

BIRNEY ELEMENTARY SCHOOL



7627



BIRNEY
ELEMENTARY

KIND

Executive Summary

Birney Elementary School is located in South Tacoma; an area of the city where 80% families are experiencing poverty and the challenges that come with it. Birney Elementary is one of the largest elementary schools in the district. It houses the largest preschool, giving children a strong start for elementary school. The school also includes a regional deaf and hard of hearing program, serving 90 students in preschool and elementary from 14 school districts up to 40 miles away

Birney Elementary is an integral part of its neighborhood; with generations of students and their parents living nearby. Community partnerships and a host of district support services are embedded in the culture of Birney to ameliorate the effects of poverty by individual student and family engagement.

In the spirit of Alice Birney, who founded the National Parent Teacher Association (PTA), the new Birney Elementary School is designed around a culture of family inclusiveness and support. A strong support network around students has been shown to strengthen their social and emotional skills. At the front of the school is a Family Connection Center that is a welcoming place for families to experience their children's learning environment and their teachers, engage with other parents and have access to community service providers.

The new Birney Elementary School extends the network of support through the entire school with the creation of the Learning Marketplace and the Learning Neighborhoods. Choice and play are important aspects of the design of these core areas of the learning environment. Giving children choice offers the experience of self-directed learning in accord with their interests, motivating themselves from within. Play is the state where children explore through imagination, creation and experimentation in ways that lead to growth. The Learning Marketplace and the Learning Neighborhoods are places where children experience the state of play and choice through a broad array of activities and experiences; building capabilities that will last them a lifetime.



The Visioning & Engagement Process included students, parents, teachers, and community partners (office of community partnership, local children's museum, University of Washington, DHH State leaders) A Design Advisory Committee was formed that included representatives of all the adult groups, including those who are deaf, with translators involved in all the gatherings. Students were given many avenues of having their voices heard and their aspirations included.

The new Birney Elementary School is a community center that supports children by supporting their families; for generations to come.

Scope of Work and Budget

Number of Students: 500

Total Gross Square Feet: 55,300 s.f.

Site + Building Construction Cost: \$29,500,000

Predicted EUI: 21.4

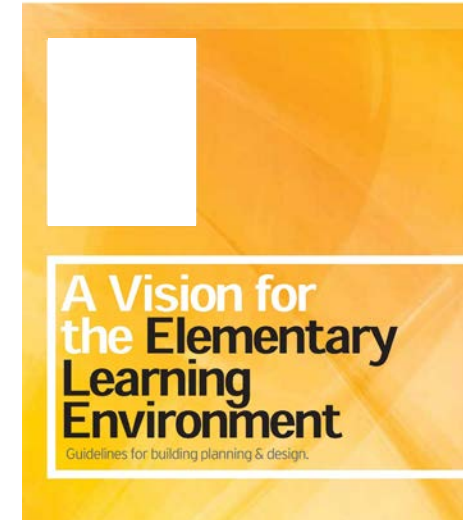
Construction: May 2019 - November 2020

School and Community Engagement

The predesign process was guided by the District’s *Vision for the Elementary Learning Environment*. The Vision document described the kinds of relationships that should be supported in the learning environment and the kinds of learning activities students should be engaged in. We began with essential questions for our design advisory committee, like: How can the built environment make a difference? What learning activities are we designing for? How do we want to teach? In recognition of the challenges Birney students faced in their lives outside of school, the committee distilled it to this essential question:

How do we entice all students to come to school every day?

The client retained the design team to conduct the educational planning and design of two schools concurrently, to offer a cross-pollination of two distinct approaches to education, distinct areas of the community, within one school district Vision. Grant Center for the Expressive Arts offered the benefits of an Arts-Infused learning approach that drew students from across the community, and Birney Elementary School offered the exploration of the inclusion of a regional Deaf and Hard of Hearing program within a school that served an area of the community experiencing the affects of poverty most acutely.



Relationships

The **Built Environment** Will:

Be **learner-centered** and designed to **foster** and **support** life-long learners.

Support a learning model that is **interdisciplinary**, **experiential** & **intergenerational**.

Foster a **caring school community** that values **trust** and **respect** between adults & students.

Support **positive, cooperative** & **nurturing relationships**: adult to adult, adult to student, and student to student in both work and socialization.

Sized for **personalized learning**, collaboration, community facilitation and **stewardship** supporting contemplative space, small group, large group, **school-wide** and **community-wide**.



Methodologies of Teaching & Typologies of Learning

The **Built Environment** Will:

Be conceptualized into **learning-scapes** with distinctions on the **types** and **modalities** of how we want to teach and have our students learn.

Think - contemplation, critical thinking, assessment, research

Create - teamwork, collaboration, fabrication

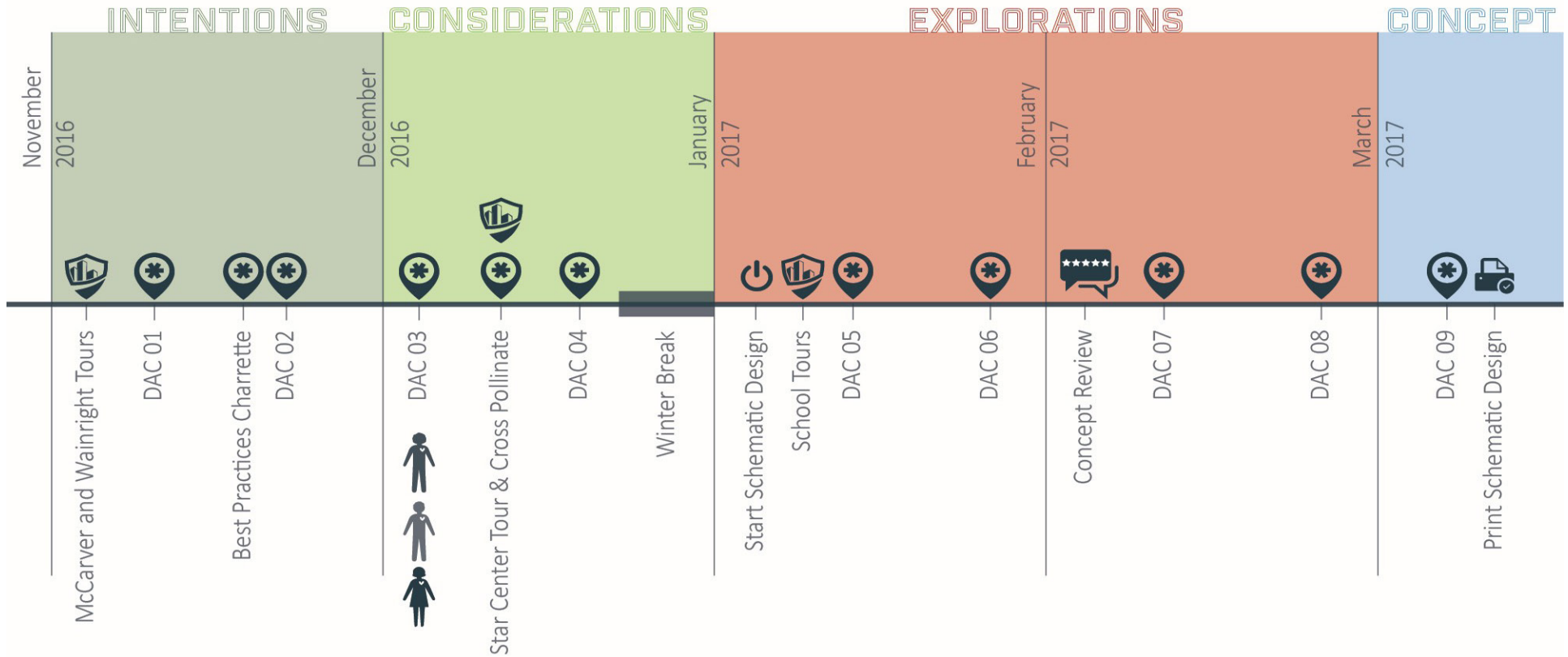
Discover - experiment, idea application, hands-on, project-based

Impart - sharing, teaching, discourse

Exchange - social learning, exhibiting, presenting

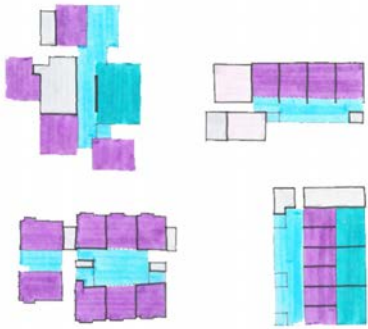


LEARNER-CENTERED



McGranahan Architects facilitated a series of design workshops, scenario mapping, discussions of key project questions and tours of relevant schools in the region with educators, parents, administrators, board members and District staff from multiple departments to understand the needs and the goals for the new design. We also met with students in class and at school events to listen to their goals and understand how the school can be more engaging. The following is a list of all the stakeholders and advisors engaged in the predesign and early design phases:

- DHH teachers, DHH executive leadership, leadership from other DHH schools in the region, architects from Univ. of Gallaudet
- DHH and other Language Interpreters
- UWT, spatial mapping for sense of belonging
- Children’s Museum of Tacoma
- Grant Center for Expressive Arts
- Office of community partnership
- Architectural Peer review from architects from the region working on other projects in the district
- Students: maker fair for understanding, pen pal letters for justice, presentations during design and construction
- Parents: Donuts with Dads, community workshop
- User Groups: Every staff member in groups of 2-4 in goal setting and design development
- Steering Committee: Family Liaison, DHH Parent, ASL teacher, LSL teacher, Preschool teacher, Headstart, Principal, Assoc. Principal



CASE STUDIES: A VISION FOR THE ELEMENTARY LEARNING ENVIRONMENT

WHY IT MATTERS

Creating a sense of ownership for students is the key to cultivating a love of learning.

What we did

We analyzed current designs of Arlington, Browns Point, Mary Lyon and Wainwright in an effort to understand how the Visioning Document was affecting school design.



LISTENING TO STUDENTS + PARENTS

WHY IT MATTERS

Gaining the perspectives of students and parents allowed us the opportunity to gain a more complete picture of needs, opinions and inspiration within the overall community and therefore consider a view of the larger impacts of our design.

What we did

We brought glue, scissors, markers and crayons to a makerspace booth in the school gym. As parents and students wrote down their thoughts, we took the opportunity to ask them about their ideas.

ESSENTIAL QUESTIONS + DEFINING SUCCESS

WHY IT MATTERS

Meaningful design starts with essential questions.

What we did

In small groups, we brainstormed questions that will serve as the foundation for our future discussions. We shared with the larger group and voted which ones were most important. The question with the most votes was crafted into our essential question:

How do we create a space so enticing that kids want to be here every day? We used what we call a 'graffiti write' (writing ideas on large pieces of paper), to understand what success looks like for each user group – students, families, teachers and community.

How do we create a place so enticing that all kids want to be here every day?

Brainstorming	Safety + Comfort	Attract On	Attract Off	Responsibility	Design	Health + Nutrition
Class Space Design	File	Physical Activity Opportunities	Technology	Connectivity to Nature		
Community	Engage the Parents	Context	Member Community Engagement	Let Students Lead	Social + Emotional	



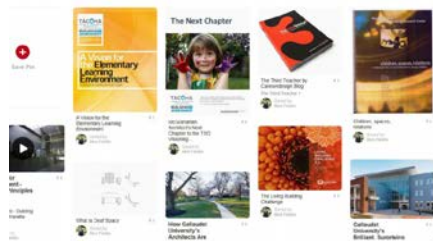
BEST INSTRUCTIONAL PRACTICES CHARRETTE

WHY IT MATTERS

Collaborative processes result in better school designs.

What we did

We attended an all-day workshop with approximately 60 people to openly discuss current projects, trends, goals and strategies with committee members, district staff and architects using the writable surfaces on our tables.



SOCIAL MEDIA

WHY IT MATTERS

Inspiration can strike at any moment. Our DAC members are able to express themselves through many different channels and can easily and effectively share ideas and interesting sources for the entire group to see and interact with.

What we did

We set up a Pinterest page to share ideas, comments and aspirations. This proved to be a fluid, flexible and approachable way for team members to share information that we could address during our in-person meetings.

THIRD TEACHER

WHY IT MATTERS

There are many dimensions to the richness of opportunities a new school can provide.

What we did

The district provided a copy of the innovative book 'The Third Teacher' to each committee member. We asked each member to share three concepts that resonated most with them. From there, we discussed why these concepts were so impactful and how they could translate into the functionality of future learning spaces.



ASSET MAPPING

WHY IT MATTERS

Strong communities make strong students.

What we did

In small groups, we mapped the organizations and amenities around the school and created one master map using everyone's input. We then discussed what partnerships were most desirable and what was missing that the school might be able to provide.

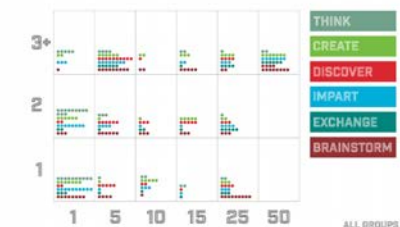
LEARNING ACTIVITIES

WHY IT MATTERS

Each child is unique and they learn in different ways. Learning activities and the settings that support them should address the diverse ways students grow and thrive.

What we did

Using the five learning modalities from the Visioning Document (think, create, impart, discover, exchange) as a foundation, we discussed and documented learning activities teachers currently engage with their students. We added "brainstorm" to explore other possible learning modalities within the existing school.





TEAM BUILDING

WHY IT MATTERS

Initiating change is a collaborative and inclusive process. Involving everyone is crucial to designing a place that considers a multitude of viewpoints.

What we did

In order to encourage open dialogue and partnership, we spent an evening at a local restaurant where we discussed district goals and envisioned the future of the new school.

ENGAGING FAMILIES: CHALLENGES AND WHAT IF'S

WHY IT MATTERS

Family engagement is a critical part of student success.

What we did

The group shared what they felt were obstacles to fully engaging families. We wrote these on large sheets of paper and posed the question, "What if?", encouraging the group to envision solutions to these difficulties.

Partnership with Seattle children + adults
 bus for people who need ride
 + low income families

Room in Birney where
 you can use. It cannot become
 room or take over by teacher!
 (technology, cooking class)



COMMUNITY PARTNERSHIP

WHY IT MATTERS

Strengthening partnerships through the new school design in order to serve students and their families.

What we did

We invited Amanda Scott-Thomas, Director of Community Partnership to discuss how the design of the new schools can more effectively meet the needs of local organizations in order to contribute to the success of the school.



CROSS POLLINATION AT STAR CENTER

WHY IT MATTERS

Convergence of the DAC committees and sharing of ideas served to challenge our individual opinions and spark our imaginations.

What we did

At a joint meeting of the Birney and Grant DAC members we listed six possible approaches to engage with the learning environment: move, play, eat, make, perform and pursuing wellness. In small groups, we brainstormed various activities and amenities that would support these approaches. We then shared the benefits of each idea with the larger group.

LIVING BUILDING

WHY IT MATTERS

The Living Building Challenge is the highest standard of sustainability.

What we did

We became members of the International Living Futures Institute (ILFI) in order to fully explore each of the seven petals set forth by the institute to become compliant with the Living Building Challenge. We reviewed case studies and Living Building Requirements and compared them to our ability to reach Petal Certification in light of our existing budget and design constraints.

EXPANDED CLASSROOM

WHY IT MATTERS

Choice leads to ownership of learning. Expanding the classroom to a diversity of settings supports a greater range of learning activities, collaboration and more choice for students and teachers.

What we did

Each small group was given a set of wooden discs (indicating group sizes) and a few sets of each color "theme" (taken from the visioning document). Each group was then given an ownership board of 1, 2, and 3+ teachers in order to explore an informal discussion on the benefits of collaboration within learning environments.



DEAF SPACE DESIGN

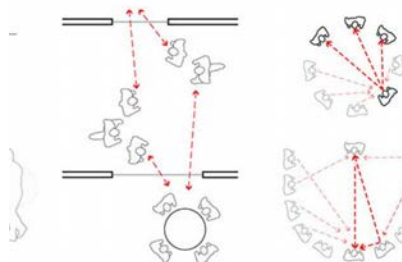
WHY IT MATTERS

Understanding the unique needs and aspirations of the deaf and hard of hearing community is critical to providing equal access and a sense of belonging.

What we did

Sitting in a semi-circle as a group- so that everyone can see each other equally- we asked the following questions:

What motivates you? What do you want to learn and what would you like to contribute to the process? What does success look like for students, teachers, families and community?



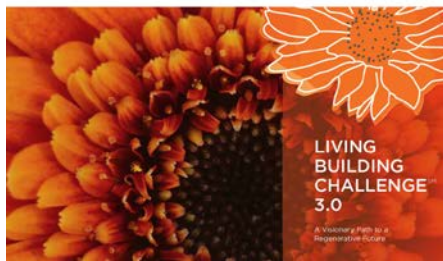
UWT ASSET MAPPING WITH STUDENTS

WHY IT MATTERS

Partnership in research with the University of Washington Tacoma gave us insight into the viewpoints of 4th and 5th grade students.

What we did

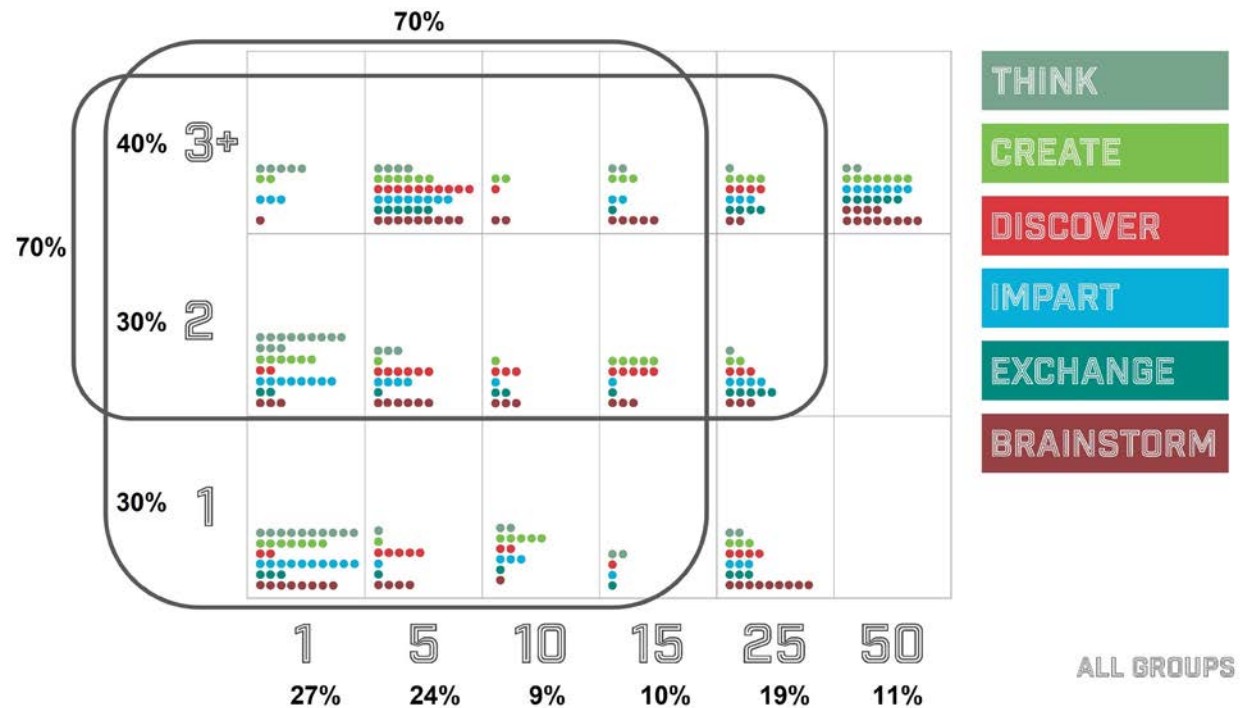
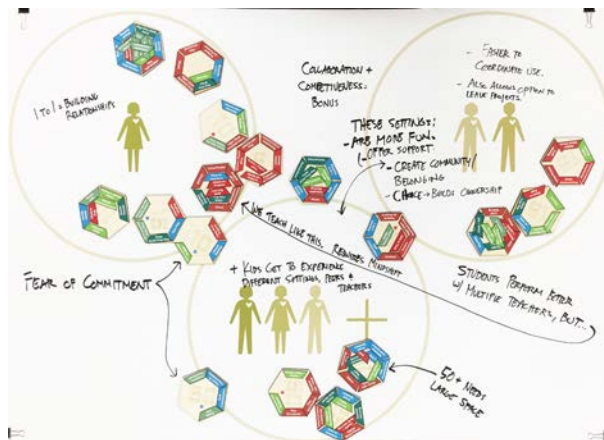
Using crayons, shapes and simple directions, the University of Washington Tacoma came to Birney and facilitated a fun event in which they gathered data about how the students use and feel about the existing school and neighborhood with topics such as safety and happiness.



DIVERSITY OF LEARNING ACTIVITIES AND TEACHER COLLABORATION

The design team created an activity for the Design Advisory Committee that had them study learning activities, related student group sizes and the collaboration of teachers. DAC members were asked to take colored “game pieces” for learning activities that represent Think, Create, Discover, Impart, Exchange and Brainstorm and place them on wooden disks that represented different student group sizes (1,5,10,25,50). Then DAC members were asked to place each wooden disk with the game pieces on a large sheet of paper with circles for 1, 2, or 3+ teachers and write why they organized the groups and teachers that way. The results were sorted by student group size and the number of teachers related to the activities.

We found that 70% of the activities were associated with groupings smaller than a whole class, and 70% associated with teams of 2-3 teachers. This showed that traditional whole class instruction with one teacher was not the norm for the way they felt teaching and learning was best accomplished when they considered all the learning experiences that they wanted to offer students. This exercise gave greater emphasis on the connections between spaces to support collaboration and more importance to the inclusion of shared spaces where students could have the experiences of Think, Create, Discover, Impart, Exchange and Brainstorm.





ASSET MAPPING WITH THE UNIVERSITY OF WASHINGTON TACOMA

Dr. Matthew Kelley is an Associate Professor at the University of Washington where he is also the Director of the Action Mapping Project (AMP). His work centers on the use of participatory and geospatial methods to generate new forms of data about space. Through AMP he involves students in action-oriented community-based projects in matters of equity and access, with a strong focus on the inclusion of youth voice.

During predesign Dr. Kelley conducted a mapping workshop at Birney with 120 fourth and fifth grade students in which they highlighted their lived experiences in and around the existing school. The goal was to understand the connection between space and a sense of belonging.

Students used 4 colors to answer 4 questions: What space do you feel the most safe (blue), happy (yellow) and important (green). They were also asked to mark the areas they would change (red). Informal interviews were conducted during the exercise to understand the experiences behind the sketches. The data showed that the majority of students felt the strongest sense of belonging in the areas that offered agency and choice. Including more of this type of space became a design driver guiding our conversations during the design process with our stakeholder groups.



asset mapping from a student's perspective

A SENSE OF BELONGING

Where do you feel most happy?

Where do you feel most safe?

What places are the most important?

Educational Environment

Project Goals

The project design goals are born out of a process of inquiry created around *A Vision for the Elementary Learning Environment*. They can be understood as individual characteristics with multiple qualities that together form an answer to the following essential question:

How do we create a place so enticing that all kids want to be here every day?



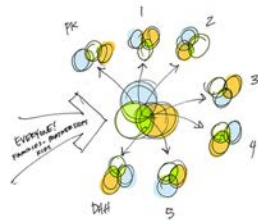
INCLUSIVE

Social / Emotional

A diversity of space types to inspire students and cultivate a strong network within the learning community to better meet the variety of daily needs and experiences.

Multicultural

Celebrate and reflect the rich diversity of cultures in the learning community and integrate DeafSpace guidelines throughout the whole school.



ENGAGING

Students

Cultivate a sense of belonging and independence through an abundance of opportunities in the core learning areas and throughout the school to think, create, impart, exchange, play, move, perform, and discover.

Families

A friendly coffeehouse like area for families to access resources, classes, connect with other parents, and meet with staff.

Staff

Flexibility for different teaching styles along with areas for collaboration and well-being.

Partnerships

A visible place to foster community connections through events and access to resources.



HEALTHY

Movement

An awesome playground, natural play areas and indoor or covered fitness/play opportunities.

Nutrition

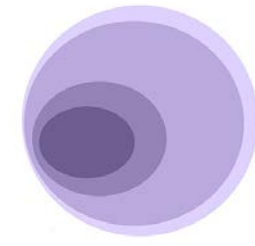
Make healthy eating available and fun for kids by connecting the kitchen and dining commons to a garden and food lab for hands-on learning.

Environment

Provide learning opportunities for students and families about the sustainable aspects of the schools design.

Stewardship

A holistic approach to resource use demonstrating a connection between the built and natural environment.



EXPLORATORY

Discover Nature

Easy and usable outdoor learning areas with pathways and landscape learning zones.

Engage the Senses

Makerspaces with areas for science, art, and experimentation.

Spark Curiosity

Views into areas of the building that offer learning opportunities but are normally hidden.

BACKGROUND AND RESEARCH

We know that life can throw challenges at us, which can affect students at school. So how does the design of a new school make a difference?

A strong support network around students has been shown to strengthen their social and emotional skills. It's these skills that enable a student to confidently discover their passions and interests in life. The design of the new Birney Elementary cultivates a strong support network around students by welcoming families and the community in and providing a diversity of spaces for engaging in the daily life of the school. In 1897, these ideas inspired Alice Birney to co-found the Nation Congress of Mothers, known today as the PTA, in which she lead as President for the first five years. In 2012, with these same goals in mind, Tacoma Public Schools partnered with UW Tacoma's Center for Strong Schools to create The Whole Child Initiative. Birney Elementary was the first school to sign up.

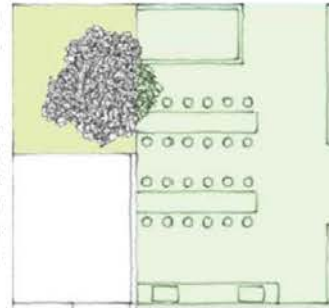
SOCIAL EMOTIONAL starbucks

shared reading
one on one learning
brainstorming
journaling
print center
teacher collaboration



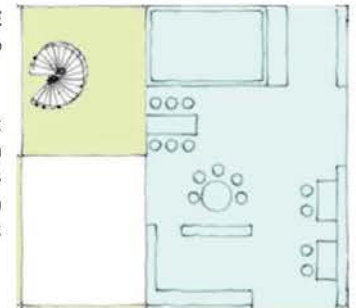
HANDS ON tacoma art museum

creative art + science projects
long term storage
mural walls for student artists
experimentation + imagination
display walls
wet zone + resources at hand



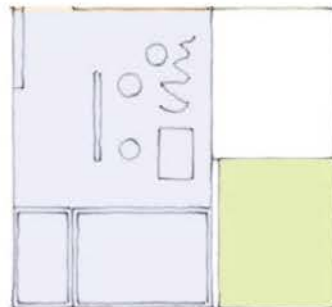
COLLABORATIVE design studio

small group work
presentation + discussion
writable walls
democratic discussion
flex room for quiet work



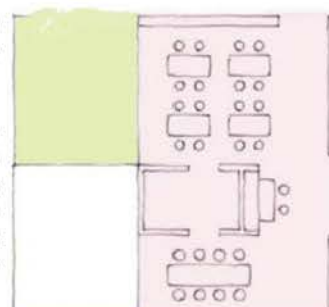
MOVEMENT ymca

fine motor skills
gross motor skills
physical fitness
brain stimulation
emotional self regulation
social learning



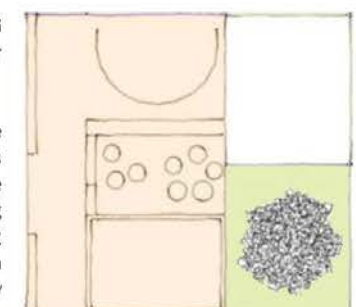
TECH silicon valley

small video lab
multi-media production
recoding on mobile devices
small group prep areas
working walls for storboarding
digital presentations



PERFORMING little theater

small stage
steps for seating with views
large group gathering space
small group brainstorming
role playing
presentation
reading + independent study





PLAY

Emotional Health and Development

In the highly formative early stages of development, children tend to replicate and explore social norms during make believe and imaginative play. In acting out various roles and situations, “private speech” develops, which is the narration of events that children speak aloud when playing. This type of speech and play aid in emotion-regulation and navigation of social situations, while also helping in negotiating challenging situations (Berk, Mann & Ogan, 2006). As children interact with more play partners, their self-directed speech begins to incorporate more perspectives, thus enhancing their awareness of others’ viewpoints. Sustaining imaginative and exploratory play allows children to practice perspective-taking and thus, encourages a sense of empathy and caring for others.

“In play the child is always behaving beyond his age, above his usual everyday behavior; in play (s)he is, as it were, a head above himself. Play contains in a concentrated form, as in the focus of a magnifying glass, all developmental tendencies; it is as if the child tries to jump above his usual level. The relationship of play to development should be compared to the relationship between instruction and development... Play is a source of development and creates the zone of proximal development” (Bodrova, 2008).



CHOICE

Enhancing Intrinsic Motivation

When a student is given the opportunity to choose, they are enabled to engage in self-directed activities, which allows them to set goals that are personally important. Consequently, they become intrinsically motivated to achieve these goals. In other words, instead of performing in pursuit of reward, they can engage in the learning process for the sake of self-fulfillment (Evans & Boucher, 2015) In a learning environment, intrinsic motivation is more stable and resilient than extrinsic motivation for the fact that external rewards (grades) do not determine interest level.

Choice is powerful. When a wide variety of choices are offered in a structured manner, a students’ sense of autonomy is supported. In providing diverse learning opportunities, students have the freedom to delve into their interests and strengthen their learning skills. Evans & Boucher (2015) observed how choice can be a powerful mechanism within the frameworks of self-determination theory (SDT). According to SDT, choices should fulfill the needs for: competence, relatedness, and autonomy. Competence is defined as providing choices that meet the ability level of a student to avoid disengagement due to being overwhelmed by the task at hand (Evans & Boucher, 2015). Relatedness includes providing choices that

are personally meaningful. The need for autonomy is closely linked with relatedness as it comes from feeling the freedom to choose what is most relevant to one’s interests (Evans & Boucher, 2015).

SOCIAL SUPPORT

People, Resources and Collaboration

Social support is the feeling of being accepted, cared for and part of a social system that can be thought of in four categories: emotional, informational, appraisal and instrumental (Heinrich & Gullone, 2006). It has been observed that having meaningful social networks serves as a protective factor against stressful life events and physical ailments. According to Seppala, Rossomando and Doty (2013), “the perception of being connected changes one’s cognitive interpretation of stress. Knowing that others (even just one person) will provide support has the effect of buffering one against stress by changing the appraisal of a situation formerly perceived as stressful.”

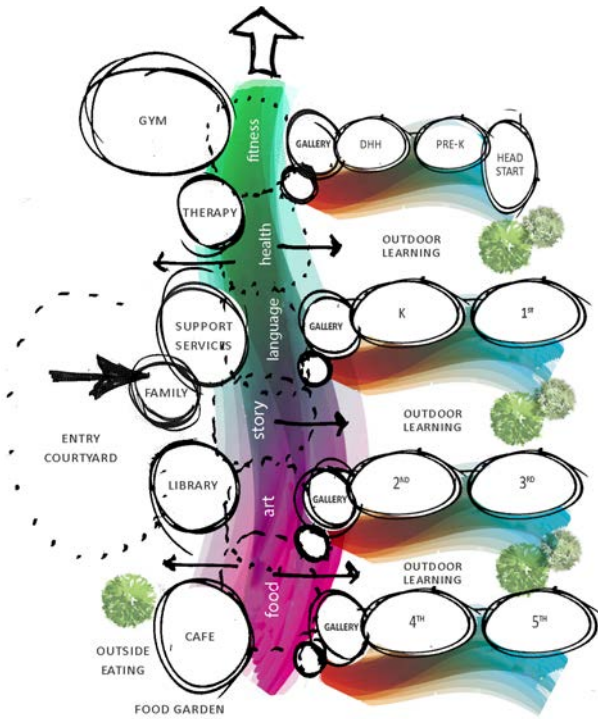
The intention behind carving out these spaces is to enhance communication between all the spheres of a student’s life. The hope is to have sustained dialogue between the school and home to support the healthy development of the student. Increasing social support and strengthening a student’s network seeks to aid in the success of the individual.

NETWORKS

Engagement and Collaboration

Opportunities for teacher collaboration have been shown to indirectly impact student achievement. In providing opportunities for collaboration and discussion, we are aiming to sustain a culture of idea exchange and advancement (Moolenaar, Slegers & Daly, 2010).

Providing spaces for teachers to interact socially allows for opportunities to create stronger, more well-connected teacher networks. A strong community of teachers means a strong community of learners.



LEARNING MARKETPLACE

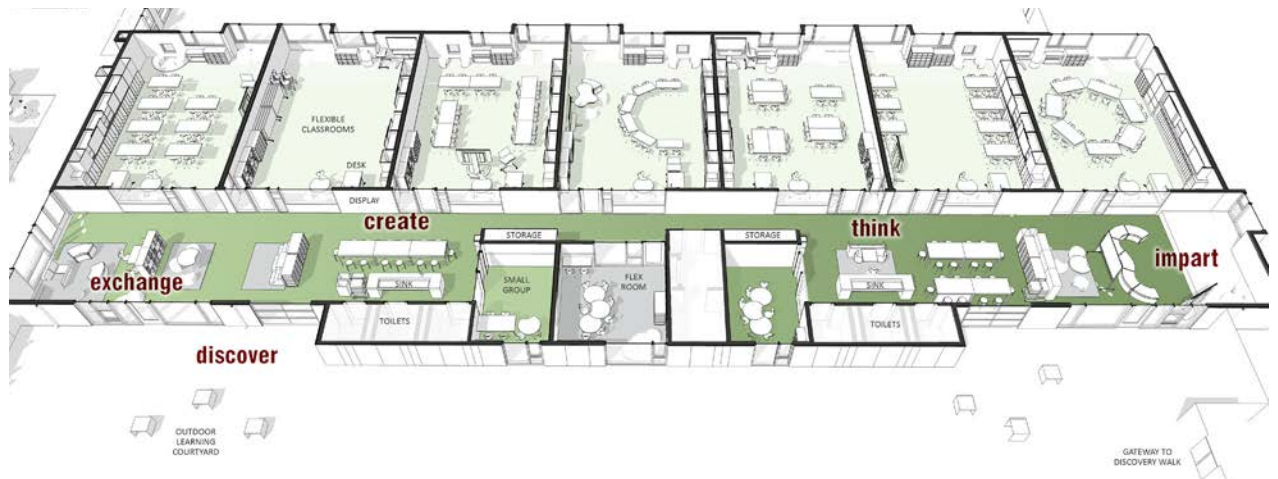
Inspired by local farmers markets, the design connects the various school programs to a central circulation area lined with a variety of interactive walls, seating alcoves, student galleries, and enticing windows to both inside and outside spaces. Expanded learning opportunities are organized around six cross-cultural themes for intended for daily use as well as intergenerational use by the community.

Spaces include an open library, an enclosed studio, a team room with open workstations and a collaborative planning area, friendly offices for specialists and administrators, a resource center for meeting individualized learning plans, and a coffee-house inspired family connection center to welcome and connect the families to the family liaison, school counselors, and community partners working in the school..

The building is organized into two main areas.

On the west, a **Learning Marketplace** welcomes students, families, educators, volunteers, and community partners to engage in a safe and casual atmosphere. Through a diversity of approachable yet connected spaces, opportunities abound for supporting students, building relationships, and participating in the daily life of the school.

On the east, the **Learning Neighborhoods** are a collection of shared spaces and classrooms which open to outdoor learning courtyards. This provides an additional level of identity and security while at the same time cultivating a sense of belonging for students by offering them the opportunity to choose their own setting and participate in more hands-on and experiential learning.



LEARNING NEIGHBORHOOD

Core learning areas are designed around smaller communities of 3-4 classes to enable collaboration and encourage stronger student-teacher relationships. They provide flexibility and support for individualized learning through a diversity of teaching tools and learning spaces.

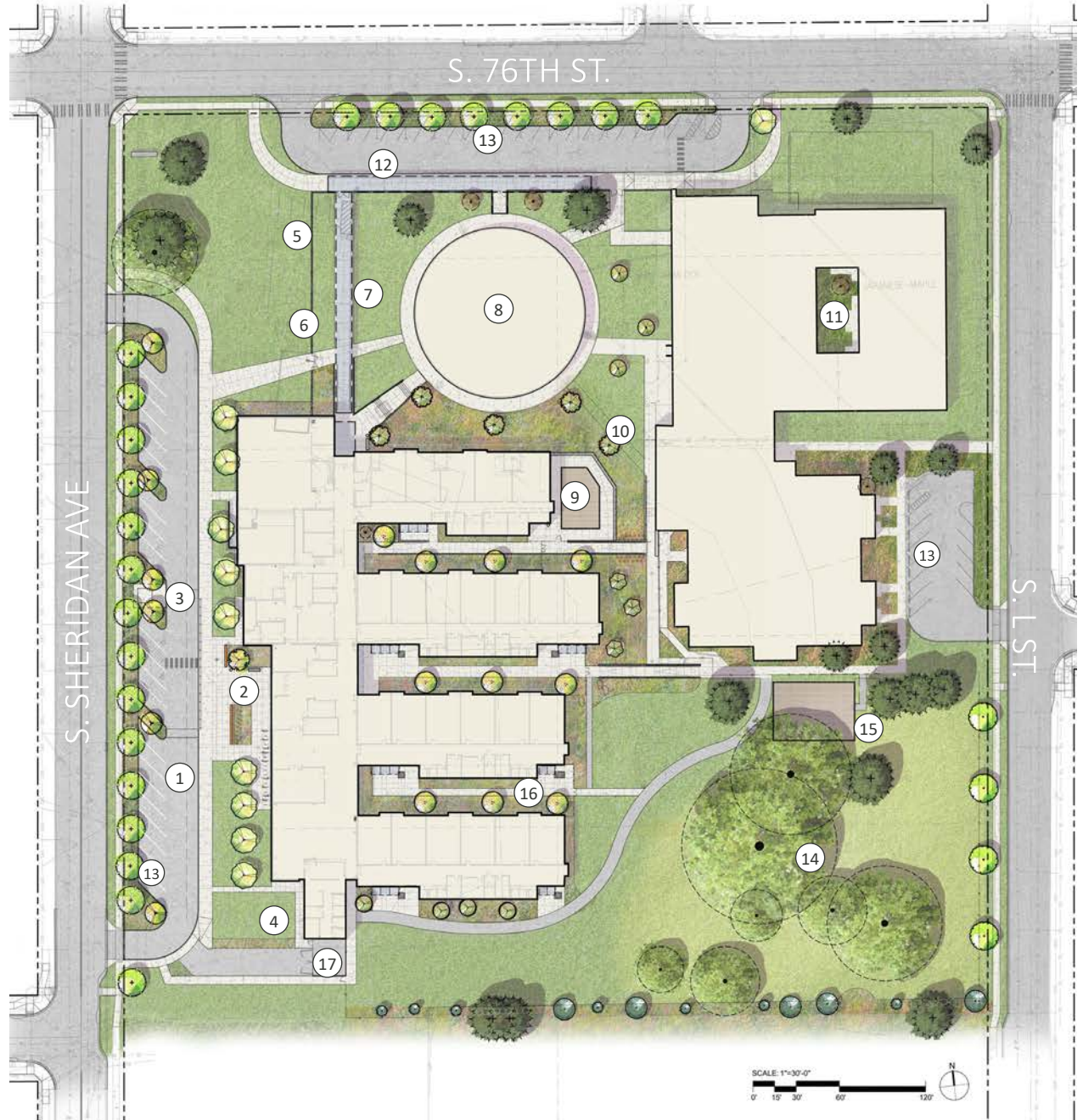
Windows provide a strong connection to outside as well as supervision and an invitation discuss planning and daily happenings. Each classroom has a student zone along the exterior wall which includes an enticing window alcove..

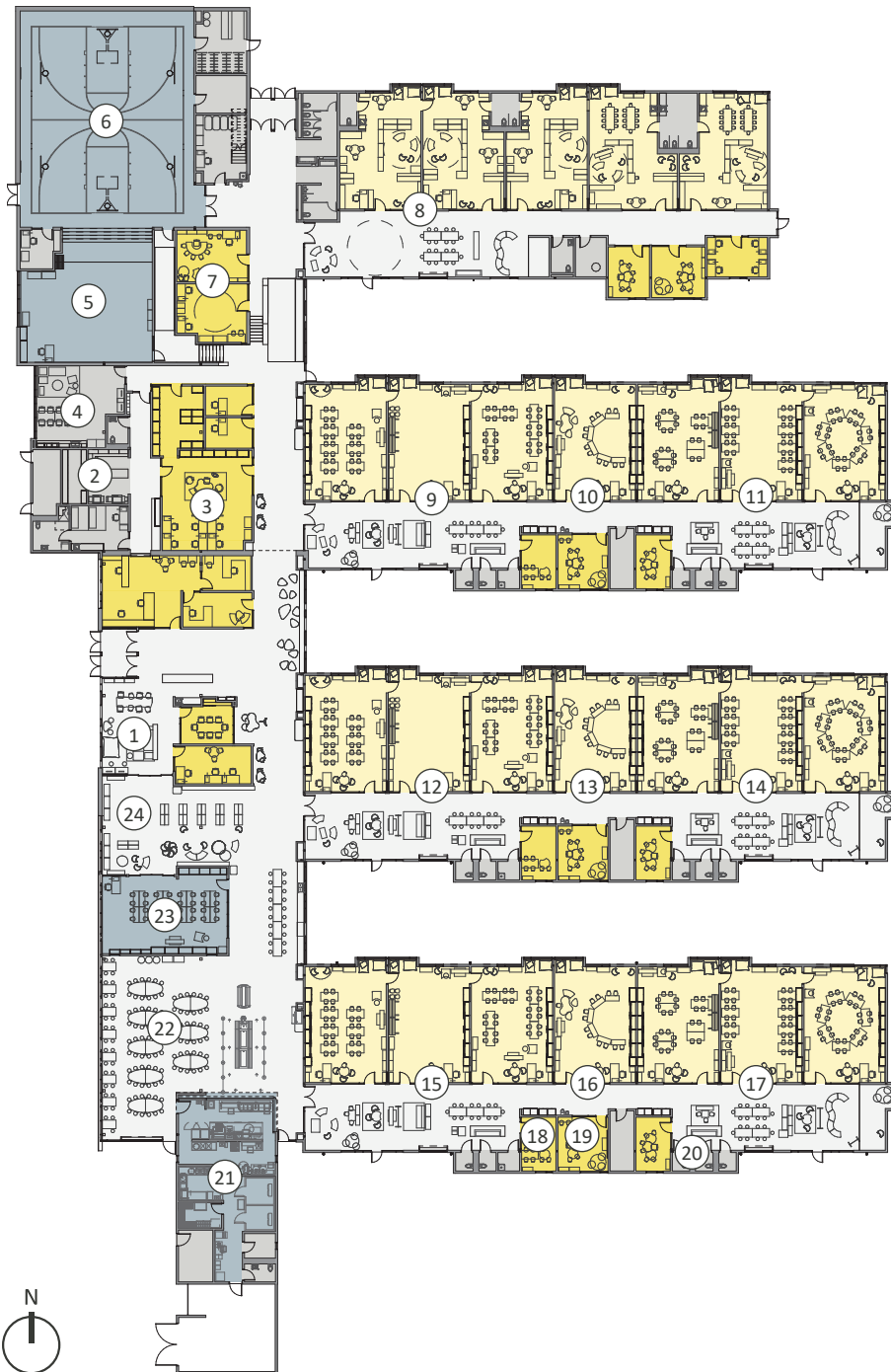
Physical Environment

SITE

The existing school will remain in place while the new school is being built in the adjacent field. This locates the new entry on Sheridan Avenue and provides a more intuitive and welcoming experience. A new loading lane provides a safe and easy drop-off/pick-up with benches, lighting, and good supervision from the school. The new playground will be located on the most prominent corner of the site helping it to serve as a fun gathering place after school and on weekends for both families and the community.

- ① PICK-UP & DROP-OFF
- ② ENTRY COURTYARD
- ③ SEATING ALCOVES
- ④ FOOD GARDEN
- ⑤ COMMUNITY GATHERING
- ⑥ SOFT SURFACE PLAY / TOYS
- ⑦ HARD SURFACE PLAY / COURTS
- ⑧ PLAY PAVILION
- ⑨ PRE-K PLAY AREA
- ⑩ HILLSIDE SEATING
- ⑪ ATHLETIC FIELD
- ⑫ BUS LOADING
- ⑬ PARKING
- ⑭ OUTDOOR CLASSROOM
- ⑮ DISCOVERY WALK
- ⑯ OUTDOOR LEARNING COURTYARD
- ⑰ UTILITY ACCESS





- | | |
|-----------------------------|--------------------------|
| ① FAMILY CONNECTION CENTER | ⑬ 2ND- 3RD GRADE DHH |
| ② ADMINISTRATION | ⑭ 3RD GRADE NEIGHBORHOOD |
| ③ TEAM ROOM | ⑮ 4TH GRADE NEIGHBORHOOD |
| ④ STAFF | ⑯ 4TH- 5TH DHH |
| ⑤ MUSIC | ⑰ 5TH GRADE NEIGHBORHOOD |
| ⑥ GYM | ⑱ SMALL GROUP |
| ⑦ RESOURCE ROOMS | ⑲ FLEX ROOM |
| ⑧ PRE-K NEIGHBORHOOD | ⑳ TOILETS |
| ⑨ KINDERGARTEN NEIGHBORHOOD | ㉑ KITCHEN |
| ⑩ K- 1ST GRADE DHH | ㉒ CAFÉ |
| ⑪ 1ST GRADE NEIGHBORHOOD | ㉓ STUDIO |
| ⑫ 2ND GRADE NEIGHBORHOOD | ㉔ LIBRARY |



DeafSpace

Building on the groundbreaking work of DKa Architecture and Gallaudet University, Birney Elementary incorporates principles of design that are responsive to the richness of sensory, visual, and social interactions in the deaf and hard of hearing community (Gallaudet University & Hansel Bauman Architect, 2010).

Birney has been the home to the District's Deaf and Hard of Hearing program since 1962. The preschool serves ages 3-5 in an all day program which includes ASL, LSL and peer inclusion classes. The elementary serves K-5 in three dedicated classes. These students also mainstream in neighboring classes for specific subjects, and receive additional instruction and audiology support to meet the individual needs of the each student.

Flexibility, inclusiveness, and equity are realized by embodying these patterns throughout the entire project.

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- 01** Eddies for talking in an area outside traffic flow.
 - 02** Seeing and celebrating student work and the work of deaf role models.
 - 03** Round tables for groups smaller than four and chairs without arms.
 - 04** Casual seating clusters at various heights provide good sightlines for signing.
 - 05** Places to set things down to facilitate conversation.
 - 06** Reflected light deep into spaces. Avoid surface glare.
 - 07** Wash surfaces with light. Provide multiple balanced sources. Avoid hotspots and backlighting.
 - 08** Use color to provide background contrast and shape space.
 - 09** Transition space between inside and out allows eyes to adjust to light conditions.
 - 10** Dimable lights provide comfort and control.
 - 11** Flexibility in transparency for light and privacy control.
 - 12** Horseshoe seating provides ability to see faces and make eye contact in small groups.
 - 13** Activities taking place are visible and inviting for building relationships.
 - 14** Windows provide openness, intuitive legibility, show room occupancy and increase safety.
 - 15** Keep view corridors clear of visual barriers from key areas of decision making.
 - 16** Destinations directly visible upon entering inside or outside.
 - 17** Equal access to information using visual announcement systems in every occupied space.
 - 18** Low reverberation time is needed for all students but is critical for those with hearing devices.
 - 19** Vibration in specific areas to alert users of approaching person or gain someones attention.
 - 20** Quality acoustic construction reduces background noise.
 - 21** Isolate or dampen equipment noise and electromagnetic impulses.
 - 22** Locate programs with adjacencies that don't create a background noise conflict.
 - 23** Muted reflective surfaces provide clues and visual awareness while moving.
 - 24** Wide pathways and stairs. Doors in alcoves or swinging into rooms.
 - 25** Shoulder zones for furniture or equipment supports ability to talk and walk at the same time.
 - 26** Transparency at corners enables users to see oncoming traffic.
 - 27** Use rhythm, color, texture or scale as clues that reflect transitions in program.
 - 28** Transitions spaces marked with floor color or texture. Curbs to be eased or eliminated.

Social

1. Eddies for talking in an area outside of circulation flow
2. Seeing and celebrating student work and the work of deaf role models
3. Round tables for groups larger than four people
4. Seating clusters at various heights provide sight-lines for signing.
5. Places to set things down to facilitate conversation.

Health

6. Reflected light deep into space and avoid surface glare.
7. Wash surfaces with light; provide multiple light sources; avoid hot spots
8. Use color to provide background contrast and shape space
9. Transition space allows eyes to adjust to differing light conditions
10. Dimable lights provide comfort and control
11. Flexibility in transparency for light and privacy control

Connections

12. Horseshoe seating provides ability to see faces and make eye contact
13. Activities taking place are visible and inviting for building relationships
14. Windows provide openness, intuitive wayfinding, show occupancy and increase safety
15. Keep view corridors clear of visual barriers from key areas of decision making
16. Destinations directly visible upon entering inside or outside
17. Equal access to information using visual announcement systems in every occupied space



Acoustics

18. Low reverberation time is needed for all students but is critical for those in DHH classes
19. Vibration in specific areas to alert users of an approaching person or to gain attention
20. Quality acoustic construction reduces background noise
21. Isolate or dampen equipment noise and electromagnetic impulse
22. Locate programs with adjacencies that doesn't create a background noise conflict

Mobility

23. Muted reflective surfaces provide clues and visual awareness of surrounding area
24. Wide pathways and stairs with doors in alcoves or swinging into rooms
25. Shoulder zones for equipment supports ability to talk and walk at the same time
26. Transparency at corners enable users to see oncoming people
27. Use rhythm, color, texture or scale as clues that reflect transition in activities
28. Transition spaces marked with floor color or texture.

DAYLIGHTING

Daylighting positively improves the health, well-being and productivity of students. An important goal of the project is to maximize the benefits of daylight while minimizing over-use of electrical lighting, especially within teaching spaces. The design focuses on creating well-designed spaces which consider the availability, balance and control of daylighting as well as providing views and connection to the outdoors.

The goal of the project was to achieve an average horizontal daylight illumination greater than the 25 foot-candles (250 lux) at the work plane located 30 inches above the floor, per WSSP requirements for Daylighting.

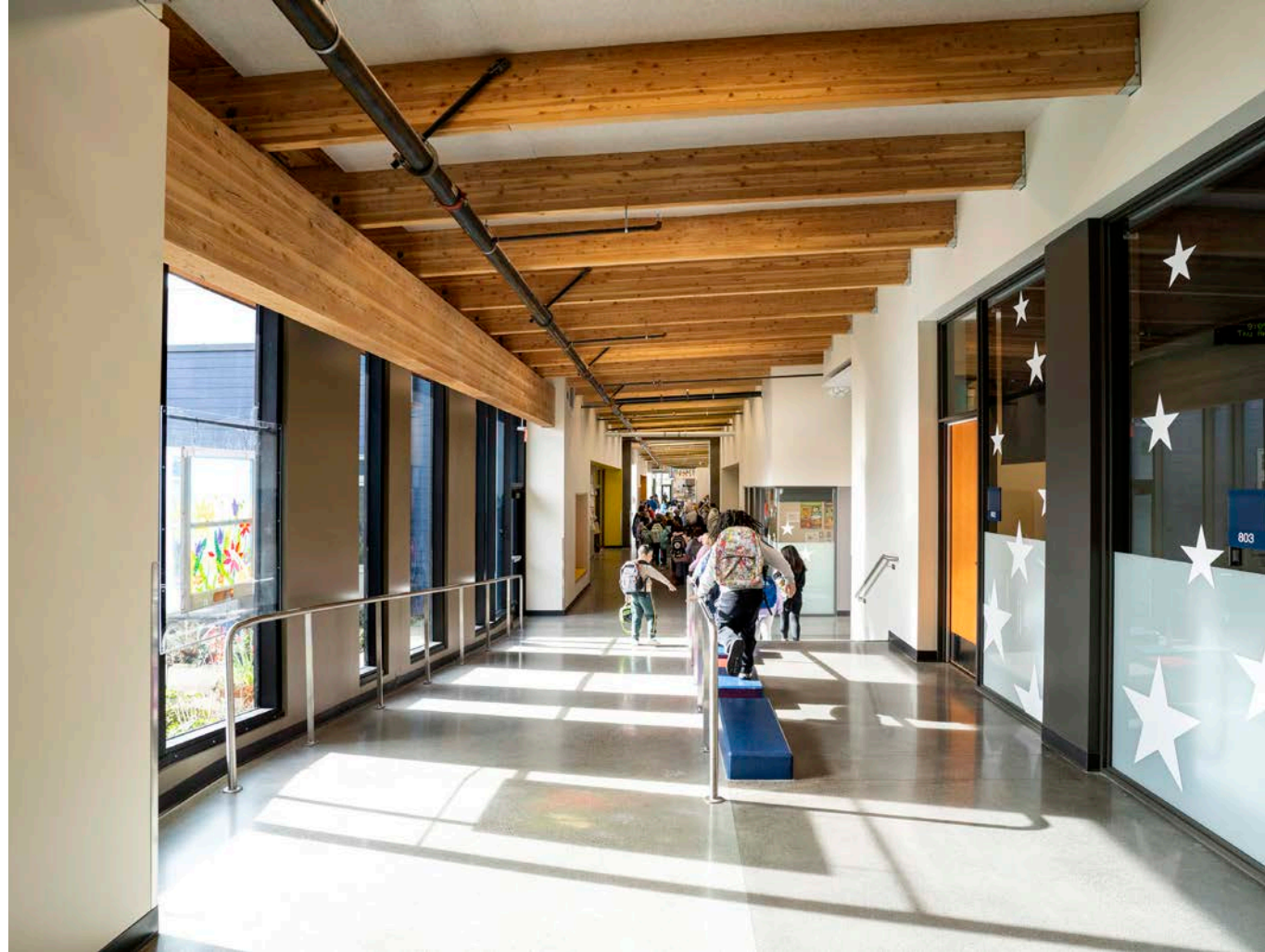
100% of the classroom spaces meet the WSSP requirement for daylight with an average illuminance of approx. 62 fc (592 lux). The project qualifies for 4 points under the WSSP criteria IEQ1.1: Daylighting Classrooms.

All teaching spaces (classrooms plus small group, shared activity, and gymnasium) have an average illuminance of 65 fc (549 lux).

ENGINEERED WOOD

Mass timber components were chosen instead of steel because of wood's inherent beauty. The design expresses the warmth and beauty of the wood products, specifically via the exposed roof structure that unifies the main circulation spaces throughout the school. One of the main drivers of the project was being able to maximize the openness of the building. The visual openness unifies the school.

For the single-story building, wood products were also the most cost-effective solution. Instead of needing to layer finish products over the structural members, the glulam and laminated veneer lumber (LVL) used on the project served as both. The fact that many of the wood elements could be left exposed and expressed structurally had added benefits. The ability for the students to see the structural and exposed connections can also be used as an educational tool.



The structural design was intentionally repetitive and allowed the construction process to be sequenced for improved efficiency. The beams can span longer distances for flexibility of design and construction. By using wood on the project, the contractor was able to cut labor costs and support the local economy by sourcing the wood materials from local suppliers. The wood products were local and readily available, so we didn't need to wait for shipping from another country, which was a big advantage.

The exposed wood makes this school unique; and combined with traditional materials form a beautiful, cost-effective, and safe learning environment for students.

Results of the Process and Project

How do we create a place so enticing that all kids want to be here every day?

Inclusive

The design of Birney is organized around the Learning Marketplace, connecting the whole school together, and the Learning Neighborhoods, connecting students of varied interests, capabilities, strengths, and challenges together in age-level communities. Indoor and outdoor learning is connected. The large amount of transparency between spaces was inspired by DeafSpace principals. Where the design works better for some, it works better for all.

Healthy

The use of wood as structure and finish material creates a healthier environment and a warm, nurturing feel to the place. Students can see how the place was made. The connections to outdoors and large amounts of daylight make the place more humane.

Engaging & Exploratory

Over setting in Birney has a place to commune, with recessed seating in the Marketplace or a nook in the classroom. Stepping blocks leading to the Gym and Music create a moment for kinesthetic stimulation. A kitchenette in the Cafe offers students the opportunity to learn about food preparation for themselves, and the cultural aspect of food. Community events are supported by the same amenity. The Library is open and inviting, giving students a regular reminder of the materials available to them in their learning. The shared learning settings in every neighborhood are settings that extend the classroom to support social emotional, hands-on, performance, movement, tech-oriented and collaborative activities.

Promoting Justice, Equity, Diversity, and Inclusion.

DHH classrooms are in the middle of learning neighborhoods with their age peers, not segregated in a neighborhood of their own. There are places for specialists to offer support to all students in settings near their classroom, so students don't have the stigma of going to an office near admin for

support. They remain with their student peers, and support is part of the culture of the place. The support from specialists comes to students in the shared space in their own learning neighborhood, in their classroom or an office nearby. Specialists can more easily collaborate with teachers.

“Visual reach” is another principle of DeafSpace. Seeing between spaces is like the extended sense of space that hearing gives those of us who hear. The visual reach that is designed into Birney also provides a greater sense of community, seeing what others are doing in nearby settings, as one moves through the school. It has the experiential effect of breaking down barriers and creating interest in and empathy for others. The sense of belonging that comes from that experience fosters justice, equity, appreciation of diversity and inclusion.

Unintended Results and Achievements

The Family Support Coordinator might have said it best: “There are 18 primary languages spoken here at Birney, and in the new building we feel like one shared community.”

The contractor team made special effort to build relationships with the school community. They attended Friday morning assemblies, where the students taught the team the sign language they had learned that week, and got to ask them questions about construction. A graduate of Birney worked as a roofer on the project. Blaine, who is deaf and communicates through a mix of lip reading and writing on his phone. But anyone could understand his excitement when he would stand on top of the roof during recess and sign down to the deaf students. Seeing Blaine was a clear message to the school's DHH kids, that they could be anything if they just put their hearts and minds to it.

The general contractor for this project achieved high levels of performance for diversity and inclusion of those who contributed to construction. The following goals were set and the results achieved:

WBE	Goal 6%	Final 1.4%
MBE	Goal 10%	Final 15.5%
SBE	Goal 5%	Final 7.9%
Local	Goal 30%	Final 51.3%



The entrance to Birney is next to the Family Connection Center (just inside the windows) creating a welcoming experience for students, parents and community partners.



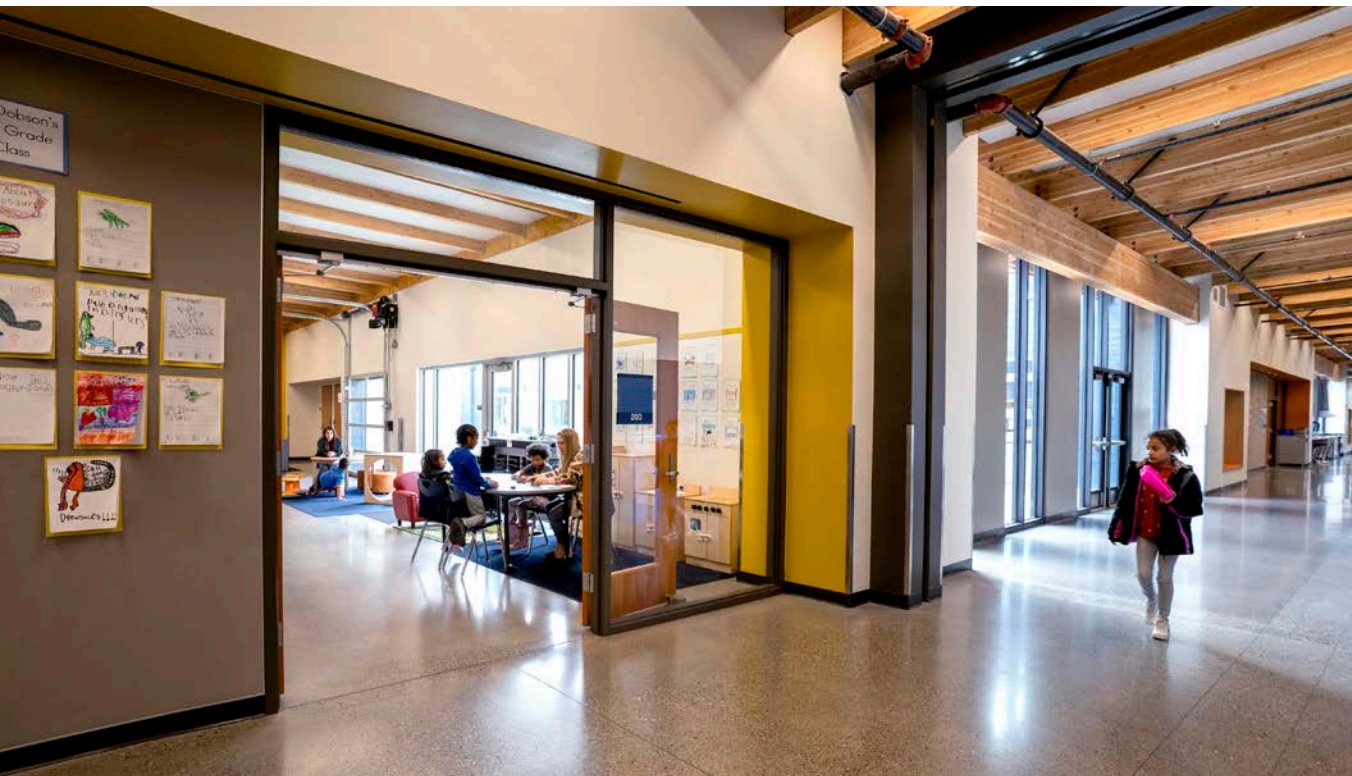
Outdoor learning runs the length of the neighborhood.



The Principal's Office is located outside of the administration area, and welcoming to students along the Marketplace.



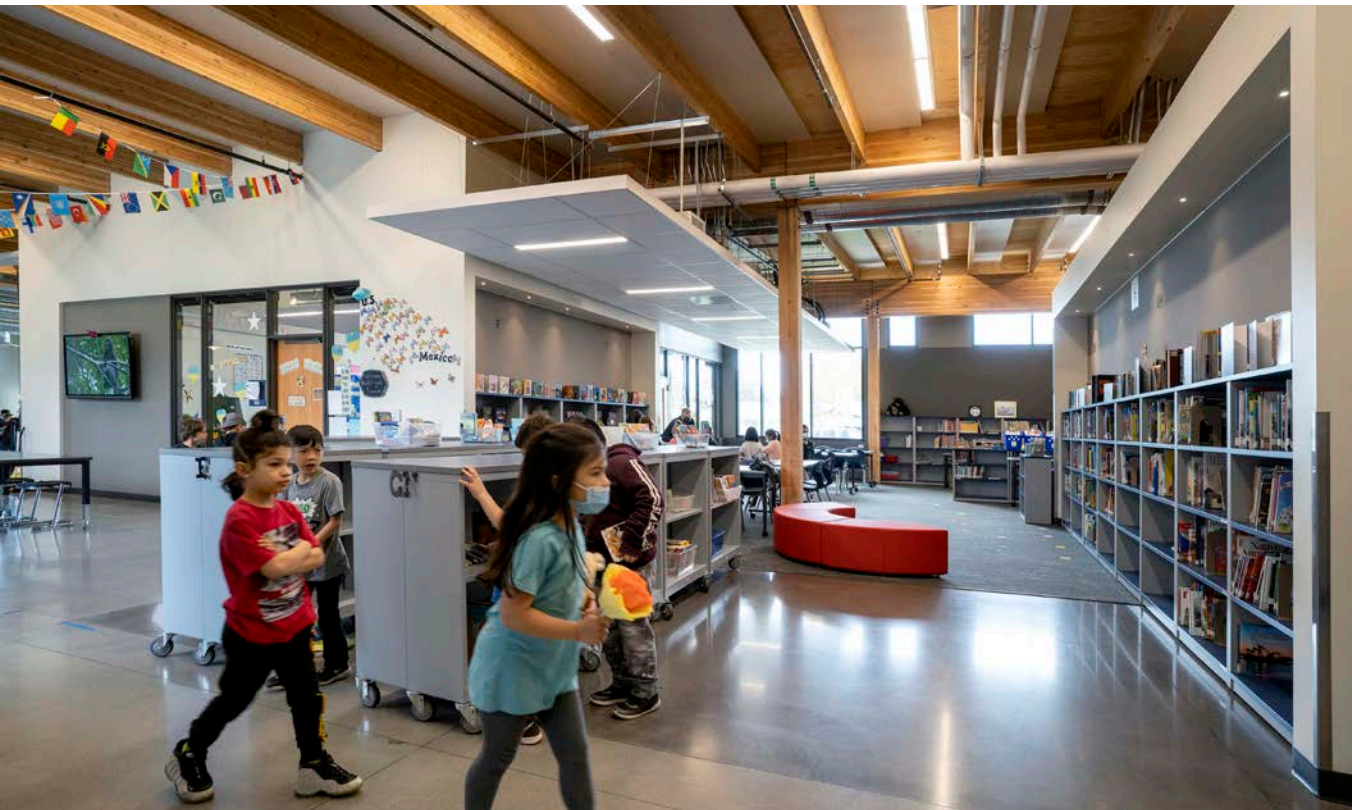
Classrooms connect to the shared learning areas, which connect to outdoor learning.



Learning Neighborhoods connect to the Marketplace with large, transparent openings and a display wall for each neighborhood.



Just outside the office, the Family Connection Center is a place for parents and students to receive support from school and community partners.



As part of the Marketplace, the library is open and welcoming to all students