DEVELOPMENTAL PLAYGROUNDS THROUGH COMMUNITY ACTION

By

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B. Arch., Kansas State University, 1972

A NON-THESIS PROJECT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

College of Architecture and Design

Department of Regional and Community Planning

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1974

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PREFACE

This project is concerned with the role of playgrounds in the development of children. Its intent is not to present a new body of knowledge but rather to review and to blend what is known and believed by authorities in several disciplines. This project is built on then, an analysis and synthesis of this multidisciplinary literature. In addition, Appendix III is a proposed manual illustrating the idea that playgrounds, which may aid in development of children, can be created by a community using already existing resources.

This project is intended for people to encourage interest in children and to show the importance of development to children. It is hoped to spark thought, action and accomplishment in the interests of children.

The author wishes to express his appreciation to a number of faculty members of Kansas State University and to a number of other people. Among the faculty, John Selfridge, Assistant Professor of Regional and Community Planning, provided an introduction to the idea of community built playgrounds and he, along with Tom Dunbar, Assistant Professor of Landscape Architecture, Dr. Donald Lindley, Associate Professor of Health, Physical Education and Recreation, made many constructive suggestions for the project. Appreciation is expressed to Joann Shaw for her critical editing, to Pat Hinson for the professional typing, and to my wife for her understanding and help. Thanks are expressed to those many people on the Kansas State campus and to those in various communities who expressed a genuine interest in children's playgrounds.

Photograph credits in Appendix II:

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Page 59	Photography as a Tool	Time-Life Books, New York, 1970, p. 39.
Page 61	Alden G. Krider	Professor, College of Architecture and Design, Kansas State University
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INTRODUCTION

Human Spatial Requirements:

To begin, let us think of the human organism "as a mobile unit which is perfectly engineered for economical and efficient movement".[1] This organism is capable of communicating its thoughts to other members of its species, of loving and hating, of criticizing and praising, of inventing and following, of planning and responding to the unplanned, of growing and maturing and of reproducing itself. This organism, the human, is a space-oriented being and is, from birth to death, an explorer of space.

Space can be defined as "the unlimited or indefinitely great general receptacle of things commonly conceived as an expanse extending in all directions (or having three dimensions) in which or occupying positions of which all material objects are located".[2]

Man is but one object in a world of objects of a great variety and number. He must move in relationship to all other objects located on his particular segment of that "great general receptacle." In his movement, man explores space, and, therefore must have a "base" dimension for computing surrounding dimensions in space and his relationship to that space. His body is that "base" dimension.

The way in which man visualizes his body in space is the subject of many articles and theories. Man's spatial requirements constitute more than just that amount of air displaced by his body.

Certain behavorial scientists and social psychologists consider that there exists a zone or envelope of space around the body which can be referred to as personal space.[3] The size and shape of this zone, who may penetrate it, and to what extent depends upon the psychological and cultural history of an individual and on the immediate situation, including the motivational state of that individual.

Another concept is that of territorial space.[4] Territoriality is an area of space to which humans and animals attach significance and for which or in which they exhibit certain behaviors. Territorial behavior in humans encompasses permanent or temporary reactive and initiative behaviors concerning places, people, objects, and ideas in space. Often this behavior is a response to the environment and may be geared to satisfying certain motivational states of the individual. Terrioriality is shown usually in response to the actual or implied presence of other humans. However, this area of space varies so much from one individual to the next that behavorial scientists have not yet established a theory concerning the dimensions of the territorial space, only its existance.

Even less is written concerning the space which lies beyond territorial space. In the article "The Anthropology of Space: An Organizing Model", Hall discusses other aspects of space such as social distance, which humans observe at casual gatherings or in an office setting, and public distance, at which a human can observe when not necessarily being observed themselves and the distance which they observe accepted around public figures. Hall indicates that "the influence of two bodies on each other is inversely proportional not only to the square of the distance between them but possibly even the cube of the distance between them."[5]

Privacy is a behavorial concept which is very complex and which is viewed differently by different scientists. In one view privacy is the quality or state of being apart from the company or observation of others or allowing freedom from unauthorized oversight or observation.[6] In another view, "privacy is related to cultural phenomena, to an individual's make-up, and to the task at hand".[7] An additional view is based on the theory that each individual has different expectations in the realm of privacy, and thus defines privacy as "the claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others."[8] This idea

of individual expectancies among which an individual has the "right" to choose is analyzed by Westin. He describes four states of privacy available to an individual:

1. Solitude-- an individual separated from a group and freed from observations by others.
2. Intimacy-- an individual acting as part of a small unit, with close, relaxed, and frank relationships.
3. Anonymity- an individual in public places, performing public acts, finding freedom from surveillance and identification.
4. Reserve--- an individual's psychological barrier against unwanted intrusion.[9]

The purposes and functions of each individual's privacy are also indicated by Westin. They include:

1. Personal Autonomy--the desire to avoid being manipulated or dominated wholly by others and to posess a sense of individuality and conscious choice in his control of his environment.
2. Emotional Release--the need for periods of privacy to relieve social and biological tension created in everyday life.
3. Self-Evaluation---the opportunity to take stock of oneself in light of the continuing stream of information received in day-to-day experience.
4. Limited and Protected Communication-the establishment of a psychological distance in all types of inter-personal situations when desired or required by normative role relationships.[10]

This approach takes into account "the paradoxical fact that privacy is essentially a social phenomenon"[11] and that, as a concept, it includes "the psychological function" of increasing the individual's freedom of choice by giving one the right to choose what, when, how, and to whom one communicates information concerning oneself.

The overall purpose of privacy is to increase the range of options open to an individual in such a fashion so as to achieve his particular and immediate goals. Therefore, privacy increases the individual's freedom of choice as to his behavior within the environment.[12] As the individual attempts to choose his behavior at given times, he also attempts to organize his environment and thus space, in order to maximize his choices.

As seen above the task of defining privacy is no simple matter due to the many possible aspects and needs for the thing called privacy, the attempt here is not to define, but rather to introduce this concept as related to human behavior and to human interaction with the environment. The concept of privacy used in this paper will be that presented by Westin. This paper will consider the four states of privacy introduced as general divisions, and not limit a person to only one state at a time, for a person may exist in a combination of two or more states at any one time. It should be noted that the inclusion of choice in this concept does have some overlap with the concept of decision-making.[13]

Human Relation To The Environment

For this project the term, "environment", will be considered to be the "built" environment, i.e. objects placed or altered in space due to human manipulation. Since the term environment normally is considered as all objects, (other than human beings) that occupy space, the use of this term in reference to other than the "built" environment will be qualified, as the "natural" environment.

Carr in The City of the Mind states that all man's interactions with the environment are "intelligent" ones. Those interactions are guided by intelligence, by some mental plan or strategy (innate or habit), carefully worked out in advance or formed on the spot, which is intended to reach a particular goal.

Carr described phases of interaction with the environment that humans might follow:

1. The directive phase in which a goal, need, or purpose becomes predominant in directing the course of action.
2. The intelligence phase in which one organizes new information from the environment to retain within the memory.
3. The planning phase in which information is retrived from memory, or other sources and transformed into evaluation and generation of possible actions.
4. The action phase in which the plan judged appropriate is executed in the present environmental context.
5. The review phase in which the effectiveness and out-come or the particular action is entered into memory in order to assign value and meaning to the experience and to correct future action.[14]

However, before the human enters into any interaction, some motivation must be present. Motivation affects attending, remembering, perceiving, and thinking, and facilitates learning and performing. Motivation must be considered in all behavior, whether complex, conflicting or unconscious.

Murray in Motivation And Emotion, indicates some of the theories of motivation:

1. Hedonistic theories - man seeks pleasure
2. Instinct theories - man's behavior is caused by instincts
3. Drive theories - man has certain drives which induce behavior.[15]

Maslow in Motivation And Personality, describes another theory in which motivation is caused by unsatisfied needs. He proposes these various needs in the following order of importance:

1. Physiological needs - the basic needs of the human body
2. Safety needs - the attempt to seek safety and stability in the world
3. Love and belongingness needs - the desire for affectionate relations with people and for a place in one's group.
4. Esteem needs - the desire for a stable, firmly based, usually high evaluation of one's self.
5. Self-actualization needs - the man's desire for self-fulfillment, or to become everything that one is capable of becoming.[16]

Maslow maintains that the human organism is dominated and behavior organized only by the unsatisfied needs and that, upon satisfaction of one need, man then moves on to satisify the next in the order shown above. He explains that it is possible for the human to be controlled by more than one type of need at the same time.

Motivation as described in Maslow's theory of unsatisfied needs will be the motivational model for this project. Seeking to fulfill needs is the goal of man's behavior and satisfaction is achieved upon fulfilling those needs. In seeking those goals, or needs, man must interact with the environment, thus man's knowledge of the environment and his ability to move within the environment are important. Human behavior can be considered the synthesis of knowledge, movement, and interaction with the environment. Although some attempts have been made to

explain human behavior in relation to the environment, to my knowledge, there is as yet no well-accepted or unified base theory concerning behavior and environmental relationships.

Such an unified base theory is difficult to formulate for several reasons. One reason is that humans appear to all be different and to respond to items in the environment in different ways. Another is that in humans such things as perception or motivation have been difficult to study, as they cannot be studied directly, but only inferred from actions and comments. Still another reason is the unique capacity of humans to adapt to almost any environment and to make it appear satisfactory. However, it is said that "people do not know what they want when they have not experienced the alternatives."[17]

It is my belief that one portion of such a theory should be that the key to the relationship of human behavior and the environment lies in the learning process of every individual. However, before moving to consider that learning process, let us consider a portion of the individual's actions in space which is a part of learning and interacting with the environment and which affects all persons in this country today. That portion is "leisure".

Leisure, Free Time, and Recreation:

There is much controversy over the functions and definition of leisure. Webster defines it as "freedom from occupation or business; idle time; time free from employment; time at one's disposal; having spare time."[18] Gold defines leisure as "any portion of an individual's time not occupied by gainful employment or in pursuit of essential activities."[19] Does this mean that leisure is "time" and when one is not working, eating or sleeping?

Another definition is that "Leisure is activity--apart from the obligations of work, family, and society--to which the individual turns at will, for either relaxation, diversion, or broadening his knowledge and his spontaneous social participation, the free exercise of his creative capacity."[20] Is leisure then "activity"?

Gold states "Leisure is the raw material with which man may advance the level of mere existence."[21] Is leisure then a "raw material"?

Aristotle defined leisure as, "a state of being in which activity is performed for its own sake."[22] His concept was that leisure is a "condition or state of mind or state of being"[23] which was, at that time, sharply contrasted to work, or purposeful action. DeGrazia follows the same line of reason in his view that leisure "is an ideal, a state of being, a condition of man, which few desire and fewer achieve."[24] Is leisure then a "state of mind" or "state of being"?

Still another definition of leisure is that it is "the restorative, creative use of free time. ... When free time is utilized so that personal, social, and natural values accrue, then it becomes leisure."[25] Is leisure then the "use of free time"?

From all these views of leisure, the author accepts the Aristotelian concept of leisure as a "condition or state of mind or state of being" for use in this project. However, the author does not accept the Aristotelian sharp contrast of leisure and work, for a leisure state of mind is indeed possible when one is pursuing a work activity. (A work activity will be considered in this project, "To be customarily engaged or employed in any business, trade, profession, employment, or the like".[26])

Time not absorbed by work, or by the performance of other necessary functions such as eating, sleeping, bathing, or traveling to work, will be referred to as "free time". This free time will be considered as discretionary time which is available, through individual choice, for use as one wishes.

"Seventy-five years ago the average man spent 26 per cent of his time working and had 7 per cent remaining for leisure. Today he spends only 15 per cent of his time working and 21 per cent for leisure."[27] "The average citizen now has more than 3,000 hours of leisure a year."[28] The term leisure in these two quotations can be converted to the term "free time" for use in this project

considering the previously discussed definitions. Therefore one can consider that man today has 21 per cent free time or more than 3,000 hours of free time per year. These statements can be believed if one considers that for the society as a whole automation and technology have made possible the production of more goods in less time, thus making possible a shorter work week. Vacation plans, retirement plans and health plans have emerged to add to man's free time. Improvements in health care which have prolonged life expectancies also add to the time one has available, and the effects of technology have freed the average housewife of much of the drudgery of household chores, thus allowing her more free time after shopping and chauffering of family are completed.

While many feel that free time has increased, DeGrazia contends that people today have less free time than in the past.[29] His theory considers such factors as the plight of the homeowner who finds a certain amount of work necessary for maintenance of the home and which he must either do himself or must pay someone else to do. Either solution uses some portion of his free time, either to do the task or to spend more time working to pay for having it done.

In contrast to DeGrazia, the author believes that people today do have more free time than people had seventy-five years ago. They also have more to choose from for the use of that time. "But to be able to choose, man must have a trained intellect and be disciplined in choices pertinent not only to the good of himself but to the good of all."[30] Is it possible for man to choose activities which result in that state of mind which is leisure.

One of those activities which can produce the state of mind of leisure in a person is recreation. And for recreation also, there exist many definitions.

DeGrazia writes "Recreation is activity that rests men from work, often by giving them a change (distraction, diversion), and restores (re-creates) them for work."[31]

Another definition is that "Recreation is an emotional condition within an individual human being that flows from a feeling of well being and self-satisfaction. It is characterized by feelings of mastery, achievement, exhilaration, acceptance, success, personal worth, and pleasure. It reinforces a positive self image. Recreation is a response to esthetic experience, achievement of personal goals, or positive feed-back from others."[32]

Still another definition is "any activity pursued during leisure, either individual or collective, that is free and pleasureful, having its own immediate appeal, not impelled by a delayed reward beyond itself or by any immediate necessity."[33]

In the author's opinion recreation is all of those. It can be whatever one makes it to be--different for different people, trivial, unimportant or serious dedication with highest level of purpose. It can be a single episode or continual satisfaction throughout life, passive or active, both mental and physical, solitary, in small groups, or in large groups, and can be important to personal and social needs.

The trend of urbanization has created an environment which can "desensitize the perceptions, cause an unnecessary physical strain, create a lingering disorientation, intensify a growing apathy and lack of involvement, limit the capacity to communicate, and reduce the ability to learn and develop."[34] Urbanization has created a need for recreation and also created the possibilities for support of recreation areas, facilities, programs and opportunities. Societal trends have made recreation respectable and in fact encouraged participation. Today the presence of recreation facilities appears to be a key factor in making cities and towns more attractive to potential residents or business firms.

Recreation yields many benefits for people today. It allows individuals to find new areas of interest and to explore talents and latent abilities through a variety of activities. It provides a direct measure of happiness through

challenge and stimulus, and contributes to enriched knowledge and perception. Recreation contributes physically and mentally to the total well being of the individual, it teaches social competence, leadership, sportsmanlike behavior, group interaction and responsibility.

Recreation activities help create a community in which desirable social values are stressed. A total community recreative effort can help reduce juvenile delinquency and help keep elderly people from boredom and apathy. Recreation improves intergroup understanding and cooperation by allowing people to see members of other racial, ethnic or religious groups better as individuals, not as stereotypes.[35]

State of Present Attitudes

With all the benefits of recreation, an appraisal of it today shows that much of our free time is dominated by mass-produced, commercially promoted, depersonalized forms of recreational activity. Large amounts of our time are expended in passive, spectator geared pursuits, in wrist exercising activities, and in meaningless fun activities. For many there is a completely inadequate provision of recreational services and, for most, there is insufficient concern with the essential values, outcomes and benefits of recreational experiences.[36]

Why is there such a lack of concern for recreation and free time in modern society where the possibilities are so great? In the author's opinion it is the result of childhood training. People today have no concept of how to balance free time and leisure activities. Much of this is due to the past policy of schools of considering education the primary purpose of schools and not integrating recreation into the programs. Therefore, recreational programs and leisure education were the first to be cut from the budgets or left out of classroom discussions. People today have not had the proper training or experience necessary to make good choices in free time activities. "Involved in these choices, which are made every day by millions of people, are the economic and

social well-being of communities, states, and regions, the total value structure of the nation, and the emotional and physical health of each individual in the society."[37] For something that is of importance to each individual, public concern should be stimulated and a concept of free time, recreation, and leisure be developed to meet real concerns of today. While new ideas in education are being tried and new "open schools" are being built, people should pause and reappraise the importance of the combination of education and recreation. As stated by Jacks, "The education which is not also recreation is a maimed, incomplete, half-done thing. The recreation which is not also education has no re-creative value."[38]

This project will show that the two concepts introduced; (human behavior in interacting with the environment and the concept of free time, recreational and leisure attitudes in the human), are items which humans must learn. The project will consider the educational experience during childhood as an important base in that learning, and will illustrate the place of playgrounds in the learning process.

However, before pursuing further the program of learning, a look at the results of our past educational program is needed. Those results are clearly expressed by Barsch in his analysis of adults today.

> "The American child already seems destined on two counts at least, to have a postural problem and to be physically unfit. A casual observation on a busy street where many people are walking will reveal the slouched shoulders, protruding stomachs, pronated ankles, sloping shoulders, and tilted pelvises which bear witness to the postural problems.
>
> The weekend duffer and 125 average bowler are common sights. Basic training instructors in all of the armed services will attest to the large number of enlistees who must be painstakingly taught to crawl, roll, walk, stand, run, jump, and balance in order to insure their own battlefield survival.
>
> Dented fenders, confused parking placements, and high accident rates are continual evidence of modern man's inability to properly judge spatial distance.
>
> The inventive genius of man continues to supply modern man with more and more time and labor saving devices to provide more and more free time and less need to move. The achieve-

> ment of man's sedentation is nearly complete. He sits through approximately 80% of his school life engaged in the near-point visual task. The vast majority of the jobs in the nation are sedentary jobs, so he probably spends 80% of his vocational life sitting. His household chores which used to offer a possibility for movement become more and more automatized so he has more time to sit and watch television. Any distance over two blocks requires him to sit and ride in his car. He sits to watch sporting events and complains if he must park his car more than a hundred yards from the gate. A future of sedentation seems assured.
>
> A spatial confusion of many average adults who admit to a poor sense of direction suggests that the "ugly American" and the "fat American" can be joined by the "lost American".
>
> Almost at every turn there is evidence of adult inefficiency. Postural problems, accident proneness, dietary limitations, spectatoritis, increasing numbers of traffic fatalities, job failures, uncertainties and anxieties; poor listeners and inaccurate observers abound. Incoordination is a majority finding. Errors in communication are abundantly evident. The political world is in constant turmoil. Mental illness continues to increase in incidence. Everywhere the inefficiency of man is evident, and yet the science of human understanding of the universe has progressed more rapidly during the past twenty-five years than it has during the past several centuries. "Obsolescence" has become a key word in the culture of today.[39]

It is obvious that the body of learning which produced today's adults is inadequate to prepare humans to deal effectively with their environment or to give the training necessary to make good choices in free time activities.

LEARNING TASKS CONSIDERED

Today's educational system appears to have many areas in which improvement could help minimize some of the conditions observed by Barsch.

In this project learning will be considered to be a relatively permanent change resulting from training and/or experience.

As considered for this project the learning period is divided into the period of infancy to entrance into elementary school, and the period of elementary school. This division has been made by many experts in the field of child development. In each period learning in the area of interaction with the environment will be considered and then learning in the area of free time, recreation, and leisure attitudes.

The Child Learns To Move Within The Environment

The infant is not born having motor efficiency and must learn to move in space. Thus the infant progresses from a state of ignorance to a state of knowledge about his environment and his universe. Man's behavior in response to changes in his environment is determined by the amount and kind of this knowledge. To understand that behavior and to try to predict that behavior, one must know and understand the learning process the human being utilizes in acquiring that knowledge.

The learning process begins in the period of infancy. From infancy to the period of elementary school is a portion of the learning process that can be characterized as a "remarkable" period. During this period the human organism constructs a physical and cognitive foundation for movement efficiency. During this period the parents have the job of aiding in the development of the infant and the social obligation of establishing and defining the basic rules of living. In this period most parents try to do the best possible job of raising children, but, there is no theory on how to go about guiding the infant's learning or preparing the child for school. "It is safe at this time to state that an appropriate child-rearing curriculum has not been defined."[40]

Behavioral scientists have accumulated a list of what might be the wrong things to do with a child but have not accumulated an equal list of the right things to do with a child. Two studies of child rearing practices, Sears (1957) and Barsch (1967), show that parents rely on three approaches in child rearing: a trial and error approach, an approach using the method by which their parents raised them, and an approach utilized by friends and neighbors.

This period in life is very important because it forms the basis of learning and behavior. Carr indicated that "The child's early model of his small world grows eventually to influence the form of all his interaction with the environment."[41]

To learn, the child must be motivated toward learning. First, primary needs must be satisfied. This leaves the child alive, active, and ready to pursue something. At this point the child needs a "difference-in-sameness"[42] in the stimulus field. The environment must be familiar and yet contain some features which are novel. There is an optimal level which causes the most stimulation. That is the point where the maximum learning and interaction with the environment take place. Then, that interaction should effect the stimulus to produce further differences, thus further stimulus. Only when a situation has been examined until it has no new possibilities will the interest subside. A similar concept is that humans like to be "producers-of-effects[43] and therefore demand a knowledge of effects. The infant learns early that his actions can produce an effect on his environment.

If parents had the necessary items to produce that continuing stimulus, instead of needing to constantly keep the child out of things which are other than their own belongings, then the amount of interaction with the environment could be greatly increased. The human being is constantly cycling from stimulus to perception to action to effect to stimulus. When a child's interaction with the environment is increased, then his competence, that is his ability to interact effectively with the environment, is increased.

The environment becomes a unique representation in the nervous system of all who experience it. As Lee wrote, "Once the process has begun, every new perception is an act of construction following referral and it always modifies the organism to some extent either then or later."[44]

It is a common practice today for people, when a child reaches a point of failure in the elementary school to point to some parental omission as the cause. There is wide agreement on the importance of those first five years and yet there has been little change in the system of learning. As indicated earlier, an appropriate child-rearing curriculum does not exist and probably never will under

the present system. There is little likelihood that parents will probably ever be able to aid their children in establishing a good base for learning as the variables in parental learning are too many.

Some learning institution is needed for those first five years, and the emphasis in this first five years should be on the development of the body. Many studies show that infants develop the basic muscular movements and dynamic balance by age two. Cratty considers that by age five "a number of separate visual perceptual factors emerge, which remain relatively stable through adulthood."[46] Getman writes "It is now known that most children, age six, have not adequately acquired the neuromuscular controls necessary for advanced learning tasks."[45]

A program should be developed to communicate the proper learning base to parents or to provide a facility which would be based on movement learning. This would enable the child to know himself and his body in relation to the environment and how to move it efficiently in his limited environment. With this basic foundation the child would be able to build effectively the body of knowledge to be offered by later learning experiences.

One portion of a program that would aid parents in providing a varied environment for within which children can explore and learn is the neighborhood playground. Most parents cannot hope to provide the things possible in a neighborhood playground in each of their homes. Parents and neighborhoods should become more concerned with the development of children in the period before elementary school and provide development opportunities for children in neighborhood playgrounds.

The Elementary School Period

After the above period it is customary in America for the child to start the formal process of education. It is this process of formal education which should produce an intelligent, successful, emotionally mature, and socially

adaptive member of society. During this period the child will become familiar with the basic fundamentals of reading, writing, science, mathematics, history, and other fields. This is the period in which an individual builds on the basic model acquired in early childhood. It is in this period that an individual accumulates the largest part of the knowledge which determines his behavior in relation to his environment. It is this period, as Cratty indicates, that children "Improve to a marked degree in the ability to move and to manipulate their environments."[47]

Sears states that "the child's personality is the cluster of potentialities for action".[48] It is desirable to guide the child's potentialities toward gaining knowledge of the environment. The child learns that his actions can cause a reaction in the environment. Thus he finds he is a "producer of effects"[49] and then begins to build a knowledge of effects. That knowledge is the basis of the phases if interaction with the environment that humans follow as described by Carr. To repeat:

1. The directive phase, in which a goal, need, or purpose becomes predominant in directing our course of action.
2. The intelligence phase, in which we organize new information from the environment to retain within our memory.
3. The planning phase, in which information is retrieved from memory, or other sources and transformed into evaluation and generation of possible actions.
4. The action phase, in which the plan judged appropriate is executed in the present environmental context.
5. The review phase, in which the effectiveness and outcome or the particular action is entered into memory in order to assign value and meaning after the experience and to correct future action.[50]

The elementary school period appears to be the most important in developing the concept of free time skills and attitudes in humans. Since 1918, leading professional organizations in the field of education have accepted the teaching of leisure skills and attitudes as an important goal of education. This is now included in the detailed policy statements of the National Education Association and the American Association of School Administrators.

To restate, any activity which is voluntarily undertaken within one's free time is considered recreation. Leisure is a condition or state of mind ideally achieved when pursuing an activity for its own sake.

Is it possible that free time education should be the basis for education rather than an often forgotten sidelight? Consider the recommendations of the 1960 White House Conference on Children and Youth which stress the need to

> "1. Encourage a leisurely and relaxed attitude toward free time, simplicity and naturalness; the unhurried, simple and spontaneous should be deliberately cultivated in a society as organized and fast-paced as ours.
> 2. Achieve a healthy balance within one's leisure life, free life, and one's work life.
> 3. Cultivate a sense of self-identity and autonomy, through a balance of healthy and satisfying individual and group experiences.
> 4. Encourage an attitude of detachment, thoughtfulness, and exploration, and a balance between action and reflection, activity and passivity, gregariousness and solitude."[51]

The chief purpose of leisure education is to bring about changes and to identify possibilities in attitudes, knowledge skills, and behavior in students. In attitudes students should develop an awareness of the importance of leisure in behavior and a recognition of the significant benefits that it may contribute to their lives. They should develop favorable attitudes, leading to direct personal involvement in a variety of satisfying activities. Also, they should develop the ability to make sound judgements and rational choices in recreational participation, and develop a keen sense of knowledge and discrimination. Students should store the knowledge, outcomes and benefits of those activities, and they should know of recreation resources and how to use them.

In order to achieve a degree of competence, success, and pleasure a student needs to achieve certain basic skills related to free time activities presently available. Since people tend to enjoy more what they can do well, school experience should involve real learning experience, rather than a casual "free play" kind of approach. School experience is not really play any more than vocational instruction is a job, but it is preparation.

The total of attitudes, knowledge and skills results in behavior. Behavior needs to be marked by good judgement in all areas including recreation, by a diversity of interests in the physical, social, and emotional sense, and by complete competence. Schools can enrich free time, recreation and leisure in the following ways:

1. Introduction to wide range of interests.
2. Teaching the use of books and libraries to develop wholesome reading appetites.
3. Developing exposure to music and skill in singing, playing and dancing.
4. Participation in games and sports which may be easily continued in later years.
5. Providing experiences in social life through school activities and clubs.
6. Cultivating knowledge of the out-of-doors, awareness of flowers, animals, landscapes, sky and stars, etc.
7. Giving opportunity to develop hobbies, gardening, mechanics, applied arts, fine arts, architecture, landscape architecture, city planning, etc.
8. Making school and playfields the center and servant of wholesome and satisfying neighborhood life.
9. Attention to various agencies and their values, theatres, concerts, libraries, radio, periodicals, newspapers, museums, parks, playgrounds, travel.[52]

Thus it is not possible or logical to rigidly separate education and recreation from each other. The chief distinction between them is that education is a somewhat more formal required experience, in which priority is clearly given to the learning of recreational skills and knowledge in which the individual is expected to achieve certain levels of competence and to meet standards of performance. On the other hand, recreation tends to be informal, voluntary, and less explicit, or sometimes more so, in terms of desired standards or outcomes. When teachers are able to make their formal school subjects so interesting and stimulating that formal education becomes intensely satisfying, it becomes "recreation".

When educational and recreational experiences are blended, the highest form of experience can be achieved. If a theory were established and supported by evidence regarding the proper mix to give the optimal level of stimulation, then

children can and will benefit greatly, thus benefiting adults.

Learning Movement

The human develops in many areas during the learning process. Those areas are sometimes depicted as in Figure 1.[53]

> Thus, "movement is not the genesis of intelligence. A child may sit quietly and think. A man can do more than move. Movement is an important component of the total personality. Overt behavior represents an important learning mobility which has not been fully exploited by educators. Movement is a vehicle through which men and children interact with and influence their environment. Motor activity does not, however, constitute the totality from which the multiplicity of human attributes spring forth."[54]

The process in development then might resemble such a diagram as in figure 2[55] showing that all portions of a human develop together and in a progressive nature unique to each individual.

The importance of movement in the process is indicated by Cratty to be "a fundamental dimension of human behavior".[56] "It is observed that infants during the first weeks of life begin to explore their world, using their motor capacities. This motor activity seems to precede verbal and cognitive behavior causing some to assert that motor learning forms the basis of all learning."[57]

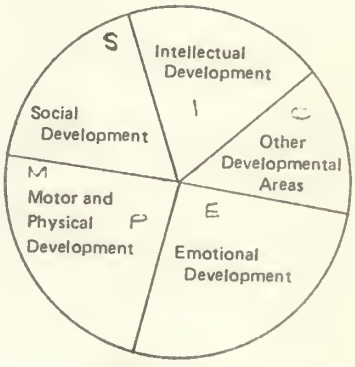

Figure (1) A Disintegrated Concept of Human Development.

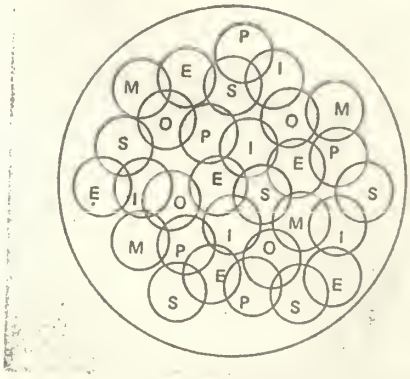

Figure (2) An Integrated Concept of Human Development.

It appears that no one has formed a theory of human development which indicates the quantities of the qualities in Figure 1, or the precise order of development of those qualities. However, the importance of motor development is recognized. The basis

for motor development lies in childhood learning. "It takes somewhat over twenty years for the human organism to mature but the first four or five years are the most important because these early years -- the formative years -- largely determine future abilities and behaviors."[58] Many theories of learning have been based upon motor learning.[59]

Motor learning consists of a very large body of knowledge. Experts in the field have described the following basic attributes of humans:

A. Balance	The ability to maintain body position and equilibrium both in movement and in stationary body positions.[60]
	The ability to assume and maintain any body position against the force of gravity.[61]
B. Muscular Strength	The ability to exert force such as lifting a weight or lifting your own body.[62]
	The ability to do work; the ability to move against or withstand resistance.[63]
	The amount of force that can be exerted by a single muscle or group of muscles in one single maximum effort.[64]
C. Muscular Endurance	The ability to persist in numerous repetitions of an activity involving strength.[65]
	The ability of a muscle or group of muscles to continue contracting over an extended period of time against a moderate resistance.[66]
D. Power	The ability to display strength explosively or with speed.[67]
	The ability to perform one maximum explosive effort in the shortest time with the greatest efficiency.[68]
E. Agility	The ability to change directions quickly and to control body movements (total body).[69]
	The ability to make successive movements in different directions as efficiently and as rapidly as possible.[70]
	The ability to move one's body through space.[71]

F. Endurance	The ability to persist in numerous repetitions of an activity. Specifically, this aspect involves development of the respiratory and circulatory systems of the body.[72]
G. Flexibility	The length of muscle, or the ability of a joint to move through its possible movement range.[73]
	The range of motion present at a given point.[74]
	The ability to increase the range of motion at a given joint.[75]
H. Speed	The ability to move from one place to another in the shortest possible time.[77]
	The ability to perform rapidly successive movements over a short period of time in a single direction.[78]
I. Coordination	The ability to perform hand-eye and foot-eye tasks such as kicking, throwing, striking, etc.[79]
	The effectiveness and rhythmical efficiency with which one moves his body.[80]
J. Reaction Time	The ability to perceive a stimulus, begin movement and finally complete a response.[81]
K. Sequence	A number of movements and positions, smoothly connected, and performed so as to reflect the accomplishments of the performer in one or several developmental qualities.[82]

The child must use these attributes to move in space, including directions, levels, and pathways in space. He must learn that he moves with flow and with force in time through space The child must build a knowledge of movement of body parts as well as the body as a whole.[83]

The attributes on the knowledge of movement in space must then be applied by the child to the fundamentals of standing, walking, running, hopping, jumping, leaping, galloping, pushing, pulling, falling, lifting, throwing, rolling, catching, and striking.[84]

It is very important that children learn motor tasks and skills during the period best suited to the learning of those skills. There is little evidence of

exactly when each period is. "While little concrete research evidence is available to reveal the full potential of children for motor performance, one thing is clear; children can achieve much more than we have previously assumed. We have, it appears, grossly underestimated the potential of children for motor performance."[85]

What is needed by children is an environment which offers challenge and learning possibilities to all children. Within such an environment children perhaps could achieve maximum movement efficiency.

PLAY

Play is another term which is the subject of many books and which has many definitions. One definition is, "what we do because we want to do it".[86] Another is, "activities not consciously performed for the sake of any result beyond themselves".[87] A third is "play is the means whereby the child fantasy comes to know reality."[88]

> "Play is effort in which the satisfactions are in, and a part of, the activity itself. The goals are immediate, and they are accomplishable. It is effort scaled down to capacity of the performer, so as to provide a balance of success and failure possibilities, with the result that there is always hope of achievement. Play is its own reward, and no other inducement is needed. Play is self-expression for its own sake."[89]

These and other various definitions grow from the many theories of play. The following theories are summarized in Appendix II. Play is surplus energy, it is instinct, it is preparation, it is recapitulation, it is relaxation, it is generalization, it is compensation, it is catharsic, it is psychonalytic, it is developmental, it is learning, it is arousal seeking, and it is competence/effectance.[90]

In addition to these theories Piaget proposed a theory of play, related to developmental theories, which is closely bound with his theory of growth of intellegence. "He postulates two processes which he believes to be fundamental to all organic development; assimilation and accommodation ... the two processes

are complementary and involve each other. Piaget has no need to assume a special impulse to play, since he regards it as an aspect of assimilation."[91]

Persons in many fields today are striving to define play in a way satisfactory to all. This project does not intend to try to solve that dilemma. The term "play" herein will be treated as a plastic concept which may exhibit one or more characteristics from some or all of the theories of play. Play can be the use of excess energy above that needed for survival, activities caused by instinct, preparation of self for later life, relaxation from work, an extension of an activity introduced at work or school, an outlet for built up frustration and hostility, development in early human stages, response to the environment, stimulation-seeking, and an activity pursued for its own sake.

"Children often loaf and dawdle at their tasks but seldom at their play. They take the goals of their play seriously, and that is why they put the best of their ability into it. The enthusiasm of play, aroused as these goals are sought and accomplished, gives play the superior educational value it possesses."[92]

Play has many values as by-products for children:

Play aids growth in the skeletal muscles, in the respiratory system, in the heart, and in the nervous system. Play is a voluntary personal activity in which a child learns to be the decision-maker and develops his initiative, originality, resourcefulness, and confidence. In play the child can carry on activity for its own sake without fear of outcome or ridicule. Play provides the child with an imaginary world in which he can manipulate and maneuver it to suit his own imagination, if his play world is well planned. A child's imaginary play is serious and earnest and is to him nearly a real-life experience. Play provides a child the opportunity for perceptual discovering, for thinking and remembering and for language building. Play allows a child to learn interpersonal and character values. He learns conflict and cooperation, following and leading, courtesy and discourtesy, unselfishness and selfishness, honesty and dishonesty,

truthfulness and lying and thus learns and the outcomes and consequences of those things. Play introduces a child to himself and to movement of that self through space. In this movement the child learns to investigate their environment and form ideas concerning objects in the world.

> "Childhood--with its work and play inseparable--is a time for nuturing intellect and molding personality, for discovering life and experiencing it. Limit the experience and the child is limited; limit the child and the adult is limited. The child is truly father of man."[93]

Experts have described several play specific periods in life. Piaget divides these periods into:

> The period from birth to eighteen months, as the sensory-motor period when a child aquires basic notions of space, time, and cause and effect. He develops a knowledge of the way things behave due to his actions, but has no concept as to why.[94]
>
> The period from two to nine when the child acquires an understanding of the relations between the real world and a symbol or word for it.[94]
>
> The period from ten to twelve when concepts of why things happen are formed and reflective intelligence is utilized significantly.[95]

A different grouping is as given by Sapora:

> The period from birth to six years, early childhood.
>
> The period from six to twelve, late childhood.
>
> The period from twelve to fifteen early adolescence.[96]

Still different is one shown by Lee:

> The period from b_rth to three years, a period of babyhood when a child's life is largely in relation to his mother.
>
> The period from three years to six years when the main lines of growth are in movement and social membership.
>
> The period from age six to age eleven, the period of self-assertion.
>
> The period from age eleven to age seventeen, when belonging and loyalty evolve.[97]

Periods of play and development are difficult to delineate because every child

is an individual and develops at a different pace. Development is a process through which every child moves at his or her own pace and when he or she has achieved a certain stage in learning, then he or she proceeds on to the next stage.

In keeping with the considerations of learning made in earlier portions of this paper, this project will utilize two basic periods of play and development. Those are the period of birth to elementary school and the period of elementary school.

The task is not to define periods of development, but to provide a stimulating environment in which a child may develop at his own pace. "Recent experiments show that children respond directly to an enriched environment, developing their awareness and capabilities at a geometric rate when the environment is a stimulating one."[98]

Cratty states, "The early social development of infants and children is closely linked with the manner in which they deal with play materials and with each other when playing," and that "as middle childhood is reached, innumerable facets of the environment will influence childhood play, including the social and economic conditions, the play materials, and the siblings available to play with, as well as the opportunity to receive instructions from another."[99]

PLAYGROUNDS

The author hypothesizes that two items which can add much to the development of a child's knowledge of, an interaction with his environment and which can effectively begin to develop an awareness in communities of the importance of leisure and recreation are the neighborhood playground and the elementary playground.

A look around and a little memory will reveal what has developed and exists in playgrounds. They have become "great, gray outdoor nannies, incarcerating children and protecting them from experience and involvement."[100] "Play equipment is archaic and sentimental, dropped into sterile plains of asphalt, bounded by

forbidding fences (to keep people out, or in?)."[101] Playgrounds have developed into dreary environments as a result of apathy, cuts from budgets, callous indifference to the needs of children and "an exaggrated emphasis on the management and maintenance of facilities".[102] Playgrounds now exist as a place where children "run off steam" during school recesses or where they can be kept busy and out of trouble.

With some deliberate thought, more exciting playgrounds for children can be provided. Recall that children require a "difference-in-sameness" in the stimulus field in order to motivate their interest and exploration. Then that exploration should affect the stimulus to produce further differences, thus further stimulus. Interest and exploration will subside only when a situation has been examined until it has no new possibilities. This chain increases children's interaction with the environment, which in turn increases their knowledge, their ability, and their competence in those interactions. For teachers, educators, and designers to provide a stimulus field which has continuous stimulus possibilities is a quite large problem.

One solution to this problem is to design equipment that may be changed every two to three months. Another solution which has been successful, is that of the "Adventure Playground" as described by Cooper and Nicholson.[103] The adventure playground is usually an unimproved lot where children are provided materials and tools, and then left to shape and reshape their environment. These playgrounds usually have some sort of play leader to assist the children and provide some supervision in their endeavors. Also these playgrounds are usually provided with a high, partially solid fence to give children a feeling of privacy in their space and to spare adult eyes some of their ideas. The fence has open areas to provide evening supervision and to allow curious daytime peeks by interested passers-by or mothers.

There is a need for teachers and school administrators to contribute many

ideas concerning what types of equipment could be used and what items could be added for use as an extension of the classroom, especially with respect to educational subjects such as mathematics, science, physics, nature study and plant life, physical education, and many others. In the elementary school setting they can be the core of making playground recreation a valuable developmental and learning process.

The children must be asked for their ideas and desires. Those ideas, along with the construction help of the children, will cause them to feel more as if the playground were theirs and not something given to or provided for them. This feeling has been the reason that principals, whose schools have this type of playgrounds, have attributed the reason for less vandalism to the schools, especially in the playground area. Could this possibly be a means of reducing the juvenile delinquency problem?

Children must be considered by all in the design of equipment. The scale of all things is different to a child than to an adult. Preferences of children also are different than that of an adult, as shown in studies conducted by Bishop.

Piaget has shown that children like highly colored, innovative things, that they prefer the center piece of equipment, that they prefer three or four children per piece of equipment, and that they become bored as settings become familiar.[104] The developmental playground definitely adds to a child's cognitive growth, to his social development, and to his emotional stability.

COMMUNITY ACTION

Children, parents, community leaders, community professionals, and other interested persons should be encouraged to participate in the design, equipment, and material to use ideas. Many times playgrounds can be economically designed and built through community action. Presently, these may be the most imaginative and successful playgrounds built which aid child development.

To accomplish this the residents of a neighborhood or community must move

from apathy to action. They must develop an active interest in effecting their future. But, people must be made aware that their children are missing many opportunities. They need an incentive to become active in such things. If people do not feel there is a problem, they will not act. "President Nixon became an activist when sewage dumped by ships at sea washed up on the beach and fouled the swimming area at his Florida beach house."[105]

Once made aware of the problem, present neighborhood or community organizations can act on the situation or the community can establish a new organization specifically for the provision of playgrounds. Currently the approach is to add a playground project to the goals of an existing organization such as the Parent Teacher Association, PTA, of schools. After defining the problem and suggesting a way to solve the problem, one can work within the established structure and communication lines of the PTA to seek the resources for building.

Parents and teachers should be asked to feed ideas into the design. Children's ideas should be incorporated, however, most of the time very few are used. Then parents are organized to donate materials and deliver them to the site, and on several weekends the members of the PTA, the children, and other volunteers converge on the selected playground and perform the actual construction.

Presently this kind of playground process can only be accomplished if those in power with the school system have decided to allow the construction and they retain the power to approve the plans and to approve or disapprove expenditures. The actual citizen participation is only with the power structure listening, but deciding what it wants. This is little more than the manipulation of people that has allowed today's education system to produce the adults of today, and can be placed in the realm of tokenism along the "Ladder of Citizen Participation".[106]

This approach to playgrounds does get something built which can start to mix recreation and education. It can possibly help with the development of elementary school children, which is definitely needed. However, that is where it stops. From there the PTA turns to officer elections or ice cream socials.

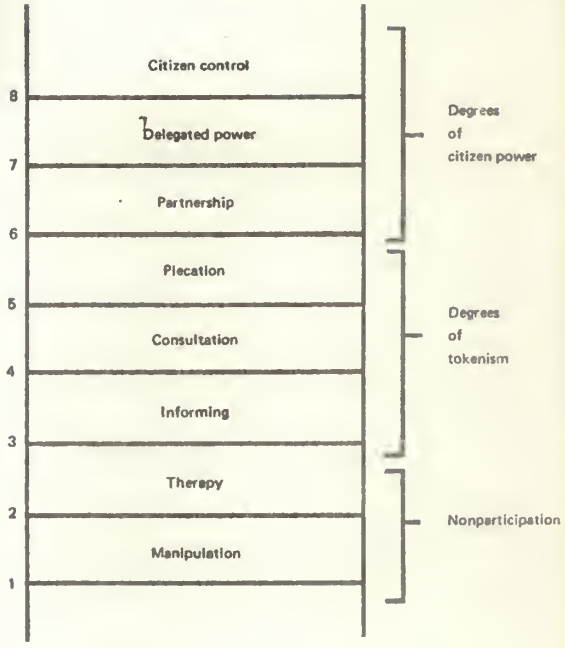

Figure 3, Eight Rungs on a Ladder of Citizen Participation

Arnstein, Sherry "Ladder of Citizen Participation", American Institute of Planners, July 1969.

Considering this, possibly one could become the organizer, or at least find a neighborhood organizer. One possibility is that a volunteer organization concerned with recreation or with education/recreation could be formed. Utilizing a community development approach, the organizer can convey the problem to community people and inform them as to the courses of action open to them. With a playground as a short term goal, not only could the teachers and parents be involved, but community professional and business people could add input to the design and construction of the project. Once this organization developed into a smoothly functioning group, a longer range goal could be established concerning recreation for the total community and provision of free time activities for all ages. Perhaps the importance of recreation would become utilized by the entire population instead of only the school aged.

In such a project one must remember that each individual within a community has something unique to contribute to the project. Also that communities have the right to live their own lives, within reason, and that all individuals should

share in the benefits of that community. However, included in that share of benefits is a share of society's work and responsibilities. One responsibility is to furnish today's children with a good education including leisure education, and to allow that educational program the extension to include leisure activities for the entire community. The playground at the elementary school is the first step in increasing the community's share in responsibilities and benefits.

EPIGRAPH

"Children should be able to do their own experimenting and their own research. Teachers, of course, can guide them by providing appropriate materials, but the essential thing is that in order for a child to understand something, he must re-invent it. Every time we teach a child something, we keep him from inventing it himself. On the other hand, that which we allow him to discover by himself will remain with him visibly, --- for all the rest of his life."[107]

APPENDICES

APPENDIX I

GLOSSARY

APPENDIX I - GLOSSARY

1. Environment - Refers to objects, other then human beings, that occupy space and have been placed or altered by human manipulation.

2. Free Time - Discretionary time which is available, through free choice, for use as one wishes.

3. Growth - The physical and biological changes that naturally evolve in the development of an individual.[107]

4. Learning - A relatively permanent change resulting from training and/or experience.

5. Leisure - The condition or state of mind which is possible when pursuing activities for their own sake.[108]

6. Maturation - Progress from one stage to a higher and more complex stage of development which is accomplished without the benefit of experience and as a function of time.[109]

7. Motor Behavior - The observable movement of the body.

8. Motor Educability - The capacity to learn body movement.

9. Motor Fitness - The capacity to perform movement.

10. Motor Learning - The rather permanent change in motor performance brought about through practice.

11. Motor Performance - Observable, voluntary, goal centered movement.

12. Motor Skill - Performance involving reasonably complex adjustments acquired through the learning process.[110]

13. Perception - The process of interpreting a stimuli through the senses which is generally predetermined by past experience.[111]

14. Perceptual-Motor Process - The management of information coming to the individual through the senses, the processing of the information, and the reacting in terms of overt motor behavior.

15. Play - A flexible concept which includes the use of excess energy, the following of instinct, preparation for future life, rest from work, an outlet for frustration, an extension of a work activity, a seeking of stimulus, development, or activity pursued for its own sake. (See page 25).

16. Privacy - A concept which refers to the ability of individuals, groups or institutions to determine when, how, and to what extent information about them is communicated to others.[112]

17. Recreation - Any activity pursued for its own sake from which one may receive pleasure, satisfaction, self-actualization, and/or rest from work. (See page 11)

18. Space - "The unlimited or indefinitely great receptacle of things commonly conceived as an expanse extending in all directions (or having three dimensions) in which, or occupying portions of which, all material objects are located." (See page 1)

19. Work - To be customarily engaged or employed in any business, trade, profession, employment, or the like. (See page 8)

APPENDIX II

from Ellis, Michael J., Why People Play, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1973.

NAME	PLAY IS CAUSED:	THIS EXPLANATION ASSUMES THAT:	IT CAN BE CRITICIZED BECAUSE:
1a. Surplus Energy: I	by the existence of energy surplus to the needs of survival	1. energy is produced at a constant rate 2. if stored, storage is limited 3. excess must be expended 4. its expenditure is made on overt behavior which is by definition play	1. children play when fatigued or to the point of fatigue, so a surplus is not necessary for play 2. the process of evolution should have tailored the energy available to the energy required
1b. Surplus Energy: II	by increased tendency to respond after a period of response deprivation	1. all response systems of the body have a tendency to respond 2. the response threshold is lowered by a period of disuse 3. after periods of disuse, eventually all available responses should reach a low enough threshold to be discharged either by some stimulus events or spontaneously.	1. some responses available to the persons are never used
2. Instinct	by the inheritance of unlearned capacities to emit playful acts	1. the determinants of our behavior are inherited in the same way that we inherit the genetic code which determines our structure 2. some of those determinants cause play	1. It ignored the obvious capacity of the person to learn new responses that we classify as play 2. the facile naming of an instinct for each class of observed behavior is to do no more than to say, "Because there is play, there must be a cause which we will call an Instinct."
3. Preparation	by the efforts of the player to prepare for later life	1. play is emitted only by persons preparing for new ways of responding 2. the player is instinctively prepared for responses that will be critical later 3. the instincts governing this are inherited imperfectly and youth is the period during which these imperfectly inherited mechanisms are perfected	1. play occurs most frequently in animals that live in rapidly changing circumstances 2. it requires that the player inherit the capacity to predict which responses will be critical later. This requires the inheritance of information about the future 3. people do not stop playing as adults, when presumably they are acceptably prepared
4. Recapitulation	by the player recapitulating the history of the development of the species during its development	1. the critical behaviors occurring during the evolution of man are encoded for inheritance 2. a person emits some approximation to all these behaviors during his development 3. since these behaviors are currently irrelevant they are play 4. the stages in our evolution will be followed in the individual's development	1. there is no linear progression in our play development that seems to mirror the development of a species. At one point, late boyhood and adolescence there may be similarity between sports and games and the components of hunting, chasing, fighting, etc., but before and after there seems little evidence 2. it does not explain play activities dependent upon advanced technology
5. Relaxation	by the need for an individual to emit responses other than those used in work to allow recuperation	1. players work 2. play involves the emission of responses different from those of work 3. the emission of different responses eliminates the noxious byproducts of work	1. it does not explain the use in play of activities similar to those used in work 2. it does not explain the play of children unless they are clearly working some part of their day

NAME	PLAY IS CAUSED:	THIS EXPLANATION ASSUMES THAT:	IT CAN BE CRITICIZED BECAUSE:
6. Generalization	by the players using in their play experiences that have been rewarding at work	1. there are at least two separable categories of behavior 2. the players transfer to play or leisure, behaviors that are rewarded in another setting 3. to be useful we understand what rewards individuals at work	1. it seems to exclude play of preschool children 2. it assumes that at least some aspects of work are rewarding
7. Compensation	by players using their play to satisfy psychic needs not satisfied in or generated by the working behaviors	1. there are at least two separable categories of behavior 2. the player avoids in play or leisure behaviors that are unsatisfying in the work setting experiences that meet his psychic needs 3. to be useful we understand the mismatch of needs and satisfactions in the work setting (or vice versa)	1. it seems to exclude play of preschool children 2. it assumes that work is damaging or does not satisfy some needs
8. Catharsis	in part by the need to express disorganizing emotions in a harmless way by transferring them to socially sanctioned activity. This concept has been limited almost entirely to questions of aggression, and will be so here	1. frustration of an intention engenders hostility towards the frustrator 2. this frustration or hostility can be redirected to another activity 3. this hostility must be expressed to reduce psychic and physiological stress	1. it is a partial explanation for only the compensatory behavior engendered by hostility 2. the data show conclusively that sanctioning aggression increases it 3. the planning of activities to provide outlets for aggression constitutes its sanctioning
9a. Psychoanalytic: I	in part by the players repeating in a playful form strongly unpleasant experiences, thereby reducing their seriousness and allowing their assimilation	1. stimulating unpleasant experiences in another setting reduces the unpleasantness of their residual effects	
9b. Psychoanalytic: II	in part by the player during play reversing his role as the passive recipient of strong unpleasant experience, and actively mastering another recipient in a similar way, thus purging the unpleasant effects	1. achieving mastery, even in a simulated experience, allows the elimination of the products of unpleasant experience by passing similar experiences on to other beings or objects	Both I and II ignore play that is not presumed to be motivated by the need to eliminate the products of strongly unpleasant experiences.
10. Developmental	by the way in which a child's mind develops. Thus play is caused by the growth of the child's intellect and is conditioned by it. Play occurs when the child can impose on reality his own conceptions and constraints	1. play involves the intellect 2. as a result of play, the intellect increases in complexity 3. this process in the human can be separated into stages 4. children pass through these stages in order	1. it doesn't account for play when and if the intellect ceases to develop
11. Learning	by the normal processes that produce learning	1. the child acts to increase the probability of pleasant events 2. the child acts to decrease the probability of unpleasant events 3. the environment is a complex of pleasant and unpleasant effects 4. the environment selects and energizes the play behaviors of its tenants	1. it doesn't account for behavior in situations where there are no apparent consequences (However the theory would maintain that there are no such settings.) 2. it doesn't account for the original contributions to behaviors made by an individual's genetic inheritance

NAME	PLAY IS CAUSED:	THIS EXPLANATION ASSUMES THAT:	IT CAN BE CRITICIZED BECAUSE:
12. Play as Arousal-Seeking	by the need to generate interactions with the environment or self that elevate arousal (level of interest or stimulation) towards the optimal for the individual	1. there is a need for optimal arousal 2. change in arousal towards optimal is pleasant 3. the organism learns the behaviors that result in that feeling and vice versa 4. stimuli vary in their capacity to arouse 5. stimuli that arouse are those involving novelty, complexity, and/or dissonance, i.e., information 6. the organism will be forced to emit changing behavior and maintain engagement with arousing stimuli	1. it is very general but it handles questions of work and play equally well. In fact it questions the validity of separating work from play
13. Competence/Effectance	by a need to produce effects in the environment. Such effects demonstrate competence and result in feelings of effectance	1. demonstration of competence leads to feelings of effectance 2. effectance is pleasant 3. effectance increases the probability of tests of competence	1. for the organism to constantly test whether it can still competently produce an effect seems to require uncertainty as to the outcome. Uncertainty or information seem to be the very attributes of stimuli that are arousing 2. it can be argued that competence/effectance behavior is a kind of arousal-seeking

APPENDIX III

Proposed manual for distribution to people in communities to aid in the design and construction of developmental playgrounds for their children.

PLAYGROUNDS THROUGH COMMUNITY ACTION - ASPECTS OF DEVELOPMENT

"In our anxiety to push children on it is only too easy to forget that each stage of development needs to be lived fully for its own sake. Children will never have their childhood again. If we take it away from them now, it is gone forever."

Joan E. Cass, 1973

LIST OF FIGURES

Figure A - Example of Balance

Figure B - Example of Flexibility

Figure C - Example of Agility

Figure D - Example of Speed

Figure E - Example of Sequence

Figure F - Example of Path

Figure G - Example of Construction Equipment

Figure H - Example of Present Playground

Figure I - Example of Developmental Equipment

INTRODUCTION

Many people would agree with the statement, "Life today in the United States is better than at any time in the past." That belief may be partially based on the thought that technology and automation have made possible the production of more and more goods in less and less time. This has enabled people to work a shorter work week while society has become more affluent. Laws have been established forcing employers to pay a minimum wage to workers and to use other than child-labor. Vacation plans, retirement plans and health plans have emerged for employed and unemployed people. Even the drudgery of household chores has been made easier through technological advances. All these things have introduced people in this country today to "free time" which is time when one is not absorbed in work or by performance of necessary functions such as eating, sleeping, or bathing, and in which one has a choice of activities.

In order to create this "free" time through technological advances, people have had to gather in urban centers for efficient production activities. This process of urbanization has aided technology and has benefited the people in some ways, however, many problems have accompanied urbanization too. One of these problems has been the creation of an environment which instills in people insensitive perception, apathy and desire "not to get involved", disorientation, and reduction of abilities for learning and developing.

With the increasing complexity in urban living, people have increasing needs to be able to exercise their bodies to release nervous energy and built up emotions, to be able to seek challenge and enrichment, and to develop pride in their person. People can satisfy these needs in their free time through recreation and leisure.

> Leisure is a state of one's mind in which one achieves satisfaction from pursuing an activity for its own sake.
>
> Recreation is activity pursued during one's free time for its own sake.

Urbanization has created a need for recreation areas, facilities and programs. However, cities and communities have been negligent in providing adequate recreational areas and facilities. People in the cities and communities do not appear concerned with the lacking reactional opportunities.

The author believes that people today have not learned how to balance leisure and recreational activities. Perhaps this is because schools responsible for childhood training have especially in the past, separated education and recreation, have presented only educational subjects and have omitted leisure education and recreation training. However, since 1918 leading professional educational organizations have claimed that an important goal of education is the teaching of leisure skills and attitudes.

IS IT NOT TIME TO IMPLEMENT THIS GOAL?

The chief purpose of leisure education is to bring about changes in attitudes, knowledge, skills, and behavior. In attitudes, students should develop an awareness of the importance of leisure in society and a recognition of significant benefits that it may contribute to their lives. They should develop favorable attitudes leading to direct personal involvement in a variety of satisfying activities. Also they should develop the ability to make sound judgements and rational choices in leisure participation, and to have a keen sense of choice and discrimination. Students need to know the involvement, outcomes and benefits of re·reational and leisure activities and need to know what the recreation resources are in their community and how to use them.

Students must achieve certain basic skills related to those leisure activities presently available in order to achieve a degree of competence, success, and pleasure. Since people tend to enjoy more what they can do well, school experience should involve real learning experience, rather than a casual "free play" kind of approach. School experience is not really play, any more than vocational instruction is a job, but it is preparation.

The total of attitudes, knowledge, and skills leads to behavior. Behavior must be marked by good judgement in recreation, by diversity of interests in the physical, social, and emotional sense, and be executed with competence.

Recreation and education have certain important functions and outcomes in common. Recreation affords opportunities to practice interesting and highly motivational activities, many of which are extensions of material introduced in education. Recreation contributes to certain goals of education: personal and social growth, physical and creative development and good citizenship. Education in schools presents activities which, enjoyed in another setting would be clearly perceived as recreation. It is clear that planned recreational activities can be used to promote learning even in clearly academic areas, such as arithmetic, science, music, social studies, language arts, and physical education.

Children can develop a deep interest in subjects, and personally see them as a fascinating and potentially permanent interest. They begin to develop these interests into a basis for their vocations and avocations. It is the duty of schools to expose children to many interests, varied experiences, opportunities to explore and to help them discover their capabilities.

Thus, it is not possible or logical to rigidly separate education and recreation from each other. The chief distinction between them is that education is a somewhat more formal required experience in which priority is clearly given to the learning of skills and knowledge and in which the individual is expected to achieve certain levels of competence and to meet standards of performance while on the other hand, recreation is informal, voluntary, and less explicit in terms of desired standards or outcomes.

When teachers are able to make their formal school subjects so interesting and stimulating that formal education becomes intensely satisfying it becomes like recreation and enhances leisure.

When recreation and education are blended, the highest form of experience is

achieved. It is possible that educators are overlooking one place where that blend could be accomplished. That place is the school playground. The subjects and principles that could be illustrated in playground equipment are great and limited only by the imagination.

The current popular image of the playground is that it is a place to let children run off steam, or a place to send children to offer a mother some time of relief. Why not truly utilize the playground with its endless opportunities? The playground is the center for one very important factor found in almost every activity--movement. The period of childhood is very important in the learning of movement and of the medium through which one moves, space.

All objects are located in space, including the human. The human organism is capable of economical and efficient movement through space, thus avoiding or interacting with other objects within space. But, humans have different spatial needs within the environment, meaning objects placed or altered in space due to human manipulation. One of these spatial needs is known as "personal space", which consists of a zone of space enveloping the body. Another spatial need is known as "territorial space" which is a larger zone that is sometimes the basis for certain segments of human behavior. In addition, humans are aware of social distance and public distance observed at various places. These spatial areas are either consciously or sub-consciously observed in human movement. Humans must recognize their spatial requirements before effective interactions with their environment can be learned.

Before learning or interacting can take place, motivation has to be present in a person. It is believed that this motivation is caused by unsatisfied needs, and that the organism is dominated by one or more of these unsatisfied needs. Some needs are more important than others, the basic physiological needs are the most important, after which come safety and stability needs. Once these needs are fulfilled the person has a need for affectionate relations with other humans

and a need for a place to belong within his group. Finally, the person seeks a high evaluation of himself and, then, self-fulfillment.

Once the unsatisfied need directs motivation the person proceeds to gather information from the present environment to organize that information, to retain new information in memory, to recall information held in memory and then to evaluate this to generate action. Following the action, results are entered into memory for some future evaluation. In this way a person builds a "knowledge of effects" concerning his interactions with the environment and, thus, his movements through space, this knowledge being affected by prior experiences.

> "The child's early model of his small world grows eventually to influence the form of all his interaction with the environment."
>
> Carr 1970

Children begin learning from the first day of life. From that time until the time they start school, around age six, they form a physical and cognitive foundation for their environmental interactions. This makes this period a remarkable and an important one.

Parents today are doing their best to help their children form this foundation, but they need help. Many persons in the field of education and research have indicated th t this early period is highly important in the development of children and that most children have not developed adequately, especially in neuromuscular controls, during this period to pursue advanced learning tasks in the elementary school period.

The total learning of which the young child is capable in his interaction with the environment and movement in space is not known today. It is surely greater than most people can imagine, and requires a large and varied fostering environment for stimulation, and is such that provision can not be made by no one

family. It requires a group of families, a neighborhood, or a community to provide adequate facilities for the child in his early learning.

One such facility which can provide a stimulating environment for children is the neighborhood playground. This neighborhood playground can be designed to aid children in movement learning and spatial understanding. Playgrounds at elementary schools can be designed to further development of movement learning and spatial understanding and in addition, to further development of the learning of leisure skills, attitudes and behavior.

COMMUNITY PROVISION OF PLAYGROUNDS

Many parents appear to be concerned with the development of their children and many strive to provide better learning experience for their children. This is indicated by the continued growth of companies such as Creative Playthings.

> IF YOU, AS PARENTS, ARE REALLY CONCERNED ABOUT YOUR CHILD'S DEVELOPMENT, WHY NOT PROVIDE AN EXCELLENT ENVIRONMENT FOR THAT CHILD IN A NEIGHBORHOOD AND/OR A SCHOOL PLAYGROUND?

Of course, it will be more difficult than a trip to the local toy store to pick out a toy, but it will be worth much more to your child. What could be more important than his or her development, health, and well being?

And such is possible. Your community is what you and others make it to be. The manpower and resources are available NOW in your community.

As a source of manpower, how many of your neighbors are interested enough in the development of their children to respond? What about all the parents of children in the elementary school that might be interested in the development of their children?

What about the community and neighborhood organizations, the Armed Forces Reserves, the Rotary Club, the League of Women Voters, the Boy and Girl Scouts, and others too numerous to mention? What about the children?! There is an abundance of talent in any neighborhood or community to design and build a playground offering many developmental possibilities. It just needs to be

sought out.

Material and equipment, is always a question, but available. How many used automobile tires and truck tires are hauled away from local service stations? How many contractors pay someone to clean up materials and to haul them to the dump? What about telephone poles, railroad ties, fence posts, four by fours, or two by fours that may be around the community? How many businessmen in the community might extend a donation of material for a playground?

It has become one of the responsibilities of communities in the United States to furnish children with a substantive education. That particular responsibility should require the community to provide the best possible education and development within its means. You, as a member of the community, should demand that such be done.

DESIGN OF DEVELOPMENTAL PLAYGROUNDS

Common sense and the imagination in everyone can be utilized in the design of a playground. All people within the community can help with the design.

First, who will use a playground? Children! It is possible that those same children would have a great lot of ideas of what things they might like to do or to play with. Ask them and use their ideas!

Second, teachers and administrators should be the community specialists in the field of developmental activities for children. They can suggest activities which build certain muscles or qualities and activities which aid in the learning of subjects such as math or physics while playing. Bring in their ideas.

Thirdly, everyone in the community has something to offer. One can use ideas from all sources. Within the community there is someone in a professional field of engineering, architecture, landscape architecture, planning or a related field who can offer suggestions on drawings, structure and safety.

In design, a playground may be made to look attractive to adults, however, the most important considerations are in the following pages. Both the

following considerations and an attractive playground are mutually possible. For example, the use of an attractive fence for appeal to those that do not play can allow equipment that will give value to those that do play.

BASIC ATTRIBUTES

The following attributes need to be developed and enhanced.

BALANCE

This attribute is the ability to assume any body position in equilibrium and to maintain that position against the force of gravity. The ability to achieve and maintain balance while in motion and the ability to recapture balance after being in the air is important also. To achieve balance and to maintain it, all of the muscles in the body must interact correctly. Good balance is important for daily living and is essential for athletic participation and excellence.

Types Of Balance

Gross Body Equilibrium

Dynamic Balance

Static Balance

Balancing Objects

Orientation in Space

Activities To Develop Balance

Changing the size of the balance base for the body

Locating the center of gravity of the body in different positions

Increasing difficulty in duration of position or sequence

Moving from air to ground

Negotiating balance paths, curved or straight; high, low, and sloped; in different directions; or swinging.

Figure A - Equipment here shows use of different materials at different heights to provide a challenge to develop balance.

Negotiating stepping elements, such as logs or stones, also at different directions, and high, low, or graduated.

Orienting oneself in space vertical-right side up, vertical-upside down, horizontal, or a combination of vertical and horizontal.

MUSCULAR STRENGTH, POWER AND ENDURANCE

Strength is the ability to exert force to lift weight or to lift one's body to do work, or to move against or withstand resistance. This force is produced by a single muscle or by a group of muscles, the amount of force produced is determined by the size of the muscles and their quality. That size and quality is affected by maturation, heredity, nutritional habits, and exercise. Strength can only be increased in exercised muscles, and the exercise must include ever increasing amounts of resistance against which the muscles work.

Power is the ability to perform a maximum explosive effort of strength in a short time with high efficiency.

Endurance is the ability of a muscle or group of muscles to persist over an extended period of time or in numerous repetitions of an activity with moderate resistance. This ability also involves development of the respiratory and circulatory systems of the body.

Types of Strength, Power, and Endurance

Dynamic Strength

Static Strength

Trunk Strength

Explosive Strength and Power

Short-Term Endurance

Long-Term Endurance

Activities To Develop Strength, Power And Endurance

Manipulations of one's body weight in various positions of support or hanging.

Pushing or pulling exercises and games

Performing repetitions of an activity at different speeds

Jumping, throwing, and kicking objects for distance or height

Running, swimming, and cycling

FLEXIBILITY

The range of movement present at a given joint is considered flexibility, which can be developed to increase the range of movement at a particular joint. Flexible joints are important for efficient, safe, and successful movement. Increases in flexibility are accomplished through moderate and progressive stretching of the direction and range of motion of each joint.

Types Of Flexibility

The shoulder girdle which forms three joints is one.

The spine and pelvic girdle region is a second.

Activities To Develop Flexibility

The shoulder area:

- Throwing, lifting pulling, pushing, sliding, moving arms to various positions at various angles

The spine and pelvic girdle region:

- Forward Bending
- Side Bending
- Back Bending
- Turning and twisting

Combination:

- Turning and throwing, lifting, pushing, pulling, sliding, and reaching
- Bending and reaching, throwing, and pushing

Figure B - Legs and arms need to develop in the ability to encircle things as well as the ability to function in a straight manner.

AGILITY

The ability to move one's body through space while maintaining control of body movement. This includes the ability to make successive movements in different and changing directions and to do so in as rapid and efficient manner possible. This quality requires a fine combination of speed, strength, and coordination within the entire body to enable one to move from one position to another.

Activities To Develop Agility

Changing the direction of the body's movement both on the ground and in the air.

Changing the rhythm of the movement of the parts or the whole of the body

Jumping movements of many varieties:

- Jumping of minimum and of maximum height
- Changing direction while jumping
- Changing posture while in the air
- Jumping from high points to low points and from low points to high points,
- Combinations of jumping in, out, over, through, at different levels
- Varying landing positions and surfaces

Quick starting, stopping and dodging

Tumbling

Changing the center of gravity through different heights and different distances.

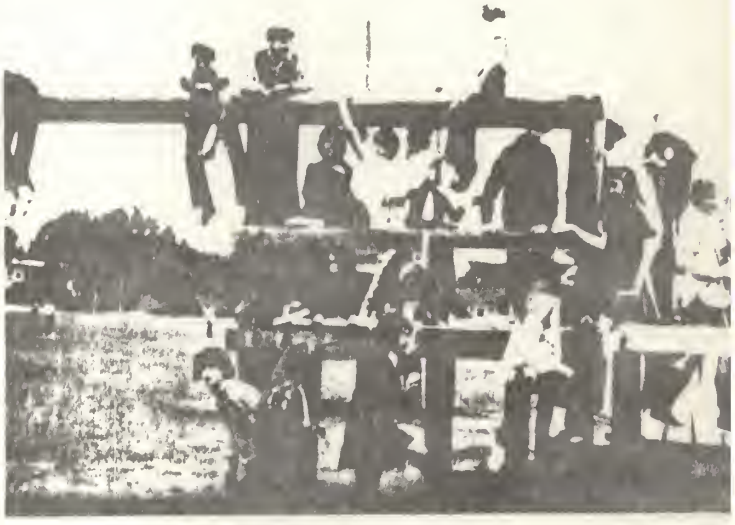

Figure C - Agility is desirable in practically every movement, most pieces of equipment have some potential for learning agility in some form or in many forms. The designer needs to maximize the possibilities for various movement.

SPEED

All movement is performed in time and is measured by speed. Speed is the ability to perform rapidly successive movements over a period of time. The speeds in movement can be fast or slow, and changing the speed of a movement produces acceleration, deceleration, or development of rhythm. The speed of an individual is related to a combination of his reaction time and his movement time. The time it takes for one to move after being stimulated to do so is reaction time.

Activities To Develop Speed

Practice in movements

Activities to build limb speed such as moving objects from place to place, moving hands or feet around or between objects

Moving quickly around objects either running or crawling

Racing or dodging

Moving other objects at different speeds

Figure D - Playground equipment may be arranged in such a fashion that it may be used as an race course by the children either informally or in class activity.

SEQUENCE AND COORDINATION

A sequence is a number of movements and positions performed with coordination so as to show accomplishments of the development of several qualities. The sequence may consist of two or more movements of the same or of different developmental qualities.

Coordination is the ability to move one's body with effective and rhythmical efficiency through the harmonious workings of many body parts, including the ability to perform eye-hand and eye-foot activities.

Activities To Develop Sequence And Coordination

Tumbling

Combinations of all activities in such a fashion so they form an obstacle course

Figure E - Playground equipment can be sited such that the arrangement forms an obstacle course to encourage sequential movement.

MOVEMENT

EXPLORATION ACTIVITIES

MOVEMENTS IN SPACE

Space is noted to be "that unlimited or indefinitely great general receptacle of things commonly conceived as an expanse extending in all directions in which all material objects are located". Children must understand that they move in space in a vast variety of ways and that they can control their movements in space so as to avoid or interact with other objects or other persons.

Movements of Body Parts

Children need to learn that they can move body parts many different ways. They can move parts together and apart. Body parts can lead body movement or can move and transfer the body weight. Body parts movement exists along a continuum in space from a small range of movement to a large range of movement.

Locomotor Movements

Children should be aware of the changing relationships of the body when moving. These movements are also seen as a continuum from small dynamic movement to large dynamic movement in space. Children need to learn to think while moving in space.

Orientation

Children should learn the dimensions and vocabulary of space and of the objects which occupy space. Examples are; Size, big, little, tall, short, huge, tiny, medium; Shape, angular, square, rectangle, cube, triangle, hexagon, curved, round, circular, cylinder, oval, sphere, etc.; Area, two-dimensional, surface, "square"; Volume, three dimensional, of various objects like spoon, bucket, truck; Length and Measure, near, far, inch, mile, meter, shallow, deep, etc.

DIRECTIONAL MOVEMENT

Children need to understand that they can move their body in different directions in space. Those directions are; left, right; forward, back; up, down; in, out; over, under; north, south; east, west; horizontal and vertical.

Children need to be aware of the vast variety of movement which may take place in these directions.

Movement of Body Parts

Direction in movement of body parts is along a continuum such as forward or backward, right or left, in or out. The movement of body parts also determines the outline of the body and the required amount of the space occupied by the body. Body outlines include rounded, straight and wide, straight and narrow, and twisted. The amount and configuration of space occupied and/or needed depends on the relation of body parts, extended or compact, their size, wide or narrow, large or small movements, and states of mind. Children must learn different body positions, how to hold those positions and how to move from one position to another.

Locomotor Movements

Direction in locomotor movements is along a continuum of forward, backward, up, down, right, left. Children should learn how to perform various body movements in all directions and to control their locomotor movements so they can change actions and directions quickly and efficiently.

FORCE IN MOVEMENT

Children need to learn that the body can control force and can absorb force. In creating force, one must understand that the body creates force through tensing muscles, and that efficient use of the body requires one to produce just enough force for the task at hand through conscious control of the muscles of the body.

Children should also learn that the force created by the body's movement or by other object's movement can be absorbed by the body through shock-absorber action of joints.

Movement of Body Parts

The body parts can create force along a continuum from weak to strong

through the tensing of muscles More force is possible from muscles that are well exercised and more control of that force is possible through the knowledge of the difference in the feel of weak muscle tension and strong muscle tension.

The body parts are the most important in absorbing force. The more gradual the absorption, the less shock there will be to the body and the less chance of injury. Force can be absorbed by increasing the distance a body part moves to absorb the force, by increasing the area or the number of joints used to absorb the force and by increasing the time in which the force is absorbed.

Locomotor Movements

Children need to learn that the body can create or absorb force along a continuum of weak dynamic movement or weak force to strong dynamic movement or strong force. The ability to create force or to absorb force with the whole body needs much development and practice.

TIME IN MOVEMENT

Children must become familiar with the time element of movement. One element is the duration of movement, or how long from the beginning of a movement through time to the end of the movement (time to eat, time to sleep, time to play, time to go twenty feet running, day, week year, etc.). Another element of time is that necessary for discrete movements or the sequence, Outdoor time, "going home" time, before, now, after, soon, etc. A third element is movements within an ordered structure in time or rhythmic movements.

Movement of Body Parts

Time in movement of body parts creates a continuum from slow movement of a body part to fast movement of a body part. The time in movement of different body parts is important in entering the body into a rhythmic movement.

Locomotor Movements

In locomotor movements, the body is capable of movement along a continuum from slow dynamic movement to fast dynamic movement. The child must understand

how time relates to different movements performed at different speeds in order to achieve efficiency in movement.

FLOW IN MOVEMENT

Flow binds separate movements together so that each movement with its preparation and recovery are not distinguishable. In a free flow the body performs a continuity of movement, and in a "bound flow" the body moves with a flow of careful restraint, in which the body could be stopped at any moment and retain balance.

Movement of Body Parts

The movement of body parts is very important in flow. The body parts must act together to support the body in balance and to transfer the weight of the body, during a movement, in balance, and then be ready for the next movement in the flow sequence.

Locomotor Movements

Children need to understand and recognize the flow of movement of the body in locomotor movements. The ability to move with a free feeling that is smooth, or with a careful and restrained feeling is quite important to the feeling that one has control of the movement of one's body and the feeling that one can move efficiently within the environment.

PATHWAYS IN MOVEMENT

While moving through space, the body as a whole and its individual parts make or follow pathways. Children need to learn the space required for those pathways, both in the air and on the ground. The two main pathways are straight lines and curved lines. All other pathways are combinations of straight lines, curved lines, or both. Knowledge of path is important to children for movement through space without collisions with other objects.

Movement of Body Parts

Children need to realize that body parts follow different paths during different movements and that certain paths make for more efficient movement. The chance to experiment and practice the different movement with different paths is necessary for children to develop efficiency in movements.

Locomotor Movements

These movements include the ability for the body to negotiate movement paths, either straight, curved, or a combination of such with efficiency. Children must learn to control consciously the pathway of the body on the ground and through the air both with and without other objects. When children become successful in movement, then they have an increased expression for and enjoyment of movement.

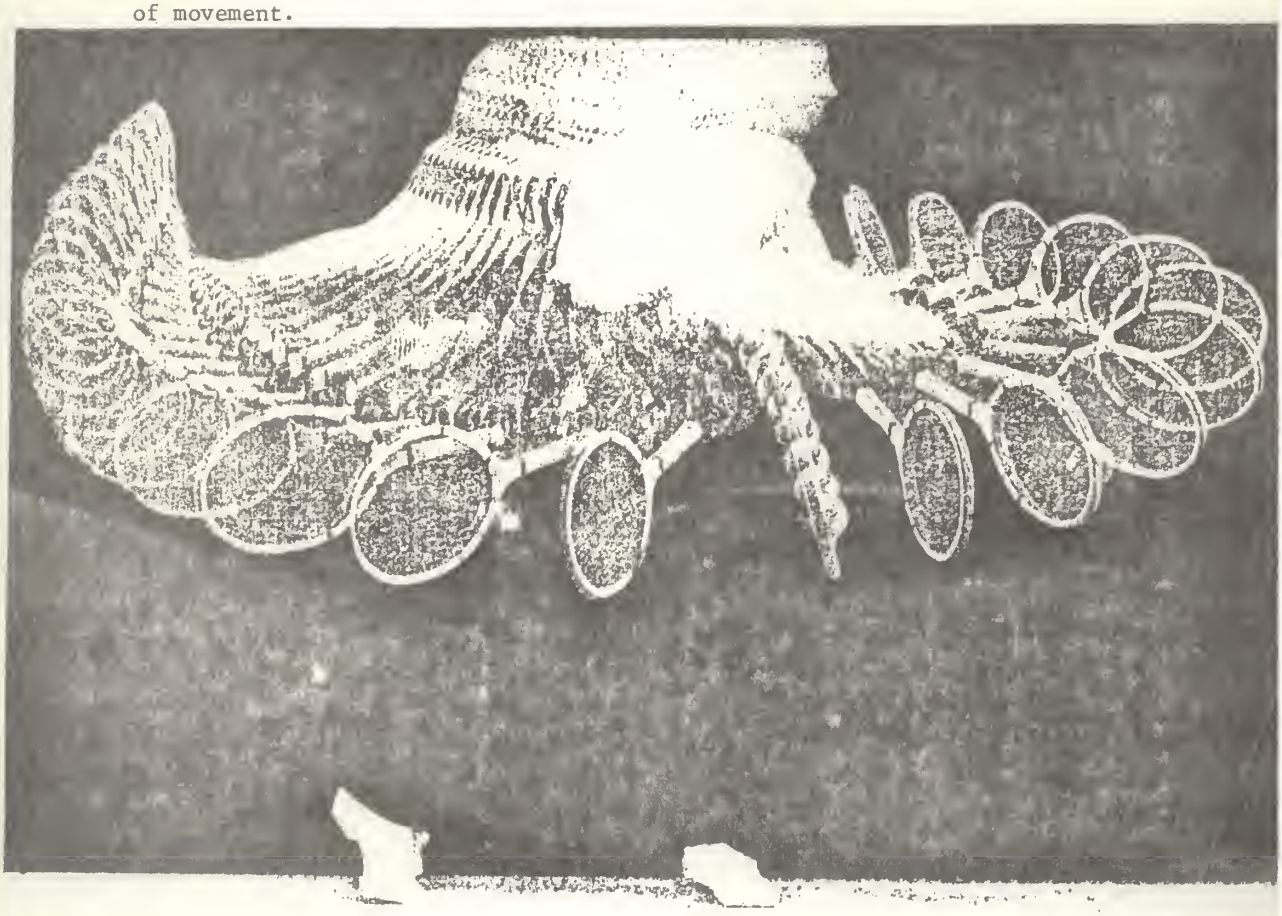

Figure F - Note the path followed by the tennis racket.

LEVELS IN MOVEMENT

Two concepts of movement levels exist. In the first, levels at which one can move through space in relation to the body are considered in relation to the body when normally standing: The low level is considered as movement in the area normally occupied by the legs while standing; the medium level is the area which the torso normally occupies when standing; and the high level is the area normally occupied by the body parts above the shoulders. The other concept concerns different levels in space, such as under the ground or up in the air above the height of one's body.

Movement of Body Parts

Children must realize that they can move body parts in that continuum from low level to high level and develop the ability to change levels quickly and smoothly.

Locomotor Movements

Children need to develop the knowledge that they can move the body through space in a variety of ways using one or more levels at once, and that they can move objects through space at different levels.

Spatial Levels

Children should also develop an understanding of movement at different spatial levels, such as under the ground, under or over objects in space, as on objects at different heights above the ground, and through the air, which includes three phases: the takeoff, where the body is ejected in the air, the actual flight, where the body is free to alter shape, and landing, where parts of the body absorb the force of the landing.

A summary of additional aspects that can be included in detail in a manual to be distributed to communities.

CONSTRUCTION

The construction of a playground can take place with volunteer labor from the neighborhood or community. One or two persons need to oversee organizing to assure that the proper clearances with landowners, administrative officials, and others are obtained. Then the proper equipment needs to be on the site at the right time to erect proper materials.

Figure G - Equipment does not need to be fancy, just proper to do the job.

In the community there are usually many organizations to provide a volunteer labor force to help the children build their playground. Examples are the Parent Teacher organization and the schools, the Boy and Girl Scouts, the Reserve Units of the Armed Forces, various youth groups, church groups, local service organizations and others.

Materials used will be whatever is available in the community and on the site that day. The organizer should know what material people will be working with in order to provide the proper fasteners and tools. The equipment that has been designed for the playground should be flexible in specific demand for materials. Several types of tools should be possible for each to allow construction.

Most communities will contain plenty of craftsmen with knowledge of construction to help children with their playground building. One unusual item might consist of fastening tires together, which can be accomplished with bolts and either large metal washers or metal plates inside each tire. Playground construction is not really difficult for an average neighborhood. All persons could be involved in performing some task, even if it is to bring sandwiches.

EVALUATION

An important stage in the process of playground design and construction is evaluation. During the pre-design and design phases, one should record the intent, goal, or reasons for a certain piece of equipment or portion of a playground. After construction one should record whether that goal was met, whether the children used the item as expected and, a more difficult evaluation, whether the playground is aiding the development as it was intended.

CONCLUSION

The playground should never be finished. The construction and reconstruction should be a continuous process. As evaluation is analyzed, the past experience should be considered in new design.

During my childhood there were No playgrounds in the neighborhood and the school playground resembled this:

Figure H

I hope to provide my children with playgrounds containing more development opportunities:

Figure I

WHAT ABOUT YOUR CHILDREN???

FOOTNOTES

1. Barsh, Ray H., Achieving Perceptual - Motor Efficiency, A Space Oriented Approach To Learning, (Washington), P. 65.

2. Webster's Third New International Dictionary, (Massachusetts, 1961).

3. Sommer, Robert, Personal Space, (New Jersey, 1969), pp. 3-58.

4. Pastalan, A., and Carson, D. H., (eds.), Spatial Behavior of Older People, (Ann Arbor: The University of Michigan, 1970), pp. 1-25, 138-147.

5. Proshansky, H. W., et al., Environmental Psychology, (New York, 1970) p. 16.

6. Webster's Third New International Dictionary, (Massachusetts, 1961).

7. Proshansky et al., op. cit., p. 572.

8. IBID, p. 175.

9. IBID, p. 177.

10. IBID, p. 178.

11. IBID, p. 179.

12. IBID, p. 180.

13. Krupp, Sherman, Pattern In Organization Analysis - A Critical Examination, (New York, 1961).

14. Proshansky et al., op. cit, p. 525.

15. IBID, pp, 1-20.

16. IBID, pp. 35-58.

17. IBID, p. 173.

18. Devlin, Joseph, Webster's Universal Dictionary, (New York, 1937), p. 480.

19. Gold, Seymour M., Urban Recreation Planning, (Philadelphia, 1973), p. 13.

20. Dumazedier, Joffre, Toward A Society of Leisure, (New York, 1967), pp. 16-17.

21. Gold, op. cit., p. 46.

22. Kraus, Richard G., Recreation and Leisure in Modern Society, (New York, 1971), p. 254.

23. Sapora, Allen Y., "Modern Concepts of Leisure", (Illinois, 1974), p. 2.

24. DeGrazia, Sebastin, Time, Work, Leisure, (New York, 1962), p. 5.

25. Report of the Conference for Teachers and Supervisors of Elementary School Physical Education, October 1968, "Promising Practices in Elementary School Physical Education", American Association For Health, Physical Education and Recreation, Washington, D.C., 1969, p. 72.

26. Devlin, op. cit.

27. Gold, op. cit., p. 46.

28. IBID, p. 46.

29. DeGrazia, op. cit.

30. Nash, Dr. Jay B., Philosophy of Recreation and Leisure, (Iowa, 1968), p. 37.

31. DeGrazia, op. cit., p. 233.

32. Murphy, James F., Williams, John G., Niepoth William E., Brown, Paul D., Leisure Service Delivery System: A Modern Prospective, (Philadelphia, 1973), p. 11.

33. Kraus, op. cit., p. 261.

34. Friedberg, M. Paul, Play and Interplay, (London, 1970), p. 15.

35. Kraus, Richard G., Recreation and the Schools, (New York).

36. IBID.

37. IBID, p. 4

38. Jacks, Lawrence Pearsall, Education Through Recreation, (New York), p. 2.

39. Barsh, op. cit., pp. 29-31.

40. IBID, p. 20.

41. Proshansky, et al., op. cit., p. 518.

42. IBID, p. 130.

43. IBID, p. 127.

44. Lee, T. R., "Do We Need A Theory", Architectural Psychology, (University of Strathclyde, 1969), p. 19.

45. Cratty, B. J., Perceptual and Motor Development in Infants, (London, 1970), p. 258.

46. IBID, p. 93.

47. IBID, p. 167.

48. IBID, p. 167.

49. Proshansky, et al., op. cit., p. 127.

50. IBID, p. 525.

51. Kraus, Richard G., Recreation and the Schools, (New York), p. 287.

52. IBID.

53. Corbin, Charles B., A Textbook of Motor Development, (Iowa, 1973), p. 1.

54. Cratty, Bryant J., Some Educational Implications of Movements, (Washington, 1970), p. 51.

55. Corbin, op. cit., p. 1.

56. Cratty, Bryant J., Movement of Behavior and Motor Learning, (Philadelphia, 1967), p. 3.

57. Cratty, B. J., Some Educational Implications of Movements, (Washington, 1970) p. 45.

58. Corbin, op. cit., p. 7.

59. Cratty, B., Morton, and Sister Martin, Perceptual - Motor Efficiency in Children, (Philadelphia, 1969).

60. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

61. Mosston, Moska, Developmental Movement, (Ohio, 1965), p. 105.

62. Corbin, C. B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

63. Mosston, op. cit., p. 249.

64. Vannier, Maryhelen, Foster, Mildred, and Gallahue, David L., Teaching Physical Education in Elementary Schools, (Philadelphia, 1973), p. 204.

65. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

66. Vannier, et al., op. cit., p. 204.

67. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

68. Vannier, et al., op. cit., p. 206.

69. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

70. Vannier, et al., op. cit., p. 206.

71. Mosston, op. cit., p. 150.

72. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

73. Corbin, Charles B., A Textbook of Motor Development, (Iowa, 1973), p. 74.

74. Vannier, et al., op. cit., p. 206.

75. Mosston, op. cit., p. 203.

76. IBID, p. 204.

77. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

78. Vannier, et al., op. cit., p. 206.

79. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 78.

80. Vannier, et al., op. cit., p. 205.

81. Mosston, op. cit., p. 280.

82. Corbin, Charles B., Becoming Physically Educated in the Elementary School, (Philadelphia, 1971), p. 143.

83. IBID, p. 123.

See Vannier, et al., op. cit., pp. 65-199.

84. Corbin, Charles B., A Textbook of Motor Development, (Iowa, 1973), p. 177.

85. Kraus, R. G., Recreation and Leisure in Modern Society, (New York, 1971), p. 264.

86. IBID.

87. IBID.

88. Sapora, Allen V., and Mitchell, Elmer D., The Theory of Play and Recreation, (New York, 1961), p. 126.

89. Ellis, Michael J., Why People Play, (New Jersey, 1973).

90. IBID, p. 13.

91. Sapora, op. cit., p. 92.

92. Friedberg, op. cit., p. 35.

93. Caplin, Frank and Theresa, The Power of Play, (New York, 1973), p. 182.

Richmond, D. C., An Introduction to Piaget, (London, 1970).

94. Caplin, op. cit.

Richmond, op. cit.

95. Sapora, op. cit., p. 184.

96. Playground and Recreation Association of America, "The Normal Course in Play", (New York, 1925), p. 71.

97. Friedberg, op. cit., p. 35.

98. Cratty, B. J., Perceptual and Motor Development in Infants, (London, 1970), p. 239.

99. Friedberg, op. cit., p. 36.

100. IBID.

101. IBID.

102. See Cooper, Clair, "Adventure Playgrounds", Landscape Architecture, October, 1970.

103. Windley, Paul, "Seminar in Environmental Behavior", class lecture.

104. Meyers, William and Rinard, Park, Making Activism Work, (New York, 1972).

105. Arnstein, Sherry, "Ladder of Citizen Participation", Journal of American Institute of Planners, July, 1969.

106. Piers, Maria W., Play and Development, (New York, 1972), p. 27.

107. Corbin, Charles B., A Textbook of Motor Development, (Iowa, 1973), p. 151.

108. Kraus, R. G., Recreation and Leisure in Modern Society, (New York, 1971), p. 254.

109. Corbin, Charles B., A Textbook of Motor Development, (Iowa, 1973), p. 151.

110. Cratty, B. J., Movement of Behavior and Motor Learning, (Philadelphia, 1967), Chapter One.

111. Arnheim, op. cit., p. 36.

112. Proshansky, et al., op. cit., p. 175.

BIBLIOGRAPHY

1. "An Annotated Bibliography On Early Childhood", "Some European Nursery Schools and Playgrounds". Architectural Research Laboratory, University of Michigan, Ann Arbor.

2. Arnheim, Daniel D., and Destolesi, Robert A., Developing Motor Behavior in Children, A Balanced Approach to Elementary Physical Education, The C. V. Mosby Company, Saint Louis, 1973.

3. Barsh, Ray H., Achieving Perceptual-Motor Efficiency, A Space Oriented Approach To Learning, Seattle Sequin School, Inc., Seattle, Washington.

4. Bengtsson, Arvid, Environmental Planning For Childrens Play, Crosby Lockwood and Son, LTD., London, 1970.

5. Butler, George D., Introduction To Community Recreation, McGraw-Hill, New York, 1940.

6. Cahn, Edgars, Passett, Baray A., Citizen Participation - Effecting Community Change, Praeger Publishers, New York.

7. Caplin, Frank and Theresa, The Power of Play, Anchor Press/Doubleday, Garden City, New York, 1973.

8. Cass, Joan E., Helping Children Grow Through Play, Schocken Books, New York, 1973.

9. Cooper, Clair, Adventure Playgrounds, Landscape Architecture, October, 1970.

10. Corbin, Charles B., A Textbook of Motor Development, Wm. C. Brown Company Publishers, Dubuque, Iowa, 1973.

11. Corbin, Charles B., Becoming Physically Educated In The Elementary School, Lea and Febiger, Philadelphia, 1971.

12. Cratty, Bryant J., Movement Behavior And Motor Learning, Lea and Febiger, Philadelphia, 1967.

13. Cratty, B. J., Perceptual And Motor Development In Infants, MacMillan Co., London, 1970.

14. Cratty, Bryant J., Teaching Motor Skills, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1973.

15. Cratty, Bryant J., Sane Educational Implications of Movements, Special Child Publications, Seattle, Washington, 1970.

16. Dattner, Richard, Design For Play, Van Nostrand, Reinhold, New York, 1969.

17. DeGrazia, Sebastian, Time, Work, Leisure, The Twentieth Century Fund, New York, 1962.

18. Devlin, Joseph, Webster's Universal Dictionary, The World Syndicate Publishing Co., New York, 1937.

19. Dichter, Ernst, Motivating Human Behavior, McGraw-Hill Book Co., New York, 1971.

20. Dumazedier, Joffre, Toward A Society Of Leisure, Free Press, New York, 1967.

21. Educational Facilities Laboratories, Inc., New York, "Schools For Early Childhood", 1970; "Patterns For Designing Children's Centers", 1971; "Found Spaces And Equipment For Children's Centers", 1972.

22. Ellis, Michael J., Play and Its Theories Re-Examined, Parks and Rec., August, 1971.

23. Ellis, Michael J., Why People Play, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1973.

24. Friedberg, M. Paul, Play and Interplay, The MacMillan Co., Collier-MacMillan LTD., London, 1970.

25. Gerhardt, Lydia A., Moving And Knowing The Young Child Orients Himself In Space, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1973.

26. Gilliom, Bonnie Cherp, Basic Movement Education For Children: Rationale And Teaching Units, Addison-Wesley Publishing Co., Reading, Massachusetts, 1970.

27. Gold, Seymour M., Urban Recreation Planning, Lea and Febiger, Philadelphia, 1973.

28. Gramza, A. F., "Preferences of Preschool Children For Enterable Play Boxes" Perceptual And Motor Skills, 1970.

29. Hogan, Elizabeth (ED), Children's Rooms And Play Yards, Lane Books, Marlo Park, California, 1970.

30. Hurlock, Elizabeth B., Child Development, McGraw-Hill, New York.

31. Illich, Ivan, Tools For Conviviality, World Perspectives, Volume Forty-Seven Harper and Row, Publishers, New York.

32. Jacks, Lawrence Pearsall, Education Through Recreation, Harper, New York.

33. Jenny, John H., Introduction To Recreation Education, W. B. Saunders Company, Philadelphia, 1955.

34. Kagan, Jerome, Understanding Children Behavior, Motives, And Thought, Harcort Brace Jovanovich, Inc., New York, 1971.

35. Knowledge and Understanding in Physical Education, American Association For Health, Physical Education and Recreation, Washington, D.C., 1969.

36. Kraus, Richard G., Recreation And Leisure In Modern Society, Appleton-Century-Meredith Corporation, New York, New York, 1971.

37. Kraus, Richard G. Recreation And The Schools, The MacMillan Company, New York.

38. Kritchevski, Sybil and Prescott, E., Planning Environments For Young Children, Physical Space.

39. Krupp, Sherman, Pattern In Organization Analysis - A Critical Examination, Holt, Rinehart and Winston, Inc., New York, 1961.

40. Lady Allen of Hurtwood, Planning For Play, MIT Press, 1968.

41. Lane, Howard and Beauchamp, Mary, Understanding Human Development, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1959.

42. Lawther, John D., The Learning Of Physical Skills, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1968.

43. Ledermann, Alfred and Trachsel, Alfred, Creative Playgrounds And Recreation Centers, Frederick A. Praeger, Publishers, New York, 1960.

44. Ledermann, Alfred and Trachsel, Alfred, Playgrounds And Recreation Spaces, The Architectural Press, London, 1968.

45. Lee, T. R., "Do We Need A Theory", Architectural Psychology, University of Strathclyde, 1969, p. 21.

46. Maslow, Abraham, Motivation And Personality, Harper and Row Publishers, 1970.

47. Meyers, William and Rinard, Park, Making Activism Work, Gordon and Brgach, New York.

48. Miller, Peggy L., Creative Outdoor Play Areas, Prentice-Hall, Englewood Cliffs, New Jersey, 1972.

49. Mosston, Moska, Developmental Movement, Charles E. Merrill Books, Inc., Columbus, Ohio, 1965.

50. Murphy, James F., Williams, John G., Niepoth, William E., Brown, Paul D., Leisure Service Delivery System: A Modern Perspective, Lea and Febiger, Philadelphia, Pennsylvania, 1973.

51. Murray, E. J., Motivation And Emotion, Prentice-Hall, Inc., 1964.

52. Nash, Dr. Jay B., Philosophy of Recreation And Leisure, Wm. C. Brown Co., Publishers, Dubuque, Iowa, 1968.

53. National Facilities Conference, Planning Areas And Facilities For Health, Physical Education And Recreation, Athletic Institute (Chicago) and American Association For Health, Physical Education And Recreation, 1966.

54. Nicholson, Simon, How Not To Cheat Children, The Theory Of Loose Parts, Landscape Architecture, October, 1971.

55. Playground and Recreation Association of America, The Normal Course In Play, A. S. Barnes and Company, New York, 1925.

56. Piaget, J., The Childs Conception Of Space, 1967; The Childs Conception Of Time, 1969, Routledge and K. Paul, London.

57. Pieper, Josef, Leisure, The Basis of Culture, Mentor-Omega Books, New York, 1963.

58. Piers, Maria W., Play and Development, W. W. Norton & Company, Inc., New York, 1972.

59. Pomeroy, Janet, Recreation For The Physically Handicapped, The MacMillan Company, New York, 1964.

60. Proceedings Of The Third Annual Research Design Association Conference, Los Angeles, 1972.

61. Proshansky, H. W., Ittelson, W., and Rivlin, L. (EDS), Environmental Psychology, Holt, Rinehardt, and Winston, Inc., 1970.

62. Report Of The Conference For Teachers And Supervisors Of Elementary School Physical Education, October 1968, Promising Practices In Elementary School Physical Education, American Association For Health, Physical Education and Recreation, Washington, D. C., 1969.

63. Richmond, P. C., An Introduction To Piaget, Routledge and Kegan, Paul, London, 1970.

64. Rosenblith, Judy F., Allinsmith, Wesley and Williams, Joanna, P. (EDS), The Causes of Behavior, Allyn and Bacon, Inc., Boston, 1972.

65. Sapora, Allen V. and Mitchell, Elmer D., The Theory Of Play And Recreation, Ronald, New York, 1961.

66. Sapora, Allen V., "Modern Concepts of Leisure", University of Illinois, Urbana - Champaign, 1974.

67. Scott, G., Analysis Of Human Motion.

68. Staley, Edwin J., and Miller, Norman P. (EDS), Leisure And The Quality Of Life, The American Association For Health, Physical Education And Recreation, Washington, D.C., 1972.

69. Stone, Jeanette Galambos, Play & Playgrounds, National Association For The Education of Young Children, Washington, D.C., 1970.

70. Vannier, Maryhelen, Foster, Mildred and Gallahue, David L., Teaching Physical Education In Elementary Schools, W. B. Saunders Company, Philadelphia, 1973.

71. Webster's Third New International Dictionary, The Merriam Co., Springfield, Massachusetts, 1961.

72. Wrong, Dennis, Concepts Of Childhood, Architecture Anthology.

73. Wurman, Richard Saul, Levy, Alan and Katz, Joel, of Group Environmental Education, Inc., The Nature Of Recreation, MIT Press, Cambridge, Massachusetts, 1972.