2018

Designing School Community: Changing Inner-City Middle School Culture Through Interiors

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Virginia Commonwealth University

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DESIGNING SCHOOL COMMUNITY
Changing Inner-City Middle School Culture Through Interiors

Rachel Ramey  MFA with a Concentration in Interior Environments  May 2018
A thesis submitted in partial fulfillment of the requirements for the Degree of Master of Fine Arts at Virginia Commonwealth University.

Rachel Ramey  
B.F.A. - Communication Arts  
Virginia Commonwealth University, 2012  
M.F.A. - Interior Environments  
Virginia Commonwealth University, 2018

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When I first decided to become an interior designer, it was because of my love for beautiful spaces. As I studied designers in the field, I realized that interior design has the power to change lives and the world we live in. I believe that design can create immense positive change in society. From designing plans to a piece of furniture, design enables people to address a problem and make a change for better or worse. I believe that design from the human mind has been the most influential tool to propel the evolution of human civilization and it is a designer’s responsibility to design with empathy for humanity and our planet as a whole.
Motivation

While the knowledge of disrepair in inner-city schools is fairly common, the impact that school facilities are having on students and faculty is not as widely known. More recently, the closing of inner-city schools has greatly increased across the United States; Reduction in public school enrollment from 2006-2013: Detroit -63%, Cleveland -32%, Indianapolis -27%, D.C. -23%, L.A. -23%, etc. (Journey For Justice Alliance, 2014).

Due to budget cuts, threat of school closings from poor facility conditions, large class size, and pressure to raise test scores, inner-city schools struggle to keep teachers (Journey For Justice Alliance, 2014). Poor teacher retention along with a lack in care for educational facilities has created a toxic environment for inner-city students.

Problem

Although there are many reasons that inner-city schools suffer negativity within school culture seems to be a common denominator within many of these problems. With larger population percentage of minority, economically disadvantaged and disabled students, difficulties arise in communicating student-to-teacher and teacher-to-student (Bellwether Education Partner, 2016). The question becomes, how does one design a space to provide comfort, safety and communication in order to foster healthy relationships?

Method

In order to determine the most vital areas that need improvement, interviews with teachers, students and administration from inner-city middle schools will need to be conducted. Interviews with teachers will delve into their main day-to-day school challenges, what their ideal space would look like and what additional areas of the school they would like to utilize in the future.

Students will complete surveys rating their current school (classrooms, library, etc.), and administration will rate the current building, pros/cons from their current layout, and review their history at other schools to see if their other experiences can inform new designs.

Results

Many reports on school design have found that classroom design can have one of the largest impacts on teachers and students alike. One study found that U.S. student performance could decrease 10-25% due to poor classroom design and facility maintenance (Smith, 2013). New layouts such as flexible classroom designs, have been found to positively impact students. This concept allows the teacher to change the front orientation of the classroom and allows for more student-teacher customization (Topcu, 2013). While traditional classrooms still exist, in Australian primary schools, non-traditional classrooms were found to positively impact student performance in mathematics (Immso, Byers, 2017).

Another classroom design method that was found to be beneficial for the teacher is the open perimeter classroom. This leaves an open between a line of classrooms allowing teachers to see one another in case of an emergency. In a U.S. study, they found that open perimeter classrooms had a greater correlation to teacher satisfaction than a closed perimeter classroom (Ahrentzen, Evan, 1984).

Conclusions

This research will inform the design of a middle school that focuses on community and communication. The goal will be to design a school where flexibility and team work is made easier through furniture and layout solutions in order to foster growth and respect for students and teachers.
Although deep within inner-city schools is fairly common knowledge, most do not know of the impact that school facilities have on students and teachers. A study that could help elucidate these issues is a threat of school closings from poor facility conditions, low maintenance, and pressure to raise test scores. These could drive schools struggling to retain teachers (Justice For Alliance, 2014). A main cause of the frustration in schools is the threat of reduced funding due to the closing and reduction of public school dollars across the country (Uline, Tschannen-Moran, 2008). School funding has continued in the inner-city middle schools struggle to retain teachers (Journey For Justice Report, 2014). A main cause of the frustration is obsolete school facilities and resources, which has created a toxic environment for inner-city students and faculty. In the case of Brown vs. Board of Education, the decision that white families had time to prepare to move their children out of Richmond Public Schools. Through his research, he highlighted the importance of school facilities and resources, which has created a toxic environment for inner-city students and faculty. In the case of Brown vs. Board of Education, the decision that white families had time to prepare to move their children out of Richmond Public Schools. Although classroom design has been shown to affect student performance, to truly make this effective, smaller classes and more open spaces are needed in the case study, “Making Peace with the Rising Costs of Writing Technologies: Flexible Classroom Design as a Sustainable Solution.” According to the study conducted by Plosker’s, 18% of all students have some type of disabled student population (emotional, physical and 6th grade). This study analyzed how closed perimeter classrooms were found to be less distracting and more conducive to learning” (Valeski, Toccafondi, 2003, p.197). Another method that is being used is open perimeter classrooms. In American and Evans study, they requested the feedback of 13 teachers (teaching 4th and 6th grade), this study analyzed how closed perimeter classrooms affected the learning environment for the teachers and the students. However, due to the fact that this wasn’t an inner-city school in the United States, this design would need to be tested before it was implemented in a Richmond City School. Although classroom design has been shown to affect student performance, to truly make it effective, smaller classes and more open spaces are needed in the case study, “Making Peace with the Rising Costs of Writing Technologies: Flexible Classroom Design as a Sustainable Solution.”

As students age and pedagogy continues to change with time and technology, the need for flexibility grows. Flexible classroom design is becoming a viable tool for teachers to use in the classroom in order to engage students in learning. This is the call of duty when teaching in updated spaces. As classroom design and size class are two fundamental factors that could create a number of benefits for students and teachers, I decided to focus on classroom design after reading the article, “Designing and effective middle school student learning: Ergonomics in all But name.” Smith studied a large number of environmental factors and variables that affect U.S. student performance in grades 4-9. The author found that school size, classroom technology integration, quality of classroom and learning environment, and classroom design directly affected student performance. He also noted a number of factors that teachers needed be aware of when classroom design and maintenance could lead to decreases of 10-20% in student performance. Smith pointed out that available resources be allocated to classroom and building design due to the strong correlation between design and boosted student performance. Another study conducted in 80 urban middle schools in the middle Atlantic states analyzed the relationship between middle school climate, after and before facility improvement and found that teachers and students were seriuosly when being taught in spaces that were in good physical condition and well designed. They also found that teachers and students felt a positive change in the call of duty when teaching in updated spaces. Flexible Classroom Design as a Sustainable Solution.”

In order to turn around these schools, change must start in Middle schools where the enrollment sharply decreases. Generally, facilities in Richmond Schools are in deeper distress and classroom and size class are two fundamental factors that could create a number of benefits for students and teachers. I decided to focus on classroom design after reading the article, “Designing and effective middle school student learning: Ergonomics in all But name.” Smith studied a large number of environmental factors and variables that affect U.S. student performance in grades 4-9. The author found that school size, classroom technology integration, quality of classroom and learning environment, and classroom design directly affected student performance. He also noted a number of factors that teachers needed be aware of when classroom design and maintenance could lead to decreases of 10-20% in student performance. Smith pointed out that available resources be allocated to classroom and building design due to the strong correlation between design and boosted student performance. Another study conducted in 80 urban middle schools in the middle Atlantic states analyzed the relationship between middle school climate, after and before facility improvement and found that teachers and students were seriously when being taught in spaces that were in good physical condition and well designed. They also found that teachers and students felt a positive change in the call of duty when teaching in updated spaces. Flexible Classroom Design as a Sustainable Solution.”

The Issues and Solutions

Smith studied a large number of environmental factors and variables that affect U.S. student performance in grades 4-9. The author found that school size, classroom technology integration, quality of classroom and learning environment, and classroom design directly affected student performance. He also noted a number of factors that teachers needed be aware of when classroom design and maintenance could lead to decreases of 10-20% in student performance. Smith pointed out that available resources be allocated to classroom and building design due to the strong correlation between design and boosted student performance. Another study conducted in 80 urban middle schools in the middle Atlantic states analyzed the relationship between middle school climate, after and before facility improvement and found that teachers and students were seriously when being taught in spaces that were in good physical condition and well designed. Smith also found that teachers and students felt a positive change in the call of duty when teaching in updated spaces. Flexible Classroom Design as a Sustainable Solution.”

Another important factor is that Richmond City Schools’ disabled student population (emotional, physical and learning) makes up 15% of all students. In Richmond’s
students attend school as a place where their identity is formed. They believe the spaces and furnishings that comprise school environments are critical to their well-being and are often organized to meet their needs. Their emotional responses revealed that students attached meaning to the school facilities, and they felt the need for both personal and social spaces. In addition, they connected the aesthetic features of the school environment to learning and instruction. (Uline, 2018).

By studying 3 different groups of New England high school students, the author connected the aesthetic features of the school environment to learning and instruction. (Uline, 2018).

A small hallway was converted into the current teacher’s lounge and is lined with lockers. Due to the large teacher population and the limited copies, all copies are made by the students with whatever technology is available. Elkhardt-Thompson, formerly known as Thompson Middle School, was torn down in 1990-1991 by Chesterfield County. This section of Chesterfield was branded as a low socio-economic status area and was known as the project area. It was closed down due to mold infestation and was merged into Thompson Middle. The current building has been enlarged to meet the needs of teachers and students. The city promised to build by the fall of 2018 has now been pushed back until the fall of 2022. The overall impression is that faculty and students don’t have enough space to do their work. They are given (seating, tables, instructional technology, etc.) to work in. The student body has come to demand more flexibility in teaching style and promotes more thoughtful design for classrooms and schools with more open floor plans and more flexible design possibilities given that students have seating that can be moved around. Some classrooms have larger tables for groups of students and others have individual tables. Attention is only focused towards a group of students at a time if the classroom is in a row. The classroom is situated and there is a little natural light in most rooms.

observed students were more engaged in lessons that vary-project based or group-oriented. Periods of bookwork and lecture appear to keep student attention much less successfully. Security guards walk the school hallways to prevent students from slipping classes, but this still seemed to be an issue throughout the school. Overall, the student body is content with their school environment, and the grade levels between the transition between classes and the hallway are comfortable enough to allow students to have any interests that may impact their path in the future.

In Kenn Fisher’s book “The Translation of School Space: Creating Rich School Environments” she argues that the most influential factors of school environments on adolescent identity formation were spaces that were extraordinary for adolescent socialization and connection to teachers, smaller class size, spaces that provide a safe environment for adolescent socialization, and connection to local communities and technological environments. She asserts that “A considerable part of adolescents’ social interactions and interpersonal relationships, in particular with peers, are also formed in schools. In their spare time, students can become active for recreation and socialization where they are in contact with their peer groups, the large teacher population, and the students’ own identities. Different spaces representing what they found important to their learning environments. Through all of their findings, the students found a connection between elements of the school and the students’ own identities. Different spaces were associated with different emotions, such as the cafeteria being associated to hunger. The authors found that “When the school is constructed for their needs, the children and their communities in flexible and responsive ways, students begin to think that their school is part of the place. Through their interaction with the environment, it becomes part of their identity. From the photo-mediated interviews, researchers came to understand that students attend school as a place where their identity is formed. They believe the spaces and furnishings that comprise school environments are critical to their well-being and are often organized to meet their needs. Their emotional responses revealed that students attached meaning to the school facilities, and they felt the need for both personal and social spaces. In addition, they connected the aesthetic features of the school environment to learning and instruction.” (Uline, 2018).

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The South Harbor School is an elementary and middle school, which focuses its design on creating community inside and outside of the space. The building itself is woven into a city district and the interior uses a variety of casual spaces outside of the classroom to encourage group work and communication.

Applications of green are applied to sections of upholstery and flooring for active and loosely programmed spaces outside of the classroom, while blue is used in classrooms and areas of quiet and focus. Wood, metal, concrete and neutral paint tones are applied to walls and floors in areas of circulation and gathering areas such as the cafeteria. These visual signals promote gathering in the indicated spots and give an indication of the expected sound level in a given area.
Denoted by the color green, flex spaces often intersect with corridors, but classrooms are physically separated with use of glass walls. Visual connection is used to connect although every space, but flex and corridors use primarily color to separate the two.
This middle school is a great example of flexible classroom design. Through natural light, folding walls and moving desks, Perkins + Will created a sense of openness and flexibility that promotes work between multiple classrooms.

Scale is another element used to increase the amount of natural light, especially in hallways. Classrooms have lower ceilings with sections of skylights, while the hallways extend the ceiling to the top floor and use light colored wall panels to reflect light throughout the building.

**Caption & Image Source**

Firm: Perkins + Will
Size: 60,000 sq.ft.
Year Completed: 2012
Location: Port Coquitlam, BC - Canada

This middle school is a great example of flexible classroom design. Through natural light, folding walls and moving desks, Perkins + Will created a sense of openness and flexibility that promotes work between multiple classrooms.

Scale is another element used to increase the amount of natural light, especially in hallways. Classrooms have lower ceilings with sections of skylights, while the hallways extend the ceiling to the top floor and use light colored wall panels to reflect light throughout the building.
The front of classrooms can also fold into the ceiling allowing connection between classroom and corridor adding more possibilities for lessons and group exercises between classes.

Through foldable walls between classrooms, teamwork and connection to other classes can be easily facilitated by teachers.
Richard J. Lee Elementary School

Firm: Stantec
Size: 96,000 sq.ft.
Year Completed: 2014
Location: Dallas, Texas

Using a vertical central core, Richard J. Lee creates connection to all other spaces. This central core is also the more area for large groups of students to gather and classrooms are placed on the outer edges of the building. This connection allows for students to still feel familiar and comfortable with the space even as they changes grades and learning environments.
The active learning area denoted in the plan is lifted to the second floor and centrally connects all surrounding areas physically and visually.
Through all three projects, connection and transitions from one space to another is the main focal point. By using central vertical connection, transparency, wall flexibility and color indicators, these schools strive to keep students connected with other spaces, and allow teachers to monitor the safety of students inside and outside of the classroom.

All of these concepts can be applied to 815 Porter Street, by the verticality of Richard J. Lee Elementary and South Harbor School directly relate to the architecture of the central atrium which lends itself to visual connection between.

Conclusions

Connection through centrality and verticality

Connection through wall flexibility

Connection through color and materiality

Independence/Flexibility

Control/Rigidity

Community/Teamwork

Types of Connections

Richard J. Lee Elementary
Pitt River Middle School
South Harbour School
815 Porter Street
Elevations

South Exterior Elevation

West Exterior Elevation

North Exterior Elevation

East Exterior Elevation
Existing Material Language

- **Material**: Heavy Oak Timbers
  - **Use**: Columns and beams
  - **Finish**: Stain

- **Material**: Concrete
  - **Use**: Floor on 1st floor
  - **Finish**: Polished

- **Material**: Red Brick
  - **Use**: Building facade

- **Material**: Steel
  - **Use**: Window frame
Photographic Studies
Originally, the building was constructed in 1895 as a bakery and was converted into a warehouse by Southern Distributors Inc in the 1940s. After being purchased in 2003, the space was adapted into its current use as lofts.

The overall structure consists of brick, heavy timber, and polished concrete flooring on the ground level. The most distinguishable elements of the building include the heavy timber columns/beam, exposed brick walls and the central atrium. The building has characteristics of the Chicago School period with its uniformity and ample natural light, but the heavy timber trusses add a hand-made element that lends itself to the Arts and Crafts period.
Manchester

When was the district established?
• 1663 - William Stegge received 5000-acre royal land grant on the south bank of the James River (including future Manchester)
• 1769 – Incorporated as a town
• 1874 – Declared an independent city

How has the district evolved?
• Originally a port city separate from Richmond
• Port for slave ships in 18th century
• Shipped tobacco and coal
• Absorbed by Richmond in 1910
• Industry and factories boomed in the area in the 20th century
• Manchester is now turning into an upcoming residential district in the city

What is the current state of the district?
• Many older factories are being adapted into apartments
• New apartment buildings are currently being built in multiple locations

What are some defining characteristics of the district?
• Brick façade buildings, factories, some Victorian town houses
• View to the James River
• Near railroad tracks
• Industrial

What are the edges (boundaries) of the district?
• The James River (North and East)
• 301/Cowardin Ave (West)
• Goode Creek/Broad Rock Creek (South)

What are the paths into, through, and across the district? What is their significance?
• Bridges: 301, S. 9th Street, S. 14th Street, Richmond-Petersburg Turnpike (allows connection to the downtown area of the city)
• Roads from the Southwest: 60, 380, 301 and 95 (connect to Chesterfield county)

What are the landmarks in this district? Why?
• Richmond Railroad Museum - This was a central transportation hub in the Richmond area
• Southern States Silo - This building towers over the rest of Manchester and is one of the most identifiable buildings from downtown Richmond

District History
### General Education Classrooms

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Teaching/learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Classroom for Language Arts, History, Math</td>
</tr>
<tr>
<td>Important Adjacencies</td>
<td>Other Classrooms</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>student desks, teacher desk, projector, smart board, dry erase board</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
</tr>
<tr>
<td>Physical Security</td>
<td>very secure</td>
</tr>
<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>20-25 students, 1 teacher</td>
</tr>
<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>very secure</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>instrument storage, music stands, pianos, chairs</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
</tr>
<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
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<td>Visual Privacy</td>
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<tr>
<td>Users of Space</td>
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<tr>
<td># of Users at a time</td>
<td>20-25 students, 1 teacher</td>
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<tr>
<td>Accessibility</td>
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<td>Occupancy Classification</td>
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### Science Classrooms

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<th>Purpose</th>
<th>Teaching/learning</th>
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<tbody>
<tr>
<td>Description</td>
<td>Classroom for science, includes sinks</td>
</tr>
<tr>
<td>Important Adjacencies</td>
<td>Other Classrooms</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>sinks, storage, desks, projector, smart board, dry erase board</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
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<tr>
<td>Physical Security</td>
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<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>15 students, 1 teacher</td>
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<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>sinks, storage, desks, projector, smart board, dry erase board</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
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<td>Physical Security</td>
<td>very private</td>
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<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
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<tr>
<td># of Users at a time</td>
<td>15 students, 1 teacher</td>
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<tr>
<td>Accessibility</td>
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</tr>
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<td>Occupancy Classification</td>
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### Band Classroom

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<th>Purpose</th>
<th>Teaching/learning</th>
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<tbody>
<tr>
<td>Description</td>
<td>Classroom for Language Arts, History, Math</td>
</tr>
<tr>
<td>Important Adjacencies</td>
<td>Other Classrooms</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>instrument storage, music stands, pianos, chairs</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
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<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
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<tr>
<td>Physical Security</td>
<td>very secure</td>
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<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
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<tr>
<td># of Users at a time</td>
<td>20-25 students, 1 teacher</td>
</tr>
<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>Risers, piano, chairs, teacher desk, storage</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>very secure</td>
</tr>
<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
</tr>
<tr>
<td>Physical Security</td>
<td>very secure</td>
</tr>
<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>20-25 students, 1 teacher</td>
</tr>
<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
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</tbody>
</table>

### Art Lab

<table>
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<th>Purpose</th>
<th>Teaching/learning</th>
</tr>
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<tbody>
<tr>
<td>Description</td>
<td>Classroom for visual/musical teaching/learning</td>
</tr>
<tr>
<td>Important Adjacencies</td>
<td>Band room</td>
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<tr>
<td>FF&amp;E</td>
<td>Ring, pianos, chairs, teacher desk, storage</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
</tr>
<tr>
<td>Physical Security</td>
<td>very secure</td>
</tr>
<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
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<tr>
<td># of Users at a time</td>
<td>30 students, 1 teacher</td>
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<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>storage, group tables, pin up space, sink, shelving, drying racks</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
</tr>
<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
</tr>
<tr>
<td>Physical Security</td>
<td>very secure</td>
</tr>
<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>20-25 students, 1 teacher</td>
</tr>
<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>teaching/learning</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>semi private</td>
</tr>
<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
</tr>
<tr>
<td>Physical Security</td>
<td>very secure</td>
</tr>
<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>10-15 students, 2-3 teachers</td>
</tr>
<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
</tr>
</tbody>
</table>

### Special Education Classroom

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Teaching/learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Classroom for special needs students</td>
</tr>
<tr>
<td>Important Adjacencies</td>
<td>private restroom</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>ADA bathroom, special desks and chairs</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>private</td>
</tr>
<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
</tr>
<tr>
<td>Physical Security</td>
<td>very secure</td>
</tr>
<tr>
<td>Users of Space</td>
<td>teachers, students, administrators</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>2-4 people</td>
</tr>
<tr>
<td>Accessibility</td>
<td>not private</td>
</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>guidance, nurse, waiting area</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>very private</td>
</tr>
<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
</tr>
<tr>
<td>Physical Security</td>
<td>somewhat secure</td>
</tr>
<tr>
<td>Users of Space</td>
<td>teachers, students, janitors</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>20-30 students, 1 teacher</td>
</tr>
<tr>
<td>Accessibility</td>
<td>accessible during class time for students, accessible during teacher hours for teachers</td>
</tr>
<tr>
<td>Occupancy Classification</td>
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</tr>
<tr>
<td># of Users at a time</td>
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</tr>
</tbody>
</table>

### Administrator Offices

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Administrator workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Private office</td>
</tr>
<tr>
<td>Important Adjacencies</td>
<td>Guidance, nurse, waiting area</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>desks, be cabinets</td>
</tr>
<tr>
<td>Vandalism Security</td>
<td>very private</td>
</tr>
<tr>
<td>Acoustic Privacy</td>
<td>very private</td>
</tr>
<tr>
<td>Physical Security</td>
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<td>Users of Space</td>
<td>teachers, students, janitors</td>
</tr>
<tr>
<td># of Users at a time</td>
<td>2-4 people</td>
</tr>
<tr>
<td>Accessibility</td>
<td>not private</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>guidance, nurse, waiting area</td>
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<td>Vandalism Security</td>
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</tr>
<tr>
<td>Occupancy Classification</td>
<td>E</td>
</tr>
</tbody>
</table>
## Guidance Office

**Purpose:**
Administrator workspace

**Description:**
Room to counsel students and parents

**Important Adjacencies:**
- Guidance, nurse, waiting area
  - CCAC, office
  - FF&E: desks, file cabinets
  - Visual Privacy: semi-private
  - Accessibility: very secure

**Occupancy Classification:**
- N/A

**# of Spaces:**
- 1

**Minimum Square Feet:**
- 200 sq. ft.

## Library

**Purpose:**
Teaching/learning

**Description:**
Classrooms for Language Arts, History, Math

**Important Adjacencies:**
- Other Classrooms
  - FF&E: shelving, computers, tables, chairs
  - Visual Privacy: not private
  - Accessibility: very private

**Occupancy Classification:**
- A-2

**# of Spaces:**
- 6

**Minimum Square Feet:**
- 600 sq. ft.

## Waiting Area

**Purpose:**
- Seating area for parents/guests

**Description:**
- Seating for students, parents and visitors

**Important Adjacencies:**
- Admin offices, nurse office
  - CCAC, office
  - FF&E: supply storage, nurse’s locker
  - Visual Privacy: not private
  - Accessibility: very secure

**Occupancy Classification:**
- N/A

**# of Spaces:**
- 2

**Minimum Square Feet:**
- 200 sq. ft.

## Nurse’s Office

**Purpose:**
- Assisting sick students

**Description:**
- Office for nurse to treat sick students

**Important Adjacencies:**
- Admin, office
  - FF&E: supply storage, nurse’s locker
  - Visual Privacy: private
  - Accessibility: very secure

**Occupancy Classification:**
- N/A

**# of Spaces:**
- 1

**Minimum Square Feet:**
- 150 sq. ft.

## Teacher Workroom

**Purpose:**
- Prepare copies/lessons

**Description:**
- Important Adjacencies:
  - FF&E: tables, chairs
  - Visual Privacy: very private

**Occupancy Classification:**
- A-2

**# of Spaces:**
- 1

**Minimum Square Feet:**
- 400 sq. ft.

## Cafeteria

**Purpose:**
- Eating

**Description:**
- Important Adjacencies:
  - FF&E: built-in seating, stage, curtains, stage lighting

**Occupancy Classification:**
- A-2

**# of Spaces:**
- 1

**Minimum Square Feet:**
- 6,000 sq. ft.

## Gym

**Purpose:**
- Changing and showering for gym

**Description:**
- Important Adjacencies:
  - FF&E: lockers, showers

**Occupancy Classification:**
- A-2

**# of Spaces:**
- 4

**Minimum Square Feet:**
- 2,000 sq. ft.
Janitorial Closets

Purpose: Janitor storage
Description: for cleaning supplies and equipment prep
Important Adjacencies: N/A
FF&E: sink, drain, shelving
Visual Privacy: private
Acoustic Privacy: private
Physical Security: very secure
Users of Space: janitors
# of Users at a time: 1
Accessibility: only to janitors
Occupancy Classification: E
Programmatic Adjacencies: N/A
# of Spaces: 8
Minimum Square Feet: 25 sq. ft. per closet - 200 sq. ft.

Teacher Bathrooms

Purpose: restrooms
Description: for teachers
Important Adjacencies: Classrooms
FF&E: stalls, sinks
Visual Privacy: max private
Acoustic Privacy: max private
Physical Security: very secure
Users of Space: teachers, janitors
# of Users at a time: 1 teacher
Accessibility: accessible during work hours
Occupancy Classification: E
# of Spaces: 4
Minimum Square Feet: 50 sq. ft.

Student Bathrooms

Purpose: restrooms
Description: for student restrooms
Important Adjacencies: Classrooms
FF&E: stalls, sinks
Visual Privacy: max private
Acoustic Privacy: max private
Physical Security: very secure
Users of Space: students, janitors
# of Users at a time: 6 students
Accessibility: accessible during class time for students
Occupancy Classification: E
Programmatic Adjacencies: max of 200’ from furthest classroom
# of Spaces: 4 girls, 4 boys
Minimum Square Feet: 3,200 sq. ft.

Gym Storage

Purpose: teaching/learning
Description: Classrooms for Language Arts, History, Math
Important Adjacencies: Classrooms
FF&E: shelving
Visual Privacy: max private
Acoustic Privacy: max private
Physical Security: very secure
Users of Space: teachers, students
# of Users at a time: 1 teacher
Accessibility: accessible only to teacher
Occupancy Classification: E
# of Spaces: 1
Minimum Square Feet: 400 sq. ft.

Corridors

Purpose: teaching/learning
Description: Classrooms for Language Arts, History, Math
Important Adjacencies: Classrooms
FF&E: N/A
Visual Privacy: no privacy
Acoustic Privacy: no privacy
Physical Security: semi secure
Users of Space: everyone
# of Users at a time: n/a
Accessibility: Occupancy Classification: E
# of Spaces: 4
Minimum Square Feet: min of 10’ wide, hallways with lockers measure from locker door swing, admin hallways need to be min. of 5’ wide

Soft Learning Spaces

Purpose: Independent learning space outside of the classrooms
Description: N/A
Important Adjacencies: Corridors
FF&E: Group work tables and seating
Visual Privacy: none
Acoustic Privacy: none
Physical Security: in the open
Users of Space: students
# of Users at a time: varies
Accessibility: accessible during school hours
Occupancy Classification: E
Programmatic Adjacencies: N/A
# of Spaces: TBD
Minimum Square Feet: TBD
Occupancy Classification: Group E  
Building Type: Type 4 - Heavy Timber  
Type of Construction: Janitor storage  
Total Gross Area: 100,000 sq. ft.  
Gross Area for each floor: 25,000 sq. ft.  
Efficiency Ratio: Net = Gross x .60  
Total Net Area: 60,000 sq. ft.  
Net Area per floor: 15,000 sq. ft.  
Max Occupancy: 2,000  
Max Occupants per floor: 500  
Number of Egress Stairs: 4
Concept & Process

Through the power of gathering, schools have the opportunity to create a point of connection that can facilitate empathy and respect between students and teachers. With this in mind, the concept became an exploration of connection points that allow the user to shape elements of their environment. Through the dichotomy of flexibility and control, I explored light, sight-lines and systems that would allow visual and physical points of connections.
Using dowel rods and a foam-core base, I created a system for which square panels of different textures, opacity, colors and sizes could be manipulated. This exploration was inspired by the column grid of the building and was meant to delve into systematic flexibility of student spaces to encourage independence.
This model explored transitions on vertical surfaces and perceptions based on vantage points. From above, you only see the white layering of paper, but when tilted to the side, the green layer underneath becomes apparent and starts to bounce color into the central channels.
Light is an extremely important aspect of any school design, so using acetate, I created a diagrammatic model to show the sunnier areas of the South and East interlocking with the darker sides of the building on the North and West. I also analyzed the grid system of the windows to find additional points of reference for space planning.
Through color blocking sketches, I examined the relationships of spaces through volume and acoustics. Most blocking plans focus classrooms on the Southeast side of the building to capture the morning sun, while larger and louder spaces such as the cafeteria, gym and auditorium are placed on the Northwest side.
Option 2 places the library on the ground floor in the atrium. The gym/cafeteria and auditorium are aligned on the Northwest side of the building taking all 4 floors.
This layout focuses on the auditorium being an open space within the atrium, which can also be used as additional flex space, lecture space or a staircase.
Option 4 takes option 3 and extends the central stair/auditorium to the 3rd floor. This layout uses the view from the lobby to sculpt the shape of the stair and to create visual connection through the entire building.
These studies were analyzing where flexible seating could be arranged in each classroom.

This color study based on the window grid became a main graphic used on the north mural wall on the 4th floor. Pieces of this also became the graphics on the built-in glass boards found in the flex spaces.
I then focused on the shelving wall system in the classrooms and how the shelving would be arranged on each unit.
Final Design
Plans

1st Floor Plan

2nd Floor Plan

- Flex Space
- Classroom
- Administration
- Gym/Cafeteria
Sections

Transverse Section

Longitudinal Section
The grand staircase is not only the core of the school, but the core of the concept of gathering. The angle of the stairs was determined by the sight-line from the lobby to the northeast corner of the building. Instead of creating a separate auditorium space, this staircase hosts bleacher seating with cushion inserts which can be utilized for performance seating or flex space that can be used by teachers and students between classes. This space can also be used as an alternative to classroom lecture.
The glassboard flex space is highly visible, which allows teachers to have group work activities outside of the classroom. The mobile and built-in seating help students control some elements of their own environment and the mobile stool storage creates a perimeter that separates circulation from the flex area.
The northeast corner of each floor has a smaller bleacher seating area, which can be used by teachers and students. The plywood structure is visible from the front of the school and the blue wall is felt paneling to dampen acoustics in the space.
Along each corridor, the central alley creates opportunity for smaller groups to work together. Carpeted pathways identify these alleys, while still having ample circulation space on either side. Each booth has seating for 4 students and the exterior can be used by an additional pair on both sides. This seating still provides important sight-lines and creates a consistent system of flex space on each floor.
Each floor has a series of 4 classrooms along the southeast wall of the building, which are separated into two pairs. Each pair is divided by two storage walls that slide along a series of tracks, allowing these classrooms to be connected for group-work activities or separated for individual class time.

The node chair is used for student desks and allows for teachers to easily facilitate different types of group work without worrying about the amount of time taken to rearrange seats. Built-in shelving on the perimeter frees up most of the floor space for student activity and the teacher’s desk includes a small side table allowing for meetings with individual or pairs of students.

### Classroom

- **BuzziTrevira**
  - Color: Hazy Ocean
  - Manufacturer: BuzziSpace
  - Application: Shelving Unit

- **CeramicSteel White Board**
  - Color: White
  - Manufacturer: Polyvision
  - Application: Shelving Unit

- **Node Chair**
  - Color: Plat. Solid Nickel, Jazz
  - Manufacturer: Steelcase
  - Application: Classroom

- **Studio Set U/V**
  - Color: A00702 Poetter
  - Manufacturer: Interface
  - Application: Flooring

- **Wheetworks Teppich - W04**
  - Color: Constands Cherry
  - Manufacturer: Armstrong
  - Application: Classroom Ceiling

- **BuzziSpot 3D Ottoman**
  - Color: BuzziTrevira - Hazy Ocean
  - Manufacturer: Buzzispace
  - Application: Teacher Desk

- **Casper Box**
  - Dimension: 22” x 22” x 8”
  - Manufacturer: LightArt
  - Application: Classroom lighting

- **Campfire Slim Table**
  - Color: Steelcase Oak Composite
  - Manufacturer: Steelcase
  - Application: Teacher Desk

- **Buzzispot 3D Ottoman**
  - Color: BuzziTrevira - Hazy Ocean
  - Manufacturer: Buzzispace
  - Application: Teacher Desk

- **Bivi Desk**
  - Color: Steelcase Oak Composite, Steelcase Anodized Aluminum
  - Manufacturer: Steelcase
  - Application: Teacher Desk

- **BuzziTrevira**
  - Color: Hazy Ocean
  - Manufacturer: BuzziSpace
  - Application: BuzziCube

- **Studio Set U/V**
  - Color: A00702 Poetter
  - Manufacturer: Interface
  - Application: Flooring

- **CeramicSteel White Board**
  - Color: White
  - Manufacturer: Polyvision
  - Application: Shelving Unit

- **Node Chair**
  - Color: Plat. Solid Nickel, Jazz
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  - Color: White
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- **Node Chair**
  - Color: Plat. Solid Nickel, Jazz
  - Manufacturer: Steelcase
  - Application: Classroom
The storage wall includes a CeramicSteel projection surface which doubles as a dry-erase board and a series of moving panels to conceal storage and provide more dry-erase surfaces. When classes are to be divided, there is a glass panel within the shelf that extends to the front wall of the classroom and allows for teachers to have visibility into adjacent rooms in case of an emergency. The bottom four feet of the panel is frosted to prevent distraction from other classrooms.
MFA Thesis Exhibition
May 10th, 2018 – VCUArts Depot

Interior Design MFA Thesis Show 2018
VCUArts Depot
May 7-20, 2018

SPECIAL THANKS TO OUR SUPPORT TEAM

PRODUCTION: KATIE HORTON
MARKETING: HARLEY HAY
GRAPHIC DESIGN: LEE A. BURKARD
SPECIAL THANKS: JULIE ELAD & FAMILY
MARY GRAECE

MFC Prints: ROBERT TATAR
Photography: CAMERON WILKINSON
PHYSICAL COLORS: BERN DAVIES
KATY CUTSHALL
LENITA ELKHOSE
SARA HACKETT
CHRISTIN HARDY
MAGGIE JONES
CAROLINE MATTESON
CAROLINE McLRAITH
RACHEL RAMEY
MIKE SCRIBNER
AMY WILLIAMS
YUQI YE
Final Boards
As I look back on my thesis defense, I can truly say that I spoke from the heart and concentrated on areas of my project that would make the most impact on the existing middle school pedagogy structure. After my 15 minute presentation, the department professors brought up many valid points on areas of my project that could be changed or developed more thoroughly. The critique that affected me the most was about the location of the administration area. Since my concept is about creating community through gathering and transparency, several professors felt that keeping administration offices, guidance counselor offices, and the teachers lounge in a separate area didn't match the rest of the building. I also felt that certain flex areas needed to be developed more thoroughly, but I came away from this project extremely proud of the work I did and feeling equipped for life after grad school.

Overall, the past two years have felt like the longest and shortest years of my life. The first year gave me so many necessary skills for this career, but the summer internship is what gave me the confidence in my own ability as a designer. I still worry that I wouldn't have the chance to help those in need if I worked for a commercial architecture firm, but through the work I have done on my thesis, I have realized that designers can make positive changes to society by just challenging the norm of current design standards.

I'm so thankful that I had the opportunity to participate in this program with this faculty and all the members of my cohort. I truly felt like I was a part of a team and that I was supported when I needed help. I'm going to miss my time at VCU, but I'm excited to start my career as an interior designer.

**Acknowledgements**

Special thanks to:

Derek Hambright
Marlene Ramey
Amy Williams
Roberto Ventura
Emily Smith
Camden Whitehead
Jen Fell
Katie Rene
Jouburt Ramos
Bryan Clark
My MFA Cohort
Mark Freeman
Tom Stiles


