ABSTRACT
Noting that current discussion of the best way to accomplish the goal of "No Child Left Behind" has focused on the value of play versus a structured program for early education, this paper uses science education as a model for examining how children learn and the problems arising when artificial lines are drawn between work and play. The paper describes preschool and kindergarten experiences in general science, mathematics, geography, and physics in which the teacher has arranged the environment to provide hands-on experiences. It is noted that changes in the approach to teaching science emphasizing process rather than product call for changes in educational practices and terminology used to discuss goals. The paper maintains that educational planning for early childhood requires a framework that recognizes the close alliance between the process of work and play. A typology is then offered as a framework for the description, analysis, and appropriate labeling of work and play, as well as for planning the educational activities of young children. The classification is based on six dimensions representing a characteristic or quality that is part of the total concept of work or play experienced by children: (1) energy level used; (2) clarity of goals; (3) external symbols of evaluation; (4) types of skills used; (5) satisfaction accrued; and (6) suspension of judgment. The paper concludes with a discussion of the dilemma in educational planning regarding what to change and what to retain, and the potential of this typology to encourage a different perspective on the way activities for young children are viewed. (Contains 15 references.) (KB)
Work and Play: Are They Really Opposites?
Work and Play—Are They Really Opposites?

It is an exciting time to be teaching young children. National awareness of the care and education of children from birth to age eight has soared. The focus created by the "No Child Left Behind" legislation has stimulated more legislative activity in the field than at any time since the early 1900's when the Institutes of Child Study came into existence.

Welcome as the attention to early childhood may be, the high priority assigned to academic skills for children less than eight years of age requires close scrutiny. Though general agreement seems to exist on what should be taught, there has been extensive discussion of the form rather than content – that is how children are taught (and how they learn) rather than what they are taught. In other words, what is the best way to accomplish our goal of "No Child Left Behind" when we look at how curriculum should be implemented? When we think of young children many educators stress the value of play while others may stress the importance of a structured program. In examining this, the author suggests that we look at the areas of work and play. Usually we view work as being more structured and play as more open.

Science education provides an excellent model for examination of both how children learn, and the problems that occur when artificial lines are drawn between work and play. Part of the value of science education as a model is that in this area, we have developed fairly specific guidelines on what children “should know” at any given age level. Science is also a good model because of the general acceptance of constructivism. The constructivist approach as applied here centers on the child as an active participant in his/her learning. He/she learns by experimentation, collaboration, creativity and curiosity. This provides a framework of beliefs and assumptions about how children learn.
For years, children have been learning about general science, mathematics, geography, and physics in experiences provided for them at outstanding kindergartens. The children have not been gathered in large groups, seated before the teacher, workbooks in hand to answer questions. They have learned by taking part in experiences planned in advance by the teacher, who arranged the environment so that the children might learn through "hands-on" activities.

In a preschool or kindergarten block area, teachers often take photographs of student work. Instead of posting the photos for parents to see at open house, they can be posted in the block area for the student-builders to use as a starting point in creating more elaborate (and more effective) structures.

Hands-on lessons in geography might well include a walking tour of the school grounds as an introduction to topography. The teacher can point out flat areas and hills. The class can discuss why some areas are covered with grass and others were chosen for building sites.

Place (location) geography is also readily taught informally. Students need to know where the nurse's office is located, where to find the principal and other "survival" locations from entry/exit doors to bathrooms. Exploration and discussion provide excellent informal ways to teach basic geographic skills.

Improving early childhood education has stimulated and attracted the interest of scholars in and out of the field of education. Many of the recent approaches described in the literature reveal the researcher's lack of awareness of the kinds of learning that are actually going on in many fine schools. Because this learning has not been clearly and specifically identified as part of a specific discipline, many who are new to the field of early childhood education are under the impression that no academic learning has been going on. Consequently, much of the new
research on academic learning for the very young has concentrated on a limited number of approaches.

These approaches find answers to questions on educating the young in systematic types of instructional programs, teaching reading for example. Would those who find the “answer” to our reading instruction problems in a specific approach such as phonics be willing to consider the constructivist approach that has become the basis of much of our science teaching? All too often it is the form of presentation of material that may block a broader view of what children can and ought to be learning.

Science-teaching today:

Approaches to the teaching of science illustrate the changes that are occurring. The sciences are deeply involved with the amassing of facts, data, and specifics. But scientists are now concerned as much with the process and the means of gathering information as they are with information itself. If you review the new books written for teachers preparing to teach in elementary and secondary schools you'll note the concern that science educators have for giving young students opportunity for exploration. The proponents of science education are working to develop attitudes of curiosity and interest in experimentation that won't end when the children have found their answers to problems. Hopefully, the curiosity and the interest in experimentation will transfer to situations children experience outside the classroom. Goals of this kind, which encourage students to take time to probe deeply, consistently and to get satisfaction in the process, change the way we plan to insure that this process actually occurs in the classroom. Changes in educational emphasis from product to process call for changes in practice and in terminology used in discussing our goals.
Changes in pace:

If we want children to experiment and to explore, we cannot hurry them toward “right” answers, wherever they may be at the time. We need to decide how appropriate certain activities are. Fitting activities to goals may seem to be a reversal of accepted procedures. But if we fit activities to goals, we may avoid some of the confusion about pursuit and final product. We have to differentiate between pursuit and goal to better know which is more important at a specific time for student involvement. For example, if the problem before a child is to determine whether a word is spelled correctly, exploratory behavior is not necessarily desirable. To decide when to explore and when not to explore is important to the teaching process. It is as important to the process as the present emphasis on pursuit of knowledge is in the development of young children’s learning.

We hope to encourage originality and search, let us not block them. If we praise young children for exploring and experimenting with new ideas as much as we have been praising children for their “right” answers, we will be more likely get the kind of “creative” behavior we want them to demonstrate.

A look at children’s experiences:

It seems appropriate and timely to go beyond the labels to examine and classify elements in the life experiences of children. This examination and classification may bring into sharp relief techniques we have been ignoring in the educative processes.

To analyze and clarify issues, it often helps to have a classification system. The process of working out a classification system is at the heart of much that we try to do day by day in the classroom. We try to help children develop concepts. These concepts will develop through giving children experience with the objects and the ideas of importance in the curriculum. The
concepts will ultimately become part of a growing classification system that will help children understand the world, their lives, and the people around them.

**A Look at Labels:**

Many of the recent approaches to young children's learning at school are temporary, emergency, or ameliorative measures. Those of us who are seriously concerned about young children need to study the origin of the problem. We need to consider why and how contemporary "experts" arrived at the decisions that they are generating from their activities and research. What was in, or absent from, the literature on early childhood education that led them to make the choices they have?

We might begin by examining the labels we have applied to activities and curriculum experience we offer children. Labels clarify our vision and intentions—or obscure them. It is not the labels in and of themselves that are our concern here, but the misleading meaning read into the labels. Our hope is that our analysis will help us spot what is obscure and what is lucid in our thinking and help us see an activity for what it actually is.

Consider the labels we use to describe activities offered to children at school. Let's analyze what we label play and what we label work for young children. Most discussions of curriculum for pre-school, kindergarten, and primary grades are based on confused notions about work and play. We talk about work and play, science and aesthetics as if they were at opposite poles. In fact, they have been considered as opposites in the past when play was considered sinful and industriousness was considered an end in itself. Then it was easy to think of work and play as polarities, one to be valued and one to avoid. But, our interest in creativity, in change, and in critical thinking has led to new attitudes.
What is work? What is play?

Educational planning for early childhood requires a framework that recognizes the close alliance between the process of work and play. Indeed, at times the processes of work and play are interchangeable to children. To the thoughtful observer, the concepts of play and work, of experimentation, and inquiry all seem inextricably interrelated.

We often associate work with difficulty, obligation, and displeasure. We associate play with ease, freedom of choice, and pleasure. Yet, if we examine these impressions thoroughly, we can readily see that something is wrong. For the moment, let's drop the euphemistic, over generalized or oversimplified labels we use and think of children's activities as pure, unlabeled phenomena.

If we examine present curriculum experiences planned for children in the system suggested here, we discover that we have often been emphasizing absolutist types of rigid behavior considered to be of major importance. At the same time we have been sacrificing such goals as creativity, problem solving, and flexible behaviors. If we really value divergent thinking we cannot emphasize only ends to the exclusion of means. The following classification, or typology, is offered as a guide in studying children's experiences. The scheme has six dimensions (See the following table) each representing a characteristic, a quality, or an orientation that is part of the total concept of work or play experienced by children. The dimensions-energy level used, clarity of goals, external symbols of evaluation, types of skills used, satisfaction accrued, and suspension of judgement—apply to various aspects of children's involvement in work or play.
Adult view—children’s view:

The elements do not typically apply to adult impressions of their own experiences at play. To adults, work and play are not alike. To adults, play is something they do during their free time, or unscheduled hours. For children, work and play are intermingled, diffuse, and interchangeable.

Each dimension listed in the chart may be considered as a continuum. The duration and the intensity of an experiences or activity may be designed at a point on the continuum that suggests how long a child was observed in a certain experience or how intense his/her involvement was. At any given time, an element of play or work can be judged to have a place of identity at some point along the line that represents the element.

A Guide for the Study of Children’s Experiences

<table>
<thead>
<tr>
<th></th>
<th>Typically Play</th>
<th>Typically Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Level Used</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Clarity of Goals</td>
<td>Unspecified</td>
<td>Specified</td>
</tr>
<tr>
<td>External Symbols of</td>
<td>Nonessential</td>
<td>Essential</td>
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<tr>
<td>Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Types of Skills Used</td>
<td>Varied</td>
<td>Less varied, designated</td>
</tr>
<tr>
<td>Satisfaction Accrued</td>
<td>Many and Frequent</td>
<td>Periodic</td>
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<tr>
<td>Suspension of Judgment</td>
<td>Frequent</td>
<td>Infrequent</td>
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Observe a child at work or at play. Note how intensely he is involved in what he is doing. Note how much time he spends in a certain activity. Watch a child who is trying to learn how much water is needed to mend a crack in a clay figure he is modeling. The child is clear about his goals, he wants to mend the crack. He may be eager and intensely absorbed or he may
be tired and half-hearted. The intensity of his interest in his activity may be indicated by a mark at some point along the continuum.

By rating an experience on each of the six continua, you may obtain a profile. The profile will describe an experience, but just an experience. This approach reveals the inappropriateness and the inaccuracies that can result when we try to apply discrete labels of work and play to children’s experience.

Consider a child who is painting. He may be dabbling and looking at others from time to time. Or he may be completely absorbed in his painting. If he is dabbling and looking about, the profile will show a low energy level. If he is completely absorbed, the profile will show a high energy level. His goal in painting may be far from precise; he may be working at the easel only because his teacher asked him to. He may be painting a poster announcing a class party or function or activity. He may be using a variety of skills, trying out various strokes in various directions. Or he may be using only a few skills—dabbling large yellow dots all over the paper to “play with the dots” or to show a field of dandelions. He may value his work because he is getting some satisfaction from it. He may be judging his painting silently as he works. Or he may say to a classmate, “How’s this?” “Look at this. Isn’t it funny?”

Somewhere along each continuum an observer may place a mark to indicate his judgement of a child’s involvement during a particular classroom activity, occupation, or experience.

**Six Elements:**

The most typical characteristics usually attributed to children’s play experiences are listed on the left side of the chart. The most typical characteristics of children’s work experiences are listed on the right side of the chart.
**Energy level**, the first element, has to do with a child’s willingness to pursue a task, whether it is a task that he has assigned to himself or a task that someone else has assigned to him. The child’s willingness affects his energy, his approach, and his involvement in an experience, whatever it is.

An activity in which the child submerges himself may be work or play. An activity that he pursues half-heartedly with quickly waning interest may be work or play. A caution is called for here. As teachers it is easy for us to label a given activity and often, to pre-judge based on our assumptions about both the activity and the apparent intensity of involvement we observe. Is an overt behavior laziness or lethargy or is the activity one in which the child is making little observable progress because he/she is integrating a whole range of new concepts and skills and must therefore slow down to understand? In any case, voluntary sustained efforts at high levels of energy may be either work or play. Energy level is an important element, but by itself it does not determine whether an activity is work or play. More information is needed to name an activity appropriately. Children can devote as much energy to trying to understand something that occurs in play as in trying to understand a complexity in school-assigned “learning” task. Low and high energy level, then, may characterize either work or formal learning events.

**Clarity of goals**, the second element, has to do with a preconceived orientation a child may have that affects his decisions about an activity he has in mind. Goals may be specific or diffuse. A child may have a definite goal. He may be trying to learn how to let himself go, with abandon, down the slope of a steep slide. His perseverance in this activity may not be much different from the kind of persistence needed to learn principles of mathematics. Or a child may be trying to master anything at all. He may want to do a job well, whether the job is mathematics, reading, or sliding down a steep slide. It is difficult for an observer to measure the depth of a
child's concern for success; therefore, intensity of his desire for success in sliding down a slope or in doing mathematics may remain vague.

Goals that the teacher sets in designing an assignment for children may be specific. The teacher may hope that the children will learn the idea of sequence. The teacher may ask the children to spell certain words to master knowledge of when "the i before e" rule should be used. He selects words in which the problem arises so that the children will have a chance to practice and perform correctly. When the children are given a test, they know what the teacher's goals are. When specific skills are involved, such as those in spelling, pupils are generally aware of the teacher's goals.

In work, children's goals may be the result of adult interventions or influence. In play, however, the goals are the child's. Children's goals at play are usually less specific than their goals at work, except when skills are involved—like sliding down playground equipment. In play, proficiency in a skill—be it riding a bicycle, jumping rope without stepping on it or interfering with the evenness of turning—requires effort in practice and mastery of specific techniques.

The third element, external symbols of evaluation, has to do with the judgement of adults as they view a child's efforts. Are external symbols of evaluation and comments essential to the child's growth—essential to him if he is to go on with an activity?

In play the child generally proceeds however the teacher rates the effort or the product. This is part of the wholeness experimentation and self-guidance that play affords. In work, which is associated with achievement patterns—external judgement or evaluation is necessary to the child's maintenance of pursuit. The teacher's comments provide the motivation and encouragement for persistence towards a difficult job. The teacher knows the criteria he will use
to measure the achievement of each child. Knowing that a child's work must meet certain standards, the teacher urges pupils in the direction of those standards. From time to time he tells the child when he is proceeding in the right direction and corrects him when he is not. Eventually the teacher must assign a mark to a product the child has made. In this sense the teacher knows to some extent what his criteria are when he evaluates an assignment. In many instances, the dichotomy here really isn't quite this clear. There are some children who require constant affirmation and direction even in their play. Conversely, some children establish their own evaluative standards for work. Often, their standard will be as exacting or more so than that of the teacher. In both instances the value of self-evaluation must be recognized but the concurrent value of external affirmation must also be noted.

**Types of Skills Used**. the fourth element in the classification, has to do with the qualities a child uses to accomplish certain ends. Watch a child build a bridge of sand. If he is building his bridge by tunneling through a mound of sand, by pushing a toy truck through the pathway, he will need to use his powers of concentration. But, if he is building a span by combining water and sand, packing sand as he goes, shaping it to get adequate support, he is using other skills. He must observe, he decides to use more water, or less, to get the right effect. No one has instructed the child in this process, no one has said to him, "This sand needs more water.” He discovers the need for himself as he plays and as problems arise. Building his bridge involves experimentation. He is not always sure whether an idea will work, but he tries anyway.

At times when a child is working at activities of his choice, he senses the need for various skills. He may become aware of the need for body co-ordination to achieve certain results. Playground equipment such as climbing apparatus, swings, horizontal bars requires skills that
involve balancing, timing, and agility. The activity dictates to the child, in a sense, the necessity for developing certain skills.

In school, however, the teacher, not the child, decides which skills will be developed. A teacher may tell a child that he needs to learn how to recognize certain words, how to pronounce them, and how to remember their meanings. These instructions are usually stated as specific goals with minimal opportunity for pupil choice. This is as it ought to be in certain cases. The skills are quite specific.

Assignments given in the classroom require school skills. Those assignments are based generally on the practice of certain skills or at least give the child opportunity to try his hand at new skills. The teacher provides opportunities for the children to use the skills taught during a certain part of a learning segment.

Schools assignments fall into the category of work, which the teacher evaluates and marks. Criteria may be determined by comparing a child’s performance with that of others in the class. Whether a child moves to a higher grade in school is a question that the teacher recommends after examining the child’s record of marks.

Satisfactions accrued, the fifth element in the classroom is concerned with the pleasurable sensation of unpressured occupation at an activity of one’s choice. Ease of involvement, freedom from rules, provides pleasure in participation.

The idea of work is usually associated with difficulty. The puritanical notion is widely held that if an activity is not difficult it is not work. Work that is associated with difficulty, with challenge, with persistence, with evaluation, with high-energy investment carries heavy pressure with it. The pressures do not encourage volunteering, nor do they lead to satisfaction.
In experiences that require minimal evaluation, mastery is not an issue. As mastery becomes less important, experiencing and sensing become more important. We are more at ease when we do not expect our feelings or behavior to be evaluated by someone.

An experience is typically pleasant when it is meant to be pure fun when we expect and get sheer enjoyment in receiving, not in producing. When the emphasis is on events that allow the child to "take in" experiences and no evaluation is required, he does not have to cope with competitive aspects of performance. The element of satisfaction comes more typically from play experiences because they offer more opportunity to get satisfaction in absence of evaluative measures.

It is true that non-play affords opportunities for great satisfaction. It can be satisfying to complete a complex task that has been painstakingly continued for a long time. In work however, personal goals are not realized as often as in play or in pleasure-absorption experiences. This may be due to external evaluative procedures and criteria that are present in many work situations.

The sixth and last element of the classification is suspension of judgement. This element is the willingness to withhold judgement of one's performance partly because one is engrossed and perhaps enchanted by watching or taking part in the evaluation of the product that results from an interesting process. The child who has not discovered whether he is a good painter or a mediocre one, but is busy painting away because of the sheer magnetism the act holds for him, is willing to suspend judgment of his performance. Evaluation is irrelevant for him at this point. Willingness to withhold judgement of one's performance is a major attribute of a play experience that is worth capturing, sustaining, and transferring to school learning experiences. When there
are not premature judgements, the child is more likely to persist in an activity. Premature judgements are likely to cut off further attempts.

At this point the similarity between the spirit of play and the pursuit of science is worth noting. In scientific pursuit, and in play, the energies are exerted in sustaining activity. External symbols of evaluation are not essential. There is unflagging interest in single-minded pursuit, and judgement of performance is suspended. It is useful to involve children in self-selected activities, for they encourage a willingness to experiment, to be come deeply engrossed in an activity, and to put aside the need for praise as irrelevant.

**For Better Planning:**

This classification is offered to provide a framework for the description, the analysis, and the appropriate labeling of work and play. But it is my hope that the classification will be useful in planning educational activities for children.

We are trying to improve children’s education through a careful considered rationale underlying the structure of a curriculum and the activities planned to attain the goals of curriculum. It is important that we identify our reasons for including one activity rather than another and that we recognize our purpose for wanting children to have certain experiences or assignments. Our plans for effectively articulating goals through certain experiences are our major means of forwarding children’s educational growth. Through greater insight in educational planning we hope to help children learn more effectively those ideas, techniques, appreciation, and skills that we feel they should have as present and future members of society. The purpose of this classification then, is not merely to name or to describe, but to highlight new paths for planning the educational activities of young children.
Two questions pose a major dilemma in educational planning: what to change? What to retain? Many of us laid the emphasis on change. But the actual implementation of change is difficult. The difficulty suggests at times our rejection of the unfamiliar. It is not easy to alter courses of study and to re-orient teachers who have followed older and familiar courses of study. The larger the system, the more difficult it is to bring about change. This is understandable. The sheer number of people and process involved to put new ideas into effect complicates the problem.

It makes sense, however, to look at a large framework of curriculum possibilities to see what directions need to be taken simultaneously. One cannot uproot an entire system at once, but if several alternative directions are envisioned at one time, as they exist in the context of a broader view, perhaps the change itself will be less difficult.

The change I am suggesting here is a different perspective on the way we view activities for young children. I am suggesting that we be more discriminating in the labels we apply to these activities. Labels are crucial. The names we apply to situations or events influence behavior. It is essential that we consider seriously the kinds of names we select for the school experiences of young children.

To define science only as activities occurring in school-planned activities limits opportunities for children to explore. To assume that play is only recreation similarly limits opportunities to expand on what children have already learned outside of school. Clearly, both work and play provide opportunities for science education.

By recognizing the similarity in the characteristics of work and play, we may get equal treatment and deeper insight into concepts that promise excitement, learning, and involvement as our young children grow and develop.
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