

Linking theory with practice and student projects with applied research: case study in Detroit

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ABSTRACT: The Detroit Studio is a community outreach program of Lawrence Technological University's College of Architecture and Design. It offers students and faculty the opportunity to link theory with practice, academia with the profession, and student projects with applied research. Architecture students work with stakeholders, participating in environmental and behavioral research for design projects. The project discussed here involved seventh grade students in Detroit's underserved communities who worked with junior architecture students to develop master plans for the community. The paper argues that although children are certainly considered in underserved communities, they rarely actively influence revitalization. While literature suggests that urban design benefits architectural education, urban design is underutilized. Although there is research investigating children's involvement in small projects, it rarely addresses the role of children in placemaking in the large built environment. Therefore, children play an important role in this project. In this project, a multi-phase approach to incorporating children in placemaking was applied with architecture students leading teams of about four children. Phase 1 consists of inquiry by impression through kids' video cameras, as they made observations through videos. Phase 2 examines formal pre-understandings, where children explore environmental variables and theoretical constructs. Phase 3 consists of therapeutic art exercises that help children transition to subsequent phases. Phase 4 includes exercises where children construct models of their ideal community. Phase 5 involves producing videos to educate the community about the emerging lessons. Phase 6 develops the children's ideas into master plan concepts. Research is conducted on several themes central to the children's ideas. Phase 7 incorporates the children's input and research outcomes into specific community master plan strategies. Social construction, as a primary theoretical base for our project, has guided our efforts through all phases in the project.

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INTRODUCTION

This paper describes an approach taken by a community-based design studio project, and the outcome that was influenced by the project site's unique conditions. In particular, the paper demonstrates a child-focused feedback approach to a school-based community outreach program that focuses on revitalization and the primary outcome of such an approach.

This collaborative community revitalization project involves the Detroit Studio community outreach program of Lawrence Technological University architecture school, as well as various other participants. The project was directed by the author, who also oversees this community outreach program. The locations of the project include Brightmoor, Cerveney, Durfee, and East Warren, which are typical residential areas that comprise some of the most

impoverished areas in Detroit. This project included multiple phases starting in summer 2004, and which continued through Fall 2006. The project was undertaken by a junior architecture studio. Key project collaborators included four middle schools; four community development corporations; a museum of African American history; an art college; various city departments; local business owners; community residents; and professional firms in architecture, urban design, and planning.

This paper demonstrates an approach that could lead the way to future studies of potentially important areas in school-community collaboration that focuses on revitalization and master planning.

Although the much shorter and general description of the project was published previously in another venue, this paper focuses on the project's emphasis of linking theory with practice, academia with the profession, and student projects with applied research; as well as the

theory base for the project, in addition to providing more details about the project and its process.



Figure 1: Existing conditions (East Warren)

1. LITERATURE OVERVIEW

Our study sites, typical underserved residential areas in Detroit, have a far greater number of children per household than do suburban communities, according to the city planning department's reports and newspaper accounts. Various studies (Bell, 2004; Race & Torma, 1998) suggest that child-related issues are among the most worrisome to residents in poor communities. Moreover, despite extensive empirical research (Gifford, 2002) on children's behaviors toward the built environment and perceptions of it, the input from children aimed at community revitalization is rarely studied or implemented in architecture projects. While there are many examples of children participating in small-scale architectural projects such as playground designs, children rarely participate in community master planning or urban design and research (Kids Consortium, 2001).

Moreover, urban and social scientific perspectives are rarely applied in current undergraduate architectural education, despite empirical findings supporting the benefits that such perspectives provide to architectural design (for example, Telford, 2001). Mullahey et al. (1999) suggest that contemporary community outreach programs often neglect urban design projects.

Research in the service-learning field conducted by Crews (1995) indicates that college students learn much through coaching young children. An area of common interest is that young people and children are all greatly attracted to visual media, and often prove to be skillful at using it to express themselves (Orton et al., 2001; Cooke, 2005).

2. METHOD

Based on these findings, we proposed a community outreach design studio program in which junior architectural students would engage children in active participation as key players in community master planning and architectural design, utilizing video, art, urban design, and social science perspectives. The lack of adequate theory, research, and practice concerning children's participation in community master planning led to the conclusion that a multi-faceted approach to the development of the studio project could yield useful results and could lead future studies in this important area in fruitful directions. Therefore, both a theoretical and an inductive approach to the design of the project seemed warranted, and methodological attention was given to multiple sources of data within a seven-phase methodology.

The rationale for designing and implementing the project is based on the following principles inspired by theories or concepts found in disciplines such as urban planning, sociology, anthropology, psychology, and other social sciences.

2.1. Storytelling

Studies have shown the power of storytelling as a creative means to help the listener make sense of a phenomena in some structured and meaningful way. Storytelling is often used in sociology, psychology, and other social sciences and the narrative is useful in social inquiry (Berger & Quinney, 2005). Besides adults, children also appear to benefit from storytelling as they communicate through their own eyes and language what they see, perceive, and experience in various environmental contexts (Burns, 2005). The use of video combined with art and model-making was especially compelling for children and architectural students, and these methods energized the children about telling their sides of stories. Phases 1 and 2 (see next page) of the proposed project benefited from storytelling.

2.2. Environmental Observation

As an important area of the field of environment and behavior (Gifford, 2002), environmental observation is utilized in our project. While there are many approaches to environmental observation, we advocated a "walk through" supplemented with art and video, which appealed to the young participants. With children being led through the study sites by architectural students, these project participants actually see, feel, touch, smell, and connect with the physical environment at close range. Participants then analyze the characteristics of the physical environment

and observe patterns or themes running through the environmental attributes and the behavioral characteristics of the people. While environmental observation was useful throughout the project, it has contributed particularly to Phase 1 and 2.

2.3. Action Research

We were inspired by “action research (AR)” or “participatory action research (PAR).” Action research allows research tasks such as data collection to take place simultaneously with design and implementation activities such as completing a design. The approaches of action research or participatory action research have been promoted in anthropology, planning, sociology, and other related fields (Kindon et al., 2007). Greenwood and Levin (1998) explain that AR promotes broad participation in the research process and that it supports action that leads to a more just or satisfying outcome for stakeholders. Through this approach, we were able to do the following: conduct design-design hypothesis testing frequently, while on the study sites; receive a prompt feedback on design hypothesis from children, teachers, parents, and other stakeholders; and, conduct a more sharply focused data collection, analysis, and synthesis based on such feedback. Action research was beneficial to Phases 4 through 7.

2.4. Therapeutic Designing

Based on some of the approaches or interventions that promote environmental sensibility in environmental psychology (Kopec, 2006; Bechtel & Churchman, 2002), we used art as a means to conduct a therapeutic exercise that aimed to spark the innate creativity of children and architectural students; to strengthen sensibility toward environmental characteristics in the built environment; and to provide a sense of comfort and to reduce anxiety in designing by children, architectural students, and other project participants. This type of therapeutic art is promoted in a wide range of settings (e.g., hospital), programs (e.g., business training), and projects including community revitalization (Wiener & Oxford, 2003; Blatner, 1997; McNiff, 1992). This approach was utilized primarily in Phase 3 of the proposed project.

2.5. Social Construction

Social construction aims to facilitate rather than dictate the design and development process, in order to allow a participant (e.g., a child, a student, a resident) to create or construct her own reality, her own image, and her own future (Kim, 2006). Informed by advancements made in sociology, planning, and other social sciences, the social construction model then advocates a bottom-up approach, self-help by the participants, and participatory democracy emphasizing decentralization, local control, and consumer power (Forester, 1999; Sanoff, 2000). The Detroit Studio project team believed that no one knows more about the study sites than the residents themselves (e.g., children, parents, teachers, and other local stakeholders) and also that residents should have a sense of ownership about their environment; its challenges, opportunities, and assets;

the development process; and finally, the community vision. We tried to ensure that social construction would help us help residents themselves, including children, and assist them in having a sense of ownership. Social construction, as a primary theoretical base for our project, has guided our efforts through all phases in the project.

While social construction was used as a primary guiding insight or theoretical underpinning for the project, the successful development of the overall framework of the project needed concerted application of the abovementioned principles or strategies including storytelling, environmental observation, action research, and therapeutic designing, in order to implement the project with realistic sensibility.

2.6. Phase 1 (Summer 2004): Inquiry by Impression Through Kids' Cam

[Observational evidence is collected by the children through videos.]

Junior architecture students led teams of two to four seventh-grade children from local communities on walks through their neighborhoods. There were four teams, each of which observed each of the four selected communities. While videotaping, children in the teams casually chatted about their neighborhoods. Each architectural student was instructed that careful attention must be given to the children's experiences and the sense and meaning made of those experiences.

2.7. Phase 2 (Summer 2004): Formal Preunderstandings

[Environmental variables and theoretical constructs are explored.]

After finishing Phase 1, each team returned to its respective local middle school and began “deconstructing” the recorded videos. While analyzing the images and dialogues, the architectural students helped the children group frequently mentioned physical features into several categories. Likewise, the students were instructed to find themes running through the children's dialogues and images by asking questions about concepts like sustainability, responsibility, and so forth. The students then helped the children correlate the physical characteristics to the emerging themes and discuss how they are related to one another.

2.8. Phase 3 (Summer 2004): Therapeutic Art Exercise

[The students helped the children make a smooth transition to the next phase.]

Each child drew a map of his or her community as directed by the students (The children conducted this exercise again at the end of Phase 7 for pre-test and pro-test comparison). The architectural students also created art work to express their feelings about the study neighborhoods, to analyze neighborhood characteristics, and to share their hopes about the project. The art work then was critiqued by students from a local art school. The goal of this exercise was to

give children and the architectural students a "therapeutic" opportunity to reduce anxiety, clarify issues, brainstorm ideas, and organize their thoughts for the next phase.

2.9. Phase 4 (Summer 2004): Model-making Exercise

[The children's model of an ideal community is constructed.]

First, each team brainstormed concepts of the ideal community. Children were asked to write down ideas and play with pieces of foamcore (a polystyrene art material). Children then began making scale models of an ideal community. The students guided the children toward making the best use of the ideas that came out of the video and art exercises. Furthermore, the students helped the children think about how to connect individual elements in meaningful ways.

2.10. Phase 5 (Summer 2004): Editing and Viewing of Videos

Each team, led by its architectural student member, spent a couple of weeks editing the videos for public viewing. The team members, the children's parents and teachers, school principals, local community development corporations, residents, and the university faculty gathered to view the videos produced by the four teams. The goal of this phase was to educate the community about (1) the process by which understanding and analysis of their community characteristics, challenges, and opportunities were undertaken; (2) the roles that the children and students played; (3) the lessons emerging from the process and the project up to Phase 5; and (4) what lies ahead.

2.11. Phase 6 (Fall 2004 and Summer 2006): Developing the Children's Ideas into Workable Community Master Plan Concepts (Research is conducted on the "urban agriculture-based community" theme.)

After our studio examined the input that the children gave through the videos and the model-making exercises, and local residents and other project participants reviewed the feedback received from the children, it became clear to our studio-community team that the theme of an urban agriculture-based community occurred repeatedly. It appeared that, for our study sites, it would be the most effective and original approach to addressing the extensive blight caused by vacant lots and buildings across our study community. To further explore the idea of urban agriculture, architectural students conducted thorough research on urban agriculture-based developments. For example, they developed principles of successful urban agriculture-based communities with supporting empirical data.

2.12. Phase 7 (Fall 2004 and Fall 2006):

[The input from the children and the research outcomes are incorporated into specific community master plan strategies.]

The outcomes of Phase 6 of the research project gave empirical support to the concerns of the children in our project: the impact of the physical environment on their own health, including obesity-related health problems that result from an unhealthy built environment. The Institute of Medicine (Koplan et al. 2006) has reported that the United States faces a national health epidemic of adult obesity. What is more troubling, however, is that children are increasingly facing obesity problems of their own (Koplan et al. 2006). Such a crisis is much worse in underprivileged areas like our study sites, because it is complicated by factors such as chronic poverty, crime, and other socio-economic issues.

The children expressed a number of very specific concerns, including the seeming overabundance of fast food restaurants; the lack of safe locations to play; the many unsafe and unhealthy vacant lots in their neighborhood; the fact that residents would like to grow food and flowers, but they don't know if the soil is safe; the desire for a safe, convenient, and inviting community center (that would include a computer lab, a recreation center, gardens, and nice shops) so they can interact with other kids and their parents in one place.

The idea of an urban agriculture-based community became stronger and more convincing as the project team members systematically studied the children's statements and the outcomes of research on urban farming and the impact of the physical environment on people's health. In particular, there seemed to be a strong connection between the benefits of urban farming for poor communities and the goal of helping to create a built environment that promotes a healthy lifestyle in an earth-friendly setting. The project team also realized that obesity and fitness issues are complex: they are intertwined with many social, cultural, political, economic, and physical factors.

Building on the outcomes of the architecture, urban design, and social scientific research, as well as on the feedback of children and other stakeholders, teams of architectural students, guided by studio faculty, developed master plan proposals for East Warren (selected as a test site) based on the theme of sustainable urban agriculture. Throughout Phase 7, architectural students collaborated with children who had participated in the earlier phases, local community development corporations, local design firms and professionals, local city planning departments, city council, residents, and other stakeholders. Taking the steps mentioned above, the architectural students fine-tuned their community master plan proposals and architectural designs for the proposed urban agriculture education center and community market.

2.13. Master Plan Concept

The greater part of East Warren is proposed as an urban agriculture-based community and is divided into several sub-areas or districts according to a ¼ mile walking distance. Each district features a district or neighborhood center that includes neighborhood services and urban agriculture developments (e.g., roof gardens, micro-farms, greenhouses, hydroponic units,

community gardens, etc.). These centers are also connected via a pedestrian network that crisscrosses the entire area. In addition to these features, the proposed urban farming community will include a model house that supports a healthy lifestyle, a running track and sports field, open spaces, and office and retail facilities that will accommodate urban agriculture and the mission of improving fitness. Moreover, the master plan called for incorporating existing institutional resources and amenities such as churches, schools, recreation centers, YMCAs, and other local assets into the collaborative approach to urban farming development.

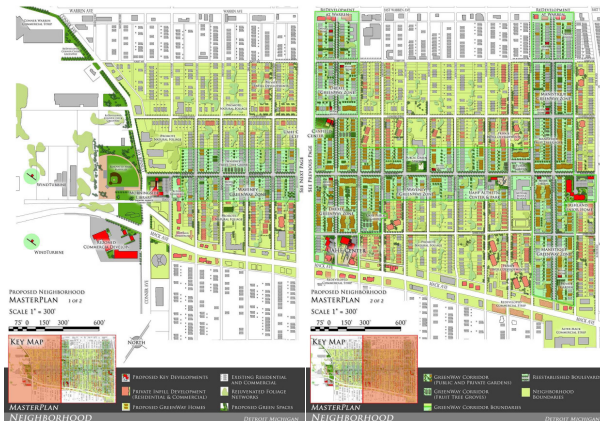


Figure 2: Example of a master plan drawing
(for East Warren)

2.14. Architectural Design Concept for an Urban Agriculture Education Center and Community Market

This center is planned to be situated at the heart of the urban agriculture community in East Warren, as the major facility of the proposed farming community. This central facility will fulfill a number of significant goals as it serves the needs of the community. These goals include the following: educating youth and community residents about the value of a healthy lifestyle and the impact of the built environment on people; advocating urban agriculture development as a catalyst for community revitalization; conducting research on matters related to obesity, food, and fitness; promoting urban agriculture products; and modeling a healthy lifestyle. This center also provides services for residents interested in developing small businesses related to agriculture. In this center, local residents and minority farm owners from the outskirts of Detroit will be able to sell their produce.

3. MULTIFACETED CONNECTIONS

As the description of the project and its process illustrates above, we made conscious efforts in many ways to link theory with practice, academia with the profession, and student projects with applied research throughout the project. The following section

summarizes the several types of connections we have explored in our project, and provides some of the key details.

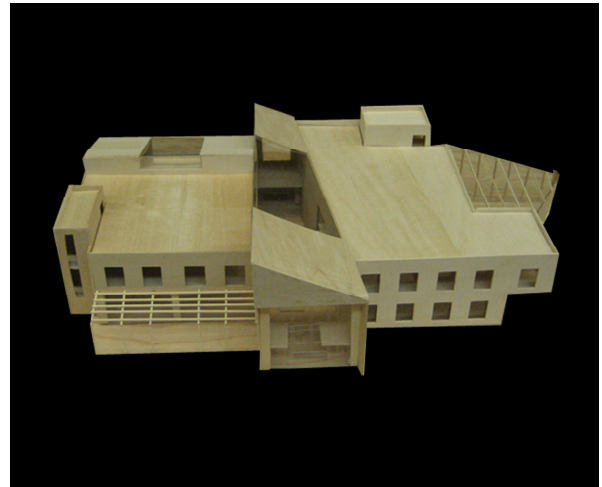


Figure 3: Example of architectural proposal for an urban agriculture education center and community market

3.1. Linking Theory with Practice

In the beginning of the project, the studio team explored several hypotheses about how to solicit feedback from children as they contemplated community revitalization and community master planning. Since literature on such theories was scant, we made a number of educated guesses based on other relevant theories from fields such as child psychology, educational psychology, environmental psychology, sociology, developmental psychology, anthropology, social psychology, and the like (see Method section). Once we felt comfortable with several theories, we then looked for specific cases where such theories were applied or could be applicable in real-life practices or situations. This was done in part to draw practical lessons from the past examples. It was particularly important for us to find or develop theoretical concepts that are marked by practical sensibility so we can actually apply them to our real-life cases and study sites in Detroit. We also tried to test our theoretical concepts, while working with children, their parents and teachers, and other residents in the study community, and we tried to improve the proposed theories based on the results of our field testing. This approach was most useful to Phases 1 and 2, but the other phases also benefitted from the same approach in various ways.

3.2. Linking Academia with the Profession

At critical junctures throughout the project, our studio interacted with a wide range of practitioners including architects, landscape architects, urban planners, transportation engineers, brownfield experts, housing specialists, urban agriculture experts, economists, child psychologists, and artists, as well as representatives from the professional associations such as the

American Institute of Architects and the American Planning Association. These people were invited to either our studio reviews or to other events such as community presentations, focus groups, community workshops, and the public reception and exhibition that revealed the project outcomes. What is particularly important to mention is that our studio conveyed the professional feedback to the children's parents and teachers, residents, and other key stakeholders in the community, using language familiar to those not formally trained in architecture and urban development. Likewise, we relayed the concerns, needs, and wants of children, their parents and teachers, and other residents to the professional experts. As such, it was important for our studio to play a role of facilitator between experts and non-experts throughout the project. This approach was particularly beneficial to Phases 6 and 7 above, although it was in general useful to other phases as well.

3.3. Linking Student Projects with Applied Research

It was critical for our studio faculty to develop and guide the project in such a way to ensure that the project is student-focused, by helping architectural students initiate their own ideas, develop their own concepts, apply them on their own, and learn from the mistakes committed during the process. As facilitators, the instructors advocated a bottom-up approach to our project, promoting democratic discourse, teamwork, negotiation, and various types of collaboration. Once students had a sense of ownership of the project, they freely experimented with bold ideas. At the same time, they found that some of their initial approaches needed to be modified. To make adjustments and improvements, and to test new or better alternatives, students frequently had to conduct independent research. Eventually, a broader scope of learning began to take place, not just within individual students, but also among students in the studio, on the field, or at the study site or community. We emphasized applied research more than theoretical research. As a result, students understood that whatever they proposed would have a real impact on the lives of residents and especially the children with whom they were working. The students learned that their proposals would have to be grounded firmly in the reality of the community with which they were working. This approach had a positive impact on all seven phases, according to the students' comments provided after the project's completion.

CONCLUSION

We do not claim that a child-based feedback system is better than an adult-based process, nor did we include children as the only major stakeholders in our project. However, given the demographic, social, and physical characteristics of our sites, we felt that incorporating the children's input is a very significant strategy in the revitalization of distressed communities.

As a result of this program, one of the participating middle schools has launched a similar kids' video

program. The school intends to expand it across the entire neighborhood in the future. Another participating community is now collaborating with our community outreach program to develop a detailed plan and an implementation strategy for the proposed urban agriculture education and market center in Detroit. The City of Detroit Planning Department and a major community development agency are interested in collaborating with our program and one of the participating communities in this project to further develop and integrate the concept of urban community agriculture into the city's urban agriculture industrial park development proposal.

Children were asked to draw a map of their respective communities at the end of Phase 7 (the final phase). The outcomes of this exercise were compared with those of the exercise conducted in Phase 3. The goal of the comparison of the pre-testing and post-testing was to see whether there was any change in children's perspectives on or attitudes toward their physical surroundings and revitalization. The post-test showed that the maps produced in Phase 7 were more detailed and more fine-tuned. Moreover, the pre-project and post-project surveys indicated that children became more cognizant of the physical environment of their neighborhoods in terms of sensitivity to issues of safety, interaction, sustainability, and social responsibility.

The most important lesson our students and the participating communities learned was that children do care a lot about what is going on in their neighborhoods and they know clearly the problems that the neighborhoods face, the negative outcomes of such problems, what they want to change in their communities, and what their responsibilities are. Most of all, the children have many fresh ideas. If the children are encouraged in the right direction through positive reinforcement and proper guidance, many of their novel ideas can inspire adults and transform the behaviors and attitudes of others. Moreover, students, faculty, and communities learned that it is very feasible to incorporate a child-based feedback system as a key strategy in school-community collaboration for revitalization projects in impoverished urban areas. Through systematic mentoring, guidance, and follow-up, children can play a major role in master planning for poor neighborhoods. What we proposed here is just one kind of child-based feedback system. We hope our approach inspires other schools to develop additional successful systems in their community outreach programs in the future.

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