>
<tr>
<td>Staff</td>
<td>1,194 SF</td>
</tr>
<tr>
<td>Support</td>
<td>1,265 SF</td>
</tr>
<tr>
<td><strong>Total Gross Area</strong></td>
<td><strong>14,800 SF</strong></td>
</tr>
</tbody>
</table>

BUILDING MATERIALS AND SUSTAINABILITY

The building complies with the California Green Building Standards Code and Title 24, which exceeds requirements typical for LEED Silver. Although not formally LEED certified, the building achieves sustainability through energy-efficient mechanical and lighting systems, durable materials, and low water-use landscaping.

LANDSCAPING

The initial scope for landscaping was confined to a 20’ area around the building, and was planned to tie into the existing Senior Quad abutting the new Learning Center on the west side, and the Upper Quad on the east side. As the design progressed, the donor requested a complete redesign of open spaces on all four sides of the building, which allowed for a seamless integration of interior and exterior. As a result, the design of the Senior Quad focused on gathering and intimate seating space in the heart of the campus, while the Upper Quad was designed to hold large crowds who could gather for special school or community events. A large Jumbotron video screen was added to the east façade to accommodate overflow crowds by closed-circuit streaming of school sporting events or theater performances.
SPACE DISTRIBUTION

TOTAL GROSS AREA
14,800 GSF

INFORMATION & STUDY (quiet) 48% 7,143 SF

SOCIAL

STAFF

STUDY

STAFF

STUDY

SUPPORT

INFORMATION & STUDY

STAFF

STUDY

SUPPORT

GROSS SQUARE FEET

1ST FLOOR

2ND FLOOR

LOUD

QUIET
Before starting schematic design, the committee embarked on selecting the most advantageous of five possible sites for the new building. Two of the five sites rose to the top of their list and are shown here.

The first site (fig. 1) is at the western end of the Upper Quad and enjoys commanding views of Mount Diablo and its rolling hills to the east, and the Las Trampas Regional Wilderness Reserve to the west. The new building would sit in the center of the academic precinct (see site analysis on pages 20-21) and would define and complete the form of both Upper and Lower or Senior Quads. Its elevated location would make it a beacon hovering above the red roofs of the campus which could be seen from the campus main entrance and drop-off and from residential neighborhoods surrounding the school.

A complicating factor for this location was that all major utility lines would be disrupted or would require complete replacement.
The second site is adjacent to the main vehicular entry and school drop-off. It would become the center of the communal precinct (see site analysis on pages 20-21) and is shown here in a conceptual design as a pavilion in the park and a gateway to the campus. Its accessible green roof would extend the small park in front of it and would make the building appear to be part of the ground plane. This solution had the advantage of disrupting no major utility lines or requiring replacement of existing ones.

In the end, the committee opted for the first site location due to its fantastic views and immediate adjacency to the two main open quads. It was envisioned that the campus center would shift from the current center around the drop-off area, which offers no amenities to students beyond sitting on the ground. The issue of utility replacement or relocation was addressed by the school district, which determined that the age of the gas line in particular required immediate replacement as a safety measure.
"With the exception of alphabets and number systems, the Net may well be the single most powerful mind-altering technology that has ever come into general use."

fig. 1

The invention of digital tools, the advent of social media, and the integration of the Internet into how we live, learn, and communicate, have placed a variety of physical requirements on libraries. Google’s pledge to digitize every book ever written calls the need for physical book storage into question. The focus on collaboration and communication challenges the idea of the quiet, majestic reading room. And finally, the mobility of digital tools and learning styles is forcing the concept of physical comfort to the forefront, in which the choice of a variety of seating postures and the ability to eat and drink enhance and stimulate the experience of reading, learning, and studying.

The design concept revolves around the idea of “crossroads” (fig. 2), a building in which flexible, open space crosses paths with traditional stack and quiet study areas. This idea was established during the many planning sessions, when the team considered how evolving technologies influence built space and how old and new could cohabitate in a “mixing chamber” where both intersect.

The two paths are graphically represented as either linear (orange bars) or dispersed (white dots). The linear bars represent information access through books, which can be understood as a linear process. The reader opens the book and reads from page to page, in a linear fashion. The same book can only be accessed by one user in the same library, unless there is more than one copy of the same book. The dispersed dots represent information access through digital tools, in which information is accessed from anywhere at any time, simultaneously and by an unlimited number of users.

fig. 1: Nicholas Carr, The Shallows (2011)

fig. 2: Conceptual diagram of past and future technologies
SITE ANALYSIS

The aerial view of the campus, established in 1965, reveals that all buildings were built on a grid and symmetrically to the left and the right of the performing arts building and the school cafeteria. Vehicular access is from two access points and leads to large parking lots, one of which is covered with solar panels to help reduce the campus’s dependence on the power grid with its many blackouts during the peak summer months.

Pedestrian routes consist of two major paths, both connecting between buildings in the east and west direction, with one of them providing much needed shade along its entire length.

Open green space is scarce on the entire campus, due to the shortage of maintenance funds and lack of grey water irrigation. As a result, the campus has large areas of concrete paving without any shade trees or landscaping features which could make these areas more attractive to students.

Functionally, the campus consists of three precincts: academic on its east end, communal and administrative in the center, and athletic on the west side. Built in the 1960’s, the overall campus aesthetic is dominated by red standing-seam metal roofs and beige stucco walls.
SITE OF EXISTING LIBRARY
AND BUILDING 100 SLATED FOR DEMOLITION

GREEN SPACE

PAVED OPEN SPACE

FUNCTIONAL ORGANIZATION INTO ACADEMIC,
COMMUNAL, AND ATHLETIC PRECINCTS
BUILDING ORGANIZATION

The site for the new building (diagram 1) lies in the center of the academic precinct and is bordered by three existing classroom buildings. In order to keep a minimal footprint on the site, the new building is distributed over two levels (diagram 2). This allows the Upper Quad and the Senior Quad to be maximized in size. In addition, a smaller open space facing the campus entry forms a triangular relationship between the three open areas (diagram 2).

Two intersecting paths through the center of the new building (diagram 3) create a simple geometry of four building quadrants. The two paths represent the “crossroads” (diagram 4) discussed in the beginning of this chapter, with one path connecting the covered walkway on the south to the new open space on the north, and the other the Senior Quad to the Upper Quad. As a consequence of this geometry, the building has four entrances, one on each side. Pedestrian connections to and from these doors tie seamlessly into the existing pathways.

The social and academic functions of the first floor are distributed diagonally over four quadrants and along the two axes. The north-south axis contains horizontal and vertical circulation, while the east-west contains offices on the first floor and study rooms on the second. This allows a mix of space types to be fluidly connected visually and physically. Glass partitions make different modes of study and gathering possible, while at the same time, mingling and eating spaces are but a small distance away. The first floor is intended to function as a public plaza, where students meet and work in a dynamic environment full of life and energy. The functions of the first floor
also seamlessly connect to the outside spaces. Tiered seating in the Senior Quad enables the space to be used as an outdoor classroom, while the Upper Quad has a variety of areas for informal gathering or for social or academic events with larger groups. On the second floor, the three quadrants formed by the two axes contain book stacks, computer stations, and collaborative learning commons respectively (diagram 5). The library desk is the destination of the north-south axis, whereas separate study rooms are contained in the east-west axis.
SECOND FLOOR PLAN

- Small Group Study
- Learning Commons
- Library Desk
- Librarian Office
- Library Workroom
- DEF Room
- Electrical Room
- Computers-On-Wheels Storage
- Staff Restroom
- Computer Stations
- Book Stacks
EXTERIOR MATERIAL SCHEME

INTERIOR MATERIAL SCHEME

**fig. 1**

Exterior elevation with juxtaposition of glass and solid paneling.

**fig. 2**

Exterior elevation

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ANALOG, PAST, SOLID

DIGITAL, FUTURE, TRANSPARENT

HI-TECH, VIBRANT COLOR

TRAIDITION, WARM COLORS

---

**fig. 1 : Exterior elevation**
The idea of the crossroads manifests itself not only in the organization of the plan, but also in the choice and arrangement of interior and exterior materials.

On the exterior, glass and cement paneling are interwoven to highlight the difference between solid and transparent, the past and the future. The second floor learning commons is completely clad in glass to take advantage of the views. Like a beacon, it hovers over the rest of the campus. Due to the south and west exposure, a ceramic frit pattern mimicking QR codes protects the inside from glare (fig. 1 and 3). The solid paneling, on the other hand, symbolizes the linear, analog, and traditional, and follows earthy colors of beige and light browns, mimicking the foothills around Mount Diablo that turn a deep gold in the summer months* (fig. 1).

The massing of the west façade is broken into two distinct volumes similar in proportions to the existing buildings flanking the new one (fig. 1). The east façade is more monolithic in response to the neighboring buildings.

On the interior, the two main axes carry the message of digital versus analog. The circulation axis is painted deep red, symbolizing vibrancy, vitality, and youth, while the opposite axis is clad in a linear wood laminate to recall the warmth of traditional libraries (fig. 2).

(*) In a later project phase, the cement paneling was changed to more economical stucco siding.
The Workday Learning Center has introduced many new opportunities for students. Extended hours of operation have allowed them to use the center early in the morning before the Zero period or in the afternoon after school. Access to the new building has significantly alleviated traffic congestion. Students increasingly opt to stay on campus longer hours and finish their homework in a place with access to printers, research, food, and drink. The building offers a safe environment after school with a choice of different activities under the supervision of the library staff on the second floor and IT staff and College Counselor on the first floor. As a result, the building reaches and exceeds full capacity on a daily basis.

During the day, the Senior Quad is overflowing with students. As planned, the center of the campus has shifted to the open spaces around the Workday Center, away from the area around the vehicular drop-off. This had been a safety issue for the school administration for many years.

When asked, both students and staff reported a sense of great pride in the building and the school. The forward-looking architecture, the open and inviting layout, the lively colors, the variety of furniture, and finally the IT integration all contribute to lifting the user’s spirit and to providing a place where young people can thrive and excel. The building exudes a sense of youth and optimism tailored to the needs and desires they expressed during the planning phase.

fig. 1: Main stair to 2nd floor library and learning commons
The tiered seating area in the main lobby of the building invites students into an open, light-filled space where they can sit and relax, socialize, or study. The space offers different settings: small study nooks with group tables, tiered seats with comfortable cushions and movable ottomans, and a bar where laptops or phones can be charged and students can study individually.

Visual connections to the second-floor stack area, to the IT offices and career counselor’s office, to the medium classroom/group study room, and the Café add vitality and energy. Just as the students mentioned in their workshops, “the library needs oxygen pumped into it”.

The play of light and shadow created by the sunscreen on the outside of the building washes this space in an ever-changing pattern of light and dark.
The seating in the Café is flexible and is rearranged by the students depending on need and activity. This space, similar to a Starbucks, has become a favorite meeting place. Students often prefer it to the large cafeteria on campus, because it offers more intimacy and some of the healthy food they requested, such as fruit smoothies, wraps, panini, and fruit. The Café stays open during extended hours, which makes the building especially attractive to students for after-school homework sessions and group assignments.
The second floor is dedicated to quieter group and individual study, with a variety of settings and opportunities for collaboration. Since the building’s opening in October of last year, an increasing number of teachers are bringing their classes here. The floor’s openness as well as the mix and adjacencies of different furniture and study modes allows for easy supervision and for different tasks to be performed at the same time. Full-height windows offer stunning views into the nearby hills and wash the space in natural light, a space suitable and conducive to learning.
Learning Commons

The reading area is an open space with movable, lightweight tables that make rearranging easy and effortless. The space can be converted into a classroom setting with projection, as shown here. While this activity is happening, other students can retreat to small study rooms flanking the open area. State-of-the-art projection screens and group work tables allow them to share computer content interactively. Study rooms are also equipped with dry-erase full-height walls where ideas and brainstorming can be recorded. The rooms are acoustically sealed.
Senior Quad

The open space adjoining the west façade of the new building is called the Senior Quad. It is designed with tiered seating suitable for outdoor classes or for informal meetings and discussion. Previously unused space, the Senior Quad has become the effective center of the campus, where students congregate between periods, at lunch, or after school.
Upper Quad

With the demolition of the old library, the size of the Upper Quad is considerably enlarged and allows for a variety of activities. This area used to be so deserted that it often became the victim of pranks or vandalism. Its open and inviting character now draws students to study outside, play frisbee, or simply hang out around the large natural stone seats and enjoy the view into the hills of Mount Diablo. The large screen allows for movie nights, sports events, or theater performances to be streamed for overflow crowds. The school is planning more community events in this space in an effort to share the amenities with a wider public.
Five months after opening day, the architects went back to campus to do an in-depth post-occupancy evaluation. Students were polled in a survey, and library staff, administration, and college counselors were individually interviewed. Highlights from the interviews are summarized here.

**PRINCIPAL**

The Principal declared that for her, everything in the building ranked 5 out of 5. The Center is shared with the community in events such as movie nights, and it has brought the campus a sense of pride. It has transformed how the students flow through the campus, and exceeds the requirements of the new Common Core, which relies more on collaborative learning than lecturing. What impressed her was how the design team brought ideas out of the students and included them in the process. It has changed her perspective on future input from students on other campus projects.

**LIBRARIAN**

The Librarian told us that although she is conservative, the building is contemporary, and is “the heart of the school.” Based on feedback she has received from students, “there’s no place they would rather be than here,” which means that the building is always teeming with students, making her feel like a “ringmaster.” She enjoys the views of the building toward the hills, compared with the previous library, and she loves the furniture. Other school districts and librarians are constantly touring it to make their own surroundings more fluid like the Workday Center. Although involved early on in the process, she would have liked to be more included in further discussions. The Librarian called the Center “a kid magnet,” and prefers to keep socialization on the ground floor, with quiet study on the second floor, as it was designed.

**VICE PRINCIPAL**

The Vice Principal observed that the quagmire of flow through the Senior Quad has been resolved with the building placement. An unintended consequence has been that the Café serves 500 students throughout the day, for breakfast, brunch, lunch, and after school. In fact, it is the only place in the entire district that serves food after school. He said that the collaboration between the designer and himself “fundamentally changed the course of the Student Center that it is today.” In particular, the early input and focus groups with students set the tone for the project. He felt that the design team had actually “listened to the students.” Aside from focus groups, a select number of students had even toured the furniture showroom to try out the furniture options. The flexibility of the space and movable furniture has changed how teachers are looking at the building and using it, because learning happens in different ways. He declared that this project “hit the nail on the head” and that it is being used “exactly as he envisioned it.”
"There is a direct correlation between the success of the building and student input."

**College Counselor**

The College Counselor feels energized to come to work every day, and said that students now find that she is more available than she was in her previous location. Her visibility in the Workday Learning Center has not only made her services more accessible, but also made her role more clear to both students and parents. The Upper Quad is used unexpectedly as overflow for sports fans when the gymnasium is sold out and games can now be televised on the outdoor Jumbotron screen. The Center has created a culture shift and become “an inspiration of what can be.”

**Students**

A one-page student survey was distributed with 20 questions. We received 86 completed forms back. Students were asked to rank their impressions of the exterior/interior, and identify how the Workday Learning Center had changed their study experience on campus. The majority ranked the building 5 out of 5 for improving their ability to study, with an equal number saying that it had enhanced their opportunity to socialize. Consistently, most declared that it matched their expectations and provided sufficient technology. In general, the Center had appropriate balance between study space/social space, and gave them a sense of being in a college environment, and they felt encouraged to linger. A large percentage expressed that the noise level was high, but the majority said that the Center supported collaborative learning. In their open-ended responses, the number-one student comment was to have more area for eating. Although the Café was added to the program as a bonus, it had essentially become the most popular space in the building, together with the group study rooms that continue to be in high demand. An unintended consequence has been the increased number of faculty who bring their students to the open computer lab area during class time to conduct projects. The Center hours have increased (open from 7:15 am to 5:30 pm) to keep pace with the frequency of student use before and after school. Although we were advised during programming to plan for 100 students, based on the previous Library count of 40-60 students maximum, the Center typically is now occupied by 100-150 students on each floor, particularly at lunchtime.

**Conclusion**

In the end, we found that the Workday Learning Center has transformed the campus in many ways, with positive impact to campus flow, educational requirements, student collaboration, group study projects, student socialization, after-school dynamics, faculty engagement, parent/community support, and school pride.
**Project Name:** Workday Learning Center

**Address:** Monte Vista High School, 3131 Stone Valley Road, Danville, CA 94526

**Size:** 16,229 square feet, 2 stories

**Budget:** Not disclosed by donor request

**Year completed:** 2013

**Building Function:** Learning Commons combined with Library

**Sustainable Features:**

1) **Landscaping**

The landscape plan was modeled after the *Bay Friendly Guidelines* to minimize water use (through efficient irrigation and drought-tolerant plantings), reduce maintenance, and decrease waste (through appropriate plant choice and design). Locally sourced stone blocks provide natural seating elements. Tree grates contain 100% recycled material. The lawn specified is a water-efficient mix. Large shade trees in the upper courtyard reduce heat island impact.

2) **Mechanical Systems**

Primary heating, ventilating and air conditioning systems were designed utilizing high-efficiency package gas electric air conditioning units with staged compressors and variable frequency drives on supply fans for single zone variable air volume operation on all systems over 6 tons capacity. This design allows staged cooling and reduced air flows during non-peak cooling periods for energy savings. All packaged systems were equipped with economizers to allow energy savings during milder cooling seasons. Systems with higher occupancies were also equipped with carbon monoxide monitoring to modulate outside air quantities when spaces were minimally loaded with people, and therefore reduce heating or cooling energy requirements compared to higher fixed outside air settings. Smaller support areas such as conference rooms and study rooms were equipped with a variable refrigerant flow heat pump system comprised of one larger outdoor heat pump with multiple individually controlled fan coils in each room. This system offers maximum individual comfort and energy savings, because each zone receives conditioning only when it needs it. The heat pump system utilizes inverter technology by varying the speed of the compressor in the outdoor unit to meet the changing load requirements of the indoor zones, thus allowing maximum energy savings. The system can provide simultaneous heating and cooling to individual zones depending on their exposures and loading, maximizing thermal comfort for all zones.

3) **Lighting**

All spaces are equipped with motion-sensored light fixtures to reduce energy consumption. The building features LED lighting throughout.

4) **Architecture**

Exterior shading screens and ceramic frit reduce glare and heat gain through extensive glass walls but still retain views. Durable and easily maintained interior and exterior materials, low VOC paints, and carpet with high recycle content were specified to meet or exceed school district standards.