ARCHITECTURE’S IDENTITY WITHIN EDUCATION
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The student is lost. The student sees a teacher through the environment they operate in. They accept these individuals as socially grounded entities because of the context that is the hearth of these professors. Is the environment for the student defined?

This thesis proposes an educational methodology grounded within the work of John Dewey, Anthony Gregorc, and Arvind Gupta that engrains the idea of civic work, student leadership, and external mentoring into its core.

Many institutions have experienced the benefits of true interaction with the community. Inner-City Arts designed by Michael Maltzan has incorporated the community into his urban educational facility in Los Angeles California. The school has now supported over 150,000 kids locally who are living on low income by providing exceptional classes in the arts. The school has grown exponentially in support, and awareness since its start in 1989. A community that is involved with an idea like this can achieve great things.

This thesis began with an interest in epistemology and how one obtains knowledge. If there is a best practice in education, what kind of educational models exist today, and the process of getting there.

There are numerous philosophers that discuss ways of educating children, but the one that seemed to attach themselves to idea of student identity was Arvind Gupta. He argues that a student learns most effectively through a process of discovery. He demonstrated this by bringing what seemed like trash and meaningless junk to the students, and challenged them with a task. He sat back and watched them. He saw them work together as a team, and it was amazing to see the amount of collaboration and persistence to reach this goal. The architecture of the school proposed in this thesis was designed to exact the same emotion from the students.

A student in school experiences the people that work in the school, in an environment. These people are defined by the environment that they work in. As research progressed, the same question kept reappearing: do our educational methodologies today define an environment for a student? Can he identify with places within a school, associating himself with a community, or can he truly see his impact within a city? Answering these questions gives the student the ability to derive ownership from environment, understand their role within a social structure, and increase their awareness contextually. Each of these ultimately sets the student up for success in the future. The undefined realm a student currently exists within must turn into a designed experience.

Through various precedent studies, an interesting connection materialized between a school and the community it operates within. The Context Model was created during this thesis to address this translation.
and it says that a school is in interaction with its community in 1 of 4 ways. It can either be urban residential, urban non-residential, suburban residential, suburban nonresidential. This model not only inspects the presence of boundary between a school and community but also revealed an interesting translation between the student’s mindset towards the school itself.

For instance Crow Island, designed by Eero Saarinin is designated (based on the Context Model) as having a suburban residential relationship. It is connected with the community, but there is an aspect of respect and privacy inherent between them. Applying the same model to Roeper elementary, one finds that the relationship is shifted into a suburban non-residential category, given the slight disconnect in proximity between the school and the local community. This boundary is defined by a grouping of trees to its north and capped by its entrance off of Woodward to the south. How do these conditions affect the student? Kids that are traveling there, they see a lot of what’s around them. There is a missed opportunity here. Their eyes are only opened once they enter the parking lot. In the same light, there were many positive characteristics surrounding Roeper’s philosophy and how the school was run. It is planned as a campus so that the students are constantly moving in between buildings to get to class. It was interesting to realize that it gives that level of responsibility upfront, the students actually appreciated well and were engaged on their own. Each student enjoys creating their own path between buildings and can feel attached to the spaces in between the school. This is an excellent example of how to provide identity and purpose to the students inhabiting this site.

Further research led to the investigation of 48 different cities around America suit the educational methodology this thesis was looking for. The selection was based on each city’s percentage of growth over the last few years and their total population today. After initial analysis, a method of sifting through ones that were temporarily expanding or growing was implemented. If a business came in and affected this growth, this was not seen as a substantial foundation to establish a new educational system, seeing as how this density could be gone in five to ten years. After removing the search down to nine, a section through the city and median age of each site was inspected. What these two components do is to offer what kind of site is in question. There are many different implications of a suburban sea of houses versus an urban residential district where privacy begins to be more of an issue. Each of these are a layering of specifications added to discover an exceptional site on a metaphysical level. At this point my search was narrowed down to three sites: Hoboken, NJ, North Bethesda Maryland, and South Jordan Utah. I found that they all possessed a unique grouping of population and infrastructural organization. Each had a steady foundation of growth over the past 10 years. North Bethesda operates around a radial system, South Jordan maintained a series of locations in pods of activity. Hoboken boasted a large urban valley with a lively downtown stretch.

By inspecting the streets and the infrastructure within each site, one can justify regard the level of appropriateness it has with the design goals contained in this thesis. North Bethesda, did not contribute enough physical area for this methodology, there was only a half mile radius within its core, so if this design was implemented here it would not have been as effective as one with more opportunity for interaction. South Jordan operated more around locations and pods. The lack of a consistent pattern, or definitive
line of expansion within the site deterred further investigation. Hoboken is very dense, and there is a clear wave of moving growth that can be predicted and used as a justification towards the selection of a site for the school within the city. Hoboken itself is a valley within the cities that neighbor it and this begins to potently root the ideas from Roeper of boundary and flow the relation though the barrier is affected. Because of this there are only a total of 7 major entrances into the city of Hoboken. And function is placed very deliberately because of this.

To examine the city further, a master plan was compiled and is an assemblage of 2004 and 2008 plans for the city of Hoboken, as well as a section of Union City. The site was chosen at a perfect position between Hoboken's rapidly growing urban residential area, and right at the crux of Union City which has an abundance of residential suburban area. This is the main point to enter Hoboken from Union City. Not only does the selection of this location reflect an understanding of the future expansion, it also responds to a law recently passed that allowed students from outside of Hoboken to commute to a school within Hoboken. This was evidence that the city was looking to accommodate a wider base of educational facilities and that this was a great opportunity for this area to bring this thesis into maturity.

A three part design philosophy was created in order to define a student's space, keep them connected to a healthy social structure, and increase contextual awareness.

**Building** - The students at the Jefferson School would be given a plot of garden to take care of over the course of the year. During the spring a classroom creates a design facade, and in the fall it transfers over into the next class. This presents a way to ease students in the transition from grade to grade. This concept is also applied to civic projects around the city, whether by landscaping or cleaning an area this arm of the philosophy focuses on assisting the built environment.

**Planning** - This application would give students the ability to experience a project from beginning to end, and leave them with a sense of accomplishment and a permanent impression upon the city they worked within. Professionals from around the city could encourage these ideas further or use the school as a way to advertise upcoming events. This arm of the three part philosophy attempts to increase the awareness within/from the community by planning events, and building a meaningful social structure that is not interrupted by the walls of the school.

**Mentoring** - The final intention for the school is for it to be a center for establishments within the area to share knowledge and experience. Individual rooms will be tailored to fit workshops and problem-solving scenarios that engage the students and get them thinking about how to use their skill set in the future. Also, there are areas within the circulation of the building where students can study or read which attempts to pull them away from the confines of a classroom and interact with student friendly zones interwoven internally within the school. This allows the teachers and faculty a chance to interact with a student in a place defined specifically for the student.
Building these facets of philosophy into a school at its inception separates this from the primary educational systems currently in place.


"The early childhood curriculum," theorist David Elkind writes, "is the most holistic and least differentiated at any level of education. It is also the most solidly grounded in philosophy, in clearly articulated methodology, and in theory and research. Those who contributed to the discipline of early childhood education came from occupations and professions outside the academic domain. What they had in common was an understanding of children. And that is what makes early childhood education unique; it starts with the child and not with the subject matter."
Anthony Gregorc's (researcher, lecturer, consultant, author) phenomenological Model of Mapping Mind Styles: Concrete abstract, Abstract Sequential, Abstract Random, and Concrete Sequential, provides an organized way to consider how the mind works. The first two, Concrete and Abstract, focus on perceptual quality. The concrete style is described in the phrase "it is what it is;" while the abstract style is described in the phrase "It is not always what it seems." The other styles, sequential and random, are centered on ordering ability. Sequential learners organize their thoughts linearly, as opposed to a random style that works information into chunks that are in no particular order.

In John Dewey's book The Child Experience (1902) he makes the argument that a student is most retentive when they are able to tie the lessons into prior experience. This deepens the connection and ultimately engrains the message deep into their memory bank. This idea of experiential learning will be incorporated into the design philosophy of this thesis' school proposal. His inquiry circle model (Ask, Investigate, Create, Discuss, Reflect) is also the basis for the idea behind the treatment of the classroom plots around the exterior of the school proposal. The students will be engaged within a constant critique of their school's image.
Arvind Gupta

Arvind Gupta is a researcher that talks about a child’s experience with education. In India he has approached the question of teaching children where the means may not be available for them. Turning garbage, and trash on the side of the road into an educational tool has been his approach. Very simple machines result, disguised as toys to the children that work with them. He also stresses an education through discovery, noting that this is the most effective way a child can retain information. Architecture has the potential to express the sense of wonder and awe that these kids had while working with these educational toys. Great things exist in the eyes of a dreamer... all education needs to do is learn to not close them.
This model was created to question where a student is identified within a school. Recognizing which figures are materialized in each setting is a very large foundation of this thesis and is used in much of the precedent analysis.
This model was created to examine the relationship between a school and its immediate surroundings. The relationship leads insight to the general layout and organization of the school, as well as the students’ level of interaction with the surrounding community. The diagrams are Suburban Residential, Suburban Non-Residential, Urban Non-Residential, and Urban Residential from top to bottom respectfully.
The school enrolls over 570 students from 60 communities throughout the greater Detroit Metropolitan Area. From its inception, the student population represented a wide variety of ethnic, cultural, racial and economic backgrounds and this continues to be the case; there are over 80 faculty members, affording a 1:9 teacher/student ratio in the lower school. At the beginning of each school year, the students can choose their own locker, being able to define a part of the school within the building can be a big step for 6th graders trying to adjust to the unfamiliar environment. The neighborhood surrounding Roeper’s upper campus has had a difficult relationship with the school. Because of the amount of activity, the age group of the Birmingham school produces, the community around the school has felt less private than they would like. Birmingham and the Derby Middle school service much of Roeper’s upper school’s surroundings, causing much of its students to travel as they would to a college in order to attend this school. The upper campus is located off of Adams just north of fifteen mile and is embedded within a local neighborhood. There is not enough room here for these older students. It should be a focus to build this relationship, and listen to what neighbors have to say about upcoming school plans.
Roeper School

Brian Wilmers acted as the architectural consultant for Roeper beginning in the early 1990’s.

Roeper school is unique in the idea that it is very personalized, and prides itself as a school for gifted children. Ever since George and Annemarie Roeper founded the school in 1941, they have been known for educating in an emotionally supportive, intellectually engaging environment. Philosophy wise the school is inclusive to anyone who wants to go there. If you have financial need, over a million dollars a year is given in order to include all.

The sense of community at Roeper is great. My wife has been teaching there for 20 years and I see it as a great advantage. Throughout the world the U.S. is seen as “close-minded.” Historically we are a very colonial kind of society. Roeper begins to break this at an early age and gets them thinking about what is going on outside of their four walls.

At Roeper’s lower campus the students have the ability to move between several buildings. Traditionally there is only one building. The independence and self confidence that is built from this is a big selling point. It is important for that development to take place very early on in education, instead waiting for college.

When the 6th graders transfer into the older setting of the upper school in Birmingham it can be a rude awakening. So to ease that transition, at the end of stage 4 (5th/6th grade) there are some tours of the upper campus with parents.
This is a proximity projection of where students are traveling from to attend Roeper’s lower elementary school each day. Because of the fact that Roeper caters to gifted children exclusively, the distance most children have to travel to reach the school is much greater than the neighboring middle schools. It is because of this that the lower campus is considered a commuter school.

"Elementary schools are neighborhood centers, while schools for older children tie the neighborhoods into a community.”

Lawrence B Perkins

The trees surrounding the lower campus act as a buffer between the neighborhoods adjacent, and Woodward effectively encloses the campus, picking up where the tree line leaves off.

The Context Model at Roeper is defined as Suburban Non-Residential because it is surrounded by trees and Woodward Ave. This barrier affects how the students interact with the community around them. Although Roeper presents a very strong aspect of community with its campus, the barrier desensitizes them slightly from the immediate community.
The student model in this environment alters its appearance slightly. The students are given an opportunity to exist between the buildings on campus. Each room inside the domes has direct access to nature. This was a primary design intention. Also, the student has an attachment with the path each takes to get to the other buildings on campus. There is a privacy apparent at this open campus and the students react very well to the responsibility given to them to respect the grounds.

This sketch was done by a student soon after the domes were finished with construction. When asked to explain the drawing, the student noted that “no one is left in a corner.” The domes provide an excellent sense of inclusion. The designers wanted kids to be around nature. Independence was a key component as well. The building ultimately provided places for kids to go off and explore places to study. The concept revolves around building a relationship within a small room, yet allow it to grow in other ways, and places.
Crow Island:

The school grew from the inside out. The needs of the students attending the school determined the specific individual classroom shape, and this grew into the design of the building. Each room has access to natural light from large low windows, and each classroom has a private exit into a courtyard where the students can plant flowers and maintain a green space. The space was designed to the scale of a child, allowing the space to feel very comfortable for the newcomers each year. The average Teacher to student ratio is currently 1:18.
Crow Island:

The most important feature of Crow Island is that it is an architectural expression of an educational philosophy. The philosophy expressed is one of progressive education. The district recognized the child’s need for a healthy physical environment from which a basis for learning can occur. The building’s plan is designed to bring an abundance of air and light into the building. This intention is achieved by the elongated wings stretching from the school’s central core.
The Context Model at Crow Island is defined as Suburban Residential because it is connected with a local subdivision. This school allows for its students to interact outside of the context of its immediate site. Although Crow Island functions within a community, there still exists a mutual layer of respect and privacy between them.
The student model in this environment alters its appearance slightly. The students are given an opportunity to exist and affect change within the designated courtyards along the exterior of the building. Each room is designed to fit the needs of the child and in doing so does a very good job at defining a space for them. Functionally, this school performs well and focuses major elements around the idea of community.

This sketch is an exterior rendering showing the intimacy of one of the classroom’s private courtyards. The integration of greenspace allows the children to define their courtyard and identify their space among the others.
Inner-City Arts:

This school provides education through the form of arts to the at-risk youth of Los Angeles. Inner-City Arts creates a bridge between the studio and the classroom, and offers a unique approach to education. This school rests in one of the city’s poorest neighborhoods. Inner-City Arts’ campus provides a beautiful escape from the community’s hardships. This school equips the child with the right tools and confidence to seek out their career goals, and affect change within a city.
Inner-City Arts is a response from budget cuts that eliminated arts instruction at public schools in the late 1970s. Local communities were challenged with filling the gap, until Bob Bates and Irwin Jaeger teamed up to form Inner City Arts in 1989. Bob, an artist and teacher, and Irwin, an entrepreneur, were determined to bring the benefits of an artistic education to the children in these downtown neighborhoods.

With increased awareness as Inner-City Arts grew, teachers and principals from other schools signed on to assist. This lead to the collaboration culminating in programs that assist and support classroom teachers, bring the lessons of the studio to other academic disciplines.
“I wanted to create a compressed urbanism.....to craft an urban village with a series of indoor and outdoor spaces.”

Michael Maltzan

The Context Model at Inner-City Arts is defined as Urban Residential because it is a school directly connected to a number of communities within Los Angeles. This school allows for its students to interact safely within the context of a city. Inner-City Arts is a great example of the connection and the potential for change a school can have upon its surroundings.
The student model is altered in the case of Inner-City Arts. The students are placed in the realm of their work. Art is a language in itself, and it can be expressed without worry of a failing grade. This presents the children with a notion of freedom and limitless possibility within a city that is struggling to keep its public schools full of students. The kids exist in this context as members of a community on the upswing. They become people with aspirations for great things.
The site selection of this school is based on many factors surrounding a prime situation for the school structure and educational components currently in place. These studies include population, growth over the last 10 years, median age, site section, infrastructure, and the economy. The site is located in Lexington, Massachusetts, a fast-growing suburb of Boston with a large number of residents commuting to the city for work. The area has a high household income, with many residents employed in the construction, technology, and health industries.

The selection criteria for the site include:

- **Population Growth**: The area has seen significant population growth over the last 10 years, indicating a need for educational facilities.
- **Median Age**: A young median age suggests a need for educational programs catering to younger demographics.
- **Site Section**: The site is adjacent to industrial parks and other developments, providing a suitable location for the school.
- **Infrastructure**: The area has good infrastructure, including transportation networks and utilities.
- **Economy**: The local economy is robust, supporting the need for educational facilities.

The site analysis involves a detailed study of the surrounding area to ensure the selected site meets the requirements and needs of the proposed educational facility. The goal is to find the best possible location that will support the educational programs and meet the needs of the community.
This map is a study of the heights of all of the buildings within Hoboken. With this information it was clear how tightly and these 6 story residential units can become. Also, the map starts to expose the opportunity to grow within this city.

Orange is 15-20 feet high, Purple is 20-30 feet, Green is 30-40 feet high, Blue is 40-50 feet high, and Orange is 50+. Red indicates buildings that are 60+ feet high.
This map is a compilation of 2004 and 2008 master plans done by city planners in Hoboken, as well as a section of Union City because that is part of the market I am trying to attract into my site (based on the new law that was passed that allows outsiders to go to school in Hoboken).

This site section shows how valley-like Hoboken feels in context to its neighbors.
THIS IS THE MAIN ENTRY POINT THAT THE BASE OF STUDENTS COMING OUT OF TOWN WILL ENTER HOBOKEN FROM.

PARKING OR A DROP-OFF ZONE IN THIS VICINITY WILL PROVIDE THE MOST FLUID EXPERIENCE FOR BOTH HOBOKENITES AND THOSE COMMUTING.

THESE ARE MULTI-LEVEL RESIDENTIAL COMPLEXES THAT WILL ADD TO THE STUDENT BASE, BUT ALSO WILL CAUSE THE PROPOSAL TO BE MORE CONSCIOUS OF ITS PRIVACY.

Site Analysis

Site Key

- Administrative
- Computer Lab
- Cafeteria
- Kitchen
- Gymnasium
- Library
- Art Studio
- Music Studio
- Green Space
- Restrooms/Lockers
- Classrooms
- Theatre/Exhibition

Phase 1

Phase 2

Phase 3
Jefferson School was designed with a 3 part philosophy, Building, Planning, and Mentoring.

Building - The students at the Jefferson school would be given a plot of garden to take care of over the course of the year. During the spring a classroom creates a design/face, and in the fall it transformed over into the next class. This presents a way to ease the students in the transition from grade to grade. This concept is also applied to civic projects around the city, whether by landscaping or cleaning an area this arm of the philosophy focuses on avoiding the built environment.

Planning - This application would give students the ability to experience a project from beginning to end, and leave them with a sense of accomplishment and a permanent impression upon the city they worked within. Professionals from around the city could encourage these ideas further or use the school as a way to advertise upcoming events. This arm of the three part philosophy attempts to increase the awareness within/from the community by planning events, and building a meaningful social structure that is not interrupted by the walls of the school.

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The spaces outlined in yellow would be the student-kept garden spaces. This gives the student an opportunity to make an impression on the school they go to.

The spaces outlined in red are the planning areas around the school. These spaces would function as outlets for discussion. This would be a student run process assisted by teachers and mentored by professionals working in Hoboken.

The spaces outlined in orange act as the mentoring spaces. In these spaces people who work around the area can set up workshops and real-world problems faced in the workplace, and help the students through to the right answer or see the best scenarios. This gives the student the ability to deductively reason and allows them to put a face on the profession.
This is the second floor of Jefferson School. The pod design of the classrooms allows for the verticality to match an urban context such as Hoboken, but at the same time is flexible to fit the criteria of responsible process. A responsible process means that the building can be erected in stages that meet the curve of demand from the households around Hoboken.
The public park greets the residents of Hoboken at the south east corner, while the mass of the school defining that space wraps around the north and west sides of the block.

The school is named after the street (Jefferson) that ends on either side of the block the school was designed on. The architecture of the school responds to the street on the north side by recessing slightly and opening up into the main entrance.

The Library is planned as the first built component on the site so that the public feels comfortable using it from the beginning. As the school becomes more intact the Library will move from a strictly public one into a shared one between the school and the community.

Finally, the openness of the site is designed to act as a way of displaying the activities and work being produced within. This is a way for the people within Hoboken to get excited about the things happening around this school.
The entire school is designed to incorporate nooks, and intimate spaces for the students to feel energized while. The idea of making their school how they want it places the required sense of ownership into the student, and encourages responsible, and healthy interaction with the exterior facade.

The rendering to the left begins to express how a garden maintained by a classroom can feel from the exterior.

The layout of the functions within the school encourages interdisciplinary interaction, and even allow for those moments to take place within designed areas of circulation.

There is a layering of public to private starting from the south-east corner of the street, into the public park and semi-private courtyard space centrally located on the site.