New Visions for Public Schools, founded in 1989, is the largest education reform organization dedicated to improving the quality of education children receive in New York City’s public schools.

We believe that school facilities that support instruction are an essential element of school creation. New Visions has funded this work to spur innovation, with a specific focus on the intersection of school facilities and pedagogy.
LEHMANN HIGH SCHOOL GRAPHIC ARTS LAB
Bronx, New York

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THE TASK

We aimed to create a process for involving a group of participants from four schools of different sizes in the design of a shared instructional space within one school building. In September 2003, Lehman High School became the host and incubation site for three small schools. The process sought to encourage cross-campus dialogue and to develop a sense of a shared future for all or some of the participants. Beyond our intention, and the commitment and passion of the participants, three key factors influenced the outcome of the process: first, Lehman was to remain a large high school, within which the three small schools were nested; second, the future permanent location of the three schools was undetermined; and third, thanks to members of the Bronx delegation of the City Council, funding was already in place for the renovation of the rooms in question.

THE PROJECT

We set out to redesign and convert classrooms 134 and 136 in Lehman High School into a shared Graphic Arts Studio for all of the schools housed in the building. Combined, the classrooms yielded one thousand square feet of instructional space. The studio was to house eight computers for online graphic design, and to serve multiple educational purposes.

CONTEXT FOR SHARING SCHOOL BUILDINGS

Many parents and students, school personnel, and administrators have doubts about the use of a single school building for multiple schools. Few would initially opt for sharing if they could be given a building of “their own.” But in practice, given the school system’s limited financial resources, few new small schools can ever occupy an autonomous school building.

Since schools do share buildings, with multiple small schools inserted into a building already occupied by a functioning large school, we aimed to invent a design process which could elicit and build upon the advantages which emerge through sharing. Our belief was that the studio space could survive the rigors of being shared, and indeed flourish, only if the process in which it was designed exemplified the practical advantages of shared use:

- building-wide resources are readily available in large buildings built for comprehensive instruction
- collaboration occurs closely and more regularly
- supportive informal interactions become the cultural norm
- effective teaching strategies are shared and become contagious
- students and staff come to know each other, and are easily identifiable and representative of their schools
- with time, a safe, nurturing campus environment is achieved

The advantages of joint ownership, though, are not self-evident, least of all to the proposed participants in this process. But separation and isolation are not authentic options. Whatever the advantages of small schools, an entire school infrastructure cannot be rebuilt from scratch. Reorganization, cohabitation, sharing, interdependency, and negotiation remain the watchwords of the New Century High School strategy.
PARTICIPATORY DESIGN

AN INTRODUCTION TO THE LANDSCAPE

Small schools usually begin with concept papers, developed by educators and not-for-profit partners and circulated among relevant decision makers — central and regional administrators, New Visions field coaches, members of the UFT, CSA and grant funders. School design is about ideas, dreams, budgets, and people at this phase. Buildings -- whether permanent or temporary -- rarely enter into these discussions. School design teams may hope for a particular location, but it is rare that a small school project starts with the promise of a specific location.

The Department of Education identifies buildings suitable for housing small schools, and regional school leaders consult with host principals about building capacity, scheduling and programming, and shared usage of critical spaces like science labs, the gym, the cafeteria and the auditorium. When administrators do make specific plans to insert particular small schools into particular larger buildings, members of the small school design teams are usually not present.

Our project begins here. Three small schools — Renaissance High School of Music and Theater Technology, Pablo Neruda Academy for Architecture and World Studies, and Millennium Art Academy — were assigned to Lehman High School for their first year of implementation and incubation. The host school was to remain intact. No master plan for long-term multi-use existed, and no permanent location for any of the small schools was known or discussed. A campus concept for multi-school cohesiveness was not seemingly a focus of the original plan.

The design of the shared Graphics Arts Studio and the process which produced it are worthy of the participants' commitment of time, enthusiasm, and hard work. We would like to thank all the participants in this process and a desire to be responsible for its outcome. The participants negotiated between, and perhaps more importantly, educated one another. Design became a series of translations, exchanges, interpretations, and deviations from what was expected. It was at once open and a directed process; within our exchanges, we sought to interpret, in design terms, the participants' extraordinary experience of and expertise in creating new organizational and educational structures.

Rather than lay out a set of principles, this booklet will document the enactment of our process. There is of course no one way to communicate with others, and in our work we encouraged the participants themselves to define the process as well as its result.

THE RESULTS

The design of the shared Graphics Arts Studio and the process which produced it are worthy of the participants' commitment of time, enthusiasm, and hard work. We would like to thank all the participants in this exemplary project.
1.0  PLENARY MEETING

Goal: Establish communication between the schools. Allow the participants to introduce themselves to each other. Explain the mission of their respective schools.

Date: September 25th, 2003
Time: 10.30 am - 12.30 pm
Location: Lehman High School

I. Introduction of Schools: participants school mission pedagogical goals

II. What Does It Mean To Write a Program?

III. Individual and Common Needs

IV. Pre Walk-Through Discussion: design aesthetics material needs need for flexibility furniture and technology

V. Walk-Through and Survey

VI. Schedule Series of Meetings: ascertain which meetings students/teachers should attend

VII. Feedback From Participants

SCHOOLS

Lehman High School
We are a comprehensive public high school with a student body representative of the diverse population of the East Bronx. Students are afforded the opportunity to achieve their personal goals through one of the most broad-ranging academic programs available anywhere.

Millennium Art Academy
The mission of our school is to prepare Bronx high school students for the world of college, work and community by using visual arts as a catalyst for learning. Students create visual arts portfolios, participate in special independent study art projects, and gain valuable studio experience by participating in art work-study internships with professional artists.

Pablo Neruda Academy for Architecture and World Studies
Our school provides students with a rich exploration of academic subjects through the lenses of architecture, the natural landscape, off-site community service, and internships. Students will grapple with the moral issues raised by world events and their own role in creating just communities.

Renaissance High School of Musical Theater and Technology
Our small learning community seeks to challenge young adults through active engagement in the arts as a gateway to other academic subjects. The school will emphasize presentation and performance as a means to helping students master inquiry, research and problem solving skills, literacy, and numeracy.

NOTES

Participants came to an agreement on a meeting schedule, a completion date, and collectively developed the scope for the project. The outcome was to establish familiarity and dialogue between the large school and the small schools. It set a convivial tone for the discussion of their individual needs for the shared facility, which was maintained throughout all of the meetings.

INTRODUCTIONS: some of the participants meet for the first time

PROGRAMMING: principals outline the individual needs of each school

MAXINE: I'm Maxine, Project Director of the Millennium Academy.

BERNIE (Out of turn and from across the table): Oh, you're Maxine. I've heard your name, but I didn't know who you were.

MAXINE (Out of turn): Oh... and you are?

BERNIE: I'm the Assistant Principal of Technology, Arts, etc. at Lehman H.S. and the room we are working on fits within my purview.

MAXINE (Out of turn): Oh, I didn't know there was an assistant principal responsible for the studio spaces.
2.0

PROGRAM MEETING

Goal: Collectively draft the program design, in architectural terms, for the shared space.

Date: October 9, 2003
Time: 2:30 pm - 4:30 pm
Location: Lehman High School

I. Introduction of Schools: introduce new participants, distribute edited program descriptions

II. Review of Programs: instruction methods, multiple uses of the room, furniture, technology

III. Individual vs. Common Needs: insert onto common grid, discuss conflicts that emerge, and compromises that need to be made

IV. Write Common Program in Terms of: instruction methods, uses of the room, furniture, technology, individual mission of each school, Lehman campus as a community

V. Feedback From Participants

CLASSROOM USE:
teachers and principals describe student projects

PROGRAM: Graphic Arts Studio, Lehman High School Campus

The facility will be designed as a workshop for the 21st century, not as a classroom. Its primary function is as a graphic arts production studio, ranging from photographic media to web design. Its uses, therefore, will range from physical to virtual production. The program is formulated to address the individual needs of each school, allowing teachers and students access to technology and infrastructure for production and communication systems necessary to fulfill their unique pedagogical mission.

As a workshop, the facility will focus mainly on the production of printed or online material. Newsletters, literacy magazines, brochures, oral histories, interactive presentations, posters, yearbooks, photographs, and websites will be produced. Computers will facilitate print and online production, and a darkroom will allow for developing and printing black and white photography. The space must be flexible enough to accommodate small and large group interaction and learning. Furniture should allow for large surface production areas, private workstations, as well as lecture/demonstration teaching and learning formats. The equipment and hardware in the room should facilitate the shared needs of each school, while the software should address the needs of their individual programs.

GOALS: to reinforce the ambitious mission of each school

Millennium Art Academy: Creative demonstration of art and language, and facilitate and record interactions between generations as Oral History.
Pablo Neruda Academy for Architecture and World Studies: Support the architectural and world study mission and community partner mentoring programs.
Renaissance High School of Musical Theater and Technology: Ameliorate the “Digital Divide.”
Lehman High School: An accessible shared campus facility for use during and after school hours.

NOTES

We used a grid to determine where the needs of each group were the same and where they were different. What was striking were the many common features, especially in terms of the flexibility of the room layout, equipment needs, and individual display space. The differences were mainly software needs, easily accommodated inside a computer. One of the schools had demands that were unrealistic for the space of the room — the grid facilitated an easy negotiation, and it became very clear what this group had to give up for the benefit of a shared facility. In the end, there were more features in common than glaring differences.

PROGRAM GRID: common needs are compiled on a single program for all schools

CLASSROOM DESIGN: schools identify their classroom requirements

CLASSROOM USE: teachers and principals describe student projects

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Notes

Over the span of a two hour meeting, the design progressed from an initial assumption that individual territory would be maintained, i.e., the room would be divided into four separate parts, one for each school (an obvious misunderstanding of the size of the room), to the idea of spreading the eight computers out in a field arrangement so that all groups could share them at different times of the school day.

**Drawing Space**
The meetings were held in a room to the side of the principal's office. We encouraged drawing in 3 or 4 different ways: 8.5 x 11 copies of the plan, a big roll of tracing paper for sketching ideas over a big plan, color markers, and Post-its. The students from Pablo Neruda Academy brought a version of the plan they had drawn with their teacher. We explained the difference between drawing and talking about ideas. No one in the room felt afraid to draw.

**Territorial Space**
The students talked about the importance of discrete display space within the room for each school group, separate locations to house on-going projects, and a unique class library relevant to the specific themes of each school. Territorial space and the ability to display the identity of each school were stressed in many different ways, even for this shared facility. Some capacity for individual schools to claim the space as their own, even while it is part of a larger group identity, emerged as essential.

**Communication Space**
The students talked about opening the classroom to the corridor, replacing exterior bulletin boards with large glass panes to provide a preview of the design lab. They argued strongly for the replacement of the metal door with a glass one, creating a more welcoming threshold for this room, which would become the hub of activity in the building. The entrance was discussed as a significant design feature -- lighting and signage at the door would let light and images into and out of the lab.
Learning Space

The session encouraged students and staff to make decisions about possible room arrangements for different kinds of teaching and learning: small groups, interviews, layout, lectures, and individual study. We directed the discussion towards the way these decisions would have an impact on the shapes of the desks, the placement of computers in the room, and the electrical and information infrastructure.

Building on what the students knew about the difference between their own school and the large one in which they were located, we used their familiarity with complex spatial arrangements to encourage them to innovate. They moved between three extremes:

a. Dividing the room into four separate spaces, it became obvious the room was too small, but that establishment of territory was of prime importance.

b. Clustering the computers at one side of the room, separate from the rest of the workspace, was the first realistic layout, but it was based entirely on memories and experiences of existing classrooms.

c. Creating a mobile field of computers would enable small groups to share them in many different configurations. This plan emerged in the middle of the meeting, after a discussion of how the different schools need very specific spatial plans (small groups, individual stations, large groups) to fulfill their different pedagogical aims.

We responded to this last plan by explaining why it was such a good idea: because it was innovative, and because it encouraged participation and communication around computers, rather than fostering the usual isolation of computer users.

By the end of the meeting, we chose this approach to guide the design of the room. Participants in the meeting agreed overwhelmingly, and the student who first drafted the sketch became one of the leaders of the group.
The task for design was clear after the sessions. With full knowledge of what the room would be used for, we established a hierarchy for design:

4a. Territory
Distinct identities for each of the four schools were created through display surfaces and storage space. Each school has a designated cork surface and a glass-enclosed display case to display their work, storage for school-specific tools and work-in-progress, and a whiteboard surface on which students and teachers can discuss projects and work collaboratively through drawing.

4b. Communication
Glass doors and an LED display connect the lab to the hallway, and establish the lab as a hub for the school.
4c. Flexibility

The lab can be arranged to accommodate small and large learning groups of various sizes, lecture formats, or individual workstations. Students and teachers can work around individual computers, a digital projection, or both at the same time. Flexibility is achieved by detaching the computer from the workstation, distributing electricity around the room, and installing a wireless network. Computers are housed in mobile carts and can be spread throughout the room.

4d. Organizational Graphics

Custom floor graphics facilitate the arrangement of various class activities. Colored dots on the floor act as a set of instructions: students arrange the desks according to the blue dots to create a large group arrangement, the cyan dots to create medium group arrangements, the green dots to create small group arrangements, and the white dots to create a mixture of group arrangements. The graphic system teaches people how to use the room, and can be complemented with a screensaver or map.
5.0  
DESIGN DEVELOPMENT

Goal: Present a preliminary design draft to the participants for their review. Respond to reactions to the design and decide on final version.

Date: November 7, 2003  
Time: 2.30 pm - 4.30 pm  
Location: Lehman High School

I. Introduction of School Community:  
introduce new participants  
distribute agenda and drawings

II. Design Presentation:  
explain the final design in terms of the collaborative design process and the mission and pedagogy of each school

III. Response to Design:  
ensure that all voices are heard  
evaluate strengths and weaknesses  
choose a scheme that best meets the needs of all schools  
discuss conflicts that emerge, and compromises that need to be made  
come to a consensus on a single design  
discuss materials, colors, and name of facility

IV. Feedback from Participants

The Glass Door

One specific design decision became an emblem of this process: the glass door, an exceedingly simple design element, a window into and out of the room. At the beginning of the sessions, this was merely a decision about whether to open up the room to the hallway or to keep it closed off. The discussions were largely in favor of display, so it would instigate the curiosity of potential students and teachers, offer a sneak preview into a valued attraction which would become a new opportunity for teaching and learning, provide a breath of fresh air in a long and often monotonous corridor. The glass door was an undisputed presumption of the design, while all the other elements were still in flux.

At the end of very last session, using the graphic rendering of the entrance, the students turned their attention to the glass door. They seemed to speak unanimously, pushing back against repeated impromptu questions from the architects, planners, administrators, and staff. No matter what was put forth, the students maintained strongly that the glass door should disappear. For them, the transparent door allowed the room to become vulnerable to the outside, and they now felt that it was something which should be protected, and closed off from view. Soon we realized that the debate was about a change in the group’s -- or at least the students’ -- understanding of inside and outside. Until now, inside and outside had meant the inside and outside of the room; the glass door displayed the room to the campus community. As the meetings drew to an end, the meaning of the opposition changed, and now it seemed to mean inside and outside our process.

We were faced with a difficult decision: respect the intelligence of the design, or the psychology of the group? We were, admittedly, confused by this reversal. Was it an attempt to prevent others from enjoying the redesign? Were the students retreating from their work as they were ending the process? Glass, as a design element, is always complicated to interpret. Exposure, transparency, vulnerability, and openness are all implied whenever we look at -- or through -- a pane of glass. So we decided to proceed slowly in handling this debate. Today we see it as a fortuitous and unanticipated transformation. It marked a shift from pride, a pride in overcoming boundaries and creating a new common space, to protection, the defense of the product of that process. The possible meanings of glass seemed to take over its actual functioning in the space, and to give the students an opportunity to reflect -- with the help of a powerful metaphor -- on what it was that they were doing in the group. We were not convinced that, in design terms, the glass wall in fact rendered the space vulnerable; there are certainly ways in which glass can demarcate just as readily as it exposes. But the design decision is less important than the transformation itself, which announced a previous confidence in the results -- and the transformative powers -- of the Participatory Design process.

Christopher:  
At first I really wanted the glass doors. But now I don’t want them because I want to protect the room from vandalism.

Nicole:  
I chose the glass door so other students could see what we [had] worked on.

PROPOSED GLASS DOOR

STUDENTS DISCUSS THE DESIGN

The Glass Door
CONCLUSION

The active and genuine involvement of the participants in the design process engendered a sense of ownership and accountability for the project:

- Students remained after school to participate, spending their own afternoon time.
- An assistant principal and a teacher from the host school, the project directors of the small schools, and the lead partners (collaborators and co-creators) from the small schools) added yet one more task to their long and extremely busy days.
- Although participants from all four schools did not remain for every session, over the four-month design process the room was always filled with students from the new small schools.
- Students requested a field trip to the professional design studio, and then helped to organize the trip so that they could understand what a design office is and get a closer look at the software and hardware there. This trip occurred on non-school hours and was a pivotal point in the process of ownership. We took it as evidence of a deepening of their resolve to contribute as best as possible.

UNCERTAINTY AND ACCOUNTABILITY

From the beginnings -- at the arrival of the small schools in Lehman, and as we began this design project -- the students and staff of the small schools knew they might not remain housed in this school building long enough to use the Graphic Arts Studio. No one knew the length or duration of the project: it might well have taken longer than a year, and with the natural growth of the small schools, the prospect of all three remaining in the building beyond one year began to look unlikely. So over the course of the process, future usage became clearly separated from ownership of the project. For those involved, then, the exercise was as much theoretical and academic as practical or self-interested. It was a learning experience in the most honest sense of the word -- with an underpinning of hope. This too distinguishes what happened at Lehman from most so-called community design projects: the participants were enthusiastic about being a part of this process, no matter who the end users.

We are tempted to say, counter-intuitively, that this uncertainty contributed in some real way to the team’s ownership of and accountability for the project. Because the project was clearly an experiment, a creation, and not simply an instrument for future use, the participants in the process approached it with a sense that something personal was at stake. Hopefully, though, uncertainty is not a sine qua non for a process of this sort. More likely, this eagerness to take responsibility for their work was an artifact of the intense, hands-on, mutually engaged structure of the design process.

From a professional design perspective, after all, it is of course better to know whether the schools will remain in place before embarking on a project like this. For those participants not fully engaged early in the process, it would provide welcome reassurance. One of the schools, it should be noted, stopped participating after the second session, and no students from the host school were involved at all, even though Lehman administrators and teachers were present and active in all sessions.

For better or worse, thanks to the uncertainty, maintaining involvement was not automatic. This meant that the terms of and reasons for participation needed to be re-negotiated at each session. This was time-consuming, of course, but also proved valuable in strengthening involvement by forcing the participants to restate -- for themselves and the others -- why they were doing what they were doing. Sessions were framed by questions such as “Where do you think we will end up?” (from their side) and “So you think they will continue with this process?” (from our side, when we knew their fate in this location was uncertain). Everyone asked: “How will the decisions we make here be connected to the decisions to come?” Whether in spite of or because of this, attendance of the meetings grew with each session.

Design Day was the most popular session. The schools made sure that their community partners attended as well as students, teachers, social workers, and staff people from New Visions. The discussions were creative and practical, and obsessively focused on designing the most interesting and exciting Graphic Arts Studio. Although the decisions were made by the whole group for all participants, we paid particular attention to the contributions from the students. The responses at all times were enthusiastic, particularly from the principals and the students.

FUTURES

One of our goals for this project was to insist that mere ownership of the new facility was not the only focus of the process, and that accountability and responsibility through negotiation were imperatives of the final outcome. We saw the project as an experiment in the politics of shared space. Continued interest and engagement with the process, even when faced with an uncertain future, confirmed our conviction that the process accomplished more than just a “design for the room.” We did design the room, of course, and in an architecturally innovative and creative way. But most importantly, the design meetings sparked important and hopefully lasting collaborative relationships across and within the campus -- between the small schools themselves, and between the small schools and the large school. There is a strong need for this kind of work, due to the fact that most New Century High Schools are located in campus buildings.

Beyond this particular collaboration, we hope that our experiment suggests a model for other small schools and campus buildings, both in
Students review design proposal during Design Development meeting

terms of the practicalities of joint endeavors and in terms of education. Students were engaged in a learning process. Our impressions were seconded by principals who overheard students talking, and inadvertently -- but wonderfully -- further confirmed by what the students wrote in weekly journals they were required to keep by one of the teachers involved in the design meetings. The most moving accounts were those that co-mingled responses to the design process with reflections on an English class project … on utopia:

The experience with the E-lab was related to the Utopia Project (I was doing) for English...We were able to build a new idea and make it come alive. - Nicole

"[The Graphic Arts Studio] creation kind of relates to our recent utopia project because we're trying to make a perfect society.... The making of the classroom for the school, even though we may not be here next year, will be beneficial for all students, even if it’s not for my school. - Dyell

Maxine Nodel, the principal of Millennium Art Academy, wrote us a note saying:

Allowing our students to participate in such a significant project is just a snippet of what progressive education should be, students having a tangible SAY in the physical development of their instructional program.

In other words, the success of this project was driven in large part by the innovative and unique instructional programs of the schools themselves. Together, we developed a method of designing a space that was responsive to and mindful of the very different pedagogy and content of the programs of each school. We demonstrated that -- with the right visualization and translation tools -- a design process which stresses reorganization, negotiation, communication, sharing, and information, can produce an exciting space, with surprising results both in the final design and for the participants.

Designing the e-lab was very thrilling, and I will never forget it. Just the thought of having students sit in a room that I helped design, on some level, is incredible! - Nadia