Learning City Form from Children: Identifying Patterns of Adolescents’ Use and Perception of the Urban Environment

by

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ABSTRACT
Children have and will forever view their realms differently from adults. This has been demonstrated by various researchers including Suzanne De Monchaux, Kevin Lynch and others. Statistics indicate that influences within the environment are much more negative and powerful than in previous decades. More than one out of every 15 youths experienced a violent crime during 1987 (Wetzel, American Youth, pg. 33). Homicide rates for young adults more than doubled, reaching 14.5 per 100,000 in 1979 (Wetzel, 29). 13 percent of adolescents between the ages of 16 and 24, have dropped out of school. According to the Children's Defense Fund, 13 million children--one in every five--now grow up in poverty. Children account for 40 percent of all the poor people in the nation (John de Cuevas, Harvard Magazine, 47). Constant media images of riots, starvation, war, environmental destruction, and aids, are ever present with today's youth. Have these forces influenced how adolescents view their environments? Further, is this image of the physical environment different from their parents, grandparents, even students five or ten years older? This notion may be more prominent with adolescents of color.

Several studies completed in the 1960's and seventies investigated similar questions. I propose studying how children of the 90's view their environments. The fundamental question that I will attempt to answer is What patterns exist in adolescents' use and depiction's of the city? Other questions that I will attempt to answer include How do adolescents feel about their environments; what are their values? How do children come to know the city? How do children use the city? I will then compare across time and place, these patterns to those exhibited by children in the before mentioned literature to determine similarities and differences. I will not attempt to undertake a psychological study, but rather try to observe immediate responses, perceptions, descriptions and explanations. Finally, this thesis will address how architects and planners can respond to these patterns to help children to negotiate their environments better.

The primary data source will be supplied by a group of 11 children of color from the Cambridge area. The students range in ages from 12 to 13 years old. We worked together once a week, over a three month period, participating in various mapping, writing, and modeling exercises to explore their views on their environment.

Thesis Supervisor: Professor Gary Hack
Title: Professor of Urban Design
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Student's Image of Her Housing Development
Talent Search Students Mapping Their Neighborhoods
One Adolescents View Of Cambridge

Map of Cambridge
(My Favorite Places)

Fresh Pond
Movie Theatre

Harvard Square
Harvard University

Central Square

MIT Student Centre

Kendall Square

Josh's House

Wrigley

Harrison

F. 7777

Broadway

Café de Cambridge
The children of the ghetto
Runnin wild and free
Children of the ghetto
Runnin wild and free
In a concrete jungle
Filled with misery
There’s no place for recreation
To brighten up the day
In desperation
I would like to say
Children of ghetto
Keep your head to the sky
Children of the ghetto
Always in the news
Toughness seems the motto
And bitter rotten views
But deep inside the ghetto
There’s a unity
That cancels out the sorrow
And the misery
Children of the ghetto
Keep your head to the sky
To the sky!!!
Courtney Pine
Jazz Musician
"Journey To The Urge Within" 1986

Child's Drawing of Her Neighborhood in Milleville, Massachusetts
ACKNOWLEDGMENTS

The author owes a great deal of thanks to a great many people but most of all to:

To the eleven Talent Search Students who gave of their time and infinite knowledge to take me on an unforgettable journey.

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To Michael Southworth, Roger Hart, Kevin Lynch, and William Michelson whose writing's first inspired me to investigate further.

To my family and friends who kept me motivated and gave me support when I needed it.
INTRODUCTION

Lift up your eyes
Upon this day breaking for you.
Give birth again
To the dream.

Excerpt from The Inaugural Poem
"On the Pulse of the Morning"
Maya Angelou
Read by the Poet at the Inauguration of
William Jefferson Clinton
Introduction/Overview

I have just completed a 16 week journey with 11 adolescents. Our journey was concerned with the environment and their relationship to it. As I have journeyed with these children, the important questions seemed to be: "How do adolescents feel about their environments; what are their values? How do children come to know the city? How do children use the city? What are their activities? What places do they know best? What are their travel patterns? How do they acquire their images? Have their values changed concerning the built environment versus their parents or adolescents of ten or twenty years ago? What makes places attractive to these students? What problems exist for these children? What impacts these values? How do they choose the places where they spend their time? How are they constrained?

Hypothesis and Hunches

One presupposition that I have concerning adolescent's values stem from media images. I am of the opinion that constant media images of riots, starvation, war, environmental destruction, and Aids, are ever present with today's youth. I will attempt to determine if these forces influenced how adolescents view their environments.

A second hypothesis is that children who come from low to moderate incomes families may be are affected by these events than more affluent children.

This paper will investigate these questions and test these hypothesis with the following format:

Chapter 1 will be a discussion on the context of the study, the social characteristics of the subjects. These characteristics include their ages, sex, income level, schools, and items that they indicated about themselves from their first assignment entitled "Who Am I?". In addition this chapter will describe the MIT Talent Search program; the program in which the students were picked. Finally this chapter will review the categories in which the methods include direct observation, interviews, gaming, writing, surveys, diaries, and field trips.
Chapter 2 will investigate children's values and feelings about the city. Past literature will be incorporated with the discussion.

Chapter 3 will analyze how adolescents use the city and their activities within it.

Chapter 4 will study children's place knowledge and recall. There will also be a discussion of the students' imageability of the elements of the city using Kevin Lynch's five elements of physical form.

Chapter 5 is a discussion of how architects and planners may interpret this information as they set out about the process of design. I will also summarize the findings of the study and conclude with remarks concerning what I believe the students have gained from this interaction.

Chapter 6 will conclude the thesis and review the students' thoughts on the exercise and the experience.
Chapter I. Context

"We give our children everything except what they need most... our time."

Mark Twain
Previous Study
"Don't put that there it is too big!... The size is all wrong!!

-- Students' reaction to another fellow students’ addition to class model during the High School Educational Studies Program.

My first interaction with adolescents on this subject came in the spring of 1991 when I got the bright idea that I would attempt to teach a class on the fundamentals of architecture to high school students through the MIT High School Educational Studies Program (HSSP). My intent was to instruct the students on graphics, drafting techniques, and equipment used in the profession. I also intended to incorporate architectural history into the course. The HSSP program is a weekend program taught by MIT students, faculty and others. The HSSP program has been running experiments in education since 1957. The program is open to students from the 7th to 12th grade. Some of the courses include physics, children's literature, bicycle repair, acting, creative writing, and genetics. (Educational Studies Program Brochure).
Students Work Completed During The HSSP Program

HSSP Student Image Of His Favorite City - Seattle

HSSP Student Model

HSSP Student Model

HSSP Student Model of Ideal City

HSSP Student Model
My intent was to introduce architecture to a diverse group of students from all over the city. On the first Saturday morning that we met, it became apparent very quickly that I would not get a cross section of students as I had hoped. Most of the students came from the surrounding suburbs of Boston. A few of the students came from as far away as Quincy and Ft. Devens. A second surprise was the range of ages of the students. Their ages ranged from 9 to 16 years old. I ended up with eight students: 5 White, 1 Hispanic, 1 Asian American, and 1 African American. With this unexpected turn out, I quickly changed the proposed focus of the course from one of teaching fundamentals of architecture to one of seeing and graphically depicting the environments.

We conducted many exercises that were graphical in nature such as mapping, model making, written exercises, discussions, and field trips. However as the course moved on I realized that I became interested in learning more from the students than teaching them about architecture. I wanted to know how the students felt about their neighborhoods and their environments. Gradually, the exercises became more inquisitive in nature. I documented this experience in a paper for a class entitled "Theory of City Form". This class is taught by Professor Julian Beinhart. It was once taught by Kevin Lynch. The paper was entitled "Learning City Form From Children- A Case Study on How Adolescents Graphically Depict Their Environments'". This paper will serve as a reference as well as act as a point of comparison for the thesis.
The Subjects

My Favorite TV show is Martin....

-Comment from "Who am I exercise?"

The subjects of this study were all participants in the MIT Educational Talent Search Program. MIT Educational Talent Search Program is a "federally funded outreach program of information, educational guidance counseling, academic support and technical assistance designed to assist economically and educationally disadvantaged Cambridge youths (grades 7-12) who wish to continue their education beyond high school". The program serves over 400 students who both live and attend school in Cambridge. However, no less than two-thirds of the programs, approximately 270 students, must meet both low income and first generation Eligibility guidelines. There is no cost to participate in the program other than incidental expenses associated with program activities and trips. During the school year the students receive academic, career and educational counseling, as well as technical assistance and support with college test preparation, financial aid and admissions. In addition, college and exploration activities are sponsored by the program as well as summer activities. Junior high students (grades 7 and 8) must meet at least four hours per week for their supervised study requirement, and meet with their counselors at least once a month. Senior high students

1 Parents/Guardians of students under this category have not received a Bachelor's Degree)
are required to meet with their counselors at least once a month and participate in project sponsored activities. I selected the age group between 10 and 13 years old because I felt that this was the age at which one starts to explore and inquire about different parts of the city.

MIT EDUCATIONAL TALENT SEARCH PROGRAM

Michael Southworth 1970 dissertation entitled An Urban Service For Children Based On Analysis of Cambridgeport Boys Conception And Use Of The City was a similar study that "investigated children's conception and use of the city and possibilities for helping children learn from and use the city" (2). Under the supervision of Kevin Lynch, Southworth used similar exercises with twenty-eight boys from Cambridge (38). Unlike Southworth's study, girls were included in the study. Southworth states that girls were not included in his study because "at this age they have much less freedom than boys, and most of their few city activities are lead by boys". I included girls in this study to determine if there were any significant differences between the sexes in their patterns of use and to test Southworth's conclusion.
Geographic Information Systems Maps Depicting Population Distribution Of Children

Distribution of Population In The City Cambridge

Total Population
- 0 - 1781
- 1781 - 3562
- 3562 - 5342
- 5342 - 7123

Population of 11 and 12 Year Olds
- 0 - 29
- 29 - 58
- 58 - 87
- 87 - 116

Number of 12 and 13 Year Olds
- 0 - 32
- 32 - 64
- 64 - 95
- 95 - 127
The MIT Talent Search Program enrolls up to 100 students annually. Many students in the Talent Search Program are 1st generation immigrants from Jamaica, South America, Puerto Rico, Haiti, Portugal, Ireland, and Russia. To attract students to the study, the Senior Counselor of the Talent Search Program posted an announcement advertising the class. The Counselor screened the applicants based on their prior performance in the Program. The final roster of attendees had a significant number of students who were second generation Haitian, Hispanic, and Jamaican. There were 7 females and 4 males. Ten of the students were between the ages of 12 and thirteen years old. One male student was 14. Ten of the students lived in Cambridge One student lived in Boston. The schools they attended included Tobin, Commonwealth, and Agassiz. To qualify for the talent search program their parents incomes and family sizes had to be within the following by federal guidelines:

<table>
<thead>
<tr>
<th>Family Size</th>
<th>Income Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$10,785</td>
</tr>
<tr>
<td>2</td>
<td>$13,785</td>
</tr>
<tr>
<td>3</td>
<td>$17,355</td>
</tr>
<tr>
<td>4</td>
<td>$29,025</td>
</tr>
</tbody>
</table>

What follows are brief individual descriptions of each student based on what they told me in their first writing assignment, my observations, and discussions Ms. Cynthia John, one of the Talent Search Program's Senior Counselors. The names have been changed to protect the students' privacy. Ms. John has worked with these children for many years.

1. Joan Williams
Joan was one of two sisters that participated in the workshop. They are second generation Haitians Americans. She was very quiet and timid initially. Joan is 13 years old, and attends John M. Tobin school. In her first essay she indicated that her favorite hobbies were singing and her favorite place to visit was the movies. She listed her least favorite place as church. Her least preferred music was "rock n roll". Her favorite movie is License to Kill and her
favorite television show is *90210*. Her least favorite show is *Married With Children*.

2. Joann Williams
Joann is an eighth grader at Tobin with her sister Joan. She is 14 years old and participates in many sports. Her favorite is basketball. Her favorite team is the Chicago Bulls. She listed *The Color Purple* as one of her favorite movies. Her favorite television shows were *Martin, Cosby, Different World*, and *The Fresh Prince of Bel-Air*. She hates cartoons, loves rap music and hates rock n roll. She also likes to wear jeans and skirts. Like her sister Joan, she was very quiet and really did not say much. However she would talk with her classmates on occasion.

3. Tim Struthers
Tim was the lone ninth grader in the class. He is 14 years old and was one of the brightest and most articulate students in the study. He loved video games and all sports. He is a student at the Commonwealth School in Boston. He indicated his favorite foods as pizza, hamburgers, and French fries. Tim's favorite football team is the *Buffalo Bills* and his favorite TV show is *Martin*.

4. Angie Wiggins
Angie is a 12 year old student at St. Anthony. Her father is originally from Barbados. Angie is a very bright student who took every assignment very seriously. She was a very talkative person who always had several questions about the exercises. Her family is from Barbados. Her favorite hobbies
were reading and ice skating. She loves rap music and hated country music. Her favorite movie was *Sister Act* and least favorite was *Waynes World*. She made it a point to inform me that she was an only child. Her favorite places were Brockton and Barbados.

5. **Valarie Hawkins**
Valarie goes to Fletcher School in Cambridge. She is 14 years old and African American. Her mother is from Jamaica. Her hobbies include art and reading. She has three brothers (one of whom is in the class) and one niece. Her favorite place is Jamaica. She likes *The Cosby Show* and dislikes *Growing Pains*. Valerie was very vocal, spoke her mind, and did not hesitate to tell you when an exercise was not interesting to her. However, when she really got engaged, she was very enthusiastic.

6. **Tim Hawkins**
Tim's twin sister is Valerie. He enjoys video games and sports. He states, "I am very good at football and basketball". He also enjoys collecting football cards. His favorite teams are the *Atlanta Braves* and the *Dallas Cowboys*. Tim was excited about all the exercises. He gave 100% on each of the exercises to complete them in a timely fashion. Tim lives near Cambridgeport in Cambridge.

7. **Karen Sykes**
Karen is 14 years old and attends Tobin school. She is an eighth grader whose hobbies include dancing, singing, archery, and ice skating. Her favorite music includes rap, rhythm and blues, and reggae. One of her favorite artists is Whitney Houston. Karen is one of six children in her family, three girls and three boys. Her favorite places include the mall and the movies. Her least favorite place was church. Her parents are from Jamaica. Karen was truly a pleasure to work with. She was punctual, considerate and well-mannered. She completed all the exercises. Karen lives in Cambridge near Ringe Avenue.

8. **Tonya Wall**
Tonya is a 8th grader at John M. Tobin School. She has attended Tobin since she was in kindergarten. Her hobbies include basketball, talking on the phone, hanging out with her friends, and going to the movies. She states, "My favorite music is rap music, I listen to it all day." Her family is from Jamaica and England. She lives with her mother and her brother on Ringe Avenue in Cambridge. She watches a lot of television. Her favorite place is the mall "especially clothing stores and stores that sell funny items".
9. Jonathan Brinkley
Jonathan is an 8th grade student at Tobin School. He is 14 years old. He has a fondness for "Sega Genesis and Super Nintendo". His favorite sports are basketball and football. Jonathan's hobbies are "messing around with electronics and animals". He "loves" rap and reggae music. He hates "rock n' roll and hard rock music". He has one sister, and three brothers. His favorite television shows is *Martin* but he hates the *Brady Bunch*. Jonathan enjoys visiting his cousins' place and the mall. His least favorite places are his house, Grandmothers house, and school. His parents are from Jamaica. He has three sisters and one brother who Jamaica.

10. Carl Copeland (Barry)
Carl is 13 years old and enjoys video games such as *Mortal Combat, King of the Dragons, Turbo Street Fighter*. Carl also likes to attend movies, read comic books, play basketball, and football. Carl has three sisters and one brother. Carl was one of the brightest students in the class but also one of the most mischievous. I often had to speak to him about his behavior. But none of the acts was serious. He liked to perform playful pranks.

11. Maria Mireles
Maria is a 12 year old student at Agassiz School in Cambridge. She's in the seventh grade and states "I never stayed back...!" She enjoys "singing, dancing, and everything that has to do with music". Maria's favorite place is the mall and her least favorite place is church. She enjoys "all the shows on the Fox network on channel 25 on Sunday's". Her least favorite show is "Physic Friends". Maria is from Puerto Rico. Her hobbies include meeting people. Her least
favorite place is church. Maria has five brothers and one sister.

The geographic area of the study was focused in the City of Cambridge because most of the students lived there. Only occasionally did we venture out of Cambridge. Many of the exercises were make-believe places or were not site specific. This "workshop" was for most of the students their first time participating in an activity of this sort and the level of interest varied with particular exercises. My major challenge was making the exercises informative and fun while at the same time obtaining the data I needed. Sometimes bribery was the only solution!

The students in my study were what we consider in my neighborhood "streetwise". They were like many adolescents today, fashion and fad conscious. Television and malls dominated much of their free time. One needed to only mention a particular rap artist or fad to get them chattering or to get them off of the subject at hand. They were generally well mannered and tried very hard to complete the exercises.

Ideally, I would have liked to have performed simultaneously similar exercises with students from other backgrounds, income status, and ethnicity's. This would serve as an ideal point of comparison. However, time constraints prevented me from doing so. My findings will be compared to similar studies conducted by the other authors and a previous paper that I completed during the spring of 1991. I was also fortunate to get copies of drawings completed by children in Millville, Massachusetts. The Millville students were involved in a mapping exercise conducted by three MIT students for a class exercise during the fall of 1992. These drawings will also be used as examples throughout the paper.

**Kids of the 90's**

Studies indicate that influences within the urban environment are much more negative and powerful than in previous decades. More than one out of every 15 youths experienced a violent crime during 1987 (Wetzel, American Youth, 33). In 1992 homicide was the leading cause of death (after accidents) among 15 to 24 year old males and the leading cause among African Americans in that group (De Cuevas, Our children Are In Trouble, 48). Homicides among young black men are unduly high. The lifetime probability of a 16-year old black male being murdered is one in 40. For white males it is 92 in every 100,000. (Wetzel, American Youth, 29). During 1986, 5120 youths committed suicide. Lack of investment in the inner city has left many areas dilapidated.
There are 5 million children in the U.S. under the age of 18: 4.2 million of them were born last year. According to the Children's Defense Fund, 13 million children— one in every five— now grow up in poverty, even though we are the richest nation in the world with the largest gross national product. Children account for 40 percent of all the poor people in the nation (John de Cuevas, Harvard Magazine, 47).

More and more children are failing in school and dropping out before they graduate. Currently some four million youngsters, about 13 percent of those between the ages of sixteen and 24, have dropped out of school. Most of them lack the basic skills they need to get a job (48).

Many adults believe kids today are part of a "Lost Generation" and feel that are bolder, brasher, unruly. and Laura Mansnerus in a special report on elementary through high students quotes George Chen, a human-relations specialist in White Plains, N.Y. school district. He indicates that children of today have what he calls the "Bart Simpson Syndrome". Among the secondary school students in classrooms where he works "you're supposed to be irreverent, confrontational, rebellious. Given an assignment "there's a belief that somehow they're not going to be held accountable for getting it in on time. It's that attitude that drives us nuts" (Antillas, 'I Want' Now Gets, Special Report NY Times, 14).

Carol Gordon Horner, a High School an eighth grade language arts teacher in Charlotte N.C. who returned to the classroom in 1991 after a 13 year absence, states, "Kids have a real sense of entitlement now that you didn't see before. It's almost like a "make me attitude" (14). Lawrence Steinberg, a Temple University psychology professor who spent several years on a study involving 10,000 high school students,
students in Wisconsin and California, states that "Most observers of family life would agree that there has been significant erosion of parental authority in the last 15 or 20 years. There has been a blurring of the distinction between being an adolescent and being an adult. You can see this in the similarities between the way kids and adults dress and the teenagers discretionary incomes" (14). Many of these traits surfaced with the youths in my study.

Children are making more and more purchasing decisions. Bart Bartholomew writes in the New York Times that a 1991 survey of 1440 families found that 34 million children in the 4-12 age group had a combined income of $14.4 billion (Antilla, 'I Want' Now Gets, Special Report NY Times, 17). A Rand Youth Poll released in September of 1992 indicated that teenagers spent $58.9 billion. More importantly, Bartholomew quotes Craig Spencer, senior director of marketing research of Tyco:

*In many respects, child consumers have become more sophisticated. The 6-7 or 8 year olds can talk about AIDS, kind of talk about environmentalism and dirty stuff--human sexuality--in ways their older brothers and sisters and parents could not when they were kids....* (17)

The James U. McNeal report "Kids as Customers" indicate the following items that children purchased with their own money in 1991:

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Arcades</td>
<td>7%</td>
<td>$0.6 billion</td>
</tr>
<tr>
<td>Movies/Sports</td>
<td>9%</td>
<td>$0.8 billion</td>
</tr>
<tr>
<td>Clothing</td>
<td>13%</td>
<td>$1.2 billion</td>
</tr>
<tr>
<td>Snacks</td>
<td>36%</td>
<td>$3.2 billion</td>
</tr>
<tr>
<td>Toys, Games, Crafts</td>
<td>29%</td>
<td>$2.6 billion</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
<td>$0.5 billion</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>$8.9 billion</td>
</tr>
</tbody>
</table>

The Los Angeles riots and the Presidential elections have recently refocused attention on the inner city. Much of the discussion has focused on economic development, employment, and infrastructure development. Education is also a major agenda item for politicians and other representatives. Among other things, my study concerns itself with advocacy for children and how they fit in the overall scheme of things. This is not merely a concern with obvious issues concerning education and welfare of children but also with how they think and feel about the environment. If we are to improve our cities, I am of the opinion that we must not only make provisions for our youth but solicit their opinions as well.
With the children of the nineties having increasing purchasing, power, facing constant media images of riots, starvation, war, environmental destruction, AIDS, and having the conflicting interests of becoming an adult while having adolescent restrictions, leads me to the fundamental question that I am investigating: How have these variables influenced adolescents' view of their environments?

It is easy to look at children, as Suzanne De Monchaux stated, with a "sentimental view of children in the city, one which would have made any expression of concern easier, but not so convincing in our view." (Planning With Children In Mind, 3). Children use different types of spaces, use not just playgrounds. They travel on trains and buses, sit in classrooms, shop, etc. With this in mind I have tried to approach this thesis from their perspective. I have attempted to solicit their views on how they examine and relate to their environment.

I must say that it is very difficult not to take a "sentimental view" in this endeavor. My motivation for this topic stems from personal experience. The approach to the thesis is as much about introducing the students to architecture, planning, and urban design, as it is about learning from them their thoughts, fears, and perceptions about the environment. One force that gave me the courage to attempt this thesis is the knowledge I have about my childhood.

After growing up in mostly low income, minority neighborhoods, I remember not having anyone to introduce me to the various ways of viewing my environment, or discussing possible career professions in planning or architecture. I remember almost stumbling into the field of architecture by accident. A guidance counselor had suggested architecture as a possible field of study to merge my interest in art and the sciences. This came only after my assigned counselor seemed too uninterested to assist. Thus, part of my motivation is to introduce inner city children to the field of architecture and planning.
Past Literature

Children view the city in various ways. These perceptions are influenced by many factors within the environment itself as well as the children's background and culture. The literature (most of which completed in the 1960's an 1970's) verify this. I am concerned with the children of the 1990's. Are the factors and variables the same? How have they changed? Have these perceptions changed with time? Given that my population is controlled for age, race and income, are there patterns that exists that may indicate what the overall adolescent population may feel and think about the built environment?

There are other studies that have similar themes as my topic. The people that have influenced how I approached my research include Roger Hart, Kevin Lynch, Michael Southworth, Gary Hack and William Michelson. Though their studies are similar in topic nature and approach, the subjects themselves are different. Few of the studies were completed after 1980 and few of the studies were with children of color. The works conducted by these authors will serve as points of comparisons throughout the thesis. These comparative viewpoints will be through the various "themes" that I have used to structure the results and interpretations of the students work.

This past literature suggests other reasons to further study adolescents:

"to ensure for all time the Child's right to play" (Bengtson, Children's Right to Play, 7).

"...many aspects of the experience of place cannot be discovered by geographical or psychological methods nor in fact by any formal procedure. We must recall it ourselves or rediscover it through empathy with children..."(Hart, Children's Experience of Place, 6)

"...explore every way of making the city more accessible, more negotiable and more useful to the child..." (Hart, Children's Experience of Place, 8)

" to me a good city is one in which children can grow and develop to the extent of their powers, where they build their confidence and become actively engaged with the world yet be autonomous and capable of managing their own affairs" (Lynch, Growing up In Cities)

Robin Moore in the book Childhood's Domain summarizes the notion of social ecology of childhood, which helps to highlight the different forces that impact the development of children:
The development of each child can be supported or inhibited by different levels of social and cultural influence: the everyday circumstances of family life, the quality of community institutions, the ideology and effectiveness of national policy, and the general state of the world. The ecological approach emphasizes the importance of recognizing the local-global connections in policy formulation and raises the issue of whether child development is seen as a consequence of these systems, or whether the systems themselves are designed to implement a consciously adopted child development policy.

This literature and the influence of Florence Ladd and Suzanne De Monchaux serve as the backdrop to my study.

Categories of Exercise Techniques
This section will give an overview of the broad categories of the methods of data gathering and analysis used in this study. The methods include direct observation, interviews, surveys, writing assignments, field trips, and gaming. Southworth stated that different techniques should be used for several reasons: "(1) little research has been done in this topic and no techniques have been developed on the topic and no techniques have been developed for working with children on such problems; it was important to use several techniques as a precaution, because he didn't know which methods would be most productive (2) any research method has inherent limitations; by approaching the problem with several techniques it is possible to get a fuller view; (3) children were expected to be changeable and more subject experimental biases than adults; by working with them in different ways on several occasions we were more likely to get the truth; and (4) it was important for us to get to know each of the subjects well; the several methods gave us an opportunity to talk to the kids several time" (Southworth, An Urban Service For Children, 37). De Monchaux also
advocated the use of various techniques to solicit data both qualitative and quantitative from the students. (Interview, Oct. 18, 1992)

Direct Observation
Dagifinn As' wrote in his article "Observing Environmental Behavior: The Behavior Setting", It is not enough for designers to obtain information on inhabitants ideas, we shall need information on the activities themselves." (Michelson, Behavioral Research Methods In Environmental Design, 283). As' described a process of participant observation which is defined as a situation where an observer attaches himself to a situation that he is going to study in a real sense and systematic observation which is the process by which an observer does not participate but rather records what he sees in as complete detail as possible while the activity is in progress. (288).

Randolph Hester writes in his book "Planning Neighborhood space that "...observation is the single best technique for discovering what people do and how people interact with other people in neighborhood space. However, it has limited value in measuring how people feel about space ...observations are most useful in the analysis of existing situations and in the definitions of problems. They could be helpful in projecting future patterns of use..." (117).

Maps and Drawings
Peter Gould and Rodney White writes that "The concept of neighborhood is an important mental image, both to the town planner and the rest of us who are subject to planning (Gould and White, Mental Maps, 15). Mental Maps and drawings also known as cognitive mapping will be used to investigate many elements of the children's neighborhoods. These maps will be used to document their perceptions, their routes, and their likes and dislikes of their environments.
Interviews and Surveys
"The personal interview is the most commonly used data-gathering technique in survey research." (Michelson, and Robert Marans, Behavioral Research Techniques, 120). I did not have very formal interviews and surveys but rather impromptu, spontaneous, quizzing sessions. It was apparent early on that the students would get bored quickly with standard interviews and survey tools. I attempted to engage them in a subject that might interest them and focus the conversation in way to make it relevant to what the discussion was about. Hester writes that interviewing major applications are "for the analysis of existing environments and for the definition of problems." (Hester, Planning Neighborhood Space, 111).

Gaming
Henry Sanoff indicates that "Gaming is an approach to problem solving that engages a real life situation compressed in time so that the essential characteristics of the problem are open to examination. Gaming then is a particular type of simulation" (Sanoff, Design Games, 1). Gaming is also a fun way for students to take a look at subject matter that might not interest them otherwise. I have used different games throughout the workshop to both obtain data and to engage the students.

Ira Robinson, William Baer, Tridib Banerjee, and Peter G. Flachsbart wrote an article entitled "Trade Off Games" that defined the concept of trade off games in terms of "compromises, exchanges or substantially between and among multiple often mutually exclusive goals" (Michelson, Behavioral Research Techniques, 81). These "gaming situations" that explicitly measured tradeoffs in research first appeared in the early 1960's by R.L. Wilson (87). I have used versions of these Wilson's games throughout the class. They are described in detail in the appendix.

Writing
Though most of the students were not thrilled at the aspect of writing exercises, I found them to be most informative. Writing assignments as opposed to interviews were usually open ended with questions like "Tell me something about yourself".

Diaries
Southworth used diaries in his thesis to assist in gaining information from students to answer questions such as "What do children do and where do they go on typical summer day? How do you get where they are going?" He ultimately had to give each student 25¢ per diary sheet to ensure the students completed (Southworth, An Urban Service, 314). I used this method answer similar questions.
Field Trips
To best discuss and illustrate some of the topics that we talked about in class trips were planned. Southworth planned to take field trips in his study but did not because of "lack of time and difficulties in getting kids together." (Southworth, An Urban Service, 280). He wanted to use the trips to see those places that "kids thought were important to them, places that attracted them, and to test problems they have in orientation systems in unfamiliar environments"(280).

Summary
Today children face many more complex factors in negotiating their environments. These factors include, violence, poverty, environmental concerns and negative media images. Studies indicate the numbers an types of influences. Eleven students and I have used interviews, drawings, trips and games to investigate how children of today perceive their environments. The following chapters investigate their values concerning the city, how they use the city, and their activities within the city.
Chapter II Children's City/Place Feelings Values

"Do not fail to see how far ahead children can see, but only some of them, and they only sometimes, and for certain reasons which it is your task to comprehend."

*Anna Freud speaking at a clinical conference of child psychoanalysts.*
Chapter II Children's City/Place Feelings Values

What are the things they value? How do they acquire their norms and values? What impacts these values? Have values of adolescents changed since the 1960's and 70's? What qualities make city places attractive or unattractive to children? Several techniques were used to get at these questions. These techniques included photo surveys, trips, questionnaires, and tradeoff games. The methods are described fully in the appendix. The results of these activities will be presented by themes rather than method. South worth in used three themes in his dissertation to organize the results of his study which asked similar questions: environmental form values, activity values, and social values (Southworth, An Urban Service For Children, 158). I have used the same themes to organize my findings and to serve as a point of comparison.

Form values

1. Cleanliness and order

In many of the exercises and writing assignments conducted by the students, issues concerning pollution and cleanliness were raised quite often. Many students indicated that Cambridge appears dirty and they would aspire to more cleanliness to improve the conditions of the city. A few of the responses to the survey question "What do you dislike about Cambridge?" rendered the following responses:

- It is dirty, and smelly...
- It's not very clean...
- Air pollution...

A separate interview question asked "What is your favorite television show and list ten things that you like about it?" A few of the responses were:

- The Jetsons, it is clean...
- Married with children... clean, not polluted Chicago..

When asked what were their "likes and dislikes" about the subway", a few of the responses included:

Photograph Of Vacant Lot In Disrepair Taken By One of The Talent Search Students
Dirty...smells...
Cleanliness, they need to clean the stations...

When asked what things needed to be improved in the city for adolescents:

"Get rid of air pollution's so people can breath..."

Other responses concerning cleanliness and pollution include:

This tree is good because it gives us paper and it keeps oxygen clean. But if people keep cutting them down we wont have clean air and paper...

I think this car is bad because it takes part in polluting their air.

I think people who make cars should make cars that run on electricity.

In the spring of 1991, I completed a similar exercise with the High School Educational Studies Program class. When asked the same question, they responded:

I like being with nature, it is peaceful...Air pollution, water pollution, ozone layer ; I wish man would stop being so selfish and think of others instead of themselves...

"I am very protective of nature and animals. I hate to see them get hurt. Needless killing of animals and trees disturbs me..."

The photo survey conducted by the students in the Talent Search Program revealed some insightful thoughts about how the students viewed their physical environments and what makes the city attractive to them. Each student was given disposable Kodack cameras and asked to take pictures of ten things in their environment that they thought were bad and ten things that they thought were good. (See full description in appendix). This exercise underscores the importance children place on unpolluted areas and cleanliness. Many of the subjects took pictures of cluttered entries, back alleys, and dumps. These comments and images are consistent with those exhibited by the youths in Southworth's study. Southworth states that "Comments about dirt, litter, polluted, water, smog, shabby houses, and bad surfaces are common in the subject's responses for all methods. In general, the physical appearance of parks and
playgrounds is important to kids." (Southworth, An Urban Service For Children, 160). Listed below are a few of the youths comments from Southworth's study concerning Dana Park:

*I don't like it that much because there's a lot of broken glass there.*

*You can go at night -- perfectly clean. In the morning the barrel's tipped over and stuff strewn all over the place.*

*Peter Park and Dana Park are really rotten, ya know, with glass, paper, dirt, and everything.*

Likewise Florence Ladd indicated that the youths in her study viewed appearance and cleanliness as features that they valued in their neighborhoods: "A few of the respondents mentioned the appearance of the building (needed painting, back porch filled with trash) among the disliked features" (Ladd, Black Youths View Their Environments: Some Views of Housing, 109). Ladd further stated that in response to the question *What are some of the things like about your house and some things you don't like about it?* the frequently mentioned dislikes concerned the conditions poor state of repair, lack of paint, broken windows, leaking roofs, cracks in the ceiling, and faulty electrical outlets and plumbing. Ladd states that the "respondents liked cleanliness, order, new paint, and well maintained condition" (111).

2. Form, Symbolism, Ornateness
Places with distinctive and complex form, unique character and symbolic meaning seem to be valued by the students in this study. Many of the students took pictures of "street furniture", buildings with distinctive features, monuments, and parks as elements of their neighborhood that were
considered "good". Some of the comments and descriptions of the pictures that were labeled "good" included:

Nicely designed housing complex...
A memorial for an Army Officer
A view of the Parking of JP...
Good..
My new house .."

"That area looks like a Fort...!!" This was one of the statements made by one of the male students upon viewing a residential area near Copley Place when we visited the John Hancock Tower. He further explained that the buildings appeared to be gates that blocked the entry to the brownstone houses that lay to east of the Copley complex. I took the class to visit the John Hancock Tower to give them an opportunity to view of Cambridge and it's relation to its' surrounding context. I also wanted to observe how the students negotiated the city. (See full description in appendix). During the John Hancock visit the students constantly referred to the tall buildings that could be viewed from the Hancock tower. This fascination may be due on part to the students lack of experience of seeing things from the height of the Hancock center. This again illustrates the children's preference for uniqueness in the urban environment. As Southworth mentioned in his thesis "Walls, towers and high gables are all mentioned as specific examples of forms they like; these usually evoked imagined activities"(Southworth, An Urban Service, 168).

Comparing those images that were labeled as "good" images to those that were labeled "bad" also gives an indication of what the students preferred in terms of form and uniqueness. Comments about "bad" physical attributes in their environments included:

This is bad because it has no roof...
The windows are ugly...
The entrance to Harvard Square...
Bad because this is the junkyard collectors garage...
Old house that is boarded up...
This area behind Starr Market is bad because of the Graffiti...
Cemetery is bad...
The back of Huron is bad because it is polluted...
This area is bad because of the trash...
Selected Images Taken by
Talent Search Students

Image of Liquor Store
Sign-Seen As a "Bad"
Element
In His Neighborhood

Image it that was listed as
"Good" by student

Image it that was listed as
"Bad " by student

Image it that was listed as
"Bad " by student
To best illustrate the form, and unique character issue as well as test what the youths preferred in housing types, an exercise called "Search" was used. In the "Search Game" (see full description in appendix) the students had to rank twelve images of different types of houses in order of preference. The houses ranged in style, size, and materials. 44% of the students selected the housing type that is typical of the ranch style. This suggests that the suburban style is a "good" image to the students. It also suggests what the students considered as the ideal house type because most of the students do not live in this type of house currently. Of the two most selected styles, one had a split level, two-story brick and aluminum siding facade. A few of the reasons why the students indicated for selecting this particular type include:

- It has two floors...
- You can add on...
- Big and stylish...
- Lot of space...
- Shapes look O.K....
- It has a front porch...

The "Search" exercise gives some indication of the preference for the types and form of structures the students would prefer in their neighborhoods. Though limited in the number of selections from which to choose, the exercise does indicate that familiarity is a factor in the type of housing that the students would like to see. Over 90% of the students selected the round tree trunk type house as their least favorite (see photo on page 95 in the appendix). Though unique in its form, this form is not typical to what most of the students view as a housing type so they rejected it as an acceptable style. The comments about this particular house are as follows:

- shaped funny...
- small and round...
- looks like a log...
- ugly...
I don't like slanting walls...

The "Best Fit Slide Rule" game suggests that students are more comfortable with residential structures invading their neighborhoods than other types of structures. Only two students chose commercial structures. One was a small grocery store and the other was shoe store. None of the students picked the architectural schemes that were heavily modern or extremely non-residential. The typical facade is fairly common and many of the students live in neighborhoods similar to the one depicted. This is illustrated by the photographs taken by each student the previous photography exercise. It was surprising that none of the students chose the open space area in this game because of the frequency of images like parks and playgrounds that were generated from the photo survey.

**Boys Versus Girls**

All of the male students who completed the Search exercise chose item "E" as their first choice (See photo this page). Item "E" is a two-story single family house. The boys indicated that they preferred this type because of the angled roof and the fact that it was two stories. Three of the five female students chose image number "H" as their first choice. Item "H" is a typical suburban ranch style that is split level and has a brick veneer facade. In general, the
females indicated that they preferred this image for similar reasons; two stories, bay window, and more room. It is difficult to determine if the difference in the choices are significant or not. A few of the comments by the girls on why they selected the housing types in the search exercise included:

Big, Beautiful, I want to live in this type when I grow up.
I like a house with a second set of stairs and have a 1st and second floor

The "Wilson Game" also gives an indication of the students preference for various elements in the environment. The "Wilson Game" also gives an indication of the students preference for various elements in the environment. The Wilson game is a trade-off game where the students are given a limited amount of play money, amenities to a neighborhood like trees, sidewalks, electricity, and instructions to select those items that they wanted for their particular neighborhood (see full description in appendix). 45% of the students elected to have extra big front or back yards for their neighborhoods. 54% of the students felt that street lights and parking spaces were important factors in the makeup of their neighborhoods.

Like the search game, the "Best Fit Slide Rule" game also indicates the students preference for building types in relation to a given site (see the Best Fit Slide Rule game description in appendix). In this case 45% of the students selected one of the two residential housing types given as options for the empty site. Both of the types were Victorian type structures. Given the types of "existing" facades of streetscape in the game these two are the most likely choices. This may indicate a willingness by most students to conform to the status quo. It is not clear that the students...
These observations made by "The Classroom Transformations" exercise revealed some interesting data concerning the students' feelings concerning interior spaces in an academic environment. The students were given 10" by 10" square foam core boards and non-toxic modeling clay, and instructed to redesign the classroom that they were using. (See full description in appendix). Many of the students included televisions, couches, and video games, other students designed more intimate spaces.

3. Safety of the Physical Environment

Many of the subjects mentioned safety as a key element in the environment that they would change if they had the power. This was particularly true of the subways and parks. When asked what areas in their neighborhoods were unsafe and suggested improvements they gave the following responses:

"The park at night."
"Hoyt field."
"Roxbury, Dorchester, Mattapan..."
"Street corners..."
"More Street lights..."

The students indicated that their parents restricted them from traveling to certain areas and performing certain activities because they were dangerous and unsafe. These areas included playing on railroad tracks, walking along the bridge at night, and playing in the park at night.

The Wilson games also indicated the student preferences for safety. 72% of the students listed both police and the county sheriff as means of community protection. This may indicate a perception by the students that the more police protection is available the better the environment. Over 50% of the students elected to have a Public Fire department over a Volunteer Fire Department though the public fire department costs more.

Activity values

Southworth writes that "activity values appear to be more critical in boy's evaluations of places than form, although the two are clearly related" (An Urban Service for Children, 169). I found this to be true as well with the youths in my study. The subject of activities is discussed both in this chapter as well as in the following chapter "City Use". Several exercises revealed what activities the students like to participate or what facilities offered them the greatest satisfaction in the types of activities. These exercises included a diary and mapping activity where the students..."
were required to maintain a log of their activities and draw the routes they took for one week (See appendix for full description of the exercise). The log revealed what activities the students engaged in when they reached their destinations as well as what activities the youths felt were missing from their routines. Some of the things that were listed included: more youth centers, open spaces, and after school programs.

Most of the respondents in the study spent their time at home studying, sleeping, spending time with family. The activity that they engaged in the most after those at home was usually school. Thirdly, the students indicated that after school activities like Talent Search and youth centers, was where they spent their time. Finally malls was the location where they conducted most of their recreational activities. When visiting the malls the, the student engaged in a host of activities that ranged from shopping, checking out the opposite sex, video arcades, listening to music, or just hanging out with friends. Other activities mentioned in general included, going to the hair dressers, Harvard square (to hang out) and the MIT student center (to play video games).

In summary, the students tend to enjoy places that offer a variety of activities such as malls. They like to have fun, play video games, interact with friends, and eat junk food, watch television, check out the latest fashions. Places that offer any combination of these activities are preferred by the youths in this study.

**Social**

This category is difficult to define because it has to do with a variety of non-physical things but probably the most important. These "interpersonal systems" involves how children deal adults (especially those in authority) and older children. It also has to do with racism, sexism, discrimination, fear, and a host of other emotions.

**Security of the Social environment**

Southworth indicated in his thesis that "fear of other people is one of the chief reasons for disliking a place". It has been seen that social fears greatly influence the extent of kid's travel and the places the use". (An Urban Service, 173). The youths in my study also have the same fears. One particular example illustrates this point. On our journey from the John Hancock center one student had a "interpersonal system" problem with the station attendant who happened to be a older white male. The attendant, believing that the student did not put the proper fare in the box, would not let the student pass. Not only did the attendant not let the student pass, but shouted expletives that did not seem appropriate
for a public servant. I finally resolved the matter by paying the fare.

On several occasions we were looked at by clerks, attendants and managers upon in a fashion that made us wonder if we had committed some crime. Some of these places included the movie theater, the Hancock lobby, the Hancock gift shop, the newspaper stand at Copley place. I think most merchants feel uncomfortable when they see more than one teenager or adolescent shopping in their stores. But I think the fact that these were students of color made them feel even more suspicious.

A second instance that highlight the element of fear that persists in the youths in the study was told to me through a discussion I had with one of the male students in the class. The student came in one day and complained about being sore. I questioned him and he described in detail about a particular violent confrontation with a street gang. Part of our conversation went as follows:

I'm kinda sore today because, I got beat up by these boys....

What Happened?
I ran into these guys who were shouting "We're in charge of the Port now,... We're in charge of

I'm in charge of the Port now... they came up to me and I jumped back....They grabbed one of my friends

Question-When you say "Port" do you mean Cambridgeport
Yea Cambridgeport these guys were big, I was walking and I moved back

How many were they?
There were a set of twins, umm, maybe there was 7 or 8 of them. They grabbed my friend, who was a big guy... and he started kicking, then they started swinging him around... He tried to kick then they grabbed his legs and swung him by his legs... he wrapped his arms around his head so he would not hurt his head when they let him go..

How old were they?
19 or 20 they had all graduated them, they were all so big, I only came up to their chest. Some of them go to Ringe and Latin or graduated from there.

I was watching them and after they finished beating everyone
they the came up to me and grabbed me, they said "I remember you ... Are going to cry if we punch you?". I said Yes, then they started to beat me anyway...

This situation is very ironic because in Southworth's study conducted in 1970 there was a discussion concerning gangs and conflict. The area near where this incident took place was near River Street in Southworth this study River Street is mentioned was seen as a "boundary" by two different ethnic and income groups. (An Urban Service, 50). Some of the comments by his respondents included:

I hate the part of Fairmont that's near River Street... all the kids hang around there and they beat up everybody .. they don't let little kids go by.

Some kids are mean and take hold of your bike and make you fall down..one time I was going down Cottage St. and they tried to get me but I got away..

My parents don't want me to go over to places like River street... they me to stay away from bad kids...(51)

Twenty years after Southworth's study the area is still perceived as a unsafe place by children. This indicates that once the perception of a particular location is fixed in the general public's mind, how difficult it is to change. Unless a dramatic transformation takes place and visible signs of change occur, this area will maintain an image of being unsafe.

I highlight these example because these instances of "interpersonal" or "social" problems make the students feel uncomfortable and serve as perceived barriers. When I discussed this issue with the class, they all seemed to have felt this uncomfortable feeling before.

The students constantly talk about violence in their "chit-chat" conversations. On occasion, they discuss drug related crimes and incidents that occurred in a certain part of the city. They often discuss how they observed a fight or shoot-out with automatic weapons as though it was part of their everyday life. Many of their video games and television shows are full of scenes of violent crimes. I would argue that this is one area where kids today differ somewhat than kids twenty or thirty years ago in their perception of the urban environment. Children today face constant barrages of images of violence and crime that it has become a "no big deal" or nothing out of the ordinary to see a violent act.
They remember certain sections of the city by the crime activities that may be associated with it. These examples illustrates how far we need to go to make all places comfortable for all people.

How do they acquire their norms-values? What impacts these values?

In my opinion these values are formulated by a combination of stimuli from, home, school and other education, and friends. The comments related to cleanliness and concern for the natural environment shows and increased emphasis and education by the junior high schools.

William Michelson researched in detail "Value Orientation" in his dissertation. He summarizes four predominate rationales for choice of variation. These rationales include "individualistic, expressive, instrumental, class consciousness". He uses these four rationales to determine how people value various urban from elements such as housing types, scale of objects, perception of distance of objects, an separation from others' homes. (Value Orientation, 208-218). Based on this criteria The search game reveal that the students in this study uses an "expressive form" of rationale in determining housing type.

Michelson's thesis also investigated the values judgment in housing types. Michelson concluded that "people do not evaluate every housing type of dwelling; it is, independent of positive or negative feelings towards the structure." (Michelson, Value Orientation, 149). His research showed that when a person inspects a high-rise apartment he will weigh it by different criteria than if it were a single family house. Michelson states "that if a person prefers a high rise apartment we can be reasonably sure that his major valuative reasons for this choice are that he thinks that the buildings is efficient in location and services (instrumental value orientation), is beautiful (expressive), and implies a sufficiently high social class (class consciousness). If he chooses a single family house, he will feel that it affords privacy (individualism) and freedom of activity (doing); it
matters much less to him whether the home is good looking or efficient" (208).

The search exercise, though limited in its ability to highlight all of the elements Michelson indicated as value choices, does support part of his conclusions. The students comments show that expressiveness and freedom of activity may in fact be elements that adolescents value in housing choices. What is not clear is how the adolescents value the other factors that Michelson stated such as services, and social class.

**The Media**

In the introduction I suggested that children's values about their environment are influenced by the media. It is very difficult to conclude from these exercises what the full impact the media actually have on these students.

Wilbur Schramm, Jack Lyle, and Edwin Parker conducted a three year study on the effects of television in the lives of children. They documented their research in a book that was first published in 1961 entitled *Television in the Lives of Our Children*. A few of the questions the book addresses include:

- Does television deepen the ignorance or broaden the knowledge of children?
- Does television debase the tastes of children?
- Does television distort children's values?
- Does television teach children too much about life too early?
- Does television cause withdrawn and addictive behavior?
- Does its violence teach children violence and crime?

(Schramm, Lyle, and Parker, *Television In the Lives of Our Children*, 4,5).

I was particularly interested in how the authors addressed the third and last question: Does television distort children's values? and Does television violence teach children violence and crime? The authors stated that "television is extremely violent. Shootings and muggings follow each other interminably. More than half the 100 hours are given over to programs in which violence plays an important part." (Schramm, Lyle, and Parker, *The Effects of Television* ,
Further, the authors stated that in a hundred hours of viewing, there were:

- 12 murders
- 16 major gunfights
- 21 persons shot
- 21 other violent incidents with guns
- 31 hand to hand fights
- One stabbing
- Four attempted suicides
- Four people falling over cliffs
- Two Mob Scenes
- A great deal of miscellaneous violence, robberies, tidal wave, earthquake, and guillotining. (Schramm, Lyle, and Parker, *The Effects of Television*, 140)

Today violence and sex is more prevalent on television than when this study was completed in 1961. I would argue that based on the interaction with the students in this study, television has helped to determine how they view the city even more. Television has indicated what areas in their community are dangerous, safe, fun, and idealistic. Media has also presented the children with more fantasy environments in which to compare to their real realms. Schramm, Lyle and Parker summarized their findings concerning the violence on television and its impact on children in four major points:

1. A certain number of young children (and a few older ones) will inevitably confuse the rules of the fantasy world with rules of the real world and transfer violence from television to real life.

2. Children who come to television with aggression will be more likely to remember aggressive acts and be able to apply them when they are aggressive in real life.

3. Children may remember (and presumably be able to use) violence, even though it is in conflict with their ethics and values.

4. Children want to be like the successful characters they see in fantasy, and tend to imitate them, villainous or not. (Schramm, Lyle, and Parker, *The Effects of Television*, 140).

I would suggest that the last point be expanded to state children want to live and interact in the fantasy environments that they see on television. Further, children want to avoid those real and fantasy environments that television brings to life. These media environments serve as "virtual environments" where children engage their fantasies. These virtual environments also start to influence children's opinions about the real environment.

The first written assignment gives an example that may support this notion. The students were asked to describe
themselves and to list some of their favorite things. Many students mentioned their favorite television shows, cartoons, and video games as part of their hobbies and activities. Many of these shows became gauges by which the youths used to measure the "real" or existing environment. While completing their exercise the students engaged in "chit chat" and discussions about the daily routines. These discussions often revealed the most about their feelings. Rarely did this "chit chat" exclude some mention of their favorite shows. One example of this exchange I had with one student illustrating the notion is as follows:

Question: You listed the "Jetsons" as one of your favorite television shows. Tell me why.

Response: "I like the Jetsons. I like the way the city is very clean and spotless. I like how people can move around the city in their air vehicles".

A second example that supports my hypothesis that the media has impacted how children view their environments was illustrated during the trip to the John Hancock Center. While we gazed out over the Boston landscape, I engaged one of the students about different areas that he could identify.

Question: "Do you know where is Roxbury is?"
Response: I'm not sure but I really do not want to know...

Question: Why not?
Answer: Because it is rough over there. There is a lot of killing and burglars their.

Question: How do you know this? Have you ever been there?
Answer: No, But my mother tells me what goes on and I watch TV.

John Hancock Building
This indicates the impact of his parents and the media on formulating his perception of an area. His only "real" association with this neighborhood was only through the images portrayed television.

**Other Values**
Other topics that consistently arose included music, television, sports, activities at school. The class overwhelmingly enjoyed the new show called Martin. The show is centered around the life of a disk jockey and comedian Martin Lawrence. This actor is young and very in tune to the students in the class. Many identity with his street smart ways and the characters he depicts in the show. On any given show Martin plays 3 to four different people. His characters include a local female apartment resident, washroom attendant, or 6 year old mischievous youth. The students in the class are impacted by his dress, language, and the places he visits. They attempt to imitate many of the things he acts out on television. One of the students tried to model Martins apartment during the classroom transformation exercise. Other cartoons and shows have similar impacts. This is not necessarily bad; images from news broadcasts and shows that are very negative in scope however may leave a lasting impression on the youths.

**Religion/Church**
At least three students indicated in their first writing exercise that church was their least favorite place. When I pushed them further to explain why they felt this way they indicated that church "boring" and uninteresting. This is unusual because historically, in the African American Community, religion has always been a source of guidance, inspiration, and learning, especially with the young. There is little research on the impact of religion and its impact upon adolescents view of their environment, and is beyond the scope of this paper to investigate fully. However there is an interesting book by Robert Coles professor of psychiatry at Harvard University entitled "The Spiritual Life of Children." He has written extensively about children over a thirty year
period giving insight into their hardship, isolation, moral and political stress.
Coles writes about their thoughts and views on salvation, righteousness, and experience with God and spirituality.

Though he did not investigate directly their thoughts on how their spirituality may impact how they feel about their environments, he does solicit some interesting comments sketches, and views that may offer a starting point. One example Coles describes was in 1962 when he interviewed the first student to integrate schools in Atlanta. Coles writes that the gentleman stated:

\[\text{You keep asking me about how it feels to be a Negro in that school, but a lot of the time I just don't think about it, and the only time really do is on Sunday, when I talk to God, and he reminds me what He went Through, and so I've got company for the week, thinking of him.} \ (1)\]

The most applicable chapter of Coles book is entitled "representations". This chapter has images and drawings completed by children depicting religious and biblical figures. The image reproduced here depicts a richly detailed drawing of "one boys utopian notion of a busy, productive community, one at peace with itself, in which people pursue their daily activities, with the green mosque (green is the color of Islam's Paradise) integrated into those activities but not dominating them. (He had visited the capital city of Tunis)" The drawing is labeled "The Mosque in the City". The image depicts how integral the mosque is to the community. Many of the images completed in other studies and depict churches. However, churches and religious structures do not appear as often I suspected they would with the children in the talent search study. On the other hand, the children in the earlier ESP study depicted religious structures in both their drawings and models. This may
suggest that students of this study do not have religion as an integral part of their daily lives as other children or children in past studies have.

Clearly the image of the religious structures is important to some children as Kevin Lynch calls "Landmarks" (point of reference, in which the observer does not enter within them, they are external. They are usually a rather simply defined physical object: building, sign, store, or mountain) (Lynch, Image of the City, 47). However, I suggest that with many adolescents (and many adults) religion shapes how they measure "good" and "bad" environments. For example in the drawing entitled "the saved coming" from Coles book depicts heaven with angels. How much do utopian and hellish images effect children's perceptions of the built environment? This question is beyond the scope of this study, however I will offer the notion that religious images make an impact in many children's lives as ideal utopias. Of course the parental influence exposing children to religion is a key factor.

**Are the students values different now than ten or twenty years ago?**

During the 1960's Florence Ladd conducted a pioneering study on how 60 black adolescent boys from Roxbury felt about housing and their environment and documented the results in a an article entitled "Black Youths View Their Environments: Some Views Of Housing". In this paper Ladd asked the youths several questions, one of which was "What are some things you like about your house and some things you don't like about it?" his question elicited several varied responses. Eleven of the participants said there was nothing that they liked. Ladd noted that it was difficult to interpret some of the likes and dislikes in the absence of objective data. However, she noted that it was "easier to understand the value of structural features such as attics, porches and thick walls." Ladd went on to state that the respondents "liked cleanliness, order, new paint, and a well-maintained condition. They liked privacy, freedom, low-cost, ownership, hot water, heat in the winter, coolness in the summer, furniture, and "the smell of pine scent and of something cooking". Respondents also listed the neighborhood, convenience, and natural surroundings among the things they liked (111).

The most frequently mentioned dislikes in Ladd's report were concerned with "the conditions of the dwelling-its poor state or repair, lack of paint, broken windows, leaking roofs, cracks in the ceiling, and faulty electrical outlets and plumbing." (111). Ladd summarized by stating that "The likes and dislikes mentioned illustrate the participants awareness of desirable and undesirable features in their
environments, and show that they were not at all impervious to their surroundings" (111).

Housing value typology is another area that has not changed in the perception of children. One of the questions that Ladd asked the youths was "When You're Older and on Your Own, What Kind Of House Would You like to Live In?" (111) Similarly to the responses indicated in the search exercise, a majority of the participants preferred suburban housing. Fifty-four of the sixty participants wanted suburban housing. Some of the responses included the following:

- A one family house...with a big fence...around it... a garden and a place where kids can play"
- A one family house out in the suburbs with a big back yards not too many neighbors around
- A pretty fair size white house
- A ranch style house... (112)

Ladd completed her study almost 30 years ago. The students in both the Talent Search and ESP program indicated very similar values if not exactly the same values as the respondents in Ladd's study. This suggest that no matter how society proceeds to "advance", children will value the same things concerning housing and housing types in their environments. This may also suggest the strength of the single-family detached, suburban style ranch home is ingrained in our culture. I argue that the children prefer these values because of the influence of their parents preferences, and the media.

Though the children consistently choose the suburban housing type as the preferred style, the data suggests that children value safety and security more so than they did in the past.

**Summary of Findings**

Children value many different elements in the environment. The exercises indicate that these values could be grouped into three categories environmental form values, activity values, and social values The youths in this study also indicate their preference for housing types which tend to be the suburban ranch style house. They also indicated their preference for complex, interesting forms in the built environment and desire clean, environmentally conscious places. They like dynamic places where they can mingle with friends while at the same time feeling safe and secure from harm. I have argued that these values are formulated based on
an interaction forces including, parents, friends, the media, religion, school, and personal experience.

When comparing the responses to past studies, there seem to be little change in what children value in certain elements in the environment such as housing. However, the exercises suggest that the media has impacted children's perception of their environment much more than the past. Media influence's children's perception in several ways: by depicting violence and dangerous areas, children formulate barriers to those areas, by depicting fantasy places, children aspire to visit these places, and use these places as points of comparison to real environments.

**Proposals**
Based on this data I would charge architects, planners and those responsible for the design of cities to respond to children's adolescents needs by thoroughly familiarizing themselves with how they use the city. Architecture and planning schools could offer more courses that discuss children and how they use and perceive space. In this way, those responsible for the urban environment can include children in the design process during the conceptualization period on all projects.
Chapter III. City Use

"Children see things very well sometimes—and idealist even better"

Lorraine Hansberry
Chapter III. City Use
How extensively do adolescents use the city? How do they get there? What Problems do they encounter? To best get at these questions, the one week diary exercise, which investigated the places they visited, who they went with, activity, and mode of transportation, was used. (See appendix for full description of the exercise). The map exercise also indicates the extent to which the students use the city. We also went on two trips to give me an opportunity to see first had what problems the students faced when negotiating the city. This chapter will also use Kevin Lynch's "imageability" vocabulary to catalog how adolescents perceive and use the city. Finally, while defining the city in terms of pedestrian, signage, transit, vehicular, signage, interpersonal systems, and architectural systems, I have attempted to discover what problems the students have in negotiating the city.

The idea of mental maps have been around for a long a while. One of the first people to comment upon such things was Charles Trowbridge in 1913, when he noted that some people in a city always seemed to have a good sense of orientation, while others are usually subject to confusion as to direction when emerging from theaters, subways, etc. (Gould & White, Mental Maps, 11). Community mapping has been known by a few names-cognitive mapping, mental mapping. Kevin Lynch raised the issue again in the 1950's in his book "Image of the City".

Lynch used mental mapping as a tool to determine the "Image of a Locality " from residents in Poland, Mexico, Australia, Argentina. (Lynch, Growing Up In Cities, 30)

Lynch illustrated many consistencies from these exercises. These maps indicated "a striking difference between the locales and the way the children image their community "(28). The drawings and descriptions by children in both Loas Rosas Mexico and in Cracow, Poland indicated there neighborhoods were "nice, friendly, and fun" by children. Though they were in economically depressed situations, they repeatedly predicted positive change in the future (31).
Florence Ladd asked a number of African American children to draw a map of their area and then taped recorded her conversation with them (Ladd, City Kids, 14). Her research indicated how some of the students were physically afraid of certain areas and blanked out certain sections near their homes. Her study also indicated mental boundaries the students had concerning unknown areas. These studies set the stage for the mapping exercise that my students participated in. I expected the students to have more freedom of movement than indicated by previous studies. However after reviewing the diaries, maps and conducting discussions with the senior counselor of the talent search program, and with the students themselves, it seems that the students had limited experience traveling around by themselves. Most of the students independent activities were restricted to school, relatives houses, and the talent search program. The exception was on Saturdays when they traveled to the mall.

There are several restrictions placed upon children's use and travels through the city. These restrictions include legal weather, time, accessibility and parental.\(^1\) By parental restrictions are the most influential restrict the students travels by dictating when, and where students could go when they had "free time".

\(^1\)Legal- Children are restricted form adult clubs, liquor stores, etc. Weather-The study was conducted in the winter which limited the type of activities the students could perform. Accessibility-kids can not drive or operate vehicles which restrict their exposure. Time-Most of the students spent thier time in school.
by the bus routes and they completed the same routes each day with very little variation. A few of the students went to Somerville on occasion and tried to show this area on the maps. Most of the students had very little trouble reading the professional maps that they received. They readily identified the areas like schools and streets that they visited daily.

It was difficult to determine from the maps alone fully the range of freedom the students actually had, due to the quality of the sketches and the fact that only five of the students actually completed the maps. However, the maps can give some indication of the overall daily extent of the students travels. Two of the students traveled within a 2 mile radius, while the other three had much wider ranges. One student traveled almost the full length of the city of Cambridge (6 miles).

Lynch writes in "Growing Up In Cities" that the Salta children in his study "expressed confidence in moving anywhere within their city but show less knowledge of it"(30). In contrast the talent search students depicted a limited range of freedom. However, the place knowledge exercise indicates that the students have a wide knowledge of places within the city.

The student neighborhood maps also revealed some interesting things. The maps were very detailed concerning the individual blocks and homes. As they attempted to remember things outside of a one or two block radius it became very difficult. One student described her apartment building as her neighborhood. The students did their best to illustrate their immediate neighborhoods. Most of the drawings had relatively good spatial proportions and scale. Most of the drawings depicted their homes, stores, play areas, streets, church's, friends houses and building
footprints. In almost every case their was one major tree that the students drew as an important element to the landscape.

**Imageability**

In his book *Image of the City*, Kevin Lynch classified city images in five physical form elements: paths, edges, districts, nodes, and landmarks.

**Paths** - Are channels along which the observer customarily, occasionally, or potentially, moves. They may be streets, walkways, transit lines, canals, railroads.

**Edges** - Edges are the linear elements not used or consider as paths, by the observer.

**Districts** - Districts are the medium to large sections of the city, conceived, of as having two-dimensional extent, which the observer mentally enters "inside of", and which are recognizable as having some common, identifying character.

**Nodes** - Nodes are points, the strategic spots in a city into which an observer can enter, and which are the intensive foci to and from which he is traveling.

**Landmarks** - Landmarks are another type of point of reference, but in this case the observer does not enter within them, they are external. They are usually a rather simply defined physical object: building, sign, store, or mountain. pg. 47, 48

![Map of Cambridge by Talent Search Student Depicting "Districts"]
**Paths**

Using this criteria, I summarized the maps in this study to depict certain paths that the students made. The most noticeable paths are the existing bus and subway lines. As Lynch indicated, these seem to be the "predominate elements in their image.”

**Edges**

Edges are a little more difficult to determine. It appears that strips of development such Massachusetts Avenue also serve as edges. This is also indicated by the knowledge shown in the recall exercises. The Charles River serves as a definite boundary edge. Most students rarely penetrate this edge.

**Districts**

The students maps and diaries indicate that the students see the Cambridge area in a number of "districts". These districts could be classified as the MIT campus, North Cambridge, Harvard Square, Central Square, Alewife Station Area, Fresh Pond, Cambridgeport, Sommerville, Boston, and Roxbury. consistent with Lynch's definition, the areas that the students have little interaction with (i.e. Boston, Roxbury) become relatively large city areas.(Lynch, Image of The City, 66). These areas seem to be defined by the respondents primarily by activity. However, areas such
as Fresh Pond and Alewife are more defined by a distinct facility or structure.

**Nodes**
The are some very definite points or "nodes" that are consistent throughout the students daily routines as depicted by the diaries, the place recall exercise and the written assignments. Alewife station, MIT, Cambridge Side Galleria Mall, Harvard Square, were consistently listed as places that the students visited on several occasions during the week. Other places include the different schools from around the city, the *Willis David Moore Youth Center* in Cambridge, *Nu Image Barber Shop* (I attend this shop myself—it is one of the few Barbers in Cambridge that cater primarily to people of color), and the museum of science. Other than the mall and MIT, there was little mention of places that were "fun" or recreational in nature.

**Landmarks**
The students identified many landmarks in the "Good and Bad" photo exercise. Some of the early images displayed on page (36) depict signs and artwork that were identified as good things in the environment. Lynch writes that "landmarks may vary widely in scale" (78). He also indicated that Landmarks tend to be "singled out for their cleanliness in a dirty city (the Christian Science buildings in
Boston) or for their newness in an old city" (79). Many of the images taken by the students confirm this notion. Some of the other landmarks identified in the photos include the Prudential building, John Hancock building, Teen center on Maggee street, St. Leonard Church (domed structure), fire station in Inman Square, memorial to an army officer on river street, Mount Auburn cemetery, several signs advertising liquor, the Museum of Science, Cambridge Deli and Grill, and Union Square. Many of these images could be classified as nodes by adults, however since many of these places do not allow children to enter, they must serve as landmarks to the adolescents.

The "System" Metaphor
Though the Lynch terminology is adequate for describing physical relationships within the city, I find that the metaphor of "systems" is also useful to illustrate issues concerning the students' use of the city. The exercises that gave me a better picture of what problems existed for the students, how they negotiated the city, and how they responded to city systems (i.e. subways, signage, pedestrian paths, vehicular paths, etc.) was through the trip to the John Hancock Building and our trip to the movies (see full description in the appendix). During the class trip to the John Hancock Center I acted as a "participant observer" where I fully interacted with the students as well observed how they negotiated the city. I have evaluated how the students interacted with the City by grouping the systems as pedestrian, vehicular, transit, signage, interpersonal, and architectural.

Pedestrian Systems
On both trips our route consisted of starting at MIT then walking to the Kendall T-Stop, taking the red line to park place, switching to the green line, getting off at Copley
Place, and finally walking to the John Hancock building. I have defined pedestrian systems in the context of this exercise as the sidewalks, intersections, and general streetscape between the street and buildings.

The students had little trouble negotiating the pedestrian system on the Cambridge side of the Charles river during our walk to the Kendall Stop. They were all pretty familiar with this short trek and the streets were not crowded at all. Most of the students walk this route every day. However, once were in the Park Street station where the crowds were greater and the general orientation was more difficult the students became more quiet and panicky. Only one student was very familiar with the station and tended to guide the way.

I was surprised to find that most of the students could not identify which building was the John Hancock Building by name once we came up from the subway. Many of the students were disoriented. On the day we attended the movie, there seemed to be an unusual number of tourists in the Copley Place area. This caused some discomfort among the students because not only were the streets crowded but they did know exactly where they were they going. Once I pointed out which building was the John Hancock tower they immediately headed in that direction and did not have much of a problem after that. Most of the students opted to go through the Copley Park instead of walking around the park in front of the Hancock tower.

**Vehicular**

The vehicular system consists of the streets, intersections, and automobiles that we traversed to get to our destination. Our interaction with the streets was minimal because of our route. We crossed three streets during each exercise. The students conducted the expected "look -both-ways before you crossed" and had little trouble with the intersections. The intersection near Copley Place however was a troublesome spot for the students. Five streets fed into this
one intersection. In addition the traffic was heavy, it was raining, cold, the streets were icy, and one of the students was on crutches. It took 5-10 minutes before we had a chance to cross. When we finally started to cross the street, the one student on crutches slipped and fell (he was not hurt). Though these were extreme conditions, this event does give some indication of obstacles that a adolescent who is handicapped and not very familiar with the area may have when negotiating the city.

Transit
Most of the students were familiar with the Boston T-System in general. They all knew the intricacies of "inbound" versus "outbound" and the general layout of the T-Subway System. As noted earlier, they spend a great deal of time waiting or riding both the bus and subway system. I did not get the opportunity to observe them directly in their efforts to negotiate the bus system. Though all of the students were familiar with the Red Line which covers mostly Cambridge, I found many of the students did not have much experience riding the other subways such as the Green or Orange line. When they did ride on the Orange Line is was mostly to go to Filenes Basement or to the downtown crossing area.

Another seemingly small but important element in associated with Green line is the height of the first step into the trolley car. For most adults this is usually no problem. However for many children and adolescents this may serve as point of hesitancy. On a crowded subway during rush hour, many students have to really sum up courage to make that first step.

Signage
The signage system is defined as that system made up of directional, traffic, informational, and other signs that overlap all of the other systems mentioned. I thought it would be useful to define signage as a separate issue because one of the first lessons children learn in negotiating the city is how to interpret signs.

In general the students made heavy use of signage, I observed how they used signage on the subway, in the malls and negotiating the pedestrian and vehicular systems. There were however several memorable signage questions that arose during our trip. The first was when we exited the Red Line and was changing trains two the Green Line. Upon exiting the train there was a moment of hesitancy when the students did not know which direction to go to head for the Green Line. The signage was not very helpful. Nevertheless,
one of the students took the lead and guided the group to the right platform.

The second instance was when we crossed Boylston street to go through the Copley-Park. The combination of Signal Lights, Directional Signs, and other advertisements caused some hesitancy and confusion (see map on previous page). We had to stop at the intermediate island before we could fully cross Boylston street.

The final time of hesitancy was when we were traveling from the Hancock building and going into the green line. The age old tourists quiz "Which way is Inbound and which way is Outbound?" was the issue. This is both a signage problem and a directional problem. The signage does not clearly state which way is outbound (at least not at the Copley stop). The students discussed this issue for about five minutes before we decided which direction was the right direction. I deliberately segregated myself from the conversation to watch how the students would resolve this problem. Again the student with the most experience assisted the others to the right entry.

**Architectural**

Architectural Systems are defined as those physical design, and structural elements usually associated with buildings in the environment. These may include doors, turnstiles, revolving doors, escalators, and elevators. In general, there was little in terms of architectural elements that impeded the students travel that was observable. However, on two occasions the architectural elements made traveling a little difficult for some of the students. The Green Line turnstile was difficult for one of the students to move. It delayed him so much that he almost missed the train. He was too embarrassed to let anyone know that the turnstile was too hard for him to turn.

The second instance was probably more psychological than physical. One student had never been in a building as tall as the Hancock tower and was terrified of entering the elevator to go up. I finally had to assure her that it would be o.k. and not to worry. However, once in the elevator the combination of sound, speed, and the sensation of "ear popping", became too great for her. She had to hold onto one of the students for comfort.

**Summary**

I have tried to illustrate how adolescents use, and perceive the city through both Kevin Lynch's "imageability "vocabulary and through a "system" metaphor. There are very distinct "nodes, paths, districts, landmarks, and edges" the are perceived by the students. I have also attempted to
determine the distance and range of travel by youths in this study. I highlighted issues concerning children and how they negotiate the city. Some of the problems include confusing street patterns, clear unambiguous signage, and interpersonal relations with authority figures, other ethnic groups, and older children.

Proposals
This summary suggest that several courses of action at the local, and national level could be investigated to address the needs of children at the regional level. One possible direction that I would suggest at the National level is to establish a set of guidelines similar to the current handicapped accessibility regulations that would address issues of children and transit, signage, pedestrian and vehicular circulation. A second suggestion at the local level would be to initiate an awareness campaign that specifically deals with youth and their negotiation of the city and how design could effectively reduce the obstacles that they face.

Michael Southworth proposed "An Urban Service" to address to develop programs for students that would promote city travels by children, increase safety awareness, create new 'educative' settings in the city, create environmental information and other amplifiers in the existing city, and create new city activities, including environment making and management" (Southworth, An Urban Service, 186). I would propose a similar service but would have this service center as part of a regular middle school program and included in the school curriculum. This service may take the elements that are currently appealing to kids now found in malls and import this to the middle school environment. This would eliminate some of the conflict between children and adults and provide a safer environment. I envision this facility similar in nature to the typical college or university student center. This facility would only serve adolescents.

These three suggestions are examples of how local officials can start to address the issues concerning adolescents in the city.
Chapter IV. City Knowledge/Recall

Tell me, I forget
Show me, I remember
Involve me, I understand
-Chinese Proverb
Chapter IV. City Knowledge/Recall-Recognition
How much do adolescents know about different types of places in the city? Do kids know places that I expect would be important to them or adults? Are places which have both memorable form better recognized than places with predominately active dominance? How many places can the students identify? Do male adolescents identify more places than female adolescents? Do adolescents have a sense of distance of various elements such as amenities in the urban environment? What do cognitive maps indicate in terms of place recall and importance? This chapter will attempt to answer these questions.

Southworth used color photos of 135 places randomly selected from a list of about 300 places in the Boston/Cambridge area that were hypothesized to be important to adults and/or kids. The places were classified into groups according to general activity and form character:

a. Places that were likely to be remembered mainly for their appearance, that is, form character.

b. Places that were likely to be remembered primarily because of what one does there, that is, their activity. (294)

The test sample images in Southworth’s study concentrated on the Cambridgeport area and on Central Boston. Kids were shown 15 pictures at a time. If they recognized an image, they were then questioned on what the place was, what they did, how often they went there, whether they liked the place or not, with whom, and by what mode. I conducted a similar exercise with a few exceptions (see full description in appendix). Due to practical reasons and time constraints, the students were shown only 70 slides from the Cambridge Boston area. The slides were not focused on the Cambridgeport area though many of the slides were of the area. The images were of different building types, places, uses, and of different views (i.e. aerial, side views etc.). The importance of identifying as many of the places as they
could was stressed to the students. The slides were shown one at a time. Forty-five of the slides were chosen primarily because of the appearance while twenty-five were chosen for its activity.

It is important to note that Southworth's study group consisted of twenty-eight boys (Southworth. An Urban Service, 38). My percentages are merely suggestive due to the limited sample size.

**Place Recognition-How many places can the students identify? How much do adolescents know about different types of places in the city?**

In general 60% of the students identified over 50% of the images and could determine the activity that took place in these structures or places. The average number of places mentioned by the students was 3.9. The places where over 50% of the students recognized a particular place, there was little difference in whether it was activity or form. 51% of the recognized images where primarily based on its appearance, while 49% were activity based. This is consistent with Southworth's study where he summarized that though he "expected that places with form dominance would be least well-recognized by the children, but that places with both form and activity dominance would be best recognized, the form acting to reinforce the activity
character. Activity appears to be an important characteristic in determining whether the subjects will know a place. Places were recognized that were associated with an activity, however the addition of form did not make an appreciable difference" (134).

Southworth further divided the data by specific place type. These categories were entertainment, industrial, commercial, transportation and open spaces. I used the same designations with these exceptions. I included entertainment in the commercial category and added two categories: institutional and residential. These categories were added to include places like the public library, fire stations, courthouse, and city halls, and various forms of housing.

The following table illustrates the percentage of places recognized by place types:

<table>
<thead>
<tr>
<th>PLACE TYPE</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional</td>
<td>34%</td>
</tr>
<tr>
<td>Residential</td>
<td>43%</td>
</tr>
<tr>
<td>Commercial</td>
<td>44%</td>
</tr>
<tr>
<td>Industrial</td>
<td>33%</td>
</tr>
<tr>
<td>Transportation</td>
<td>53%</td>
</tr>
<tr>
<td>Open Space</td>
<td>44%</td>
</tr>
</tbody>
</table>

**Boys Versus Girls**

The male students in the class tended to recognize more places than the females. The males average recognition rate was 43 images or 61%. The females averaged 35 images or 50%. This result may indicate the common belief that girls are much more restricted in their range in this age group than males.

The image that was most identified among all the students was the image of the Alewife station. Of the 80 images, 35 were in the "least places identify category." The least places category are those images where only 3 students or less than 27% could identify the image. In this category, commercial had the highest percentage 62%. Secondly was
institutional which was 20%. These places include the Harvard University Carpenter center, Harvard University Gund Hall, Divinity Hall in Harvard Square, Baker House MIT, Rowes Wharf, and Symphony Hall.
Selected Images from the Place Recall Exercise
Listed below are some of the places the respondents recognized and indicated that they liked and the reason for liking the place.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Good Food...&quot;</td>
<td>Harvard Square</td>
</tr>
<tr>
<td>&quot;Boys...&quot;</td>
<td>Downtown Boston</td>
</tr>
<tr>
<td>&quot;Stores...&quot;</td>
<td>Central Square</td>
</tr>
<tr>
<td>&quot;Water...&quot;</td>
<td>U.S.S Constitution</td>
</tr>
<tr>
<td>&quot;Educational...&quot;</td>
<td>John Hancock</td>
</tr>
<tr>
<td>&quot;Fun...&quot;</td>
<td>Central Square</td>
</tr>
<tr>
<td>&quot;Fun.&quot;</td>
<td>Student Center</td>
</tr>
<tr>
<td>&quot;Escalators...'&quot;</td>
<td>Alewife Station</td>
</tr>
<tr>
<td>&quot;Domes..&quot;</td>
<td>MIT</td>
</tr>
<tr>
<td>&quot;I like the ceiling..&quot;</td>
<td>South Station</td>
</tr>
<tr>
<td>&quot;Tourists and Funny Looking People..&quot;</td>
<td>Copley</td>
</tr>
<tr>
<td>&quot;Nice looking Buildings..'&quot;</td>
<td>Symphony Hall</td>
</tr>
<tr>
<td>&quot;Helps people travel...&quot;</td>
<td>Tobin Bridge</td>
</tr>
<tr>
<td>&quot;Fun...&quot;</td>
<td>Fenway Park</td>
</tr>
</tbody>
</table>

"Stinks Sometimes.." Alewife station
"Its school.." Tobin School

**Violence, Crime**

Several places were identified purely on the basis of violence in the area or because of one incident that occurred there. As mentioned in chapter I., the Cambridgeport area, was an area frequently mentioned in terms of violence. Additionally, the mall was also mentioned as one place where teenagers engaged in arguments and fights. Since the mall is one of the few places that large groups of youngsters can hangout, it also becomes a default "battleground" for some of the those youths with disagreements. One student told of a particular incident where two young girls had an argument and subsequently a fight:

*These two girls were arguing over some guy. One girl grabbed the other girl by the hair. Then she pulled a knife out but the cops came and stopped her...*
What do cognitive maps indicate in terms of place recall and importance?

There have been several interesting studies using place recall or other techniques. One such study was conducted by Randy Hester and documented in Subconscious Landscapes of the Heart and The Sacred Structure in Small Towns: Return to Manteo, North Carolina. In an effort to "uncovering the valued places that came to be called the Sacred Structure by the locals, Hester discovered how unconscious attachment might be a powerful factor in community planning. (146). Hester used behavior mapping, surveys, and informal discussions to discover what impact future waterfront development might have on this community. However it wasn't until Hester and other community members, made a list of places and mapped them with feedback form community residents they thought were important to the social fabric did they get at the true sacred places. (147).

The neighborhood maps indicate how well the students know their neighborhoods or at least the important elements in their neighborhoods. In a second mapping exercise the students were instructed to draw a map of Cambridge and a unique set of ink stamps that were shaped like different architectural elements. (See full description in the appendix). They were then instructed to use the ink images to identify their favorite places (in essence their sacred places). Together with previously mentioned mapping exercises, give an indication of the students favorite image of the city.

One student identified several schools in his map which included Kennedy, Tobin, Harington, Maynard, and MIT. A second student listed both the Galleria Mall, and Arsenal Mall. Other places listed by the students included a mission, Dunkin Donuts, Mcdonalds, Fresh Pond movie theater, Harvard Square, and several of their friends houses.
Do adolescents have a sense of distance of various elements such as amenities in the urban environment?

To gain additional knowledge about the question of adolescents perception of distance within the environment, a time/distance map was used. The students were given a time/distance circular map to map different play elements and amenities within their realm. See full description in appendix. The time distance maps gave an indication of not only how children traveled but also gave an indication of the range of places that the students could recall within a 1 hour period.

Surprisingly, the time distance map indicate that the students had relatively good access to common outdoor things like playgrounds, Basketball courts, and tennis courts. The average distance in minutes the class had from a playground was 11.4 minutes. For basketball courts it was 12.8 minutes, for tennis courts it was 13.5 minutes, and parks were 17 minutes. However things such as skating rinks, ski slopes, campgrounds, outdoor theaters, public gardens, and zoos were perceived to be farther away. The average time indicated by the students for skating rinks were 32 minutes, ski slopes were 42 minutes, campgrounds were 35, outdoor theaters 49 minutes, public gardens, 26.42 minutes and zoos were 53.5 minutes. It should be emphasized that these are perceived distances and it was not dictated to the students whether these distance were walking or driving minutes. The times are useful in estimating the knowledge the students have of their environments and the activities within the.

The maps also indicated the breadth of travel of the students. One student had a range of 4 miles, but the average range for the class was 2.6 miles. The furthest distance traveled by any student was to Somerville at a distance of approximately 4 miles.

Summary
The section addressed adolescents knowledge and recall of different places in the city based on form, activity, and use category. In general, there appears to be little difference
between identifying places based on for versus activity. In addition male tended to identify more places than female, possibly indicating that male adolescents may have greater freedom in traveling around the city. Respondents in the study average a weekly travel range in Cambridge at about 2.6 miles.

**Proposals**
Designers could take these exercises a step further by using a similar method on "real" major projects. Determining how many children are in the immediate vicinity or within a certain radius, the ethnic makeup, the potential impacts of the project upon the adolescents use of the area would be worthwhile exercises in an effort to enhance the project and make it more inviting for children and probably for all people.

A second suggestion to help teach children about their environment and geography, the emerging Geographic Information System Technology could be used as a resource. This computer based system has started to impact how planners study urban environments and could be used in a similar fashion as part of ongoing middle school education programs.
Chapter V. How do Planners, Architects, and Others Use and Interpret these data?

"Children are not excluded from contributing to and participating in the decision-making yet they are not encouraged to do so."

T.W Fookes, Children's needs and Child Space Relationships. (244).

Map of Millville Massachusetts
This study suggests several reasons that architects, planners, and others become more sensitive to the needs adolescents for:

- Children are users of different types of space, not just play areas and schools.
- Children view areas of the city through crime colored lens—Is this image we want our children to continue to have?
- Problems exist for children as they negotiate the different systems that make up the city.
- Children will become future designers.

I envision architects and planners using these data in an indirect fashion. Many architects, planning agencies, and council representatives would probably be sensitive to the need to address of adolescents in the environment. However, what this might mean beyond providing playgrounds and safer streets is questionable. As Suzanne De Monchaux indicated in her book Planning with Children in Mind, "Virtually none of the councils we surveyed gave any special attention to children in their day to day planning processes. However they did give special attention to other special needs such as those of the aged or disabled" (104).

Many cities and towns have regulatory codes that address accident prevention, and open space requirements. However, there is little in terms of guidelines that specifically regulate in terms of equipment and location. The ideal situation would be if there existed a general set of mandatory guidelines that not only address the play areas and safety of all places for children but also the areas that are not thought of in terms of children. These guidelines would be similar to the newly adopted American Disabilities Act Standards that addressed the issue of handicapped. I would propose similar legislation for children.
Children do not have active representation on these affairs. Conventions regarding childhood itself prevent students from becoming active participants. This may require the need for traditional institutions that act as agents for children like the School Council, PTA, and Children's Defense Fund, to become involved in new activities such as design review. Peggy Wireman writes that "Effective resident involvement in citizen participation and advocacy planning to make local spaces suitable for children's needs means more than negotiating with city agencies to get more playgrounds. It means an active refocusing by all residents and institutions on making the total environment pleasant for children (Michelson, Managing Urban Space In The Interest of Children, 91)." Children and other residents are entitled to use their entire environments, rather than just specially provided facilities within the environment, for play and recreation" (66).

Several studies in the past have indicated some guidelines and policies that still applicable in today's climate. Among them include David Driskell in his thesis entitled Planning an Designing for Children, Youth and Families In San Joaquin County and Jane Knight In Managing, Urban and Space in the Interests of Children. The recommendations made by these authors are still applicable to address the concerns of youths in the environment. What follows is general summary of guidelines and recommendations from this study and from others that should be considered by policy makers planners, architects, and designers of children's environments.

**Determine methods by which children can become active participants in the design of their environments.**

There have been several recent activities that have attempted to involve children on "real" projects in the Boston area. I have highlighted a few of these projects:

**Boston Visions**

The Boston Visions National Design Competition was a civic event organized by the Boston Society of Architects (BSA) to provide a wide public forum to consider the future of our city: The Competition encouraged architects, planners, urban designers, landscape architects, artists, and interested citizens to imagine future Boston's. The 200 entries came from within the Boston region, 24 states, and four countries. (BSA, Boston Visions, 1).
As part of the competition the BSA and the local TV station WNEV-TV, to enhance community interest in urban design and planning issues in Boston-area cities. The intent was to introduce basic concepts of urban design to elementary and middle school students through art class projects in the public schools. Conceived "Kid's Visions". Specific sites in participating cities were selected to present "real" problems in familiar settings, and local architect-volunteers were enlisted to bring real-world expertise to the classroom. In all nearly 1400 students in grades 3 to 8 from five cities - Boston, Cambridge, Newton, Quincy, and Somerville - took part in Kids Vision. They were instructed by 35 art teachers and 40 architect-volunteers (32).
**Dudley Street Neighborhood Initiative (DSNI)**

An second example of an initiative that is indicative of one approach that involves children in the design process is illustrated by the Dudley Street Neighborhood Initiative. The Dudley Street Neighborhood Initiative was formed in 1984 to articulate the neighborhood's needs and to ensure a development process truly controlled by the residents of the Dudley area. (Youthful Visions, Dudley Street Neighborhood Initiative, 3). Che Madyun, president of the Dudley Street Neighborhood Initiative Board, writes that "Low Income youngsters are usually twice removed from the decision-making which affects their lives and their futures. As local residents they are often shut out of the board rooms in which development decisions are made; as young people they are typically excluded even from decision-making processes which purport to include neighborhood opinion" (3).

As part of this initiative the Young Architect an Planners Project was formed to give the young people in the neighborhood an organized means for them to participate in the energy and activity of the DSNI. The youth sought respect, power, and responsibility; and they needed constructive activity to engage their minds and energy. The Project goals were:

- To develop architectural programs for the community centers which reflect the
needs and desires of neighborhoods residents.

- To generate design models which express the youth's ideas and which provide all neighborhood residents an opportunity to consider what they want from their community centers.

- To empower racially diverse group of girls and boys through their participation in planning the community centers.

- To assist the young participants to develop intellectual and practical planning the community centers.

- To assist the young participants to develop intellectual and practical skills by allowing them to assume the roles of planners and architects. (19)

The youths who participated in the study were organized into groups of 10-12 olds, 13-15 year olds, and 16-20 year olds. The students conducted site visits, models, trips, and in the design process to come up with ideas about their community. They decided on programmatic requirements for a 30,000 square foot Community Center (27).

This project demonstrated the importance of community control, and of giving young people respect, responsibility, and the opportunity to fulfill their potential. This effort will be part of a Human Development Master Plan which will set an overall agenda for community services and facilities (90).

A third study conducted by Peter Aspinal and Foazi Ujam considered a "projective technique" to a design problem which was the result of a competition by the local education authority. Primary School children, 10 and 11 years old were asked to design a garden for local use. The principle objective was to encourage children to consider how an important open space might be designed for future use, and to introduce children to the thought processes involved in
an environmental improvement exercise. A further objective was to encourage children to work in a team. (A Projective Approach, Aspinall & Ujam, 124).

The design process had different stages consisting of site visits interviews with the children, site design, role playing, drawing, (27). The objective of the project was both practical and educational. (130). In addition one objective was to increase awareness in issues of designing and place experience. The children were involved from the initial conception to final design.
Model From Vitruvius Program

Vitruvius Program

One final example of how architects and planners can help teach as well as learn from children is through the Vitruvius Program. This program is conducted at the SCI-ARC campus in Santa Monica California. "The children visit the adult studios and graduate students at SCI-ARC often act as teaching assistants in the children's classes. The Vitruvius students take field trips to offices and built works of Los Angeles Architects. They respond to the trips with their own projects through story telling, play, three dimensional models, and drawings" (Bienhart, Peter., Design to Grow With-Rite of Passage-Vitruvius Program, Design Quarterly, 16).

Waste Management, Inc. Interviews with Children

In an effort to involve children from around the world in...
issues involving the environment, Waste Management Incorporated, a waste management firm in Oak Brook Illinois, interviewed several children. The children were asked how we are doing in caring for the environment and what they could do to solve our environmental problems (Annual Report 1992, Waste Management Inc., 8-9). A few of the responses included:

**Nine Year Old From Van Nuys California**
If I was the mayor of Los Angeles, the first thing I would do is help the air. The air around here is pretty good, but a couple of places it stinks so much. And it's kind of gray. I'd build at least two clean Up Earth Machines (11).

**Eight Year Old From Pomano Beach, Florida**
If I could make a commercial and show it on TV, I'd tell people to stop throwing trash into their water. And I'd tell them to stop wasting our trees, because they make the air cleaner (13).

**Eleven Year Old From Hong Kong**
I think it is very important to keep the sea clean. If the sea is polluted, it not only looks disgusting, it kills creatures which live in it. The water in the sea might end up to be the drinking water we take too.

All of these projects are indicative of effective techniques to involve children in the design process. Other guidelines and recommendations that could be instrumental in ensuring that environments respond to the needs of children are as follows.

To ensure that issues affecting children's environments stay on the national agenda, a National Manual or Code should be considered for the design of environments. This could possibly be modeled after the Handicapped Accessibility regulations recently passed. This would affect regional, and municipal planning as well. This code would address issues such as transit, pedestrian and vehicular systems, and signage.

Use Geographic Information Systems (GIS) to introduce students to maps, geography, concepts of scale, place, region, demographics, and spatial analysis.

In the fall of 1992, The Environmental Research Institute (ESRI), the leading GIS developer, has announced plans to bring GIS's to kindergarten through high school education programs. "ESRI is working with librarians, geography alliances, and planners to develop education programs incorporating GIS in existing geography with other subjects" ("ESRI Launches Innovative K-12 GIS Education Program", Arc News, 20). Charlie Fitzpatrick states that "GIS can be used to analyze the best location of a pizza delivery would be, study the depletion of the ozone layer or
Determine what areas in the city are currently being frequently used on a regular basis by children and develop immediate short term strategies for enhancing these environments. This study indicates that transit lines, youth centers, malls are very frequently used by children on a consistent basis. These areas could be enhanced. This could be done by using similar methods for traffic surveys. Persons could be hired to observe and study the area for a given period specifically for children. Determining how many children are in the immediate vicinity or within a certain radius, the ethnic makeup, the potential impacts of the project upon the adolescents use of the area would be worthwhile exercises in an effort to enhance the project and make it more inviting for children and probably for all people.

Raise awareness of the need to address children's environmental design issues through design events such as competitions and charrets that involve children. Events like the Boston Visions competition, and the Dudley Street Neighborhood Initiative raises children's consciousness about their environments and their role in it. This should be an ongoing effort and not just highlighted during special events.

Governments should make provisions for the out of school life of children as seriously as the provision for formal education Local, state, and federal officials should consider the recreational life of children when making policy decisions and not just those concerned with education and
safety. The total environment should be recognized and considered for children's activities not just play areas (194).

All aspects of play and the development of children must be included in the education of architects, planners and landscape architects, educators and all other persons caring for an planning for children, in any aspect of their work (Michelson, Managing, (194). Traditional Architecture and Planning education does not fully investigate how children perceive, use, and interact with their environments. Only during specific building types such as schools and playgrounds does the issue of adolescents use ever arise. Children's use of space should be incorporated more in classroom and studio curriculums.

Planning practice should acknowledge the culture of childhood and it's space and land use needs as real and separate set of demands in land use planning. (De Monchaux, Planning With Children In Mind, 115).

Planners and Architects should challenge themselves to go beyond conventional play settings and design places with possibilities for adventure which would appeal to adolescents. (Ladd, City Kids in The Absence of Adventure, 447). City children need to have a place to explore and discover without having to be concerned with safety and fear. Traditional playgrounds do not offer this. More focus should be given to breaking the sterile playground setting to develop more imaginative environments.
Chapter VI
Conclusions

"Kids Today", said on nine-year old we interviewed, "sometimes know more about the environment than adults. We work harder, because it's our future." Children can be exceptional teachers. Especially when it comes to an issue like the environment (Annual Report, Waste Management Inc. 8)...

Talent Search Students On Final Day Of Workshop
What did the students gain from this experience?
In concluding this paper I would like to address what the students stated what their experience was like in taking this journey. On the final day I had a talk with the students and treated them to lunch. First we discussed what they felt they gained from the course. We then discussed their favorite exercises and why. As with any exercise, when soliciting information from children, it is difficult to determine if the children are going to tell you what you want to hear or what they really felt. In this discussion, a few of the students stated that they were a little bored and did not fully understand the intent of all the exercises. However, most of the students indicated that they thought the general idea of the workshop was to get them to think about their environments learn in a more focused fashion, learn something about design, and to solicit their opinions concerning how they felt about what was a good or bad environment.

Some of their responses to their favorite exercises were as follows:

My favorite thing I did with this program was when we had to build a replica of this room. Also when we used the computers to map our neighborhoods.

I learned what architecture is about an how educational it can be as well as fun. I like the trip to the John Hancock Building.

My favorite exercise was when we took picture of our neighborhood and when we went to the John Hancock building

My favorite thing was when we went to the John Hancock building and I learned what a wind tunnel was. I enjoyed the elevator.

My favorite was when we got fake money to buy things for our neighborhood and house.

My favorite thing was when we took pictures our neighborhoods and when we pretended to be architects.

The workshop was interesting because it taught me about buildings, and how they were built.

In addition to the things that they identified I hoped the students: had fun, identified what they liked and disliked about cities by viewing the city in different way, developed the beginning of a new vocabulary for discussing topics concerning the city, and possibly became inspired to pursue architecture, planning, or urban design as a profession.
What did I gain from this experience? What is the relevance to my future plans?

This unique opportunity offered many rewards that I shall not soon forget. Among them includes the chance to learn how children perceive the city, investigate their problems, and offer possible solutions to effectively eliminate those problems. Secondly, the opportunity to interact, read about, and learn from the experts in the field. This was truly a once in a lifetime occurrence. Finally, I gained the satisfaction in knowing that I might have encouraged one or two students to engage their minds in studying cities; their histories, how they evolve, and how they might be designed. I gained all this while having fun at the same time! I one day would like to teach architecture and planning and this study serves as an ideal training ground.

How will this study contribute to the profession?

I hope this study will one day inspire others to start to pay closer attention to children and their perception of the urban environment. I have used this thesis as an opportunity to place the issue of children on the design agenda again. I also hope that this study can serve as a point of reference for architects, planners, designers to start to have a dialogue concerning environments for children. Finally, It is my desire that this investigation can become part of the limited body of literature on inner city children and their perception of the urban environment.
Appendix I
Appendix I
Full Descriptions of Exercises

Activity: "WHO AM I ?"
Topic: Student's Awareness of Himself
Time: 2 hours
Purpose: This was the very first assignment and was attempt to give the students an opportunity to examine an awareness of themselves and introduce themselves to me. It was also an attempt to ascertain a written exploration by child of himself and his world.
Materials: Paper and Pencil
Duration: 2 hours
Procedure:
This technique was based on a similar exercise used by Dorreen Nelson in the City Building Educational Program as a preliminary exercise (Nelson, City Building Educational Program, 18). In the City Building Program, these introductory exercises were used to "introduce the students to the basic skills and format of program. These exercises provided the teacher with an opportunity to examine the children's knowledge and capabilities at the outset. The students were asked to describe themselves, their community and their world (with no preparation) (17).

The students were asked to look at themselves and "tell me who you are in at least one paragraph." Additionally they were instructed to "do your best to describe to me something about you." To assist them in picking things to say, they were given a list of topics from which to pick a subject or they could talk about anything else. The list included items like school, hobbies, favorite music, family, favorite places.

Limitations:
The students were very excited about this project because it gave them an opportunity to express themselves. However many of the students did not like to write. Some of the students would rush through the exercises in an effort to just complete it without giving a lot of thought to content. In addition by giving the students a predefined list of possible topics to choose from tended to become a sort of checklist or outline from which to write. This prevented more spontaneous topics from being illustrated.

Activity: Community Mapping
Topic: Children's Perception and retention of his immediate surroundings
Purpose: To discover what elements of the built environment were important to the students as well as introduce to the children a way of thinking about their
neighborhoods. Some of the fundamental questioned that this exercise was trying to answer includes, Where do children go? How do they get there? What is the children's perception of their environments?

**Materials:** Paper, Markers, Pencil  
**Duration:** 3 hours

**Procedure:**  
Community mapping has been known by a few names—cognitive mapping and mental mapping, Kevin Lynch used mental mapping as a tool to determine the "Image of a locality" from residents in Poland Mexico, Australia, Argentina. (Lynch, Growing Up In Cities, 30). Lynch illustrated many consistencies from these exercises. These maps indicated "a striking difference between the locales and the way the children image their community"(28). The drawings and descriptions by children in both Loas Rosas Mexico and in Cracow, Poland indicated their neighborhoods were "nice, friendly, and fun" by children. Though they were in economically depressed situations, they repeatedly predicted positive change in the future (30).

The students were given vellum paper markers, pens, and pencils with the instructions to sketch their neighborhoods. As expected many of the students balked because of their perceived drawing abilities. Every effort was made to ensure them this was not an exercise in who could make the best sketch but, rather how they depicted their neighborhoods.

In this first exercise the students were told only to depict the neighborhoods not the entire city. Subsequent mapping exercises would later query them about landmarks and such in the city.

**Limitations:**  
A few of the students were apprehensive about drawing because they thought they lacked the necessary skills. The familiar line "...But I can't draw.." was heard when the exercise was first discussed. Many students became
frustrated and had to be prodded along. Once they initiated the exercise many of the students found that they did not have enough time to bring the drawing up to a level of completeness they desired. Even an extra 2 hours was not enough for many of the students.

Activity: John Hancock Field trip

Topic: Children's negotiation and use of the city

Purpose: To discover how the students used the different systems (i.e. subway, pedestrian, architectural, signage), to find out what elements attract them, and what elements they could identify within the city. How do adolescents use the city? How do they negotiate obstacles within the city?

Materials: Train Fare, Entry Fee to John Hancock Center

Duration: 3 hours

Procedure:

The students were pretty excited about getting the opportunity to visit the John Hancock observatory. They were anxious to get a chance to get away from the standard classroom setting. The object of this excursion was primarily to give the students an opportunity to look at their general surroundings (to some of the students the John Hancock center was totally unfamiliar territory) from a different point of view. Secondly, it was an opportunity for me to solicit their opinions and responses outside of the classroom. Finally this trip gave me the opportunity to see first hand how the students maneuvered through the Subway system and around the Copley place area. The students were instructed to meet me on the MIT Campus at 9:00 and then we would take the Red Line to Park Street and change to the green line and then get off at Copley Place. On the particular morning of the trip, the Brother and sister called to inform me that they were going to be late. However, to meet at the MIT would not be feasible so they were instructed to meet us at Park Street. This rendezvous went without any problems and no one got separated.
The students had many thoughts about the view from "above". For many it was their first opportunity to be this far in the air. Many have never been in a plane before. I acted as the "participant observer" to the exercise. The great advantage was I could actually watch how students used the city, how comfortable they were, what problems existed. Though I gave instructions as to the route and times, I tended to lag behind to see who knew where they were going and who had problems with the "assignment".

Limitations:
The exercise would have benefited if all of the students were given maps so we could "test" their knowledge of some of the systems along the way. Additionally, the students might have benefited from having cameras to record thing they liked or disliked. Budgetary constraints prevented me from giving them cameras.

Activity: Field Trip to Home Alone Movie
Topic: Children's negotiation and use of the city
Purpose: To discover how the students used the different systems (i.e. subway, pedestrian, architectural, signage), to find out what elements attract them, and what elements they could identify within the city. How do adolescents use the city? How do they negotiate obstacles within the city?
Materials: Train Fare, Movie Costs,

Duration: 4 hours

Procedure:
On January 30, I took the class to Copley Place to review the movie "Home Alone 2. Lost In New York starring Macaulay Culkin. The movie was about a 10 year old adolescent who gets separated from his family during their Christmas vacation. The youth ends up in Manhattan on his own. It was hoped that this trip would give me an opportunity to see how well the students knew this area of the city as well as observe how well the students observed details in the movie that would serve as a point of comparison to their own surroundings from which to hold a discussion. The students were told to meet at MIT at 8:30
in the Morning and we would take the Red Line to park Place and then we would switch to the Green Line and go to Copley Place.

They were given a questionnaire prior to our departure to give them an indication of some of the things to look for in the movie. They were to complete these questions and bring them to our next session. This list included questions about the environment, buildings and situations. I felt the movie would be a good way for the students to evaluate a different environment and then compare it to their own. I felt the story would be a good way to get the students to talk about what is positive and negative about cities. The subject of the movie as in the same age group as the other students which helped to put things in today's context as well as act as a point of comparison.

Limitations:
Though I gave the students the questionnaire prior to attending the movie, it was difficult to get them to focus on the items that were listed on the questionnaire. However, they did complete the questionnaire afterwards. Another, issue is going to movies with 11 students. Trying to keep up with them was a nightmare. A chaperone would help to maintain control and supervision with the students.

Activity: Best Fit Slide Rule

Topic: Design Choices
Purpose: To require students to make specific Design decisions. To generate discussions about what is valued in a design. What do children value in terms of housing forms and other building types? What decisions would they make concerning these things when given a choice? What are their values about form?

Materials: "Best Fit Slide Rule" and Colored Pencils
Duration: 1 hour

Procedure:
The "Best Fit Slide rule was developed by Henry Sanoff, in Designing with Community Participation. The "Best Fit Slide Rule" was constructed by me from the guidance given...
by Sanoff’s Design Games” (Sanoff, Design Games, 1). The
slide rule consists of a typical block that can be found in any
community. The students were given the slide rules and the
instructions to imagine themselves as part of a review board
or community group charged with reviewing proposals
from a particular vacant lot. Terms such as "review", "proposals", and "design" were defined and discussed. The
students were first asked to review the terms "review", and
"proposals" and design. Additionally the students were
instructed to review each of the "proposals" on the merits
of: alignment of windows, and door openings, relative
heights, roof silhouettes, proportion of window and door
openings use of Ornamentation, building use, surface
variation, relative widths. Each of these terms were defined
and review as well prior to the start of the exercise.

The slide rule contained a typical facade and 13 different
building types of different architectural character
and use; these ranged from commercial high rises to
residential brownstones. One of the options was an open
space diagram with trees but it also had high walls. See
diagram.

Limitations :
Because the students were in a group setting, and were
influenced by their colleagues, I had to stress the importance
of individual work and that the needed to make their own
decisions. The proposals and "typical facade could have
been more unique if the actual buildings were from an actual
street in Cambridge that all of the students knew well. I
decided that another activity may satisfy this requirement. A
third limitation was the number of options available to the
students as part of the slide rule.

Activity :Search
Topic: House Image
Purpose: To help students establish user preferences for a
set of intra and inter-dwelling characteristics. To generate

Two Housing Types From The
Search Game
discussion about what is valued in a design to answer questions like What do adolescents value in housing image? What are their form values?

**Materials:** 1 Page Description of 12 different houses and answer sheet

**Duration:** 1 hour

**Procedure:**
This game was the third in a set of "search" games that Sanoff used to help establish user preferences (Sanoff, Design Games, 40). "House Image" is one game that was extracted from several under the "Search-Systematic Evaluation of Architectural Requirements for Community Housing" Search was designed by the North Carolina Agricultural Extension Service N.C. State University at Raleigh, North Carolina and the U.S. Department of Agriculture, Cooperating (39).

The 1 page collection of houses ranged from "typical tract houses, older conventional dwellings, and architect designed houses". As Sanoff states; "A players response to the appearance of a particular house type will be determined by what he has seen and is familiar with and also by those visual characteristics that she associates with the house in which he hopes to live. By making decisions about the visual array presented to him, the player is indicating the visual qualities that he desires in a home" (40).

The students were given the 1 page illustration of houses and an answer sheet. They were instructed to rank the pictures in order of his preference from 1 to 12. Secondly they were asked to describe the particular characteristics of his first two choices and the reasons for selecting choices 11 and 12.

**Limitations:**
The major drawback of this exercise is the limited number of housing types and forms presented to the students. Though many of the forms were familiar to the students there other types such as triple decker brownstones that students from Cambridge would be familiar with.
Activity: Photography Survey Exercise

Topic: Individual investigation of good and bad environments

Purpose: Exercise will help the determine what elements the students value in the environment. Exploration of the adolescents concept of environment. To answer questions like What do children value in the environment? What do they perceive as good and bad elements within the environment?

Materials: Kodak Disposable Instamatic 400 Camera

Duration: Homework assignment, two weeks in length.

Procedure:
Each student was given a $10.00 Kodak disposable camera. These are the types that one sea at grocery counters and newsstand for those extreme moments when you don't have a camera with you, but absolute need one. They were purchased at the Harvard COOP. They were instructed to take 20 twenty pictures, ten that depicted "good" things about their neighborhood and ten that depicted "bad" elements in their environment. This technique was used by Southworth in his study with the Cambridge Boys Club.

(Southworth, An Urban Service, 268). This was also a technique used in the City Building Program.

Similar to Southworth, it was hoped that this technique would be a good supplement to all the written interviews and surveys and might "uncover" many things that could not be articulated in interviews. After each student had completed his twenty pictures, they were instructed to mount them on paper and to record which were the ten and
which were the bad. They were also instructed to write why they felt such.

**Limitations:**
The major limitation in this exercise was the weather. During the two week period there only a few days available to the students to capture images. It rained off and on throughout the two week period. Many of the students attempted to complete the assignment in inclement weather. Their pictures did not reflect what they wanted to convey.

**Activity:** Classroom Transformation

**Topic:** Individual and his relation to his immediate surroundings

**Purpose:** It is hoped that the students would begin to "see things with a closer view and begin to discuss notions of change; individual versus group needs, and see transformation in any given time and space. Other fundamental questions include How would they change their immediate surroundings?

**Materials:** 12"x 12" block of foam core board, clay, plastic knives

**Duration:** 3 hours

**Procedure:**
This exercise was a variation of a similar exercise that was conducted in the City Building Program (Nelson, City Building, 27). The students were given a 12" x 12" block of foam Core Board and non-hardening modeling clay. They were instructed to take a good look at the classroom that they were in currently. They were then instructed to "transform the room" by adding, deleting, rearranging or changing anything the room. They clay was to simulate the furniture or fixtures that they wanted to represent.

**Limitations:**
A limitation to this exercise is the limited realism involved. Clay was a difficult medium for many the students to manipulate into furniture or other items that they wanted to simulate.

**Activity:** Diary exercises/Mapping Exercise

**Topic:** Adolescents activity and use of the city

**Purpose:** To describe the range of places visited, means of transport, and determine variation among sexes and location to home. To answer questions such as "What do children do and where do they go on a typical day? How do they get there? With whom do they go? What is the range of activity?

**Materials:** 8" x 11" diary sheets and maps of the city

**Duration:** 1 week Homework assignment

**Procedure:**
Students were given dairy sheets and city maps and instructed to record by the hour every place they visited during the week. This included school, shopping, visits to
friends houses, and home. They were then instructed to draw the route taken on these trips on the maps. Each route was to be in a different color.

**Limitations:**
During the school year the students have enough homework to keep them busy. Many of the students did not fully complete the exercises. In addition, many of the students waited until the last minute to finish the assignment, which caused their dairies to not have as much detail as expected.

**Activity:** Slide - Place Recognition Exercise -
**Topic:** Place Knowledge/Place Recall

**Purpose:** To ascertain the extent of children's ability to recognize places in large scale environments, and to learn something of how they differentiate and name places and regions. To answer questions such as How many places do children know within the environment? What do they know about "landmarks" or other places within the environment?

**Materials:** 70 Slides, Projector, Dark Room, matrix, pencils

**Duration:** 3 hour

**Procedure:**
Color slides checked out of the Rotch Visual libraries at MIT were used to display to the students. They were given a table or matrix and told to identify the places they knew whether they knew the name or not. They were given 2 to 3 minutes to identify the slides. They were also asked to how did they get there, whom did they go with, did they like or dislike the place, and reasons for liking or disliking the place.

**List of Images**
1. Cambridge Courthouse 3rd St.
2. Cambridge Public Library
3. Cambridge Fire Station
4. Cambridgeport Residences
5. Cambridgeport Residences
6. Cambridgeport Residences
7. Cambridgeport Residence
8. Govt. Center Plaza aerial
9. Govt. Center
10. Copley Plaza
11. Alewife Station and Garage Interior
12. Alewife Station
13. Boston Public Library
14. Design Research Center Cambridge
15. Mass. Ave Corner Inman
16. Harvard Square Brattle SQ.
18. Gulf Gas Station Harvard Sq.
20. Interior Gund Hall
22. Cambridgeside Galleria
23. Cambridge Courthouse
24. Harvard U. Carpenter center
25. Harvard U. Carpenter center
Limitations

Given the number of slides and the fact that it was early in the morning, many of the students quickly became tired of the exercise. In addition, many students were knew some of the places but were hesitant because they did not know the name of the place. Asking for names seemed to disturb some of the students. Finally, some of the images were of views that the students may not have been familiar with.
though they may have known particular slide. It was helpful
top show multiple views of the same place.

Activity: Wilson Game
Topic: Value and Selection
Purpose: To measure user tradeoffs and preferences within
given constraints
Materials: 16 Chips from the Wilson Game, paper, pencil
Duration: 2 hours

Procedure:
The Wilson game was one of the earliest attempts to
measure trade-off preferences during the late 50' and 60's.
The students were given copies of the game pieces from the
board pictured above. The students were told to imagine
that they had just won a house and they had to determine
the kinds of neighborhood facilities and levels of services for
the house. Some 34 items of utilities and services were to
be chosen from. These included fire department (volunteer
or public), electricity (above or underground wiring). Each
item had a price tag (in multiples of $50), the cost rising
with each level. The students were given an allotment of
play money and instructed to purchase the quality of service
levels they desired. Since the total sum of money provided
was insufficient to purchase the best quality for each
environmental attribute, tradeoffs were necessary.

Limitations
Some of the items on the game had to explained to the
students because many of them had never heard of facilities
such as septic tanks. Additionally, the cost of the actual
services were not realistic thus giving the students a false
sense of the true value of some of the services.

Activity: Boston City View Network
Topic: Computer Hypercard Mapping Exercise
Purpose: To introduce children to computers as a means to
express their perceptions of their neighborhoods.

Materials: Computer Lab 1 Macintosh computers
Duration: 3 hour
Procedure:
This exercise was part of a program called "Boston City View Network", a demonstration project to train high school and college students to be trained in computer tools to work with other students, community members, public agencies, and planners to gather and analyze a wide range of mappable information about the physical and social conditions of their neighborhoods. The program is run by Barbara Barros with using one of MIT computer labs and a Hypercard program designed by Ms. Barros.

The students were each assigned a computer and instructed on the mechanics of the program. Once they were familiar with the program, they were instructed to map their neighborhoods or draw images of their neighborhoods.

Limitations
It took sometime for the students to get comfortable with the system prior to actually using it to draw their neighborhoods. Many students did not finish or felt rushed.
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Arrow Map. Inc. Taunton, Massachusetts.


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