Educational Play Environment
St. Patrick Catholic School
Louisville, Kentucky
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A Comprehensive Project
by
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Abstract

This comprehensive project focuses on the development of an educational play environment. But, in order to understand what an educational play environment is, the educational systems of our society will be reviewed and analyzed.

The problems associated with our learning environments will affect the way in which child's play is viewed, and the way in which spaces for children are designed. The final design solution will not reflect most people's expectations of how a play environment looks, or how the play environment functions.

The design will create connections between the classroom and the outdoors while encouraging children to learn under "free" play conditions. Basically, the entire concept will evolve around the idea of learning while having fun.
Chapter 1

Introduction
Ever since the industrial revolution, and the emergence of an adult work force, our world has become more structured and specialized. With technological advancements, and the discovery of more knowledge, we as specialized people are actually knowing less each day. The conditions of our society no longer provide opportunities for people to be as well-rounded as in the past. The Germans refer to a person's well-roundedness as "gestalt" which means wholeness. But, since the industrial revolution, our philosophy on life has changed. As individuals, our purpose has diminished from the master of the farmstead to a minor contributor in the assembly line. The transition is a result of structure. No longer do we have control of our lives. We have become breathing machines, the products of our environment. As adults, our lives consist of working structured hours within a structured work environment. And now this mindset has become an integral part of our entire culture.

We constantly force structure onto our children both at home and at school. But the current methods of education are the most detrimental to the development of our children, and to our future. The educational systems of our country teach children to be disconnective. We do not challenge them to apply a broad spectrum of knowledge to solve one problem. Instead, we teach one subject separate from another, and then we expect the children to learn in the same manner. In other words, our children, each day, encounter many different areas of study, such as math, science, history, language, social studies, health, art, music, and physical education, but the subjects are rarely taught in conjunction with one another. Essentially what is occurring is that the system is not promoting "wholeness" as a human being. And as a result, in the future, we will become an even more specialized society that knows less and less.

The presence of a highly structured curriculum that lacks connectiveness between the individual subjects has even affected the spatial organization of our schools. Every space or classroom in a school building has a predetermined purpose, such as the "art room" or the "music room". And by putting ourselves in an environment similar to a school, we quickly learn exactly how those spaces should be used, whether they are for art activities or for music activities. And as human beings, we quickly accept and become sensitized to what already has been determined for us. Thus, we usually do not challenge the norm, which is quite evident when our schools continue to physically separate academic activities.

Our school systems are in desperate need for change. Perhaps, one critical change should be the attitudes of parents, teachers, and administrators towards the significance of play environments. Many of our educators believe that children play to "blow off steam". They do not understand that play is part of the learning process by exploring, experimenting, discovering, and observing. Children have an innate nature to learn, so in many cases they search for a challenge when one is not provided. Therefore, opportunities to learn should not cease when our children leave the classroom. The solution to the problem is to change our
The floor plan of a typical elementary school shows the physical separation of one activity from another. The spatial organization lacks unity and connectiveness, both indoors and outdoors.
Chapter 2

Background
My first encounter with play occurred when I was a young child. And as the years past, I saw my life become more of a product of society. My life became highly structured and did not allow for "play time". But, in my second year at Ball State University, I had the unique opportunity to design an environment for playing. Even though it had been several years since I had last played like a child, I spent the entire time designing play experiences that were inspired from my memories. I was able to escape form the structured life that society had given me to design for the children of the future by looking back at a pastime that we all regret to leave.

After a couple of years, my education took me into new areas in landscape architecture as I continued to suppress the child in me. Then, during the summer of 1993, I interned in northwest Indiana with the Lake County Parks Planning Division in which I had a unique opportunity to act as the chief designer for a play environment. Throughout the course of the design process, I encountered several challenges ranging from providing equal opportunities for everyone to dealing with budget constraints. My passion for play environments resurfaced this past summer as a result of disgust with current situations. Play equipment manufacturers disregard children's true developmental needs. The solution to many of their playground design problems is to connect individual pieces into one comprehensive play structure similar to the way in which puzzle pieces are put together to create an image. Not a lot of creativity or consideration for the development of children is evident in such playgrounds.

**CALVIN AND HOBBES**

![CALVIN AND HOBBES](image)

*The comic strip illustrates the lack of creativity and safety associated with pre-manufactured play equipment.*
In fact, most manufactured equipment is restrictive because it was intended to be used only one or two different ways. And the reason why we often see children "misusing" play pieces is because children seek challenges when they are not present. The equipment of today does not vary much from the equipment of yesterday. The stagnant progression of new play activities strongly suggests that manufacturers are more concerned with avoiding lawsuits, and producing a profit, instead of taking risks and creating innovative play experiences.

Beyond landscape architecture, another dream of mine has been to become an educator. In fact, if I did not pursue landscape architecture, then I probably would have entered the education profession. For as long as I can remember, I have always been concerned with not only my personal achievements, but also with the education and future goals of those around me. Almost daily in high school, I would ask myself, "Why don't people have the desire to excel? Aren't they concerned with their future?" The more and more that I thought about it, the more I felt hopeless for our future as a society. And then I realized that everybody was not as fortunate as I. They had family problems to deal with at that moment before they could ever devote time and energy towards preparing for their future.

I felt that if our educational systems could just add a twist to the curriculum, then perhaps more heads would turn, and more students would begin to understand the importance of an education. But, what could the twist be? These thoughts have been bottled up in me for several years until the beginning of my fifth year at Ball State University. At that point in time, I knew that I wanted to focus on play environments. But, I did not have a site chosen, and I did not know exactly what aspect of play that I wanted to delve into.

Within a few weeks, both major questions were answered for me. My parents had recently moved to Louisville, Kentucky. My brother and sister enrolled for school at St. Patrick's School. The church community had completed its first development phase during the summer of 1993 without a designated play space for recess during school days. As soon as I was informed of the situation, I began to see the tremendous challenge and opportunity that the site had to offer.

My next problem to deal with was discovering a particular area of play environments that I thought could be enhanced. My answer surfaced while I was reading a Newsweek article about the future of playgrounds. It mentioned about a school in Jacksonville, Florida that was designing a play environment based on its social studies curriculum. Immediately, I knew that my project would focus on play environments that would encourage children to learn while playing.

Society generally does not value play highly in a child's development. Perhaps we should begin to understand the tremendous potential of play environments. They can be used as a learning tool, and as a mechanism to insure proper physical, social, and psychological development among our children.
Chapter 3

Problem & Goals
The absence of a play environment at St. Patrick’s School is the result of limited funds and poor master planning. For recess, the school children play in the west end of the church parking lot which is separated from vehicular traffic only with plastic pylons. The existing conditions violate every guideline of the United States Consumer Product Safety Commission, and ignores the criteria for a high quality of play and education. The only permanent piece of equipment for recreation is a basketball goal set in the middle of a parking island. The school administrators meant well when approving the use of a basketball goal, but it is not used because the net is set too low for appropriate use. As a result of conducting recess in the parking lot, children are constantly injuring themselves while participating in very basic activities. A student from the sixth and seventh grade class summarized the situation when he said, “I would like a blacktop kickball field instead of playing in the parking lot when there is a lot of leaves that you can slip in and get hurt... I hate playing in a huge pile of leaves and a pretty small area. The basketball court needs another goal and they need to be highered.”

The students of St. Patrick’s School have limited play opportunities that include running and chasing, and throwing and bouncing rubber balls. Perhaps, someone should listen to them when they say, as one student did, “Our ‘old playground’ is very boring and there is nothing to do.” Children naturally seek challenges to learn, so why not provide the opportunities for the students to learn while playing. The children of St. Patrick's Catholic School spend the majority of their school day in the classroom listening and participating in a highly structured curriculum. This type of environment prevents the children from learning what could only generate through their own discovery processes through play. They have personal needs that must be acknowledged to insure proper physical, psychological, and social development. And with existing facilities, the children's needs are not being met which quickly becomes evident when a student is willing to accept anything by saying, “The basic playground is what we want.” Therefore, how can the landscape architect create continuity between the activities of the classroom, and the activities of the educational play environment?

The current situation at St. Patrick’s School could be attributed to several sub-problems. First of all, the educational system of the United States is a product of its environment, thus explaining for its lack of unity between areas of study. Secondly, the children who are actually the users of the play environment do not act as consultants during the design process. Thirdly, when the property of St. Patrick’s was master planned, the implementation of a play environment was never taken into consideration. But, what is interesting is Lake Forest subdivision, which is adjacent to St. Patrick’s Church, is a high income residential area that encompasses an eighteen-hole golf course. In other words, society was more concerned about providing a recreational facility for its adult community because it would produce revenue; whereas, the development of a
play environment for the children of the school and of the surrounding residential areas could never produce a profit, so it was not worth while to consider, which offers another sub-problem. The public allocates minimal funding for adequate play environments. And lastly, existing play environments are sterile as a result of restricting safety guidelines, and the lack of risk taking.

The area within the circle denotes the existing play space in the parking lot.
Goals

- Develop a play environment that is used as an extension of the classroom.
- Develop a play environment that promotes "free" play (Husen 3646).
  1. Unoccupied, unengaging acts: the child shifts readily from one action to another with no apparent purpose - sits a moment, stands around, touches something, and briefly looks at others.
  2. Onlooking behavior: the child studiously observes others play and may speak to them, but does not personally engage in play.
  3. Solitary independent play: the child plays alone with toys different from those used by nearby children, and he or she pays no attention to their activities.
  4. Parallel play: the child plays alone but next to others who are using the same kind of equipment and are playing in essentially the same way.
  5. Associative play: the child plays with other children, chatting about their common activity and borrowing and lending equipment, with everyone in the group involved in similar actions. There is no division of labor and no subordination of individual interests for the good of the group.
  6. Cooperative play: a group of children organize to pursue a defined goal, as in creating a product (a sand castle, a make-believe airplane), dramatizing a life situation (imitating adults in occupations or in family situations), or playing a formal game. The membership of the group is controlled by one or two children who assume leadership.
- Develop a play environment that meets the criteria used in identifying quality of play (Heseltine 18).
  1. time - the more time a non-repetitive play activity lasts and holds the child's attention, the greater the play value
  2. change - the greater the ability of the playground and the equipment to be changed (providing it has developmental value), the more possibilities are offered to the child and, therefore, the greater the play value
  3. relevance - the closer the playground or equipment can be adapted to meet the child's individual needs, the greater the play value
  4. challenge - the more opportunities the playground has to offer an increasing level of challenges to children, the greater the play value
  5. suitability - the more the playground can match different ages and needs at the right time, the greater the play value
- Develop a play environment that will not harm the physical or psychological well-being of the children.
- Develop a play environment that reflects the needs and wants of the children.
- Develop a play environment that reflects the needs and wants of the administrators.
- Develop a play environment that responsibly responds to the physical characteristics of the site.
- Develop a play environment that responsibly responds to the existing style of architecture.

**Assumptions**
- A need existed for the development of a play environment that would create a connection between the classroom and the "outdoors".
- The play environment accommodated the needs of the entire school population (for the school year of 1993-1994, St. Patrick’s School was composed of kindergarten through seventh grade. And for the year of 1994-1995, the school will expand to include eighth grade).
- The educational play environment did not meet most people’s expectations of what a play environment should resemble. It contained elaborate earthwork along with the integration of basic building materials which provided opportunities for change on a constant basis. The change resulted from the students contributing to the physical environment accompanied with physical changes associated with the seasons.
- The play environment was accessible.
- The play environment did not exist within the 100 year flood plain.
- Funding for maintenance existed in the future when needed.
Chapter 4

Methodology & Research
Methodology

Historic Method

By referring to current and relevant literature, I wanted to gain a stronger knowledge of several areas concerning play: the definition of play, the philosophy of play, the social function of play, the theories of play, the future of play. Also, I wanted to learn more about the history of education, and the works of people who have influenced our educational system, such as Maria Montessori and Friedrich Froebel. These topics taught me the critical issues relating to my project.

Descriptive Survey Method

Using the acquired information from the historic method, I formed a base knowledge for a one-to-one interview long distance. I interviewed Ms. Susan Goltzman of Berkeley, California who is a leading expert on equal play and equal access. I wanted to know more about a play environment design that she and her firm completed for a school in Jacksonville, Florida. It focused on the social studies aspect of the childrens' curriculum, so I was curious how the design elements encouraged learning and development while unifying the classroom to the playground.

From the design aspect, I interviewed the design professionals who participated in the development of St. Patrick's Catholic Church. I wanted to know their personal design philosophies pertaining to their involvement with St. Patrick's, along with any specific questions that I had concerning the construction of the existing facilities. The architect was Mr. Leo Klarer of Grossman, Chapman, Klarer Architects, Inc. in Louisville, Kentucky. The landscape architect was Steve Franklin who is an alumni of Ball State University. Both worked for the firm Sabak, Wilson, Lingo Civil Engineers and Landscape Architects, Inc. in Louisville, Kentucky. Although I did not delve as deeply as I had first intended, I discovered from Steve Franklin that the incorporation of a play space was not a consideration of the landscape architect or civil engineer. However, his responsibility was to advise Mr. Klarer on building location and orientation.
Analytical Method

I conducted a questionnaire that challenged children on their "wants" of a play environment. It focused on the school children of the church community who would be using the space. Another alternative and probably a more unique approach to obtaining the children's ideas was through a written assignment in which they were asked to write about, and illustrate a playground experience. I interviewed the principal of St. Patrick’s School to discover possible areas of the curriculum that could be strengthened through the implementation of an educational play environment.

I conducted a questionnaire for park managers and other park officials who have direct connections to such responsibilities. The conclusions derived from the questionnaire gave me direction in designing as far as knowing how and when to implement the "do's", and when to avoid the "don'ts". But, in exchange of conducting such a questionnaire, I received the majority of the information pertinent to this issue through an elective, L.A. 443 landscape operations, which taught me maintenance issues to consider. For example, if a site is properly analyzed, and the design properly responds to the site's characteristic.
Research

What is Play?

During the industrial revolution, America transformed into a massive work force. As a result of this, we experienced many changes within our culture. But, probably the most influential one dealt with the structure of the work force and the work environment. In fact, structure is not only evident with work, but it has even affected our educational system. When children grow into adults, they fall into another stage of life and structure. They work pre-determined hours and schedules only with few exceptions, such as when they are on vacation. But, other than temporary breaks from their lives, adults generally have very predictable and structured lifestyles.

The American work force has brainwashed us to become more aware of the finished product as opposed to the process. The big question is if we are supposed to be more concerned with product and not process, then how can we fully enjoy what we do? Therefore, if we can not find enjoyment in what we do, then it is work. For the most part, work is not voluntary, it is "unpleasant and demeaning" (Dattner 7). On the other hand, "play, like love, is a supremely voluntary undertaking. Play can occur only in a condition of freedom, because it is above all doing what you want to do, when and where you want to do it" (7). In other words, play is an escape from our structured lives.

Play allows children to challenge themselves by exploring, discovering, experimenting, and discovering without feeling pressures of producing an end result. "It is the process of play, not the product, that gives our children satisfaction" (9). Play is supposed to be an expression of our freedom. But, often because of the attitudes of parents, teachers, and administrators towards play and education, we underestimate the potential of play environments as an integral part of the educational process.

Psychology of Play

In the past, the idea of play has been misunderstood. Many people believe play is necessary to "let steam out of the system" in order to focus on studying and learning. But exactly the opposite is true. "Play is the way in which children develop intelligence. To put it simply, play is a child's way of learning" (Dattner 23).
Jean Piaget, a psychologist, closely studied the intellectual development of his three children during their early years. His observations were later used to develop a theoretical framework for understanding what intelligence is and how it develops. Piaget's theories also set up the stages of growth through which a child will encounter before maturing into an adult (23).

Piaget developed two complementary processes, assimilation and accommodation, to explain how humans organize their experiences (24). According to Piaget, assimilation "occurs when we see a new situation in terms of something familiar; when we act in a new situation as we have acted in past situations (24). In other words, assimilation is perfecting new skills through repetition and practice. Accommodation "occurs when variations in the environment demand a modification in our pattern of behavior. Here the environment acts upon the organism... When a previously learned response fails to work in a new situation," the organism must adjust to the present conditions in order to respond properly (24).

Even though Piaget separated child development into stages from infancy to adolescence, I will review only the developmental periods pertaining to school-age children. The "intuitive" phase is from 4 years to 7-8 years. It is a phase of transition "between the world of fantasy and the world of reality, between the world of intuition and the world of logical thinking, and between the world of solitary play and the world of social cooperation and mutual understanding (24). The second phase pertaining to child psychology development is the "concrete operations" phase which is from 7-8 years to 11-12 years. "This phase is characterized by an intense interest in playing games with rules, since the development of more systematic patterns of thought allows the child to enter into more complex social relationships" (29). Also, children become more curious about how objects operate, and their curiosity "is best satisfied by the actual manipulation of the things in question..." (29). To comprehend how something functions, children often gain understanding through the use of their senses. They rely on their senses because they cannot comprehend abstractions (29).

**History of Playgrounds**

The beginning of playgrounds occurred in Germany in 1840. Friedrich W.A. Frobel designed a play area for kindergarten children to use. At that time, She viewed his design as a way to aid the development of children. However, it was not until later that the design was seen as a substitute for the vanishing natural landscape (Senda 116).

Up until the twentieth-century, large cities deteriorated as a result of the absence of a planned environment. It was at this time that the idea of playgrounds, similar to the one Frobel designed, began to migrate to other countries, such as England, the United States, and Switzerland. In 1910, an organization
called 'Spiektuin Werk' was formed in Germany to promote playgrounds (116).

Around 1920, the public became more aware of the deterioration of the urban environments. Their concern for central open space also grew to the point where the citizens turned towards playgrounds as a solution. Playgrounds were viewed as an alternative for the lost natural landscape that once existed in the urban environments (116).

Today, playgrounds have an important significance in our society. They compensate for lost space of natural areas, streets, and vacant lots that were once used by children for recreation before they were developed for other purposes (116).

In a recent issue of Newsweek magazine, an article titled "New Grounds for Child's Play" was published. It focused on the transformation of play which first concerned itself with the physical aspect, then it focused on the imaginative element of play, and now play is becoming a catalyst for education and learning. Playground design reached its height in the 1960's with a central focus on the motor skills. The equipment was quite predictable and intellectually unstimulating. Then, in the 1970's, play turned towards the child's imagination. The typical play structure was a steel frame structure of a rocket that could easily become a dragon with some imagination. And, today, play has taken another turn. Play is being used as a tool to encourage children to learn various subjects, such as physics, meteorology, the natural environment, local history, and geography. The new view of play is placing emphasis on providing something for everyone. M. Paul Friedberg of New York said, "Playgrounds should be tailored specifically to the youngsters who will use them, with direct correlation between activities offered and children's abilities to participate in them" (Seligmann 68 b). A solution to a successful educational play environment is to offer workshops for teachers at the school. The purpose of the workshops would be to enlighten them of links that can be made between the play environment and the curriculum in terms of art, physics, and cultural diversity (68 d). An example of an educational play environment is in Jacksonville, Florida in which it supports the school's social studies curriculum. It incorporates bogs, bayous, a shipbuilding area, and an archeological dig site (68 d).

History of Education

In 1837, Friedrich Froebel began an educational program that reflected the learning characteristics of young children. It was referred to as Froebelian kindergarten. He used primitive materials to promote children's intuitive understanding of principles which consisted of ten "gifts". Froebel applied the "gifts" to a set of exercises which became known as "occupations" (Weber 1969). Under the teacher's careful direction, children moved through the sequence of gifts, spending many days or even weeks examining all possibilities
of one before proceeding to the next. Work with the occupations complemented study of the gifts by giving the children concrete examples of how the relationships they had sensed in the relatively fixed gifts could be translated into construction using flexible materials (Weber 1969).

Froebel used primitive materials to construct his "gifts". Gift II is on the left, and gifts V and VI are on the right.

Froebel believed that healthy growth and development of children depended on several factors: (1) self-activity, (2) connectedness and unbroken continuity, (3) creativeness, (4) physical activity, and (5) happy and harmonious surroundings.

(1) **Self-activity**: By allowing a child to play and explore, he will naturally ask questions out of curiosity. Therefore, the learning process continues. Children will learn at their own pace, and they will learn what is of interest to them. An effective teacher will only provide the instructions and materials necessary to provoke more thought and curiosity for a child to progress into more advanced areas of learning.
(2) **Connectedness and unbroken continuity**: "It is possible for a pupil to emerge from school thinking that all the subjects he has been taught are as separate in life as they were in the neat sections of the time-table on the classroom wall" (Lawrence 143). Two types of unity or connectedness exist: (A) intellectual unity which is connecting various subjects in the mind of the student, and (B) unity between people.

(A) intellectual unity: Teachers must watch for children who naturally act on an interest. And must challenge them by showing new materials or new skills that the child can apply to create new possibilities.

(B) unity between people: By co-operating with others, the appreciation of others will arise through the understanding of their capabilities, talents, and weaknesses. Learning from others is the most important attribute of a child that results from interacting with others. Competition with others is positive toward development only when limitations occur. It stimulates children to do work of a higher quality than if they did not sense competition at all. But, it is very important to make sure that the level of competition does not become excessive. If it becomes the real incentive to work or play, then it will become a disruptive and unproductive force.

*A teacher closely observes children using Froebel gifts. If a child excels at a particular area, then the teacher will challenge the child to advance to another level.*
3) **Creativeness**: Froebel said that nothing becomes our own unless we put a part of ourselves into our work. It is a way for a child to personalize his work. Creativity is a product of our minds and souls. Children need to relate themselves to what they are learning by completely understanding the purpose of what they are learning. Therefore, the knowledge becomes more "concrete", and insures the child that he will not forget the information. Creativity is the solution to learning because children must use their imagination to personalize it in order to relate to it.

4) **Physical activity**: "Music and movement is education for body and spirit and mind; dancing requires memory and concentration as well as physical grace" (Lawrence 161). "Physical activity should not be limited to certain periods of the day. Our young adolescents all too frequently slouch and crouch when standing or sitting. No doubt this is partly due to fatigue at a time when they are growing fast, but much of it could be checked if teachers were more conscious of the importance of seeing that children sit and stand and move well all through their school life" (163).

5) **Happy and Harmonious Surroundings**: According to psychologists, children need an atmosphere of love and peace to give them poise and a feeling of security. No matter how beautiful or dreary a classroom is, all children need the opportunity at times to go on expeditions to see and study the outside world as a part of their education. Froebel's school was situated in the forest which allowed the children to wander near by in the natural beauty of the countryside, play, and experiment in a real stream, and test their courage by climbing real trees (164). Another educator who profoundly affected our educational system was Maria Montessori who was born in 1870. Her curriculum for young children was divided into four sections: *motor education, sensory education, language education, and academic learning*. Montessori's teaching method was quite similar to Froebel's. She constantly emphasized the importance of learning through hands-on experiences. Montessori had five principles which outlined her philosophy on the education of children (Standing 40-43):
   1. Children are capable of sustained mental concentration when genuinely interested in their work.
   2. They love order and especially enjoy repetition of actions that they have already mastered.
   3. They prefer work to play and prefer didactic materials to toys.
   4. Rewards and punishments are unnecessary to motivate them.
   5. The child has a deep sense of personal dignity that is easily offended.
Two children are learning through hands-on experience by making puppets out of newspaper.

The most current method of teaching our children that resembles the philosophies of Froebel and Montessori is "free play". It provides a play environment of learning in which children have many opportunities to think clearly and speak spontaneously in both individual and group activities. A well-run program of free play arouses the child's curiosity and interest which stimulates his own creativity. The concept of free play aids in the intellectual, emotional, and social development of the child. The operational goal of free play is to obtain a classroom of twenty-five children who engage themselves in five to ten different activities while the noise remains at a minimal level (Cowen 10).

For several decades researchers have studied children's play in order to identify types and their relationship to stages of development. In an early study, researchers observed nursery-school children, ages two through five, under free play conditions to identify the sorts of social relationships children's activities represented. They concluded that the activities could be placed in six categories (Husen 3946):

1. **Unoccupied, unengaging acts**: the child shifts readily from one action to another with no apparent purpose - sits a moment, stands around, touches something, and briefly looks at others.
2. **Onlooking behavior**: the child studiously observes others play and may speak to them, but does not personally engage in play.
3. **Solitary independent play**: the child plays alone with toys different from those used by nearby children, and he or she pays no attention to their activities.
4. **Parallel play**: the child plays alone but next to others who are using the same kind of equipment and are playing in essentially the same way.

5. **Associative play**: the child plays with other children, chatting about their common activity and borrowing and lending equipment, with everyone in the group involved in similar actions. There is no division of labor and no subordination of individual interests for the good of the group.

6. **Cooperative play**: a group of children organize to pursue a defined goal, as in creating a product (a sand castle, a make-believe airplane), dramatizing a life situation (imitating adults in occupations or in family situations), or playing a formal game. The membership of the group is controlled by one or two children who assume leadership.

**Future of Educational Play Environments**

The future of playgrounds will see a change from pre-manufactured playgrounds to play environments that are a product of the child. These "flexible" environments could take on a new appearance as each individual child uses his or her imagination. The play environment could provide opportunities for children to use large scale Tinker Toys or even alphabet blocks that could be restructured to form spaces or to spell words (Friedberg 47). Future play environments could even encourage children to take things home. Or, on the other hand, children could bring things from home to contribute to the effectiveness of the play environment.

Whatever the solutions maybe for the play environments of the future, the idea of education will always be the underlying factor. With the right approach, children could play and learn simultaneously without being aware of the positive effects of the newly gained knowledge. In essence, "learning could be play" (47).
Chapter 5

Design Process
Design Process Overview

What is an educational play environment?

**educational play environment**

- **educational**
  An element that provides knowledge within a particular area or topic.

- **play**
  Play only occurs during conditions of freedom in which children can challenge themselves by exploring, discovering, experimenting, and learning without feeling pressures of producing an end product.

- **environment**
  The collection of surrounding elements or conditions.

Therefore, an educational play environment is an extension of the classroom. And it can be thought of as an *educational environment* that encourages children to *play*. 
Where was information found to form a program for the educational play environment?

**educational environment for playing**

- **educational**
  The administrators suggested that the educational aspect of the play environment should focus on Earth Science and Life Science.

- **environment**
  The site inventory and the site analysis provided information concerning the environment, or the proposed site for the educational play environment.

- **play**
  The children of St. Patrick’s School wrote about their fantasy play spaces, especially the sixth and seventh grade class.

"Site analysis should occur at the same time that the program is being prepared because each impacts the other with constraints and opportunities."

-Play for All Guidelines
Where do opportunities and constraints originate?

educational → environment ← play

administrators → site inventory → site analysis ← children

The needs and wants of the administrators, and of the children were combined to form the program. At the same time of the program development, the site inventory and the site analysis were produced to provide opportunities and constraints.
Program

Criteria
It exhibited how each element within the program could be achieved. The criteria was also used in the site analysis to search for opportunities and constraints.

Functional diagrams
Program elements were spatially organized according to the opportunities and constraints established by the site analysis

Development diagrams
The “bubbles” within the functional diagrams were analyzed on their ability to promote particular areas of child development.

Site design
Chapter 6

Site Inventory
Site Location

Louisville has two expressways that wrap around the city. The largest expressway is the Gene Snyder (interstate 265) which is the second “loop”. Anything beyond the outer edge of the interstate is rural. And it is recently that these areas have become developed, including St. Patrick’s Catholic Community which is located in Beckley, Kentucky, just east of downtown Louisville.

A vast difference exists between the downtown area and the area of St. Patrick’s: urban vs. rural, flat vs. hilly, and developed vs. undeveloped. But, when considering the similarities, strong connections do exist between these opposite environments. Chenoweth Run creek, on the north side of the site, flows into Floyds Fork which is the largest waterway that connects Jefferson County to its neighboring counties on the north and south boundaries. Also, the CSX railroad, on the north portion of St. Patrick’s, heads west into downtown Louisville, thus making a strong connection.
Site Description

The site for the play environment is located on a parcel of land on the northwest side of Beckley Station Road, about one mile north of Shelbyville Road in Beckley, Kentucky. It is bordered to the north by CSX railroad tracks and to the east by Beckley Station Road. The southern boundary adjoins Lake Forest Subdivision and the west boundary is comprised of a grass-covered ravine.

Currently, a two-story church complex, an approximately 18-foot tall retaining wall, a parking lot, and access roadways exist. In the future, a new church, gymnasium, west wing and east wing facility will exist.

Site topography is dominated by a hilltop located at the southwest property corner. The site slopes steeply downward toward the north and more gently toward the east. The site slopes downward to a creek which parallels the north property line. Total site relief is estimated at about 70 feet. Surface vegetation consists of woods along the property boundaries and along the creek edge (Law Engineering 2).
The CSX railroad traveled westward into the downtown Louisville area, and then it headed south throughout Jefferson County. Chenoweth Run Creek flowed east and eventually joined with Floyd’s Fork which was the largest waterway that ran through Jefferson County. The two previously mentioned elements
created a connection with the metropolitan area.

Other features that gave St. Patrick’s character were the context and the natural systems. The property of St. Patrick was defined by Lake Forest Subdivision on the west and south edges. The surrounding homes were approximately million dollar homes that encompassed a golf course designed by Jack Nicklaus. The north edge was formed by the railroad, and the east edge was defined by North Beckley Station Road which was a very treacherous two-lane road.

As a result of the intense topography, a ravine was located on the west end of the site which accepted stormwater runoff from St. Patrick’s property and the properties of surrounding houses of Lake Forest.

The picture on the left shows Chenoweth Run with its banks lined with large shade trees. The end of the retaining wall is on the left side in the background.
Inventory Zones for the educational play environment

The inventory zones were defined by natural site features. The separation of one zone from another occurred at points where the site appeared to "pinch". The zones were assigned to provide structure in designing, and in explaining the site.

Site Inventory for the educational play environment

Zone 1

Zone 1 was a linear tract of land that was separated from the rest of the site, including St. Patrick's School. The separation of zone 1 was a result of Chenoweth Run (creek) which defined the south and east edges of the area. The north boundary of zone 1 was defined by the CSX railroad.

The zone was relatively flat in topography with grass as the dominant ground cover. Other forms of vegetation that existed included sycamore, ash, hickory, and maple trees. Generally, the trees were growing along the boundaries of zone 1 which defined an open space within the core of the zone.
Zone 2

Zone 2 was separated from the major part of the site and the school because of Chenoweth Run. The zone was defined by the CSX railroad on the north, and the creek on the south. The area was divided from zone 1 at the point where the creek flowed north towards the railroad track and "pinched" the site.

The zone was more densely vegetated with the same trees found in zone 1 (sycamore, ash, hickory, and maple trees). The high concentration of growth did not form any large, gathering spaces. The only exceptions were the small spaces formed by trees and underbrush.

The photograph was taken from the service road on the north end of St. Patrick's. Zone 1 is on the right in the background. Zone 2 is on the left in the background. The open space of zone 1 is depicted in relationship with the dense vegetation of zone 2. The vertical structure (in the middle-ground on the left) is a chimney that once existed with a log cabin.

Zone 3

Zone 3 was south of the creek which visually connected it to the main part of the site. But, it still felt separated from the rest of the site because of its boundaries. The creek defined the north edge, and trees (identical to those found throughout the rest of the site) grew along the creek, along a swale, and along the south boundary of the zone. The trees along the swale created a wall or visual division between the two adjacent zones.

Zone 3 contained an old, rusted, aluminum shelter which suggested that the site was once used for unknown activities.
Zone 4

Zone 4 was considered the central area of the site because it was located next to the school. The entire zone was relatively flat with grass as the ground cover. The only vegetation present were trees along Chenoweth Run which defined the north edge of the zone.

Immediately south of the zone was an eighteen-foot concrete retaining wall. The wall created a visual obstruction. It was not viewed as a constraint, instead, it was thought of as a design opportunity. Another unique element of zone 4 was a log cabin's foundation and chimney that once existed on the site.

The picture to the left shows the concrete retaining wall in the foreground with St. Patrick's in the background. The wall creates an abrupt break in the hillside. The large picture window is where the church's altar is located, thus it would overlook the educational play environment.

The picture to the right shows the east elevation of St. Patrick's School in relationship to the concrete retaining wall on the right end of the picture.
Zone 5

Zone 5 was located on the far east end of the site. The area was defined by the creek and the CSX railroad on the north edge with roads on the south and east edges. Zone 5 was unique from other areas of the site because of its openness, and because of its distant location relative to the school.

The area was flat with grass as the ground cover which created an opportunity to use the zone for field sports or activities.
Chapter 7

Program and Criteria