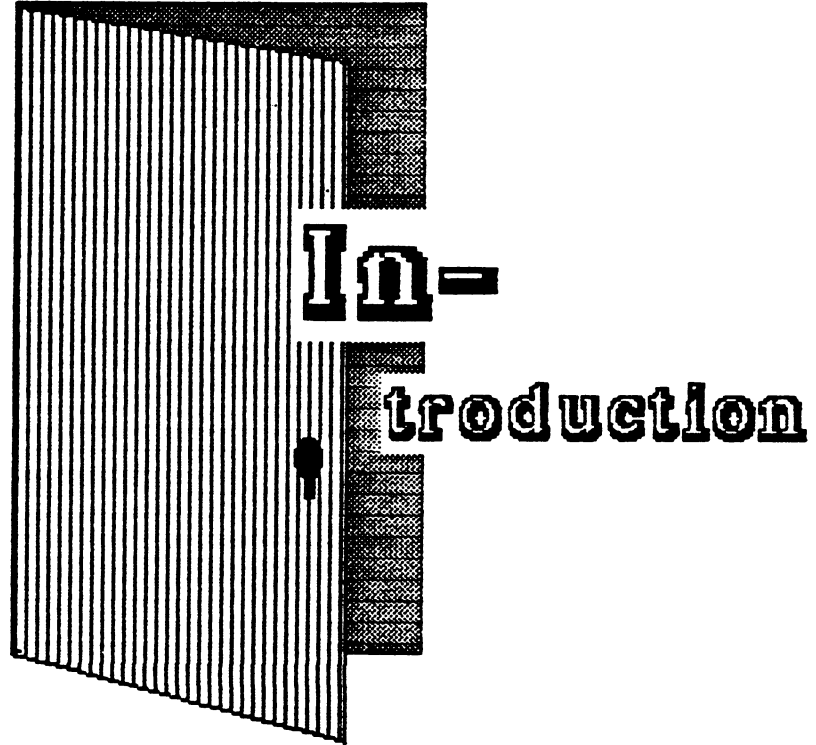


INTRODUCTION .....	4
THINKING AND LEARNING	
CHARACTERISTICS OF YOUNG CHILDREN .....	6
REFLECTIONS ON CREATIVITY .....	9
KEY ASPECTS OF C.P.S. ....	12
TEACHER QUESTIONING TECHNIQUES .....	15
C.P.S. FOR YOUNG CHILDREN IN THE CLASSROOM .....	16
Boundary Breakers .....	17
Fluency Lessons .....	19
Flexibility Lessons .....	26
Elaborative Thinking Lessons .....	32
Unique Thinking Lessons .....	40
Analogy Lessons .....	44
Problem Solving Lessons .....	51
REFERENCES .....	56



Yes, we know the importance of children's first contact with school. We know our young people bring a love of learning and an excitement of discovery with them, to school, but why, unfortunately, does that burning flame diminish into a glowing ember? Could it be that traditional learning with workbooks and ditto papers, does not provide inspiration for budding scientists, poets, mathematicians and artists?

Creative Problem-Solving for Young People is not a substitute for a regular curriculum from a good pre-school or early elementary classroom, but it provides teachers with ideas and techniques which can enhance regular lessons, or provide a time during the day for children to enjoy learning skills which they can apply to every other aspect of their education.

When the search began to find material to teach creative problem-solving, I found some excellent sources, but they all required at least second grade reading skills (most required at least fifth grade skills.)

What could I do? It was (and is), my belief that enhancing a young child's ability to solve problems is the best skill a teacher can impart to an individual, growing up in this era, where information and technology change and increase daily.

By using concepts of creative problem solving that were developed for older children and modifying and combining them with the abilities, needs, and stages of development of young children, I formulated the curriculum for this book.

The beginning chapters concern research and background information, while the remainder of the book gives actual lessons which can be used in the classroom. The reader may skip any section and return to it at a later time.

## ***What is Creative Problem-Solving?***

By creative we mean having an element of newness and being relevant, at least to you, the one who creates the solution.

By problem we mean any situation which presents a challenge, offers an opportunity, or is a concern to you.

By solving we mean devising ways to answer, or satisfy the problem by adapting yourself to the situation, or adapting the situation to yourself.

Creative Problem-Solving or C.P.S. is a process for approaching a problem in an imaginative way, resulting in effective action. (Noller, 1977)

The objective of this book is to help teachers steer a path toward an open and creative environment for young children. Creative problem-solving skills enable the students to take greater responsibility for their own learning.

THE REWARDS ARE AS GREAT FOR TEACHERS AS FOR STUDENTS. As the teacher shifts her role from sage on the stage, to guide on the side, the children develop greater independence and love of learning.

Too often schools teach children to search for only one right answer. Real life situations are not that way. Often the choices before us are numerous and nearly equivalent. We need skills to determine which one of many answers is most suitable. Additionally, we need to learn not to accept the first answer that pops into our head, but to always search for a better result.

Teaching Creative Problem-Solving helps prepare children for a life of intelligent decision making.

To be concise, our goals in teaching young people creative problem-solving are the creation of:

INTELLECTUAL HEALTH

A POSITIVELY VALUED SELF-IMAGE

AND

AN ATTITUDE OF SOCIAL COOPERATION

## **Thinking and Learning**

### **Characteristics of**

### **Young Children**



Young children are experts at everything! Just ask them if they can paint a picture, build a rocket ship, or play a musical instrument, and they will quickly say, "sure". If pressured to demonstrate their prowess, they might say that they do not wish to now, or they have forgotten. The children are not trying to lie. All youngsters are full of natural ability and self-confidence. It is the responsibility of adults to build on these gifts, not dampen fragile egos and blossoming talents.

In Erikson's discussion of the eight ages of a person's development, he indicates that in early childhood (ages 4-5), children who are successful develop lively imagination, vigorously test reality, imitate adults and anticipate roles. Failure to develop successfully at this time creates children who lack spontaneity, have infantile jealousy, are suspicious and have role inhibition. (MacKinnon, 1980)

Clearly, early childhood is a prime time to begin a well rounded program which enhances the development of these positive qualities. Creative Problem-Solving is such a program.

Many educators base their teaching on the theories developed by Jean Piaget. Piaget believed that: "Thinking is based on experience. Intelligence is the product of the innate potential interacting with the environment."

## General Overview of Piaget's Developmental Theory

<u>STAGES</u>	<u>ONSET</u>	<u>TYPICAL ACTIVITIES</u>
Sensorimotor	birth - 2 years	Children in the sensorimotor stage use all their senses. They <u>process</u> what is occurring and learn to <u>recognize</u> familiar situations. Rudimentary problem solving skills develop before language does. We build on past experiences. At this time, children learn to act on the world rather than having the world act on them. They are bound by what is directly experienced. Object permanence begins to emerge. The children begin to hold images of what has happened and they can make it happen again. If they knock a cup off the table, it still exists, and someone will probably retrieve it. (Dr. Ed Hammer)
Preoperational	2 - 7 years	The child in the preoperational stage is able to comprehend functional relations, to focus on sameness, to collect objects and ideas. Smiles mean pleasant feelings; rain can mean indoor activities. At this stage they indulge in symbolic play. Sand from the sandbox can make a <u>d e e e licious</u> cake. They are just <u>beginning</u> to understand conversation, but they are not consistent in this comprehension. More water in the glass, can mean less in the pitcher.
Concrete Operational	7 - 11 years	The child in the concrete operational stage is ready to conceive of invariant structures of classes. Two is always less than three, even if two apples are bigger than three buttons. At this time they are able to deal with changes and able to create logical structures. They love making and breaking codes.
Formal Operational	11 - 15 years	Children who are in the formal operational stage are ready for propositional and hypothetical thinking.